

TEACHER COGNITION RELATED to TABLETOP GAME USE in LANGUAGE
LEARNING CLASSROOMS

by

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Abstract

This research explores teacher cognition related to tabletop game (TTG) use in language learning classrooms. Tabletop games, and games in general, enjoy worldwide popularity and have been noted as having compatibility with teaching and learning principles (Gee, 2003; Sykes & Reinhardt, 2013; deHaan, 2019). However, broad principled teacher use of tabletop games is not clearly evident (deHaan, 2019). The central concern of this study was the extent to which teacher cognition affects tabletop game utilization as evident in teacher beliefs/knowledge, teaching approach, patterns of materials use, and student learning experience. The study explored the role teacher cognition plays in materials implementation (not only games) as well as ways to foster and support the development of teacher expertise. General teacher cognition was investigated through a quantitative questionnaire. Specialist tabletop game-using teacher cognition was examined through qualitative interviews with six teachers. Responses were analyzed using an iterative process of response comparison and contrast to identify emerging patterns (indicators of teacher cognition, experience, and behaviour). The general survey results were compared and contrasted with the specialist teachers. Patterns of teaching and cognition related to using tabletop games varied within and between both the general teacher group and the specialist group. The specialist teachers tended to have significant tabletop game literacy, higher levels of materials awareness/utilization, broader materials connection to pedagogy, and numerous other markers of teaching ‘expertness’ using TTGs. Recommendations for fostering and supporting teacher expertness (Borg, 2015) related to teaching with games are provided.

Keywords: teacher cognition, tabletop games, classroom materials, language teacher pedagogy, game literacy

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Forward

A Passion for Gaming

I have been interested in tabletop games for nearly all my life. As a child, I played games such as *Hungry Hippos* (Kroll & Todokoro, 1966), *Operation* (Glass & Spinello, 1965), *Trouble* (F. Krohner, P. Krohner & Kroll, 1965), *Memory* (Memory, n.d.), *Old Maid* (Old Maid, 1874), and *Go Fish* (Go Fish, n.d.). They provided a fun way to engage with both family and friends. Later, I became enamoured with more complex games like *Scotland Yard* (Burggraf, Garrels, Hoermann, Ifland, Scheerer & Schlegel, 1983), *Risk* (Lamorisse & Levin, 1959), *Trivial Pursuit* (Abbot & Haney, 1981), *Clue* (Pratt, 1949), *Monopoly* (Magie & Darrow, 1933), *Chess* (Chess, 1475), and a host of card games including *Thirty-One* (Thirty-One, n.d.), *Daifugo* (Daifugo, n.d.), and *Poker* (Poker, 1810). These gaming experiences involved a mix of friendly competition and socializing, so they remained an ongoing pastime of mine.

In 2011, while teaching English as a Foreign Language (EFL) abroad, I was introduced to my first ‘modern’ board game. It was about farming. Yes, farming. I almost did not agree to play as it sounded extremely boring, but I am glad that I did as I was immediately struck by how challenging, engaging and rewarding this game is. That game, *Agricola* (Rosenberg, 2007), remains one of my favourites to this day. This was my baptism into the modern tabletop gaming hobby, and I have been a true believer ever since!

After that experience, I began to consider how tabletop games might be used to facilitate rich engaging language learning experiences, and I began to wonder how tabletop games are currently being used in contemporary language learning classrooms. Ultimately,

this led me to the two key areas of research undergirding this thesis: teacher cognition and the use of tabletop games in language learning classrooms.

Thesis Overview

This thesis investigates teacher cognition related to tabletop game use in language learning classrooms. Its main hypothesis is that tabletop game usage in language learning classrooms is affected by factors related to teacher cognition and that this influence can be inferred by the quality and pattern of materials use, teaching approach, quality of the learning experience facilitated by the materials use, and general teacher beliefs and knowledge related to tabletop game materials or classroom use/non-use. The belief spurring this line of research is that though much attention has been focused on game affordances, it is language teacher expertise that is the main differentiator in most successful and unsuccessful classroom game implementations. This includes connecting the implementation to learning outcomes, fostering out-of-class learning connections, leveraging student opportunities for engagement, and connecting/supporting/harmonizing student language learning to the materials in meaningful and relevant ways. Consequently, it is believed that novice and developing teachers would benefit from various supports aimed at fostering the development of expertise with games in the language learning classroom and this is the spirit in which this research is presented. Thus, this research is relevant as it may help language teachers and researchers to better understand current language learning classroom tabletop game use, highlight differences between expert tabletop game-using teachers and other teachers, emphasize ways in which expertise can be developed/supported/cultivated, and foster increased principled usage of tabletop game materials. Increased principled usage might include improving usage within existing classroom approaches, but also embracing innovative pedagogical approaches and educational reforms.

As such, it is important to begin by establishing key issues related to teacher cognition and tabletop game use in language learning classrooms. Given that the nature of the materials in question (tabletop games and their use in the classroom) is fundamental for understanding the connection to teacher cognition, research literature related to game use is presented in the first section. Key themes included as subsections are: a general introduction, game materials according to design intent and relevant implications, pedagogical approaches related to game use, learning and language learning affordances of games, tabletop game affordances for language learning, differences in affordances between tabletop and digital games, key modern tabletop game elements, and general materials considerations. This is followed by a section exploring issues related to teacher cognition. Important themes included as cognition subsections are teacher beliefs, actions, and knowledge, resource implementation, game-mediated learning/teaching, challenges related to classroom implementation, and general/language teacher cognition. Next is a section covering teacher development. Key themes are development at the individual level and the professional community level. After this, the research methods and research expectations are presented and explained. This is followed by presentation of quantitative research data, related analysis, and presentation and discussion of two spontaneous exchanges between general questionnaire respondents and the researcher. Next is a section presenting the qualitative research data and related analysis. Then, comes a section providing a short summary recapping the research findings and general considerations. Subsequently, the concluding section considers the research findings. This includes suggestions regarding how teacher expertise in principled classroom game use can be more effectively supported and cultivated. Further, thoughts regarding future research and recommendations are presented in this final section. This is followed by an acknowledgement of research limitations.

Chapter I – Literature Review

Game Use in Language Learning Classrooms

General literature review introduction.

Many researchers and language teachers are exploring and/or researching game use in terms of both language learning and pedagogy (Reinhardt & Sykes, 2012). Much of the research into these areas has focused on the materials side of the language teaching/learning equation (deHaan, 2019). This includes research and discussion about materials design types, materials connection to pedagogy, learning/language learning affordances, differences between materials (e.g. tabletop games and other games), and other general materials considerations. As such, these elements will be examined in this section. This will be useful in establishing a fuller understanding of the materials, their learning/language learning affordances, fit to teaching approach, and other limitations/challenges/considerations related to the materials used in language learning classrooms. However, though this appraisal is important for understanding the full picture of game use in the language learning classroom, it does not include an exploration of the key role the teacher plays in connecting the materials to language learning. In this sense, the researcher is cautioning the reader against being entranced solely by research/claims regarding the properties of the materials without considering classroom use/implementation by language teachers. Over-focus on the materials aspect within the game-using language learning/teaching field (deHaan & York, 2019) is at the heart of this note of caution. An evolution in the researcher's own thinking related to this point and how it influenced this research project is briefly discussed in the limitations section.

Reinhardt and Sykes (2012) propose a taxonomy to frame the research and practice of 'game-mediated L2LP' (second/foreign language learning and pedagogy). This framework

will serve as a foundation for understanding game materials and their use in this thesis.

However, as Reinhardt and Sykes' framework was developed more specifically for digital games, a slightly modified term will be used throughout this thesis, which aims to investigate teacher cognition related to tabletop game (TTG) use in language learning classrooms.

Therefore, this thesis has adopted and modified Reinhardt and Sykes' 'game-mediated L2LP' to 'TTG-mediated L2LP' in order to focus more specifically on TTG materials. 'TTG-mediated L2LP' is not an established term in the literature and it is being used hereafter for the sake of economy and specificity.

The term 'tabletop game' refers to primarily non-digital games that are played on a table or other flat surface. These games rely on players knowing and implementing the rules of play in order to advance and facilitate the game experience. Common tabletop game categories include: board games, card games, collectible card games, miniatures games (often war games), or table-based role-playing games (York & deHaan, 2018; Costikyan & Davidson, 2011; Tabletop Game, n.d.; Amelia Con, n.d.; Get Involved at NC State, n.d.; Griep, 2017).

Materials by design intent and relevant implications.

Returning to Reinhardt and Sykes (2012), their framework starts with a key distinction between 'game-enhanced' and 'game-based' L2 learning focus and L2 pedagogical focus. 'Game-enhanced' involves the use of 'vernacular' games for language learning. That is, the use of games that were designed for the general commercial gaming market, but for language learning purposes. This learning may involve both game-mediated L2 learning in incidental ways and pedagogically mediated L2 learning (through and around the game). In this case, educators 'mine' the game market and seek ways to implement these engaging game experiences and related supportive and/or learning experiences to enhance

language learning. ‘Game-based’ involves the use of games that are specifically designed with language learning and teaching in mind. This includes both commercially designed ‘educational games’ and teacher-made educational games. In this case, the ‘educational game’ potentially affords L2 learning for the learner and may be incorporated in and/or complement L2 pedagogical uses (Reinhardt & Sykes, 2012; Sykes and Reinhardt, 2013).

Reinhardt & Sykes (2012) also detail some implications related to the materials type and game-mediated L2LP use. Some advantages for using ‘vernacular games’ are:

- great variety and availability
- game variability (genre, theme, style, etc.)
- variation in complexity
- provides potentially deep experiences
- provide a genuine activity
- exist as a genuine cultural product

But there are also some potential challenges:

- materials fit for specific learners
- issues with fit to institutions or program demands
- learners may see materials as inappropriate
- cognitive load burden for gaming interfering with L2 learning

When using ‘educational games’, some positive points identified are:

- customizable and targeted instruction
- can use appropriate content and language complexity
- can focus on specific learning outcomes

- may be perceived as an appropriate educational material

While some potential challenges are:

- more limited availability (compared to ‘vernacular games’)
- optimal use requires careful curricular integration
- players may regard the game as mainly a drill activity relying on extrinsic motivation

With respect to the final point, Nicholson (2010) identifies key failures common to many educational games used in classrooms. He notes:

- The games tend to focus on drills and repetition as opposed to play.
- They often rely on poor or uninteresting rule-bound game experiences (e.g. using a design which does not promote meaningful decisions or choices).
- They often have either unclear or poor goals and consequently cannot support sustained motivation during play.

Reinhardt and Sykes (2012) call for research from all of the aforementioned perspectives (‘game-enhanced’ L2 learning focus, ‘game-based’ L2 learning focus, ‘game-enhanced’ L2 pedagogy focus, and ‘game-based’ pedagogy focus) and indicate that these perspectives inform each other. Reinhardt and Sykes (2012, 2014) add an additional distinction related to a material defined as ‘game-informed’ insights. This involves ‘game and play principles applied in digital and non-digital contexts outside the confines of what one might typically consider a game’. As with ‘game-enhanced’ and game-based’ approaches, they consider ‘game-informed’ in relation to both L2 learning focus and L2 pedagogical focus. Though this is an important and relevant area of research, it falls outside

the scope of this thesis' research which focuses more specially on 'game-enhanced' and 'game-based' TTG-mediated L2LP.

Understanding game materials with respect to design intent and production is important as these points have significant impact on the range and quality of material affordances for both language learning and game-peripheral learning opportunities. Moreover, teacher selection and use of particular games/designs, has connections to teacher pedagogical purposes, game awareness, and teacher beliefs about game-mediated language learning materials. As such, the role of teacher cognition and expertise in TTG-mediated L2LP will be explored in a later section on teacher cognition, the research data results, and subsequent discussion.

Pedagogical approaches related to game use.

Filsecker and Bündgens-Kosten (2012) identify three learning theories and associated pedagogical implications that frequently undergird or are intertwined with game-related language learning. These are the 'associativist/behaviourist perspective', the 'cognitivist/constructivist perspective and problem-based learning', and the 'situated perspective and legitimate peripheral participation'. What follows is a summary of Filsecker and Bündgens-Kosten relating the three key learning theories with game use for language learning and teaching.

In the 'associativist/behaviourist perspective' case, environmental-based sensations are associated in the brain with other sensations to form complex structures (Slife & Williams, 1995). Thus, stimuli in the environment can affect individual behaviour as associations are developed related to the stimuli. Learning emerges from the strengthening between associations (Greeno et al., 1996), and is linked to a change in behaviour stemming from experience (Burton, Moore, & Magliaro 1996). Three more important principles are

contiguity (closeness of stimuli to learner response), repetition (repeat and practice of stimulus situation and response), and reinforcement (reward strengthens learning) (Gagné & Briggs, 1979). In this sense, learners recognize and respond to stimuli which are presented, and teachers should seek to present information, create opportunities for practice, while giving feedback that strengthens learner associations. In many cases, the learning implementation of this approach involves some kind of drill and practice with extrinsic motivation (Egenfeldt-Nielsen, 2007). This, however, can result in lack of teacher engagement related to the learning activity or poor integration of game/entertainment elements in learning. This latter point is termed as ‘Edutainment’ by Egenfeldt-Nielsen. Games created with a hyper-focus on the learning outcome at the cost of intrinsic player motivation have been criticized for failing both as games and motivational learning experiences. Some point out that these games seem to ‘sugarcoat’ learning with the game elements and that this may reinforce negative attitudes toward learning (Bruckman, 1999). Indeed, many learners stress that ‘game enjoyment’ is of prime importance to the meaningful language learning gaming experience (Chik, 2011a). Consequently, ‘educational games’ risk missing this mark if the games are not perceived as enjoyable and motivating. This pedagogical approach with respect to Digital Game-based Learning is also covered in Becker, 2017.

In the ‘cognitivist/constructivist perspective and problem-based learning’ case, the mind is conceptualized as a collection of cognitive processes (Gardner, 1987). Processes represent symbol manipulation and transformation. Knowledge in the mind is accomplished by individuals based on experience in and with the environment and knowledge is actively constructed independent of external ‘reality’ (von Glasersfeld, 1982). Learning, according to von Glasersfeld, takes place when a new result leads the learner to accommodate in order to establish a new balance. Von Glasersfeld further notes that:

- learning occurs in interaction with the environment,
- ‘puzzlement’ serves as the stimulus for learning and determines the nature of what is learned,
- knowledge advances through social negotiation and evaluation of individual understanding

As such, teachers should seek to provide challenging tasks/problems around which learning activities can be organized to promote interaction, foster ‘puzzlement’, and facilitate social negotiation, reflection, and ownership (of problem and solution) (Savery & Duffy, 1996).

Thus, games in this framework provide rich context, experience, and information in ways that allow learners to formulate hypotheses. They involve authentic problems in an environment that allows learners to have impact, generate ‘puzzlement’, access appropriate support, receive scaffolded reflection, and engage in critical thinking (Hickey & Filsecker, 2012; Hickey, Filsecker, & Kwon, 2010). Becker (2017) covers these approaches (cognitivist and constructivist) from the Digital Game-based Learning perspective.

In the ‘situated perspective and legitimate peripheral participation’ case, greater focus is placed on the social role of the community for learning, the distribution of knowledge, and physical context (Mayes & de Freitas, 2004). The degree to which this framework is emphasized or combined with other frameworks can vary greatly. However, application of this framework involves fostering legitimate peripheral participation (Lave & Wenger, 1991) where participants are learning in contexts not specifically created for learning purposes and are engaged in an extra-learning purpose. Thus communities, participations, and relationships within communities are key to understanding this framework.

Games can allow learners to benefit from both the situatedness of the game experience and the community of peripheral practice both within and surrounding the game

(e.g. player forums). This may allow learners to leverage linguistic benefits (among others) gained from joining an ‘affinity group’ which offers opportunities to negotiate, construct knowledge, develop skills, create artefacts, and participate in groups. In some sense, Becker (2017) covers similar themes related to ‘social learning approaches’ (social learning theory, social development theory, social constructivism, and situated learning) and ‘humanistic approaches’ (experiential learning, Maslow’s hierarchy of needs, and self-determination theory) from the Digital Game-based Learning perspective.

Stepping away from Filsecker and Bündgens-Kosten’s summary of frameworks, Hourdequin, deHaan, & York (2017) present a case for using games for the purposes of learning English and developing 21st Century Skills. 21st Century Skills can be summarized as (Shaffer, 2006; Partnership for 21st Century Skills, 2006; Dede, 2010):

- Learning Skills- Critical Thinking, Creativity, Collaboration, and Communication
- Literacy Skills- Information Literacy, Media Literacy, and Technology Literacy
- Life Skills- Flexibility, Initiative, Social Skills, Productivity, and Leadership

Hourdequin, deHaan, and York (2017) suggest that using commercial games designed for the general market can support the learning of both English and 21st Century Skills. They further point out that the use of commercial games often necessitates teacher-mediated structure, support, and guidance, and they cite the ‘Explore, Examine, and Extend framework’ (Reinhardt & Sykes, 2011) as one possible way to do this. In ‘Explore’ the learners play the game or observe it being played. Students are also noticing lexical items and/or collecting discourses with guidance. In ‘Examine’ the learners play the game with a greater focus and complete analysis activities related to discourses targeted for specific lesson objectives. In ‘Extend’ students engage in active and reflective creation of new discourses with and/or through the game and participation in attendant discourses.

Other powerful pedagogical affordances related to game materials include some well-established approaches. For example, multiculturalism and multimodality are also potentially supported through game use for learning and the various beneficial affordances provided by TTG materials suggest its suitability and fit to the pedagogical approach. Moreover, another pedagogical approach which may connect to cognitive, situated, and 21st Century skills approaches is Active Learning (Bonwell & Eison, 1991). This encourages engaged and participatory learning. As such, based on the preceding approaches frequently associated with game materials use, it seems clear that materials selection and implementation play a huge role in supporting intentional and pedagogically-rich learning experiences and opportunities for students and that the materials and materials choices are intertwined with the teaching approach.

Understanding how pedagogical approach relates to game use is essential to understanding teacher classroom experiences, selection and acceptance rationale for teachers/administrators/students, and the purpose/shape of implementation approaches based on teacher beliefs about both language teaching and language learning. Thus, the manner in which pedagogical approach supports, influences, and shapes materials selection/use is a tremendously significant bridge between the materials and the language learning experience of the learners.

Learning and language learning affordances of games.

Next, turning to language learning theory and game experience similarities, a clear case for the value of game experiences based on learning affordances can be made. Sykes and Reinhardt (2013) provide a very compelling and detailed foundation establishing the rich role digital games can play in language learning experiences. They begin by taking Halliday's (1978) view of language as a social-semiotic phenomenon. Next, they present

learning as a sociocultural and mediated activity (Vygotsky, 1978; Lantolf and Thorne, 2006). Finally, with respect to language learning, they support the socio-cognitive approach posited by Atkinson (2002) while also recognizing the role of ‘enculturation’ (Duff, 2008). In their 2013 book, *Language at Play: Digital games in Second and Foreign Language Teaching and Learning*, Sykes and Reinhardt examine digital game-play experiences from a language learning/teaching perspective. The book focuses on five key concepts which the authors note as being shared by both language learning/teaching principles and game design theory: goal, interaction, feedback, context, and motivation.

In discussing goals, Sykes and Reinhardt (2013) focus on the important role of learner agency. The authors note how unsuccessful task-based language teaching attempts fail to provide this sense of agency. Games, however, very naturally facilitate player-centred goal setting, choice, and motivation. They also provide situated scaffolding and a variety of context-based choices through the arc of the game’s narrative. Given the tendency in many language learning classrooms to have assessment and curricular objectives drive learning, making use of the learner-driven power of game experiences may be a way of breathing life into the classroom experience. However, game use may be seen by some as a radically different approach. This could make establishing the materials/approach validity in the eyes of teachers, administrators, and even the students themselves, a difficult task (Francoisi, 2015; Bolliger, Mills, White, & Koyama, 2015).

Sykes and Reinhardt (2013) tackle interaction on three main fronts: with games, through games, and about games. The interactions with the game involve negotiated or co-constructed ideational meaning (Sykes and Reinhardt, 2013; Halliday, 1978) between the player and the game/game content (developed by the designer). Interaction through or around games offers richer interpersonal negotiation of meaning and co-construction through

game-based player interactions. Interaction about games can involve connecting the game experience to outside interactions (player communities, forums, tutorials, etc.). In the case of tabletop games, many of these elements are present on websites like BoardGameGeek (BGG). The meaningful context can be seen as motivating and many engaged language learning game players may be interested in using the target language in this type of interaction. Interaction also involves rich cultural meaning and a cognitive interactivity which enchants the player and compels her to act. Given all of these points related to interaction—with, through, and about games--the case seems strong for language learners and teachers to avail themselves of well-designed game experiences that can support language learning.

Feedback is often emphasized as being an important element to both successful language learning/teaching and games (Mackey, 2006 & Gee, 2003). Likewise, ‘recasts’ (Nicholas, Lightbown & Spada, 2001; Ellis & Sheen, 2006) are also a potentially fruitful source of game-related language learning benefit. In fact, Sykes and Reinhardt (2013) draw parallels between game-based feedback and comprehensible input, the zone of proximal development, scaffolding, and metalinguistic learning strategies. Feedback can play an important role in providing timely and specific instruction based on the context of a particular player/learner. Another related point is that many students avoid risk-taking and minimize participation in language learning classrooms (engaging in ‘avoidance’). However, game-based experiences tend to promote experimentation in a ‘safe’ and low-risk environment. Well-designed games give meaningful feedback related to player capabilities and performance. Periodic positive feedback can ‘tell’ the player that they are doing well and are succeeding and failure itself can be a valuable game-based learning experience. Feedback does not only originate from the game but can also come from player-to-player interactions (non-expert to expert, participant analysis, enthusiast-to-enthusiast, etc.).

Contextualized use of language is another teaching and learning principle which carries significant attention in language learning contexts. Games not only provide rich contexts (rules, structure, narratives, etc.), but also foster user-created emergent context in the act of play (Sykes and Reinhardt, 2013). Thus, the game and contexts (cultural, situational, story narrative, emergent personal narrative, etc.) are experienced in a dynamic way. From a language learning perspective, this provides very rich ground for facilitating meaningful language learning experiences. Well-designed games afford meaningful experiences within a system of challenges and constraints. Consequently, language learners can both genuinely enjoy the meaningful and motivating ‘gameplay’ aspect, and piggy-back on this experience to use and improve their linguistic abilities (both incidentally and intentionally). Sykes and Reinhardt (2013) also note that it is possible to have student-players engage in pre- and post-game supplementary activities (e.g. journals) to reflect upon game experiences. Ultimately, language learning must be situated in, or based on, a context that is relevant to the learners.

Motivation is the final piece of the game and language learning/teaching puzzle addressed by Sykes and Reinhardt. Well-designed games are noted for being able to sustain player engagement and motivation to play. Goal orientation, interactivity, narrative, and feedback can all play a role in creating and sustaining the ‘motivating’ experience (Sykes and Reinhardt, 2013). Players feel a sense of fun and interest through the game experience, and this can even spill out into peripheral non-game activities where players discuss, learn about or reflect on the enjoyable experiences. Given the financial and time investments frequently made by players, it seems clear that there is something very compelling about well-designed game experiences that captivates and engages players.

Motivation in L2 learning is a very popular topic for researchers (Cheng & Dörnyei, 2007; Ushioda & Dörnyei, 2017), and the research has potential relevance for students,

teachers, materials developers, and schools. As mentioned previously, games have also been noted to provide motivating and engaging experiences (Gee, 2003; Sykes and Reinhardt, 2013).

Dörnyei (2001, 2005) presents two models that address the complexities and dynamic nature of second language learner motivation. The ‘self-system model’ (Dörnyei, 2005) proposes that motivation is multidimensional and involves: the “*ideal L2 self*, the *ought-to L2 self* and the *L2 experience*.” ‘L2’ refers to a language learned in addition to someone’s native language. Dörnyei indicates that learners are navigating between and through these dimensions and are also shaped by the interplay between them. Both intrinsic and extrinsic motivational forces can prompt or support learner motivation. The second model is the ‘process model’ of learner motivation (Dörnyei, 2001), which suggests that the dynamic and shifting nature of learner motivation changes as a learner changes over time. Motivational forces can wax and wane and what was once a driving motivating force, may diminish and be replaced by a new motivation. More than that, the learner’s understanding of motivation can change and develop through reflective experience and this can lead to new understandings and motivations.

This deep experiential excitement and engagement that is common to good game experiences is something many educators have sought to harness and replicate. In well-designed games, players take an active and participatory role in constructing the play experience and can do so in a way that supports player creativity (Kuhn, 2015). Teachers routinely spend long hours seeking out engaging and educationally appropriate materials or attempting to prepare similarly significant learning opportunities. There is a great untapped potential here, though more research, training, and materials development are required if purposeful, principled and consistent classroom implementation is to come to fruition.

Additional evidence for games as a rich and principled learning experience can be found in Nicholson (2012). He discusses the importance of debriefing experiential educational games and notes that debriefing can foster meaningful and complex learning connections through purposeful reflection. Not only does he suggest value in having learners discuss what happened, but he also points to the rich learning that can occur while engaging in higher-order and cognitively complex analysis. Interestingly, Nicholson advises against using the debriefing activities as assessments as it may limit the forthrightness of the learner reflections. Various debriefing models are possible, so this ensures a great deal of flexibility in terms of implementation. Additionally, other supplementary 'wraparound activities' can be implemented to enhance the learning experience (Sykes and Reinhardt, 2013). What is important is that the debriefing involves genuine reflection on the experience and prompts learner-generated connections to past, present, and future learning (Nicholson, 2012).

Learners' willingness-to-communicate (WTC) is an area of practical research import both inside and outside the classroom as it has been shown to affect L2 acquisition in numerous ways (Reinders & Wattana, 2012). Reinders & Wattana (2014) introduce research that suggests that games in the classroom, introduced in a principled fashion, can make a positive contribution to the WTC of learners. The researchers used a questionnaire instrument to gauge learner WTC after an initial session of playing a digital online game featuring communicative interaction. Students initially self-reported low levels of confidence, low perceived competence, low WTC, and high anxiety. After six 90-minute lessons of playing the game, the students completed the WTC questionnaire again, where they reported feeling significant increases in confidence, competence, WTC and reduced anxiety.

A final element of their research intervention had to do with how the supporting tasks, content integration, and encouragement supported the game-mediated L2LP. The gameplay experience under research was infused with specially selected content, contexts and interactions. Prior to gameplay, these elements were introduced to the students and scaffolding activities were done. Also, before each session, short meetings were held to review objectives, provide some language guidance, and generally encourage the students. As mentioned previously, the results seem to indicate an increase in learner WTC. Overall, it seems as though game-based learning experiences may hold some promise as a means of increasing WTC, particularly when integrated in a principled way into a larger game-mediated L2LP approach. Tabletop game experiences would likely provide similar affordances, though with some specific differences such as face-to-face interaction, lack of anonymity, player control over game pace, etc.

Consideration of how rich TTG learning experiences can be leveraged in the classroom is not a new topic of discussion. Coleman (1967) reveals that while some pre-*Spiel des Jahres* educators called for increased tabletop game use based on learning affordances, it is not clear if this yielded widespread adoption of tabletop games as a frequent resource in language learning classrooms. The *Spiel des Jahres* is a board game award and its establishment in the late 1970s is often linked with an increase in board game design innovations and increased game design quality (Woods, 2012). Two possible factors hindering wider-spread classroom adoption in the pre-*Spiel des Jahres* period may have been related to the design limitations on game affordances and a more limited game selection. Additionally, the use of games may not have been perceived by some as fitting appropriately within curricular and teaching approaches. Fundamental differences of opinion regarding the value and usefulness of games in education may also have influenced the decisions of pre-design shift educators.

Coleman (1967) suggests an increased ‘experiential and enacted’ value to learning through fun and enjoyable educational games. He also notes the value of being able to observe consequences of actions in a low-risk environment. Perhaps most importantly, Coleman observes how games promote a learning environment where students can take on different roles and where the teacher’s role during play may actually be diminished. The implications of this benefit stemming from gaming resources (learner agency, variety of learner roles in class, WTC, etc.) will be examined during analysis of specialist TTG teacher interview responses. After gaming, the teacher may support post-activity discussion and analysis, but during play, the students have more direct control over both learning and play. Having made these points, Coleman is also clear that games are one educational device among many and are not intended as a panacea. This same point, that games are not a ‘cure all’ for every teaching problem but can contribute to serious teaching, is put forward by Davis and Hollowell (1977) in a separate text where they advocate for the use and creation of games in the English classroom and that games ought to take their place alongside other more established classroom teaching materials.

Kraft (1967) puts forward an opposing viewpoint on the validity of game use in the classroom. His main criticism is that games are often too shallow and reductionist in their abilities to convey complex and nuanced concepts. Running contrary to the purpose of ‘modern’ education, the game’s mechanisms may even be used to instil incorrect or assumed values. For example, the design of *Monopoly* (Magie & Darrow, 1933) simulates participatory economic interaction between competing players, but on a simplistic level. Thus, Kraft sees games as a potential impediment to deep understanding and the development of meaningful individual values when they are used in a reductionist fashion and are not supported within a greater teaching approach. Critical classroom examination of games, game elements, and broader implications will be discussed in the coming discussion.

An area of learning from gameplay that may deserve increased attention is the potential transformative power of game experiences for learners. In particular, this type of transformation has been noted when a personally mediated change in perspectives, sense of self, or consciousness is evoked as the player integrates the game experience or other salient game-related impressions with their way of being, understanding of themselves, or their world view. Two very interesting attempts to frame this powerful characteristic of game-prompted experiences can be seen in Schut (2013) and Wilson (2017).

Schut (2013) touches on an essay on fairy tales by J.R.R. Tolkien to shed light on how game experiences can yield valuable takeaway for the experiencer's non-gaming self. Using Tolkien's device, he frames this valuable takeaway which has been brought from the game experience as a kind of treasure which, though found through the 'other' experience, enriches the general life of the finder. That is, the power of the fantasy experience (and perhaps an engaging game experience) can facilitate a re-establishing of perception and meaning. This concept of treasure points to some kind of meaningful experience integration, reflection and transformation. It suggests a higher value to this kind of play activity, and one which is impactful and transformative for players in a way that reaches far beyond the 'game' experience. In this sense, games have the potential to prompt deep and significant individual growth and should not be viewed simply as escapist. It is important to note though, that Schut acknowledges that not all game experiences involve finding a meaningful 'treasure,' and that the degree of impact varies greatly based on a wide range of factors. He rightly surmises that for some players, certain game experiences may lead to an escapist or, worse yet, life-deserting end (Schut, 2013), rather than some kind of beneficially transformative 'treasure' which is brought back to be shared.

Wilson (2017) takes a different tack but also notes a way which games can ‘transform’ the players. That is, he sees the way players react or fail to react to game themes as potentially transformative. He invokes Foucault’s concept of ‘heterotopia’ (Foucault & Miskowiec, 1986), a state of the utopian unreal which we are not currently inhabiting and considers how this can play a key role in helping us to better synthesize and reckon with the ‘real.’ Foucault used the imagery of gazing into a mirror, seeing oneself in ‘the unreal,’ and rediscovering the self, to clarify a powerful type of reconstitution experience. Wilson (2017) describes how the ‘mirror test’ can be used and applied to gaming experiences in a way that is meaningful and transformative. In particular, he shows that when players approach game themes in a thoughtful and sensitive way, they can benefit from this reconstitution experience. This can be effectively achieved in spite of biased, possibly insensitive, or poorly themed games and the experience can nonetheless be deeply grounded in personal growth and transformation (Wilson, 2017).

Given that Wilson is pointing to a valuable game-based experience stemming from unintended sources (colonialism and exploitation themed games), it is reasonable to think that intentionally themed games can offer similarly rich insights. In terms of language learning, this kind of rich material and rich experience can be connected to a ‘humanistic curriculum’ or approach (Christison & Murray, 2014; Becker, 2017) and ‘multiliteracies’ (Cole & Pullen, 2009). Moreover, the thematic catalyst potential seems to be very rich when considering the tabletop game hobby. Teachers seeking to challenge learners to grow and think should be encouraged not only by both the ‘treasure’ and ‘mirror test’ potential provided by modern tabletop games (including games which may be thought to be almost without theme), but also by the abundant number of games with rich and engaging themes. Smith (2003) offers support to the idea of a need for and value of connecting language learning to bigger questions of meaning, values, and spiritual-level engagement, rather than bland and empty

exercises. He clearly sees the language learning classroom as a potentially transformative space, and this aligns with the personally transformative experiences mentioned by both Schut (2013) and Wilson (2017) as potential gameplay outcomes.

The rich learning and language learning affordances associated with game-based materials are numerous and offer tremendous promise in terms of language learning opportunities. To name a few, these include experiential learning, rich and contextualized learning, interaction, feedback, agency, motivation, powerful personal/societal transformative experiences, fit to teacher scaffolding/support, and broad learning opportunities with, through, and around the materials. These points are important as teachers may be both enticed by these affordances and implement approaches to leverage them. Thus, limitations on teacher awareness of these affordances, connections to student language learning/greater learning, and expertness in implementation will negatively impact the teacher's ability to leverage these potential affordances. In other words, these affordances offer a wide array of elements that may support language learning and teachers play a key role in identifying and activating the opportunities. The manner of this selection and implementation depends greatly on the teacher preferences, awareness, expertness, and goals.

TTG affordances for language learning.

Masada and deHaan (2015) conducted research on a specific tabletop game implementation in a language learning classroom, with their findings providing more direct support for tabletop game utility in the language learning classroom. They completed a textual analysis of a tabletop game's rulebook (Pandemic, 2008)) and then analysed the speech acts performed by the players. Their findings indicated that the rulebook used more words in general, more technical and academic words, longer sentences, and often used specific 'informing' sentence structures. They also noted how the static nature of the

rulebook might impact student learning potential. The gameplay analysis revealed more slang, emerging language (created and evolving from gameplay), and simpler language. Though these differences show many points of contrast, the authors emphasized the specific potential value presented to the language learner by each game-related language influence.

Fung and Min (2016) present some specific research on board game impact on ESL learners' speaking ability and anxiety. In a class of low-proficiency ESL learners, a board game intervention was used, and its effects were measured using both language production assessment tools and participant questionnaires to gauge anxiety and confidence. High anxiety and low confidence were identified prior to the intervention as factors negatively impacting student engagement with and performance in an L2. Prior to the intervention (multi-class use of the game to develop target language production abilities), specific language production abilities and related anxiety were measured via questionnaires and tests. A post-treatment test was also administered to gather comparison data for student language production. The findings showed that, after the board game treatment, initially hesitant and passive students were better able to present and support their ideas and engage in the target language (Fung & Min, 2016). The authors conclude that the results support the usefulness of board games in language learning classrooms and also suggest that principled integration may have numerous benefits.

Examining game affordances in non-competitive tabletop games, Zagal, Rick and Hsi (2006) indicate that these games can foster active shared-purpose communication, reflection on action-based consequences in relation to shared objectives, a blend of unique individual player powers, and a need for team-level contribution. These collaborative (and sometimes cooperative) designs differ from traditional competitive game designs (e.g. chess), where one side is opposed to another. In contrast, the participants are tasked with working together, and

they share a common fate. Pointing to general pitfalls relevant for this kind of design, the researchers note how the game must have a designed rationale supporting true collaboration, lead players to care about the outcome, and offer variability over multiple plays. The game examined, *Lord of the Rings* (2000), is a pioneering game using this kind of collaborative/cooperative dynamic. Since then, many other games have been published that follow similar design points. The findings of the researchers show that collaborative/cooperative tabletop games can facilitate a rich, deep, and engaging experience.

Looking at the wide variety of tabletop game types and implementations, it is clear that length, interaction, complexity, and language use all change greatly from game to game, and frankly, not all game parameters suggest a neat fit into classroom learning contexts. This of course also depends on the context and pedagogical framework being used. Nonetheless, looking at three kinds of language learning activities and approaches frequently found in language learning classrooms we can narrow our selection criteria for choosing game materials that fit a given teacher's desired classroom implementation.

First, many classes use short activities which allow learners to review and use previously learned content. These activities are short in length (10-30 minutes) and can be used as the 'final' activity in a Present-Practice-Produce teaching and learning cycle (Harmer, 2008; Byrne, 1986) or in some other encapsulated teaching cycle. For a tabletop game to work successfully within the classroom context, it needs to have a design that affords an appropriate play experience, allows for meaningful use of targeted language content, and must be able to be implemented successfully within the time constraints.

A game type that fits many of the above design parameters is something called a 'casual game' (James, 2012). Casual games are described as having a broad public appeal and have the following design features: short setup and teaching time (under 10 minutes),

require light strategic thought, prior game-knowledge is not required, can be enjoyed by almost everyone, and short play duration (under one hour, and often only 10-20 minutes). Within the tabletop gaming hobby, several categories of games tend to fit under this umbrella: party games (light social deduction, light word games, light dexterity games, etc.), family games, and gateway games (light-strategic games, light cooperative games), etc.

These games lend themselves well to featuring modular and targeted language content which can be changed and manipulated by the teacher or students. In addition to this, small groups of students (3-5 players) can play simultaneously at different gaming stations (desks placed together or a table) if the teacher has multiple copies of the game or a variety of similar games. Also, since the games are not overly complex and have light rules, they can be taught quickly and then replayed with minimal re-investment in setup and rules explanation. Clearly, the short play time is also an advantage in the second language classroom as these games are able to fit into classroom time availability without requiring broad curriculum support and consideration. In short, modern tabletop games of the ‘casual’ persuasion (game-based or game-enhanced) have great potential for being implemented in a wide range of current language learning classrooms with limited curricular re-working required. Some examples of off-the-shelf games with designs that may fit this model are: *Cardline Animals* (2012), *One Night Ultimate Werewolf* (2014), *Dixit* (2008), *Spyfall* (2014), *Telestrations* (2009), *Taboo* (1989), *Code Names* (2015), etc. These games may also be able to increase student confidence and reduce anxiety (though some game experiences may heighten it), especially when the game experience provides students with an opportunity to practise and play with specific language learning content or patterns. Yong and Yo (2016) show how this type of game-based intervention was able to achieve this end with a group of low-proficiency English speakers.

Secondly, more engaging and immersive tabletop game experiences are also worth research and consideration as they may be highly motivating and deeply immersive. This kind of implementation requires significantly more time devoted to both play and peripheral support of play (rules, setup, organization, pre- and post-game language learning activities, etc.). In general, peripheral game-related media offer a wealth of language learning opportunities that may be connected to support activities, and some even argue that they may readily provide more principled engagement than direct gameplay experiences (Kuhn, 2015). Given these time and investment factors, this type of game implementation demands more of a commitment to TTG-mediated L2LP from the teacher. It also requires appropriate classroom contexts (to accommodate both time and learner needs) and curricular freedom to use games in a way that helps to achieve learning and desired learning outcomes. In other words, this approach may not be as easy to implement as the previous model, and it may have more specific appeal based on the classroom context and instructor attitudes toward TTG-mediated L2LP. It must be noted though, that in spite of these limitations on possible implementation, the rich experiential qualities of this kind of implementation also suggest that it has significant potential to facilitate ‘deep’ and high-quality language learning experiences.

The tabletop gaming hobby has several different kinds of games which generally align with these criteria: strategy role-playing games (especially ‘campaign’ style games, strategic games (potentially including Euros and abstracts), escape room games (cooperative puzzle games), and cooperative (Pandemic, 2008) or near-cooperative games (Shadows Over Camelot, 2005). With these types of games, a whole host of learning activities can be implemented to support the game experience. These include wrap-around activities, such as students presenting about the game, learning the rules, connecting to game-related content consumption or production (reviews, playthroughs, or forums, etc.), transcription activities

(York, deHaan, & Hourdequin, 2019; Murphey, 2001; Murphey, 1998) applied to gameplay, or reflection-based activities. ‘Legacy style’ games may also provide deep, high-quality, language learning experiences. These games are relatively new to the tabletop design world, with the first released legacy game being *Risk Legacy* (2011). However, it was *Pandemic Legacy* (2015) which garnered the most attention in the hobby when it climbed to the very top of the BGG rating list in three different categories (Overall Ranking, Thematic Ranking and Strategy Ranking). *Pandemic Legacy* (2015) was eventually displaced from the top overall position by a different ‘legacy’ style game (*Gloomhaven*, 2017). Thus, we can see that this type of game is currently enjoying significant popularity. Legacy games are different from other tabletop games in that permanent changes are made to the game by the players (cards are destroyed, maps are altered, boards are written on, components are discovered and added, etc.). Thus, these alterations and differences are carried forward to the next game. This creates a sense of overall narrative and continuity-- and makes decisions very meaningful and impactful. Legacy games have tremendous potential in terms of the aforementioned engaging and immersive classroom game experience. This could involve using game designs which provide students with more in-game autonomy and more immersive gaming experiences.

Third, tabletop games can serve as a centrepiece of a broad game-based language teaching approach. Consequently, I will refer to this usage as a ‘game-at-centre’ approach. In this case, related language learning activities like analysis, materials creation, presentations, and other tasks can be spread out over numerous classes. This approach can be applied using a wide variety of game types. In fact, teacher game selection or teacher-guided student selection may be best made with an understanding of game fit to the learner needs and abilities, and also the classroom teaching goals. As this approach requires numerous weeks of game-related study, it requires curricular flexibility, structured implementation, and

teacher-established connections to language learning (e.g. assessment tasks, reflection activities, analysis activities, etc.) This approach may be the most involved, the most sophisticated, and the most burdensome on the teacher in terms of principled implementation. It is set apart from the previous two implementations in terms of the scope of the implementation within the curriculum and also in the sense that the gameplay itself may not be the primary activity which spans the duration of classroom implementation.

For both the ‘casual’ and ‘immersive’ tabletop game classroom experiences, it is possible to facilitate the experience using a task-based language teaching approach (or something similar to this in structure). Nunan (2004) defines a pedagogical task as:

“...a piece of classroom work that involves learners comprehending, manipulating, producing or interacting in the target language while their attention is focused on mobilizing their grammatical knowledge in order to express meaning, and in which the intention is to convey meaning rather than manipulate form. The task should also have a sense of completeness, being able to stand alone as a communicative act in its own right with a beginning, a middle and an end.” (p.4)

Such an approach helps ensure that learners are meaning-focused (Nunan, 2004) in terms of their language use during play. Nunan also goes on to list the following seven principles for task-based language teaching:

- Scaffolding: learning builds in a supportive way until learners reach a higher level of production potential (at this point the scaffolding may be removed or changed).
- Task Dependency: tasks should evolve from and build upon prior tasks. Throughout the learning cycle, learners transition from more receptive to more productive.
- Recycling: reusing language maximizes learning opportunities and organic learning.
- Active Learning: Active use of the language promotes good learning (engaged doing).
- Integration: Instruction should address relationships between linguistic form, communicative function, and semantic meaning.

- Reproduction to Creation: Student reproduction of teacher/material models can lead to mastery, but this should transition to creation and novel production.
- Reflection: Learners should be given time to reflect on their learning, progress and efforts. Reflective learning moves away from a content-focus and toward a more engaged learning process-focus.

Given the bottom-up approach of many task-based language teachers, treating tabletop games in the language learning classroom with this approach might enable teachers to better implement rich classroom-based game experiences in a pedagogically principled fashion.

Clear support of principled tabletop game implementation within a broad ‘game-at-centre’ approach can be found in the research, publications, and exploration made by the Japan Game Lab collaboration (Japan Game Lab, 2016) and other independent language teacher researchers (Mark Rasmussen Blog, 2012). By using their own specific ‘game-at-centre’ approaches, these contributors (James York, Jonathan deHaan, Peter Hourdequin, and Mark Rasmussen) are documenting and researching game-based implementations that often use tabletop games (Japan Game Lab, 2016; York & deHaan, 2017, 2018; York, deHaan & Hourdequin, 2019; Sato & deHaan 2016). This effort will be revisited in later sections exploring classroom implementation principles, beliefs, teacher awareness, and cognition.

Understanding specific TTG affordances in relation to language learning is a key step leading up to proper leveraging of these affordances for language learning outcomes. For teachers using or interested in using TTGs, their awareness, selection, and utilization of these affordances has a large impact on the quality and shape of their implementation. This in turn affects the language learning opportunities for their students. The key TTG language learning affordances mentioned above provide a range of language output opportunities, potential reduction of learner anxiety and increase in confidence, facilitation of learner

communication and interaction, engagement in an experience or cognitive challenge, and flexibility in terms of fit to a range of pedagogical functions (review, drill, situated/motivated language practice, task-related learning, language analysis/noticing, and reflection). In short, how teachers use games may be influenced by their understanding of these affordances, materials, and implementation options, as well as how the teachers view both language teaching and language learning.

Differences in affordances between tabletop and digital games and key modern tabletop game elements.

Turning to a key characteristic of potential non-overlap between video games systems and tabletop games, we must address the issue of ‘flow’ and ‘immersion.’ ‘Flow’ (Csikszentmihalyi, 1990, 2008) is one of the most frequently cited points supporting the richness of video game experiences. This is when the game experience allows the players to reach a peak state of focus and enjoyment that yields full engagement in the experience. ‘Flow’ states are valued in game experiences because of the player ‘enjoyment’ factor, perceived enhanced focus, and impact on motivation to play. Though both thematic narrative and role-play elements are implemented in tabletop play, it is difficult to make the case that tabletop games are as equally immersive and capable of ‘flow’ state facilitation.

However, it may be possible that tabletop games are simply a different form of engagement, rather than an inferior form. Mizer (2016) presents just such a case in the form of ‘non-immersive play.’ He notes how ‘frame switching’ between the three different frames (Fine, 1983), of game interaction (the social frame, the game frame and the fiction frame) in non-digital games can actually yield an enacted rhythmic inter-play which players find compelling, rewarding and enjoyable. The non-digital experience encompasses the totality of the experience, and even embraces the differences between the frame experiences by playing

off the natural transitions between them. In contrast, digital games primarily focus on immersion in the ‘fiction frame’ as they seek to induce flow.

Approaching the point of ‘enjoyment’ from another angle, there is a clear case to be made for tabletop games facilitating engaging fun and enjoyment through factors unrelated to theme, game narrative or experiential fiction. Abstract games and complex Eurogames are two obvious examples of tabletop game experiences that attract and compel players, at least in part, based on deep cognitive engagement (Woods, 2012). With both of these points in mind, we can see how tabletop gaming experiences can still be regarded as enjoyable and deeply engaging even if they do not yield a pure ‘flow’ state in the way many digital games do.

Today, throngs of enthusiastic gamers seem to find tabletop games capable of facilitating both enjoyable and impactful experiences. It has been suggested that the general reduction of face-to-face personal interactions and social activities may be negatively impacting our families, friendships and even our ability to develop new relationships and maintain existing ones (Turkle, 2015). In a similar vein, some seem to perceive an ‘interpersonal lack’ due to our increased interactions through and with digital technologies (Baym, 2010). It is not surprising then that people are drawn to playing tabletop games together. Many have noted that the face-to-face intimacy of playing these games provides something that is sometimes missing from our increasingly digital lives (Graham, 2016; Kruzman, 2017; Hutchcraft, 2016).

Many tabletop gamers comment on this sense of sociability (Fuher, 2015) found in tabletop gaming, and some have described game experiences as being linked to feelings of ‘coziness’ or ‘hospitality’ (identified more precisely as the German term ‘*Gemütlichkeit*’ by Woods, 2012). The embodied and tactile feeling of tabletop play has also been noted as a

significant contributor to ‘enjoyment’ for many players (Woods, 2012). Further, Woods (2012) notes how some respondents to a survey on tabletop game enjoyment specifically contrasted the tactile and direct interaction in tabletop play with the ‘intangibility of video game play’.

The importance of the tactile and non-digital tabletop play, which is sometimes referred to as analog gaming (Trammell, Torner & Waldron, 2016), is further evidenced by the frequent negative reactions of many gamers to the integration of digital technology into tabletop game experiences. Digital integration appears to be increasing and it seems that when the technology supports or enhances face-to-face game experiences it is generally accepted. That is, when the digital enhancements still prioritize the non-digital play (e.g. a digital application that gives individual players information or commands that would otherwise require another player to know secret information or manage information that would otherwise ruin a player’s gameplay enjoyment). Another point is that the lifespan of these ‘enhanced’ and ‘digitally supported’ games may be vulnerable to digital support issues (Adams, 2017). Support is typically accomplished by lessening the ‘fiddliness’ of the game and allowing players to focus on gameplay or ‘enhancing’ play in some novel way that does not detract from the social and personal tabletop experience. Given their enduring popularity, tabletop board games do seem to be offering an experience that is perceived as valuable by many.

It has been suggested by some that a kind of ‘design shift’ has occurred with respect to tabletop games (Woods, 2012; Graham, 2016; Dee, 2017; Phillies & Vasel, 2017). It is further affirmed that this shift has resulted in an enhancement of both user experiences and gameplay engagement. This is significant as it may relate to future sections covering teacher game literacy and materials quality. Many of the design changes can be linked to the

development of something called a ‘Eurogame’, though the impact of the ‘design shift’ is not limited to this type of game. This label is applied to tabletop board games fitting a certain design approach. Though the origins of the Eurogame design shift began germinating in the post-WWII 1950s and 1960s, some speculate that the design development may have been most significantly spurred on by the establishment of a formal annual board game award called the *Spiel des Jahres* (German for ‘Game of the Year’) in 1978 (Dee, 2017). Those who support this theory suggest that both the financial boost that recognized ‘modern’ games receive and formal recognition of game design excellence prompted designers to develop an increasing number of design innovations (Dee, 2017; Woods, 2012; Thrower, 2013). This innovation then spread beyond the ‘Euro’ and into other tabletop game types. Modern Eurogames (Euros) involve many of the key design features listed below (Woods, 2012; Dee, 2017; Harris & Mayer, 2010):

- focus on individual success (using frequent small achievements) and measuring relational success instead of direct conflict
- a general theme and may involve some type of narrative
- emphasize facilitating a social experience (either through or around play)
- reward skill (through opportunities for creative play and a variety of strategies), but also may include some luck or randomness
- avoid player elimination and encourage player engagement until the end of the game by obscuring scoring and including ‘in-game’ achievements

Understanding differences between TTG and digital game affordances and key TTG elements allows teachers to make informed materials selection and implementation decisions. It strongly connects to game literacy (Zagal, 2010) and game selection for classroom implementation (Becker, 2017). This will influence teacher behaviours related to TTG

use/non-use, implementation approach, and perceptions/motivations related to TTG materials use.

General materials considerations.

In an effort to consider more specifically the potential role of modern tabletop games as an English language learning resource, we should first determine what kind of resource they are. Tomlinson (2013) defines ‘materials’ as anything that can facilitate language learning. He notes that the term ‘materials’ includes a wide range of items, representations, and implementations (linguistic, visual, auditory, kinaesthetic, print, play, performance, display, recorded media, interactive media, etc.) (Tomlinson, 2001). In terms of the purpose or intent of ‘materials’, Tomlinson further points out that they can be instructional, experimental, exploratory, elicitive, experiential (using language) and stimulative (language use) (Tomlinson, 2013). ‘Materials’ in many current language learning classrooms are most often found in print form, yet electronic materials are on the rise. Tomlinson (2013) also notes that some in the materials development field are advocating for increased attention on experiential materials. Key materials development considerations forwarded by Tomlinson are the importance of materials being learner-centred, having a good fit to the specific and local needs of learners, and having high levels of learner-relevance. Well-designed tabletop games may fit Tomlinson’s materials definition as they are an example of a resource that can be used to facilitate language learning by leveraging or supporting instruction, exploration, experience (using language), and stimulation (using language), among other affordances.

In Tomlinson (2013) posits that some initial steps can be taken to clarify relevant language learning materials standards. He lists the following criteria as frequently being important in materials evaluation:

- appeal/interest to learners and teachers,
- credibility (learners, teachers and administrators),
- validity,
- reliability,
- short-term learning value,
- long-term learning value,
- teacher and learner perceptions of value,
- support for instructors at all stages of materials use and instruction,
- flexibility,
- professional development (also ‘personal development’ for learners), and
- fit to administrative requirements (standardization, syllabus, testing preparation, etc.)

Many of these points will be discussed in greater detail in parts five and six and will be used to better understand the research findings being presented.

Tomlinson (2013) also outlines key principles that language learning and second language acquisition (SLA) researchers generally regard as useful guides in materials development. These points may be relevant for enhancing teacher-made or teacher-modified game materials, informed materials selection and even supporting principled game development from materials publishers. Materials developers frequently seek materials that:

- have impact,
- support the learner,
- develop confidence,
- require and facilitate learner self-investment,
- cater to a variety of learning styles,
- maximize both right-brain and left-brain activities,

- and provide outcome feedback

Additionally, it is important that the materials are perceived as relevant and useful, offer authentic language use, provide opportunities to practice target language, afford communicative use, and allow for delayed production. They should also draw learners' attention to linguistic features, be appropriate for the learner on a holistic level, use authentic/realistic language, develop cultural awareness, and help create a readiness to learn (Tomlinson, 2013). Thus, this list may be interpreted to lend support to the idea that tabletop games and teacher-created support materials are a viable source of materials for the language learning classroom. However, successful implementation calls for not only materials selection/production based on design features, but also pedagogical consideration with regard to how the game experience will (directly or indirectly) be used by instructors to support language learning through game-peripheral materials. Teacher materials creation will be covered through Gebhard (2017) in this thesis' section on teacher cognition when discussing teacher-created materials (this appears in the teacher cognition subsection on teacher challenges related to classroom implementation of TTG-mediated L2LP).

Becker (2017), in her text on choosing and using digital games in the classroom, recommends the use of comprehensive rating tool she calls 'the four pillars.' The game materials can then be assessed and evaluated (0-5 scale) according to each of the pillars. 'The four pillars' are:

- Gameplay (assessing the game in terms of fun, interest, aesthetics, etc.)
- Educational content (learning component and connection to educational objectives)
- Teacher support (support[s] teachers wishing to use a game can access)
- Balance (how various learning elements and affordances balanced)

There is not a hard and fast rule about pillar evaluation requirements or educational value related to ‘Four-Pillar’ assessment and evaluation of materials. However, engaging in this kind of principled materials assessment and evaluation does help to ensure the teacher is focused on relevant objectives and is more balanced in their game materials selection approach.

It may also be helpful to consider TTG materials from the perspective of perceived usefulness, perceived ease of use, and how these points impact teachers’ acceptance of TTG materials. This approach was used by Davis (1989) in his efforts to explore and understand user acceptance of information technology. Davis reports that perceived usefulness and perceived ease of use are fundamental deterrents to system use. He notes that acceptance or rejection may be connected to user self-efficacy and/or cost-benefit decision making. His research strongly suggested that perceived usefulness is highly correlated to usage and he concluded that:

“...users are driven to adopt an application primarily because of the functions it performs for them, and secondarily for how easy or hard it is to get the system to perform those functions.” P. 333

This concept may have some limited overlap with teacher use of materials as it may be that teacher use of games ‘drives’ or leads some of them to perceive them as useful (and, by extension, potentially useful for others).

In terms of what roles general tabletop games play or might play in a greater game-supporting curriculum, we can consider some key areas of situational analysis: societal factors, project factors, institutional factors, teacher factors, learner factors, and adoption factors (Richards, 2001). We must look at each factor in a little more detail, as these are key points which teachers seeking to implement TTG-mediated L2LP should evaluate.

Regardless of explicit teacher awareness of these influences, they often contribute to teacher beliefs, practices, and decisions.

Societal factors surrounding the curriculum will have large influence upon TTG-mediated L2LP, and the stakeholders in the context will also need to be considered. The impact of curriculum goals, limitations, and structure on materials selection and implementation has been noted by academics in the language teaching field (Christison and Murray, 2014). Stakeholders may include government policy makers, education officials, politicians, education specialist/officials, community interest groups, parents, citizens and students (Richards, 2001). In the case of games, this may mean that they will not be seen as valid in some contexts and may be embraced in other contexts (Blume, 2019). A careful consideration of context should be made prior to significant introduction of novel or less-tested curriculum changes or materials.

Project factors, a relevant consideration in some teaching contexts, may also influence the goals of the curriculum and views on potential game-based learning. Project team member views, time frames, budgets and experiences (Richards, 2001) will all potentially impact willingness to implement game-based learning and willingness to accept it.

Institutional factors, those related to the school or organization hosting the learning, will also bring a particular culture and mind frame to bear on potential curriculum-level game implementation efforts. In some cases, this may result in widespread support (for example, in contexts promoting communicative language learning), while in others it may result in widespread resistance (for example, contexts promoting rote-memorization and test-readiness).

Teacher factors are a key consideration as well. In fact, this point is key to this thesis. As such, it will be expanded on in sections five and six and, then will be considered in more

depth during the research findings presentation and analysis in sections seven and eight.

However, looking briefly at general teacher factors, we can see that language proficiency, teaching experience, skills, training, morale, motivation, teaching style, beliefs and principles (Richards, 2001) often vary greatly between individual teachers. All of this means that different institutions and individual teachers will differ in their likelihood to use games in the classroom, and any of these specific factors may be central to a given individual's TTG-mediated L2LP implementation or non-implementation decisions, practices, and experiences.

Learners play an essential participatory role in materials and curriculum implementation. Their needs, experiences, backgrounds, beliefs, expectations, motivations, and learning styles (Richards, 2001) should always be considered by the instructor, and perhaps even more so prior to game-mediated learning implementation. Thus, game selection and implementation must be pedagogically-sound, be supportive of learner needs (language learning and otherwise) and be accepted by the learners. Teacher perceptions of learner expectations, beliefs, and attitudes will greatly impact teacher classroom decisions.

Adoption factors are also crucial in considering the viability of game-based learning in the classroom on a wider scale. Potential advantages, general compatibility, complexity, proven testing, practicality, and stakeholder awareness (Richards, 2001) will all impact the level of adoption at a curriculum and materials level. An increased use of games in the classroom will need to address these aspects to increase the likelihood of a more successful and more widespread adoption.

Understanding how games and game-related materials fit into the classroom (utility, scope of use, and connection to learning) is a challenge for teachers interested in using this material. This challenge is particularly highlighted in issues surrounding materials selection and materials adaptation/creation. Not only must teachers using games understand the

materials in general, they also understand them within their intended context and actively ensure appropriate fit/implementation. Game-related materials are challenging to implement in principled fashion in language learning classrooms. This stands in contrast to naïve understandings of games in the language learning classroom as magically and spontaneously facilitating effortless language learning. The challenges involved in principled implementation place significant demands on teachers and understanding this essential to assessing and using games in the classroom. Having said that, many teachers do accept the challenge and seek to leverage the learning benefits of game use in the classroom. Better understanding the motivation, drive, and mind set prompting this decision, may be helpful in supporting/encouraging principled classroom TTG use by teachers developing their own practice. Finally, the specific nature of games as classroom materials also involves a range of contextual constraints and impact factors (including various stakeholders, curriculums, and other context-related influences). Understanding how these elements affect classroom game use, will help to ensure teachers are better able to make informed choices related to game use/non-use. This may include predicting challenges, overcoming problems proactively, and being circumspect in regard to how classroom game use/non-use impacts others. Teachers already using games can benefit from information exchange related to these issues and teacher thinking about the use of games may benefit tremendously from guidance about both the range of issues and suggestions about how to navigate them effectively.

In summary, we can see that along with materials-considerations, curricular-considerations must also be examined when evaluating tabletop game appropriateness for language learning classrooms. Having looked at these fundamental areas of consideration, it is important to examine classroom evaluators, tabletop game-materials implementers, and potential implementers, namely, language instructors. A careful examination of instructor beliefs, knowledge, and behaviours requires significant attention to teacher cognition.

Comprehending teacher cognition better will improve our grasp of how various factors guide, constrain, influence, limit, affect, and support teacher TTG use or non-use in language learning classrooms. Cognition will be the main focus of the subsequent sections of this thesis.

Teacher Cognition

Beliefs, actions, and knowledge.

In this section, five main areas of interest related to teacher cognition will be examined: implementation of teaching approaches, resource implementation, game-mediated learning/teaching, teacher challenges related to classroom implementation, and general teacher/language teacher cognition. Classroom implementation patterns, general teacher beliefs, teacher awareness and cognition will be considered in relation to each of the five previously mentioned areas. These points are being focused on as they all work to shape and guide the classroom decisions of teachers related to tabletop game use/non-use, implementation and language teaching. The five aforementioned areas have been selected in an effort to lend focus to broad themes potentially affecting teachers interested in implementing TTG-mediated L2LP.

Understanding how teacher cognition impacts teacher approach implementation is important as this will help to clarify issues related to current TTG-mediated L2LP implementation and highlight ways to support future principled implementation. Understanding cognition related resource implementation also provides researchers and supporters of TTG-mediated L2LP with specific resource-focused targets related to increasing resource exploration/opportunities and increasing teacher confidence with the resource. Understanding cognition related to game-mediated learning and teaching is useful as attention can be given to providing specific and tailored teacher support based on teacher

need and context. This may especially include increasing teacher awareness/development related to roles and responsibilities stemming from principled TTG-mediated L2LP.

Providing opportunities for sustained and targeted training support may help tremendously in this area. Understanding teacher challenges like game access, game literacy, classroom game literacy, materials exploration, peer support, and research support gives further direction in terms of key areas of teacher cognition. Again, teacher training, both pre-service and in-service, may be essential in filling/avoiding cognition gaps related to these points. Finally, understanding general teacher and language teacher cognition shows how differences between novice and expert game-using teachers may impact implementation and also the diversity of pathways for nurturing the development of teacher expertise in using TTGs.

Implementation of teaching approaches.

Starting with classroom implementation of approaches, we will begin with the subject of teacher implementation beliefs and patterns. At this initial point, there is significant overlap between the two factors as belief commonly influences implementation patterns. It should be noted that teacher beliefs can be difficult to understand both in terms of how they relate to classroom practices and in terms of the teachers' own awareness. Understanding teacher beliefs can help shed light on stated reasons for materials use or non-use for both TTG-mediated L2LP and language teaching in general. It can also clarify how gaps between curriculum ideals and teaching practices can develop and even explain some gaps between a teacher's pedagogical ideals and her implemented teaching practices. In a research questionnaire on teacher beliefs and practices of grammar teaching (Uysal & Bardakci, 2014), teachers identified the following reasons behind classroom behaviours: designated curriculum (25%), student expectations (18%), textbook (15%), teacher learning experience (11%), professional development opportunities (11%), research findings (10%), teacher collaboration (7%) and teacher preparation courses (3%). The responses provide a sense of

teacher beliefs and their perceived ‘reasons behind actions.’ Teachers also identified some contextual factors they believed to be influencing their own behaviour (particularly in a way that diverged from the ‘officially called for’ approach or personally desired approach). The key points mentioned were time constraints, classroom management, and student motivation.

In further considering the dynamic nature of the evolving and changing beliefs of teachers, research into how these tensions translate into practice is worth examining. Tensions here refers to the interactions and interplay between shifting and sometimes opposing beliefs and how this impacts and influences behaviours. Mak (2011) provides an analysis of how one teacher’s beliefs about communicative language teaching methodology changed from the pre-teacher period to the in-service teacher period. Over the course of the research, the teacher refined and altered her beliefs and implementation practices at least partially based on contextual classroom feedback and experience (teacher-wiseness). A possible parallel issue for TTG-mediated L2LP is how pre-implementation teacher beliefs about the TTG-mediated L2LP approach may also evolve and change through the teacher’s journey through the implementation process. Mak (2011) found that the teacher eventually developed a much more specific sense of when and how to implement CLT, a clearer role in providing specific scaffolding and skill-builders to bridge gaps and support learners, and a feeling of greater responsibility over CLT implementation and classroom management. Understanding that teacher beliefs can, and often do, change is key to understanding the implications for the wide range of teacher beliefs that exist surrounding the use or non-use of tabletop games in language learning classrooms.

Another example of the complex relationship between beliefs and practice can be seen in research into teacher implementation of Task-based Language Teaching and Learning (TBLTL) in China. Zheng & Borg (2014) conducted research through interviews and in-class practices of three instructors attempting to implement a TBLTL curriculum. In the case

of one of the instructors, the researchers found that though the teacher was willing to explore TBLTL, he misunderstood what it was and how to implement it in a principled fashion. This teacher also cited pressures stemming from his responsibility to prepare students for academic success as a source of reservations about more fully implementing TBLTL. A second teacher strongly supported management practices that fulfilled his belief in meeting curricular and textbook obligations. In fact, the rigid fashion in which the teacher followed the textbook sometimes diminished the effectiveness of TBLTL implementation. This is relevant because this pattern may indicate that teachers may either be averse to TTG-mediated L2LP if it is perceived as deviating from curricular expectations, or that teachers may also implement it in a way that is not adroit enough to facilitate and maximize meaningful classroom learning. A third teacher implemented the TBLTL curriculum in an almost grudging manner. Interestingly, it was also found that this instructor provided grammatical and language scaffolding that the instructor believed to be ‘outside’ the scope of TBLTL, but that was actually in accord with principled TBLTL implementation. However, it was found that the teacher’s reservations and concerns over implementing TBLTL limited the effectiveness of the implementation.

Wang and Ha (2013) examines teacher beliefs related to the implementation of a teaching model (Teaching Games for Understanding) using the Theory of Planned Behaviour (Ajzen, 1985; 1991). The TPB model proposes that attitudes toward behaviours, subjective norms, and perceived controls on behaviour work in concert to form the behavioural intentions and behaviours of an individual. In Wang and Ha (2013), Physical Education teachers implementing a new teaching approach were analysed. In this study, the teachers were set on replacing a technique-based approach with a constructivist approach. The prime expectations and beliefs behind initial implementation noted by teachers were student enjoyment, inclusive engagement of students, and the fostering of critical thinking and

reflection. Normative behaviour influences mentioned by teachers focused heavily on external influences-- principals, colleagues, students, etc. More specifically, the teachers reported that a range of influencing behaviours were brought to bear. For example, some forces encouraged the teachers to try the new model, some forces provided positive encouragement and feedback related to implementation, other forces expressed curiosity or fostered a knowledge-exchange bond. These external influences and teacher expectations may also impact and influence teachers using tabletop games in language learning classrooms. Just as importantly, internal influences and expectations will almost certainly impact teacher behaviours as well.

Wang and Ha (2013) further notes that ‘control beliefs’, the teacher’s perception of factors which may support or negatively impact the behaviour, seemed to play the largest role in influencing teacher beliefs (at least according to both questionnaires and interviews). A general trend indicated that many teachers found implementation of the model to be both complicated and difficult. Low confidence, in various forms, was cited as a primary sticking point. Low confidence issues listed were inadequate game knowledge, limited knowledge related to the pedagogy or teaching method, which was intended to be implemented, inability to modify games according to needs, contextual constraints and conflicts with established assessment and teaching methods. Again, one might expect these factors to also influence teachers seeking to use tabletop games in language learning classroom, and especially teachers embracing a TTG-mediated L2LP approach.

Turning to a case study analysis of divergence and convergence between stated ESL teacher beliefs and actual practices in Farrell and Dennis (2013), we can see evidence that supports the following notions: a) that some deviation between stated beliefs and practices is to be expected and may be part of the natural flow of teacher adjusting and development, b) that experienced teachers tend to have classroom practices that are more closely aligned with

their stated beliefs than inexperienced or less experienced teachers, and c) that teachers, experienced and inexperienced, benefit from critical reflection and feedback on their own beliefs and practices. This also relates to the topic of teacher cognition as it points out how teacher beliefs related to TTG-mediated L2LP may mature and develop with experience and implementation, whereas less experienced teachers may implement TTG-mediated L2LP with greater gaps between stated beliefs and practice. This specific point will be examined more fully in the final part of this section.

Another implementation factor that may influence teacher belief is the cultural and curricular history in which the teacher teaches. For example, Zhang and Liu (2014) examines EFL teachers' beliefs amid widespread curricular reforms underway in China. They note how cultural pressures, the existence of high-stakes testing supported by the education system, calls for curricular reform, and school environments all interact to constrain, shape and influence teacher development, beliefs and actions. Of particular note, the research suggested that though teachers may have generally positive beliefs about an approach, the aforementioned forces may leave them with reservations or concerns in implementing particular curriculum innovations or changes. The researchers described this seeming coexistence of contradictory beliefs as the 'multi-dimensional structure of teachers' beliefs.' Ultimately, the analysis of the researchers suggested that rather than having a single theory on which to base their teaching practices, teachers may have a repertoire of beliefs that they can draw upon as needed and with great flexibility. This relates to the topic of TTG-mediated L2LP as implementation always exists in a cultural or contextual context and is dependent upon the multi-dimensional belief structure from which teachers are operating.

In Chen (2002), teacher views and implementation of a specific constructivist approach in Physical Education classes were discussed. Some key themes covered by Chen are also relevant to teacher views and implementation of TTG-mediated L2LP: teacher views

on purpose of the approach and activities, teacher views on the role of the students and implementation affordances (e.g. self-responsibility), teacher ability to address the individual needs of students, and teacher roles (presenter, responder, giver of feedback and prompter of noticing, organizer, and harmonizer of activities, curriculum and pedagogical approach).

Cohen and Tellez (1994) investigated the variables affecting the degree of Cooperative Learning (CL) implementation by language teachers. A driving impetus behind the research was to scrutinize teacher adoption of an innovative instructional practice. This has some clear commonalities with the need for a similar investigation into TTG-mediated L2LP implementation. The key variables affecting implementation of the new approach were teacher beliefs about SLA, teacher attitudes about the approach and teacher perceptions of constraints and opportunities. After analysing the research, it was shown that when teachers had SLA beliefs that aligned with the approach, had positive attitudes about the approach, or had positive attitudes about opportunities and an ability to overcome constraints (e.g. through supportive work environments), teachers were more likely implement the approach. However, the study also found some evidence of teachers implementing CL in high constraint environments. It was postulated that the constraints may have further emboldened the teachers and increased resolve to implement CL by reinforcing a ‘rebel teacher’ complex.

Thus, a host of influences and cognition-related factors can be seen as influencing teacher implementation of teaching approaches. This may be especially true for the implementation of new or innovative approaches. Understanding how these influences and cognition-related factors may influence teacher implementation of strong or weak (referring to the degree of purposeful use and presence in classroom) TTG-mediated L2LP is a relevant concern for this investigation into teacher cognition.

Looking at the specific teaching approach implementation factors again, some connections can be made to highlight the relevance for TTG-mediated L2LP. First, gaps between teacher beliefs and actual implementation generally reduce with increased teacher implementation experience, though gaps of lesser degrees are likely to persist. Moreover, gaps may exist related to teacher awareness of what a specific approach may involve, and this could lead to some teachers mistakenly believing they are following a specific approach or others believing they are not. As such, critical reflection and feedback are likely to be crucial to promoting effective development of TTG-mediated L2LP teacher cognition and approach awareness to both novice and experienced game-using teachers. A number of influences on teachers are shown to have significant impact on their approach implementation decisions. These include teacher beliefs about contextual elements (curriculum, student expectations, textbook, etc.), culture, situational/contextual opportunities/challenges, and normative behaviours (colleagues, principals, and students). In this sense, teacher approach implementation of TTG-mediated L2LP involves numerous influences (pressures and supports) which are quite specific for each given teacher. Supporting general teacher awareness of how these factors may present challenges and/or provide opportunities is an important way in which teachers who are new to TTG-mediated L2LP can be nurtured. Additionally, teacher control beliefs and opportunity/challenge perceptions may be strongly linked with teacher confidence and familiarity. Support and modelling from other game-using teachers is one important way in which approach implementation could be cultivated and guided. Thus, TTG-mediated L2LP teacher training, ongoing professional development support, and community interaction (feedback/discussion) may be of great value in supporting interested teachers in increasing their confidence and self-efficacy in principled game materials implementation. Detailed framework modelling and support with examples

of implementation and discussion around the outcomes, challenges, and objectives could play a pivotal role in bridging the approach implementation gaps.

Resource implementation.

An examination of teacher beliefs, behaviours, and attitudes toward possible classroom resource implementation may also be instructive. To explore this issue, we will look at research related to teacher relationships to digital technology and digital games as learning devices in the classroom. This is considered relevant research in the sense that some may consider tabletop games to be an atypical classroom resource. Consequently, examining the above three elements in relation to an atypical classroom resource or regular classroom resource may have some parallels to teacher cognition related to tabletop game use or non-use in the classroom.

In Cirocki and Caparoso (2016), teacher attitudes, beliefs and motivations are examined in an L2 reading classroom. They echo a sentiment similar to Zhang and Liu (2014), and state that teacher beliefs are rarely well-structured. In addition to this, they point to an important distinction between teacher beliefs and knowledge. Knowledge is different in that it has a foundation of truth. Beliefs, on the other hand, do not require this foundation. Another key point made by Cirocki and Caparoso is that teacher beliefs about teaching and learning underpin teacher choices about instruction, goals, procedures, methods, approaches, materials, and management. Many of the teacher reasons stated for reading materials implementation corresponded with student motivations: self-efficacy, challenge, curiosity, involvement, importance, grades, competition, social reasons, and compliance. This is important as similar overlap may be applied to principled tabletop game implementation for motivation. A final relevant discovery the research notes is that while teachers frequently selected materials they assumed were of interest to the students, teachers rarely investigated

to confirm if students were actually interested. The authors highly recommend instructors take greater steps to negotiate materials selection with the students. Similarly, instructors should also seek to find new and engaging ways to facilitate empowering students to engage in more critical thinking and autonomy. However, it may be helpful if this materials selection process includes at least some student input. Given that teachers using TTG-mediated L2LP are also in a position to manage materials selection and implementation, these points have significant transfer relevance.

Tayan (2017) investigates students' and teachers' perceptions of the viability of mobile technology in supporting language learning. Questionnaires and interview data were gathered to better understand the disposition of the students and teachers, and then to understand where they overlapped and where they did not. Overall, the research data results suggested that positive attitudes toward mobile technology implementation by both students and teachers pointed to potential support for use of the resource. Specifically, 85% of the students and teachers combined either strongly agreed or agreed that they would be comfortable using a mobile device in the language learning classroom for education purposes. General attitudes toward the effectiveness of mobile learning showed 84% of the students and 100% of the teachers favoured mobile learning as an effective way to support language learning.

Conversely, 16% expressed discomfort, though many of these reservations were linked to a lack of prior experiences using mobile devices for language learning purposes. This is also a relevant point, as the same reservations (based on a lack of applied experience) may reduce student and teacher perceptions of validity toward tabletop games as a language learning resource. Clearly, this research highlights the importance of teacher and student belief overlap as a potential indicator of perceived validity. Additionally, the investigative thrust of the research into student and teacher belief gaps and overlaps is significant. In

classrooms where the beliefs of teachers, students, and administrations toward a resource in the classroom is unknown, assumptions and beliefs about the attitudes of the ‘other’ may exert hidden influence on the beliefs, decisions, and behaviours of these groups. Of course, this is particularly significant when the teacher is the potential implementer or non-implementer of a classroom resource. The questionnaire established that students generally had a high level of familiarity and comfort with mobile devices. However, the same may or may not hold true for tabletop games, and therefore the subsequent findings may correlate less strongly unless students are also ‘comfortable and familiar’ with tabletop games.

Dogan and Akbarov (2016) examine ESL teacher attitudes toward the use of mobile devices in language learning classrooms. This research is relevant as it scrutinizes teacher beliefs toward implementing this relatively new resource. Similar factors related to instructor attitudes will be important to consider when looking at modern tabletop game use. Through a questionnaire, teachers identified two main obstacles to use of the new resource: lack of training and students’ attitudes. Responses correlated highly to indicate broad agreement about these obstacles. The lowest ranked obstacles identified were school administration and pedagogical justification. Additionally, the research conclusions indicated a need for further investigation into the implementation of this resource in relation to teacher materials literacy (related to mobile devices), classroom impact and performance outcomes, and broader stakeholder attitudes.

In Mahmood, Halim, Rajindra and Ghani (2014), questionnaires and interview data were gathered to investigate the factors affecting teacher use of digital technology in ESL classrooms. The findings showed that low confidence about technology use and low familiarity were the primary barriers to technology utilization in the classroom. The researchers suggested that encouragement and support related to technology use may both increase teacher confidence and increase overall teacher use. Moreover, it was suggested that

increased time and effort spent using and learning about technologies may help increase teacher familiarity with technology and, ultimately, increase technology use in the classroom. Again, this research provides parallel support to better understand and contend with potential teacher use or non-use of tabletop games in classrooms.

Looking at (Lee, 2000), we can find an outline of issues which were identified as barriers to implementing Computer-Assisted Language Learning. Most of these barriers related specifically to the nature of the resource, teacher cognition, and general implementation factors. These, in modified form, may be considered parallel issues affecting teacher implementation of TTG-mediated L2LP. The issues identified were financial barriers, availability barriers, game and materials literacy barriers (technological and theoretical barriers in the original), and acceptance barriers.

Resource implementation is closely linked with teacher cognition-related issues, and at times it may even be regulated by it. Additional environmental and resource-specific constraints must also be considered and factored into the resource implementation equation. In both cases, the fullest understanding of the resource implementation requires consideration of teacher cognition. Understanding tabletop game use in the classroom requires the same consideration.

Resource implementation and non-implementation with regard to tabletop games in the language learning classroom is yet another area in which novice and expert game-using teacher could benefit from support. This section highlighted the value of harnessing teacher interest and curiosity to explore resources (which might include TTG resources) and teacher interest in fitting student expectations/needs. Negotiating, framing, and discussing resource/materials implementation with students is highly recommended in TTG classrooms and may greatly impact both student and teacher perceptions. A range of attitudes and

comfort levels with the resource/material can exist in specific classroom based on resource familiarity and other factors. Having an awareness of these attitudes will allow teachers to be proactive in supporting resource implementation and also potentially increase stakeholder buy in. Moreover, a lack of resource/materials familiarity, comfort, and confidence may be very significant resource implementation barriers for teachers who are new to the use of games. This may in part be due to financial constraints, availability/access issues, opportunity, and/or perceived lack of confidence with specific principled implementation. As such, increased attention ought to be given to supporting teacher exposure to game materials, supplementary materials, and implementation supports. This should include both specific short-term efforts and long-term efforts. Short-term efforts might include workshops, observational opportunities, or materials support. Long-term efforts might include peer workgroups providing feedback on teaching and resource use, teacher training initiatives, open communities of practice (providing mentorship, accountability, and relationships), and online resource support (videos, podcasts, guides, support material access, forums, etc.).

Game-mediated learning/teaching.

Next, looking more specifically at teacher cognition factors related to game-based learning, Hsu, Tsai, Chang, and Liang (2017) used a variety of research questionnaires to uncover teacher beliefs and technological and pedagogical content knowledge related to GBLT. The analysis also focused on comparing result trends according to class levels, gender, teacher age, and teacher experience. Generally, teachers at lower levels tended to have belief, confidence, and motivation for GBLT. Age analysis suggested that younger teachers had greater game knowledge and game content knowledge. Novice teachers scored higher on self-efficacy in implementing GBLT and also in their perceptions of the usefulness of the approach. Gender differences showed only as slight difference in terms of perceived game knowledge among teachers, with male teachers scoring higher than female teachers.

One especially interesting finding was that, overall, game pedagogical knowledge predicted game pedagogical content knowledge. That is, the teachers' confidence in using games to enhance student learning, predicts confidence in being able to use games to enhance student learning while teaching specific content. This is a significant connection and will be looked at more closely in the conclusion section of this paper's research findings (section 8).

Huizenga, ten Dam, Voogt, and Admiraal (2017), present salient research into GBLT teachers' perceptions of value in GBL as the participants were high-frequency users or dedicated Digital Game-based Language (DGBL) teachers. This included implementing both game play and/or game creation in the classroom. This research is useful in highlighting perception trends among those implementing GBLT. Analysis of semi-structured interview responses showed that the teachers perceived student engagement and cognitive learning as the key effects of GBLL. Motivation was identified as a significant but less commonly perceived effect mentioned by the instructors. As there is much research pointing to the link between games and motivation potential for learners in the classroom (Sykes and Reinhardt, 2013), this was an interesting perception to identify among seasoned GBL teachers. These trends and findings will be more thoroughly examined during the qualitative research findings analysis of this paper (section 6).

An enlightening perspective on emerging GBLT professional cognition can be seen in Alyaz and Genc (2016). This research involved collecting feedback from pre-service teachers who participated in DGBLL, were tested for language learning increase, and then were interviewed about their perceptions of GBLL and GBLT. In post-GBLL interviews, 86% of the respondents indicated that they felt that GBLL was useful. When asked to identify perceived linguistic benefits, the responses were as follows: vocabulary (33.3%), reading (30%), listening (28%), and speaking (21%). A comparison of pre-GBLL scores and post-GBLL scores confirmed an increase in learner vocabulary breadth. This alignment

between experientially informed professional beliefs and language learning impact has some important implications related to teacher training and classroom implementation. Another significant area of exploration covered in Alyaz and Genc (2016) relates to GBLL implementation pitfalls. First, it was noted that game peripheral support resources were not always used or used to their full potential. For example, a social network site was created to facilitate discussion and peer interaction. However, it was not used by learners. Reasons given for non-use were lack of time and greater valuing of face-to-face peer discussion. Also, learner diaries were kept, but many students under-reported ‘unfamiliar’ and new vocabulary as one of the related diary tasks required. A variety of reasons for this were given. Recognizing that pedagogical tasks may be under-used, ignored, or less than effective did not leave the pre-service teachers with negative perceptions of GBLL usefulness. Likewise, game-based navigation problems and play-based implementation interruptions were also noted, but this too failed to have a large negative impact on overall perceptions of GBLL value.

Karadag (2015) provides another look into pre-service teachers’ perceptions of GBL. In this study, the pre-service teachers implemented GBL in a 12-week reading and writing instruction course. It is worth noting that the participants actually designed their own games or developed modified versions for the classroom. The research findings indicated that the pre-service instructors have strong agreement or agreement with various positive statements regarding professional development and teacher training related to GBL. In particular, the vast majority of participants agreed that their knowledge related to reading and writing instruction was enhanced through GB activities. While the teachers generally felt positive about GBL, one concern voiced by participants was that they felt a sense of anxiousness around game design, content selection and implementation, and game fit to learners. This is

an important point which may also come to bear on teachers engaged in tabletop game design, modification, content selection, and game implementation.

More research covering a similar perspective comes from Sardone and Devlin-Scherer (2009). They present research on teacher candidates' views on digital games as learning devices and how use of this resource impacted the candidates' views on the teacher as the facilitator of instruction. One of the reasons cited for conducting the research was the need to learn about candidate teachers' evolving perceptions and facilitate newer forms of instruction for teachers and teacher educators. This was connected to teacher candidate training and principled guidance in preparing new educators for their new roles. One of the key findings was linked to the candidate teachers' perceptions of content significance. Most of the candidate teachers found the game resources provided powerful, dynamic, and significant content that they perceived as providing educational takeaway that related to the curriculum standards. In other words, the materials/resources were perceived positively in terms of their curricular alignment and learning impact (Sardone and Devlin-Scherer 2009). Also, the research showed that teachers often had different opinions regarding potential student reaction to various games. It was determined that game appearance, presentation, and design were key factors in influencing candidate teacher pre-implementation perceptions. Another finding was that candidate instructors often felt the need to provide supplemental guidance or pre-game preparation when they sensed a game lacked directions, appeal, or accessibility in terms of navigation. All three of these points would directly impact teacher implementation of tabletop games and would therefore potentially influence teacher beliefs and/or behaviours. Candidate teachers tended to be critical of games requiring this additional support or supplemental structure. Interestingly, praise was given for a variety of reasons: realism, liveliness, engagement, addressing different learning styles, allowing for decision-making, being thought provoking, role-playing and simulation. With regard to pre-

implementation attitudes, 96% indicated generally positive attitudes towards educational digital games. However, 30% indicated doubts regarding classroom management and the ability of games to stand alone as a learning method. Further, many indicated that they believed the teacher should control the game and that games may be better suited for review and reinforcement than learning. The research findings point to a trend of careful willingness to adopt alternative learning methods. Many of the candidate teachers had suggestions about how to improve the games. This is an extremely important point, as teachers using tabletop games may implement similar game modification, adaptations, or even create games.

A detailed look at challenges stemming from conducting a GB curriculum is outlined by Marklund and Alklind Taylor (2016). This research presented findings from two case studies that saw teachers implementing DGBLT, noting the numerous challenges and responsibilities teachers face when coordinating GBL implementation. The research highlights the challenges of implementing GBLT due to constraints upon teachers and the need for them to take on different roles. The researchers began by gathering data during the pre-implementation stage of development when the instructors needed to assess what could be accomplished given curricular, resource, and scheduling demands. At this point, the instructors also made key game implementation decisions based on resource availability, class times, and other constraints. For example, in one case, stand-alone gaming sessions were deemed more appropriate as they had shorter class times. This also limited the game possibilities, as they needed to fit within the time limits.

Overall, the researchers noted the following three main phases related to using and implementing games in educational environments: inventory, implementation, and maintenance. Inventory involved considering the student needs, curricular needs, resources, and educational goals. Implementation involved preparing the resources/materials and readying the environment. Maintenance involved managing play, managing the classroom

experience (for both the class as a whole and individual students), resolving difficulties, teaching content, supporting learning, lecturing, tutoring, and acting as an authority in the classroom environment. Clearly, instructors implementing GBLT have a lot of hats to wear.

Marklund and Alklind Taylor noted that classrooms they investigated educators:

- Took inventory of available hardware/resources
- Evaluated student profiles
- Examined curriculum goals
- Examined game software
- Established educational goals for the game-based project
- Pull in organisational support structures
- Prepared the technology infrastructure
- Purchased game licenses
- Installed of software
- Prepared the classroom environments
- Prepared the game environments
- Conducted maintenance
- Set up game servers
- Prepared in-game subject matter content
- Saved games and managed backups
- Provided tech-support during game sessions
- Closed down lessons
- Did hardware maintenance
- Provided patching and software maintenance

The authors concluded that educators integrating GBLT require skill sets which include

technological know-how, game literacy, subject matter expertise, and a strong pedagogical foundation.

It is also important to note that instructors in this research identified two specific difficulties related to GBLT implementation. The first was that they felt they lacked some self-confidence related to both game literacy and implementation of the GBLT approach. Additionally, they noted that the approach involved a significant time investment for preparation and principled implementation. There are many challenges surrounding GBLT, and it seems likely that many of those mentioned previously would hold true for TTG-mediated L2LP. Based on some of the findings presented in this section, it seems that principled implementation of TTG-mediated L2LP would require careful consideration of constraints, needs, objectives, game literacy, and a pedagogical framework suitable for justifying the use of the material. Moreover, principled implementation often requires that instructors juggle a wide variety of responsibilities, roles, and duties.

Sancar Tomak (2014) delved more specifically into researching the relationship between teaching and teacher game design. He looks at pre-service teachers' perceptions of their development of technological, pedagogical, and content knowledge (TPACK) after designing educational computer games for children. This study is significant because it specifically touches on teacher game design awareness for educational games, and this is a point that needs to be explored on the research topic of TTG-mediated L2LP and teacher cognition. This is particularly true if teachers are making or modifying tabletop games in their classrooms. The research findings showed how both limited technological knowledge and design knowledge created initial difficulties for the pre-service teachers. However, after receiving supportive TPACK-related information, participants reported increased abilities in technology use and game design for education. This suggests that teacher awareness and abilities related to these points, technology and design, can be developed and fostered.

Though technology in the research relates to digital and electronic technology, similar increased abilities may also apply to teacher awareness of tabletop game affordances, practical game and materials creation issues, pedagogy, and educational design principles. Participants in the research focused on designing with the objectives and goals of the curriculum in mind, and they sought to create games which were suitable to supporting this pursuit. Additionally, the appropriateness of the games for student development was a key factor of consideration.

Journal entries and focus group interviews featuring the pre-service teachers who were developing the educational games detailed a number of strategies for overcoming obstacles. These included requesting help from peers or instructors, researching commercial games, reading relevant books, searching the internet, learning new programs and tools, student levels and abilities, content selection and inclusion, and employing trial and error. Educators creating or modifying tabletop games for educational purposes may have to overcome similar obstacles. Thus, these strategies highlight various ways in which these educators can not only meet specific challenges, but also develop their professional abilities.

For a final look into the topic of teacher as ‘creator’ we turn to Kusuma, Adnyani, and Taharyanti (2017). This research follows educational game development intended to offer a more engaging and effective alternative to standard flash card use. The authors note that in the specific development context (Indonesia), there was a dearth of engaging materials and activities. Consequently, teachers often felt constrained by the materials provided. Thus, the research effort was undertaken to break the ‘monotony’ associated with the standard flash card use. More specifically, the game developers sought to develop games that would be effective and engaging for both facilitating language learning and assessment of learning.

The materials used for game development were sourced from realia and teaching materials (flash cards). This was done because these materials were easily accessible. The game development model followed involved the following stages: needs assessment, design, development, and implementation. Evaluation and revision were key procedures that occurred throughout to lend support to all of the other stages.

The ten games developed were:

- 1) A guess and draw activity/game (Initial visual stimuli, followed by verbal prompts and student drawing.)
- 2) Fill-in-the-blank activity/game (Teachers provide an incomplete sentence with the missing word flash card as a visual prompt. Students must spell the missing word.)
- 3) Student-to-student flash card identification drill with one student being 'it' (One student asks others if they know what a card is and switches spots if the student being asked does not know the answer.)
- 4) Yes/No team guessing game (Team-based '20 questions' style guess game where one team knows the vocabulary item and the other team is trying to guess it in a set number of tries. Points are awarded for both good clues and a correct answer.)
- 5) Sentence writing race (Small groups of students race to write a set number of sentences using key vocabulary)
- 6) Descriptive matching activity (Small groups of students are given a list of vocabulary clues which they must use to identify the correct flashcard)
- 7) Whisper relay race (Students form lines and whisper a vocabulary team from one end to another. The end student must then find the matching vocabulary word.)

- 8) One-of-these-sentences-doesn't-belong (Students are given a list of sentences and a vocabulary 'key word'. Students must determine which sentence does not describe or relate to the key word.)
- 9) Student-generated Q&A with a dexterity element. (Students write questions based on flash cards onto a piece of paper. Students then ball up the question and throw the paper ball to a classmate, who then opens the paper and try to answer the question.)
- 10) Spelling-Battleship based on specific flash card vocabulary words (Students use a grid to fill-in the key words and then play a modified version of Battleship.)

Clearly, many of the games 'developed' and presented here are based on existing games or activities and are modified to incorporate the materials. It seems that similar game creation may be occurring in some classroom contexts when teachers are making tabletop games for the classroom. The quality of game design and principled pedagogical support is unclear and raises concerns over teacher game literacy, game-design literacy, and principled implementation of L2 pedagogy which will vary according to each teacher creating and implementing game-related materials. The article indicates that teachers may engage in game development in an effort to alleviate monotony or provide more engaging learning experiences, however it also seems clear that teacher cognition (especially game literacy and pedagogical awareness) can play a huge role in shaping materials development, design quality, and implementation.

Teacher cognition related to game-mediated learning/teaching is another key area in which new and experienced TTG-mediated L2LP teachers can be supported. This may include specific support for teachers based on classroom context (age/stage of learners) and the individual teacher factors (age, experience, level of pedagogical knowledge, confidence/motivation, training, etc.). These important differences ought to be kept front-

and-centre in the minds of those seeking to promote and support broad TTG-mediated L2LP adoption. A one-size fits all approach is unlikely to work. The promotion of teacher reflection on game-use benefits, teacher education/training insights, and a commitment to GBLT professional development are key to supporting both new and experience game-using teachers. Support should also encourage teachers to be resourceful and expand their own abilities in overcoming challenges (e.g. materials adjustment and support). In fact, dispelling the notion that game-use reduces teacher responsibilities is also an important role of GBLT training and support. A mature understanding of how difficult and taxing principled GBLT implementation can be is potentially helpful in helping to steer teachers away from less principled and ill-advised implementations. Targeted and specialized GBLT training can do much to increase teacher confidence and awareness. This is particularly true in terms of highlighting the many skills required for principled game-using teachers (technological know-how, game literacy, subject matter expertise, and strong pedagogical knowledge) and GBLT roles/responsibilities related to various stages (inventory, implementation, and maintenance). Finally, efforts to support teachers in their exploration of game-mediated language teaching should recognize and nurture the wide range of teacher motivations and backgrounds, including teachers with low levels of game literacy and those in need of support in increasing principled pedagogical implementation. The researcher discussed this topic with Jonathan deHaan, PhD (personal communication April, 2019) and both agreed that meeting game-using teachers where they are, finding out what they are doing, and encouraging them in expanding/developing/reflecting on their practices is crucial to providing effective support/outreach and growing the broader community of engaged game-using teachers.

Teacher challenges related to classroom implementation of TTG-mediated L2LP.

Let us now turn to some challenges for teachers with respect to teaching, materials, and TTG-mediated L2LP. Research findings presented in parts five and six survey the current teaching landscape at a broad level to better understand the position of tabletop games in language learning classrooms. Additionally, various educators, specialists in the use of tabletop games in language learning classrooms, are interviewed. Their patterns of successful tabletop game use and steps toward principled implementation are examined. Part of the analysis also focuses on the challenges these educators faced.

In terms of TTG-mediated L2LP, the costs of games themselves or the cost of materials for teacher-made games or supplemental materials are a significant primary barrier or challenge related to classroom game use. It is possible that some teachers may use their own games in their classrooms, but this ‘solution’ perhaps does not have the broadest utility to teachers in general. This is because it places the financial burden on the teachers and also requires that they want to use their games in their classes. Moreover, it makes simultaneous play of the same game more difficult to implement unless the instructor has many copies of the same game.

Another challenge relates to general availability. This was discussed somewhat previously. Some schools may have tabletop games on hand for use, however, this does not always mean that these will be effective games to use in the classroom. Thus, availability must also touch on the quality and appropriateness of what is available. The general questionnaire research findings and analysis in parts seven and eight will explore this point.

Game literacy is another barrier (Gee, 2007; Becker, 2017) which applies to game in the classroom. This can affect teacher game selection, game development, and a variety of

implementation factors. In some cases, teachers may not be aware of their game literacy limitations. In others, they may have adequate levels of game literacy, but remain unsure about their own level of awareness. Moreover, game literacy itself does not confer pedagogical expertise related to game use for language teaching. Having an understanding of TTG-mediated L2LP principles and practices, game literacy, and a sense of how they should work together are essential factors that impact teacher game use and access.

General acceptance of the approach and materials themselves may present a barrier to use and access. This could include acceptance from administrators, teachers and peers, students, parents, and other stakeholders.

In exploring game literacy, Zagal (2010) acknowledges that there is a general lack of certainty about what it means to understand games and game literacy. Zagal links this uncertainty to the relative ‘newness’ of the field and emerging research. Before proffering his own definition, Zagal comments on how the understanding of the term ‘literacy’ has extended beyond reading and writing to include technology, media, and other communicative competencies. Zagal’s definition of game literacy is:

1. Having the ability to play games.
2. Having the ability to understand meanings with respect to games.
3. Having the ability to make games. (p. 22)

Zagal’s study on ludoliteracy (game literacy) then focuses specifically on the second point, having the ability to understand meanings with respect to games. Though Zagal’s game-focus in this study is often on video games, he puts forward a useful framework for defining ‘game understanding’ that applies to all games. Zagal (2010) states:

“Thus, I define the ability to understand games as the ability to understand games as the ability to explain, discuss, describe, frame, situate, interpret, and/or position games:

1. in the **context of human culture** (games as a cultural artifacts), 2. in the **context of other games** (comparing games to other games, genres), 3. in the **context of the technological platform** on which they are executed, 4. and by **deconstructing them and understanding their components**, how they interact, and how they facilitate certain experiences in players.” (p.24)

Consequently, Zagal sees these four parts of the definition as a specific ‘context’ for comprehending the understanding of games. Understanding the relationship between games in the context of human culture involves the relationships with other media, other genres/artistic movements, and both the broader culture and subcultures. Understanding the relationship between games in the context of other games involves understanding the broader landscape of games, relationships between games, game mechanisms, gaming conventions, and gaming affordances. Understanding games in the context of the technological platform involves understanding how games are situated on particular platforms, understanding the impact of the platform on the design and play of the game, and grasping how specific platform affordances and limitations impact gameplay. Understanding games in the context of the structure and components of games involves an identification of both game components and component interaction within the game. This further involves recognizing principles, patterns, and procedures of the games and its design (gameplay models, action scope and sequence, activity cycles, progress, etc.). In conclusions, context number two and context number four will be examined with respect to the findings and literature. In particular, the general questionnaire will be used to find indirect evidence for respondent understanding related to the relationship between games and other games. Also, the interview questionnaire findings will be examined to find examples of understanding related to components and structure.

Zagal (2010) also conducted in-depth interviews with instructors and professors who had some degree of experience with research in game studies. In this way, Zagal was able to gain insight into a variety of game literacy related issues. Of particular note is a term Zagal calls a 'naïve view of games.' Zagal identifies five behaviours or beliefs which are associated with the naïve view:

1. Confuse being insightful about a game with being successful at playing a game.
2. Describe a game superficially. –Focus on the features of a game over describing the rhetoric of a game or the experience of playing it (e.g. “this game has hi-res graphics”, “the game has a ton of maps to play”). –Describe a game judgementally rather than analytically (e.g., “this game sucks”, “this game is cool”).
3. Assume that people experience a game the same way they do.
4. Be familiar with specific genres or types of games but have a narrow view of the medium.
5. Think they can't learn anything new from games they've already played. (p. 57)

The research findings in parts five and six will be discussed in part nine to examine indirect evidence related to these points. Specifically, this will involve an exploration of how teachers may view games based on point number four: familiarity with specific genres or types of games but having a narrow view of the medium. In addition, the TTG specialist teacher interview findings in parts six will be compared and contrasted with the five points identified as being characteristic of the 'naïve view of games' in the conclusion section.

Zagal (2010) also developed a list of barriers to understanding games based on emerging response patterns identified in the research portion of his study. Though many of these barriers were linked with students' understanding of games, these barriers may also apply to teachers seeking to better understand games. One point mentioned is that learners

sometimes responded in defensive, sceptical, and closed-minded ways. This was perhaps informed by their prior knowledge and experience with some games, but it was noted that this kind of attitude may stunt growth toward a fuller understanding. Also, prior knowledge and experience with games was seen as being both a potential benefit, and a barrier to improving understanding. This is linked to players developing overly narrow and specialized knowledge, a ‘play mindset’ that may cloud critical analysis, and various assumptions based on familiarity. Additionally, Zagal notes that playing games, which is a tremendously important part of developing game literacy, is time consuming, requires access/acquisition, and practice. Access is identified as a particular barrier for ‘novice’ game players as, unlike ‘gamers’, they probably do not have a game collection or informed awareness about how to best acquire games (e.g. distribution channels or poor review awareness). Yet another useful point made by Zagal is that ‘gamer’ preconceptions and assumed knowledge about what novices may know or understand can also create barriers for novices learning about games. With respect to TTG, this could apply to specialist teachers communicating with teachers who are novice in their understanding of games, or specialist teachers communicating with students who are novice in their understanding of games. All of the above-mentioned barriers to understanding have potential relevance to teacher cognition related tabletop game use in language learning classrooms.

Game literacy levels can also affect teacher perceptions of the appropriateness of specific game materials. Chik (2011b) presents action research findings where 34 English teachers from Hong Kong explore social media and video games in an effort to improve their personal knowledge and experience related to these elements of culture, better understand the pedagogical potential of social media and video games, and engage in professional development by becoming more familiar with resources and activities frequently used by their students. Many of the teachers had significant reservations and doubts regarding the

appropriateness of using these materials in the classroom. Participants used both social media and video games as part of the research. They also completed surveys, participated in interviews, created online journal entries/responses, and engaged reflection related activities. The results showed that increasing personal experience with teachers did not always lead them to improve their attitudes toward pedagogical potential of these materials. In fact, in some cases experience with commercial games seemed to reinforce negative perceptions related to the materials. Specifically, prior to the action research, teachers with novice levels of game literacy frequently thought that the idea of using commercial games for the general hobby in the classroom was inappropriate because it was designed mainly for fun and/or a commercial product. Some teachers expressed a belief that games designed for educational purposes (that is designed for the classroom) were inherently more appropriate for the classroom than regular commercial games. The action research experience with games reinforced this view for some participants, some of whom seemed to become even more interested the potential of 'educational game' use in the classroom and more convinced that COTS have limited pedagogical potential. Chik notes that criticising COTS for being commercial and yet embracing commercial 'educational games' is a sort of double standard that may exist in the minds of some teachers when considering game materials appropriateness.

Many of the novice game literacy teachers dismissed language use related to commercial game play and found some of their personal gaming experiences to be frustrating. While not all novice game literacy teachers had their concerns over materials use reinforced, this research does suggest that teachers with low game literacy may react differently to and after game exposure. Increasing game literacy and pedagogical assessment abilities related to game use, particularly among teachers with novice game literacy, may require steps beyond calling for and facilitating increased game play and pedagogical

reflection. Having said that, increased game play and pedagogical reflection clearly do have a primary and essential role to play in the aforementioned effort. Chik (2012) further underscores how limitations on teacher literacy may prevent them from considering the potential of game use in the classroom. Expert game literacy teachers conversely had no interest in using ‘education games’ as they value the task motivation in the engaging game play and also recognize the pedagogical potential for language learning related to gameplay. Summing up the challenges related to supporting game literacy among non-gaming teachers and the impact of increased game literacy on envisaging game material pedagogical potential, Chik (2012) says:

Language teachers, under the constraints of traditional classroom resources and curricula, might have their hands bound when it comes to envisioning gaming as learning tools. However, gamer-participants who had firsthand experiences were happy to share their game-related language learning experiences...They exercised their autonomy in choosing the game texts and their engagement to immerse themselves in the target languages. (p.111)

Becker (2017) connects game literacy to general media literacy. She notes that literacy relates to having competence or knowledge in a specific area and that this is important as a lack of game-related competence can affect teaching, learning, and credibility when games are being implemented for learning purposes. Further, Becker suggests that preservice teacher game literacy training should include:

- Introduction to vocabulary
- Overview of game affordances and limitations in classrooms
- Places of game use in schools (including examples)
- Live demonstrations
- Explanation of serious games (not only entertainment purposes)
- How games relate to formal schooling/learning

Gebhard (2017) goes into some depth on language learning classroom materials, their use, and the relationship teachers have with these materials. Though not specifically addressing the games literacy point, it does highlight the general role and responsibilities of educators with respect to classroom materials. First, he indicates how text materials are usually made by one of the following four groups: publishing companies, government agencies, curriculum developers, or classroom teachers. In the case of TTG-mediated L2LP materials, it seems clear that we also need to consider materials published by publishing companies outside the language learning industry (a preliminary inquiry by the researcher revealed very limited TTG materials availability through standard language teacher industry publishing companies). As game design is rather challenging and complex, it is expected that some curriculum developers and teachers may engage in game creation for the classroom, but most of these efforts will involve older design principles (e.g. roll and move). Government agencies are not expected to be involved in providing this resource to classrooms, so the responsibility is mainly that of the teachers. Gebhard also specifically notes how experienced teachers are more likely to produce in-house material, and that adaptation often springs from a lack of satisfaction with the materials that were provided, and a perceived need based on the teacher's insights and observations. In other words, the instructor takes on the responsibility of adapting, creating, or implementing something she/he deems more appropriate/appropriate. This teacher behaviour may be influenced by teacher cognition and the manner in which this behaviour is enacted may also reflect the specific cognition influence. For example, some teachers may create games for classroom use, whereas others may create supplementary materials around existing commercial TTGs and the quality of these creations may vary greatly in terms of game design, usefulness, pedagogical connection, and student-perceived validity. Gebhard adds a caveat, however, that some students may reject some non-textbook based materials if they perceive it to be 'not serious enough' to support language learning.

The same point related to potential student ‘resistance or scepticism’ toward classroom game materials is identified in Reinhardt, Warner & Lange (2014).

Further, Gebhard (2017) discusses how principled materials selection necessitates materials literacy, an understanding of the materials fit to the curriculum, and a clear sense of how the materials fit to the learners and their learning goals. In implementing adapted or developed materials to enhance the learning experience, Gebhard notes that such changes can have a large influence on how students interact with each other and the teacher in English. Gebhard also suggest that teachers can avail themselves of online websites for materials, materials development ideas, or other supplemental resources. In this sense, Gebhard seems to be indicating that teachers may wish to go beyond what falls directly in ‘their job’. Some interesting self-development tasks suggested in the book may prove useful as well. First, Gebhard tasks teachers with finding three textbooks to analyse for intended use. This is followed up by meeting with a peer to take turns discussing the materials. This very useful self-development task could be applied to TTG-using language teacher materials consideration and literacy improvement. Second, he recommends a peer classroom-observation discussion task. After recording and then transcribing a lesson, the instructors identify and discuss how the materials provide opportunities to learn English, how the material blocks students, and how the materials could be used differently. As a self-development exercise on TTG-mediated L2LP, this is a very promising way of shedding light on classroom implementation issues and improving our understanding of what the process entails. Finally, Gebhard suggests a journal writing task which documents one’s experiences using various materials. This includes reflections language learning materials in relation to one’s personal experiences and opinions from the reflector as both a learner and teacher. Also, the journaling may examine how these materials helped or hindered language learning progress. Gebhard suggests writing in greater detail about materials selection factors and

experiences implementing the materials. This kind of activity can also be useful for teachers using TTG-mediated L2LP. The reflections could be completed as a personal journal, a dialogue journal with a colleague, or even as a blog or as part of a dedicated forum discussion with other TTG-mediated L2LP professionals.

Teacher creativity is also a topic which requires examination as it relates to how teachers may create, modify, adjust, or support TTG-mediated L2LP as they attempt to implement it in the classroom. This point will be more directly explored in sections five and six through the general questionnaire and teacher interview analysis. However, a brief look at some research on the topic may be helpful for understanding the creative challenges faced by some teachers and what creative resources may be called upon to overcome these challenges.

Horng, Hong, ChanLin, Chang, and Chu (2005) interviewed award-winning creative teachers to ascertain which factors influenced them and what sorts of effective strategies they used in the area of Integrated Activities. Integrated Activities are educational experiences that combine multiple learning concepts and may involve crossover between subjects of study. The researchers developed a long list of mutually related and affected factors that seem to contribute to ‘creative teachers:’ personality-related factors, family background, learning process-related, life experience, educational beliefs, diligence, and motivation. With respect to personality factors, various traits were identified, such as persistence, willingness to develop, acceptance of new experiences, self-confidence, sense of humour, curiosity, and depth of ideas. For family factors and learning experiences, the key themes were open and supportive experiences growing up, and both the encouragement to engage in creative endeavours and modelling of such performance by parents. Tellingly, many of the expert ‘creative teachers’ noted the importance of teacher peer support as well. In fact, Kuhn & Stevens (2017) explore professional development within a game-mediated context where

participant educators acted as learning peers and mentors, while improving their game literacy and considering potential classroom implementations. This theme will be discussed later in relation to TTG-mediated L2LP. Game literacy and teaching Educational beliefs fostered student independence and engaged ownership of at least part of the learning process. Extremely important to this topic is the diligence factor. The expert ‘creative teachers’ reported their experiences in developing ideas, designing curricula, arranging activities, revising teaching plans, preparing materials, and reflecting on implementation-based feedback. These behaviours will be examined in great detail when the behaviours of the specialist users of tabletop games are analysed. Finally, and of similar value during later analysis, the factor of motivation is noted as contributing to the development of ‘creative teachers.’ The research findings pointed to the important emphasis on intrinsic motivation for the expert teacher. This was manifested in curiosity, self-determination, task enjoyment, competence, and interest, which are associated with materials-related creativity (Maley, 2003). All of the factors of influence mentioned in this section will be used in the specialist tabletop game teacher interview analysis.

Turning to access and use of TTG-mediated L2LP, we can look at the issue from some additional angles. As there seems to be some evidence that teachers may sometimes feel they lack either theoretical or hands-on knowledge about implementing TTG-mediated L2LP, it may be useful to look at an article discussing language teacher access, use, and production of research. This is important to do as TTG-mediated L2LP is a relatively new area of inquiry, so it is useful to know how research may or may not be accessed and used to support classroom instructors, particularly because a perceived lack of research access or dearth of realized access may be considered another TTG-mediated L2LP implementation challenge. Looking at some parallel but distinct lines of research into general teacher attitudes and access to research may prove useful in formulating questions around TTG-

mediated L2LP research access and use. The following research is not intended to provide direct support, but rather indirect exploration of a separate yet parallel line of research.

In Sibanda and Begede (2015), ESL teachers in Swaziland and South Africa were questioned about their sources of teaching ideas, access and use of research, and attitudes toward research in general. With respect to sources of teaching ideas, the respondents ranked their sources as follows: textbook and accompanying guide (82%), syllabus and curriculum documents (67%), staff development meetings or workshops (48%), ministry policy circulars (24%), informal interactions with colleagues (12%), own teaching experience (8%), peer teaching observations (8%), teacher education notes and files (6%), and the Internet (4%). Research-based and practice-based knowledge was not prominently accessed, and when it was given to the teachers, it was often provided with little follow-up or intervention. When asked about independently availing themselves of research, many of the respondents mentioned that this fell ‘outside their job,’ and that it was more important to simply implement what was given. TTG-mediated L2LP support resources and research will be examined thoroughly in the interview analysis and in the conclusion section.

Considering teacher challenges related to classroom implementation of TTG-mediated L2LP, a number of issues need to be addressed to properly support novice and experienced game-using teachers. First, game access (costs, curated library support, selection, and implementation need) can present a significant barrier for many teachers, but especially for teachers who may be new to TTGs. Improving access and teacher support is one way to help ensure new TTG-using teachers are better prepared to meet these challenges. Connecting to this point, teachers new to games will have lower levels of game literacy. This may impact not only access and selection, but also perception of classroom learning affordances. However, experienced game-using teachers with high game literacy may also benefit from support and development as high game literacy can sometimes prompt assumptions based on

familiarity or confidence. Thus, it is important for game literacy support to be complemented with classroom game selection and implementation support. Teacher training, pre-service and otherwise, can play a significant role in helping to develop and refine implementations and improve outcomes. Teacher-perceived materials limitations and dissatisfaction also represents a challenge for some teachers. Some of these may turn to the use of games and this may in turn branch off into other challenges. For example, teachers may face challenges related to how to adapt or create materials and credibility challenges from stakeholders. Teacher exploration relating to game materials would benefit from teacher reflection through journaling, peer observation/modelling, materials analysis and evaluation, and especially peer support. Finally, teacher access and use of research is another challenge for both new and experienced game-using teachers. It is imperative that researchers and expert game-using teachers ensure that teachers have access to easy-to-use and relevant research and classroom support. This should include both open platforms where all teachers can participate and contribute, and expert-teacher or researcher driven platforms where key resources, findings, and supports are made available.

General teacher/language teacher cognition.

The study of teacher cognition is a growing area of language teaching research. Given the key role educators play in the classroom learning process, cognition is an area of great import because of its great influence on teachers' behaviours, decisions, and actions. Borg (2015) states,

“Teacher cognition can thus be characterized as an often tacit, personally-held, practical system of mental constructs held by teachers and which are dynamic – that is defined and refined on the basis of educational and professional experiences throughout teachers’ lives. (LOC 677 of 6449)

In fact, Borg identifies the understanding of teacher cognition as central to gaining an understanding of teaching. Some important themes explored by Borg (2015) are teacher

thinking and thinking processes, teacher knowledge, teacher beliefs, and teacher actions and behaviours.

As Borg (2015) outlines, research into teacher thinking initially sought to find clear behaviourist through lines between thought processes and behaviours. However, research has shown that the situation is much less clear. Having said that, the findings do suggest that teacher mental scripts and routines may play a role in influencing their behaviour. It must be noted though, that the same line of research inquiry has established the fundamental impact of the environment and the embedded nature of this impact on previously mentioned teacher thinking ‘scripts’ and ‘routines.’ This could include social, psychological, physical, political, and metaphysical elements.

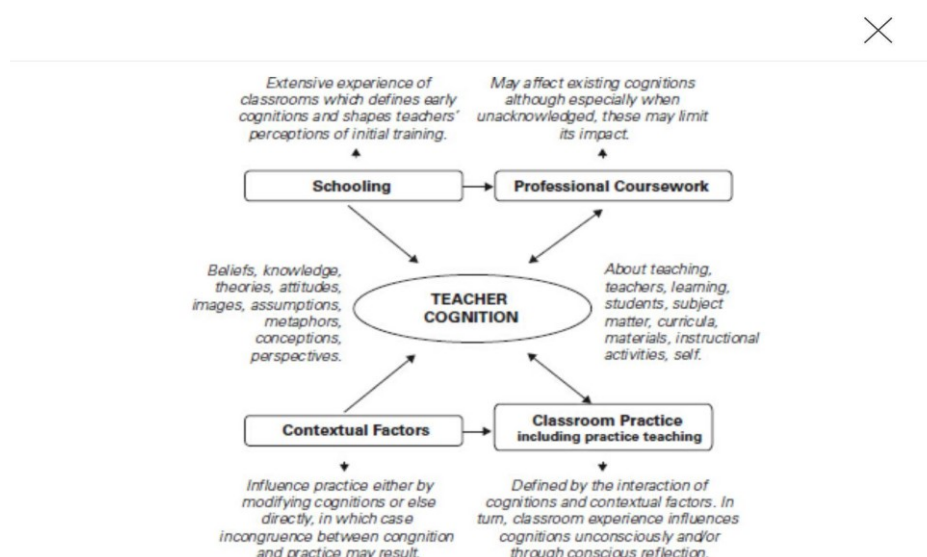
With regard to teacher knowledge, Shulman (1986; 1987) identifies seven kinds of teacher knowledge: subject content knowledge, pedagogical content knowledge, curricular knowledge, general pedagogical knowledge, knowledge of learners, knowledge of educational context and knowledge of educational ends. As was noted in an earlier section, it is important to make a distinction between knowledge and belief, and the prime difference between the two is that knowledge is supported by reality or the facts, and belief does not require this constraint. With respect to the research into teacher cognition related to tabletop games, a significant effort will be made to explore teacher demonstrations of knowledge related to game design and game quality. This will also be examined in light of teacher beliefs with regard to their awareness of game design and quality. Another element worth discussing under the ‘teacher knowledge’ umbrella is the practical knowledge developed by teachers as they gain experience and gather feedback from classroom experiences (Borg, 2015). During the specialist teacher interview analysis, patterns indicating the emergence of this kind of ‘hard won’ knowledge will be identified.

Again, turning to Borg's exploration of the research, we can examine teacher beliefs. His findings pointed out that research into this area identified context-dependant belief elements: confidence to affect student performance, nature of knowledge, causation elements behind teacher and student performance, self-perception and self-worth, confidence to perform particular tasks, and beliefs related to specific disciplines or approaches. All of these will be examined in some degree during the interview analysis of specialist teachers and the general cognition questionnaire. Another point noted is the impact of the teacher's biographical history on her/his beliefs. Given the myriad of possible factors and incalculable number of variations and combinations, it seems that beliefs are arrived at through highly individualized journeys. Connections between biographical history and beliefs will be looked at during research analysis. Finally, the theme of primary and derivative beliefs and the interplay between them is also an important point to think about when considering teacher beliefs. This relational nature of beliefs and the potential hierarchical positions related to tabletop game cognition will be delved into during the specialist teacher interview analysis.

Another area of notable interest is the gap between teacher beliefs and actions. A host of contextual constraints and influences are often cited as significant contributors to this gap. Social factors, psychological factors and environment can all affect the degree of concordance between beliefs and actions. Also noted was the important variable of teacher experience in adjusting both beliefs and actions. In general, the research suggests that experienced teachers can draw upon the beliefs they have formed about students and class-related knowledge. These hard-won resources may allow for greater teacher prediction and confidence. This multitude of belief-related factors and the nature of belief and action gaps will be discussed in greater detail during the analysis of the general teacher cognition questionnaire and also the specialist teacher interviews.

Borg (2015, LOC 822 of 6449) also provides an extremely helpful figure showing how teacher cognition is formed and changed through a complex interaction of teacher cognition factors, teacher schooling, professional education and classroom practice.

Figure #1: Teacher Cognition Interaction



Note. Reprinted from “Teacher cognition and language education: Research and practice “, by Borg, S., 2015, LOC 822 of 6449, Bloomsbury Publishing. [Amazon Kindle] Retrieved from <https://www.amazon.com/>

Borg (2015) also looked at cognition issues related to pre-service teachers. This may be of potential relevance for pre-service teachers considering TTG-mediated L2LP and for training and support for these pre-service instructors. Additionally, there may be some transfer relevance for instructors that have limited experience in application of a TTG-mediated L2LP approach. Eight considerations were identified as affecting pre-service teacher instructional decisions: student involvement and motivation, instructional management, curriculum integration, student affect, subject matter content, student

understanding, student language skills and abilities, and appropriateness of teaching strategy. It seems reasonable to posit that effective classroom TTG materials and TTG-mediated L2LP approaches would do well take these considerations into account and provide teacher support in a way that meets the contextual needs.

Another important take-away Borg's examination is that though teacher training is important, variable outcomes and individual pathways are to be expected for teachers undergoing training and gaining experience.

Borg's research on novice teachers suggested that new teachers tend to focus on establishing roles and relationships with students while also covering the required materials and completing necessary exam preparations. Generally, there were eight factors influencing principle abandonment or modification as teachers transitioned from pre-service to in-service: large classes, unmotivated students, exam pressures, set syllabus, pressures to conform (peers, institutions, etc.), student limitations, student resistance, and workloads. Thus, this suggests the great force which the environmental realities can have on teacher beliefs and actions. Interestingly, the role of institutional, peer and professional support was marked as being very significant and it was implied that it might bolster principle adherence. Cognitive awareness and/or other cognitive factors and behavioural change do not necessarily move in lockstep.

For experienced teachers, a number of cognition-related factors were also identified as influencing teacher behaviour. Experiences related to learning will be examined in the specialist teacher interviews on tabletop game cognition as one of these factors. Similarly, the whole 'lived experience' of the teacher must be considered as a foundational source of influence on individual cognition. As has been mentioned previously, the teaching context can exert significant influence and result in a tension between beliefs and behaviours.

Additionally, the number of years of teaching experience was recognized as a factor affecting the cognition and behaviour of more experienced teachers. This includes both immediate contextual decisions and influences stemming from a ‘body’ of decisions over a career in teaching. On a related point, combinational knowledge can also be leveraged by experienced teachers to better understand and predict the interdependence of their decisions. The previous two points might extend to how teachers balance various practical decisions; for example, understanding how a choice related to a lesson may impact the teaching of a unit. Borg (2015) also notes that the vast majority of research into teacher beliefs, cognition, and actions relies on self-reported data, and he indicates that this may not always accurately reflect reality. One key element that will also be examined in the analysis of this research is the large potential impact of teacher professional involvement and training. Finally, Borg (2015) provides a useful distinction between expert and novice language teacher cognitions and also points out that “expertise and years of teaching experience do not always co-occur.” The expert description is as follows:

“More expert language teachers are characterized by cognitions in which different forms of formal and experiential knowledge function as an integrated whole and which enable such teachers to envision learning potential in instructional contexts, to anticipate problems and to respond (often improvisationally) in ways which are both technically skilled and sensitive to learners.” (LOC 5187 of 6449)

Borg’s novice description says:

“Novices are characterized by a higher degree of compartmentalization in their knowledge, inflexibility in responding to unplanned learning opportunities, a less varied instructional repertoire and difficulties in thinking about learning from the learners’ perspective.” (LOC 5187 of 6449)

Another cognition-related point worth considering is how self-awareness of metacognition impacts or influences a teacher’s perception and evaluation of their abilities and/or competence. The over-estimation of one’s abilities is known as the ‘Dunning-Kruger Effect’ (Kruger & Dunning, 1999; Dunning, 2011). It is important to note that because of this effect, some people lacking significant expertise and/or knowledge may have a certain

blindness to recognizing the deficiency. This is important for the discussion on teacher cognition because self-awareness and professional cultivation/development based on TTG-mediated L2LP-teacher self-awareness may be key to improving teacher game literacy and principled classroom implementation. It may also cast light on some teacher behaviours related to TTG game use and implementation.

Another thread worth examining more closely is reflective practice and its impact on teacher cognition, classroom practices, and professional development. Watanabe (2017) defined reflective practice as:

“...a form of teacher development that takes place through close examination of one’s own experiences and ideas and teaching...” (p.1)

Watanabe suggests that reflective practice can be a powerful approach for fostering teacher development in a way that both engages and acknowledges teacher ownership and expertise in the development process. This stands in contrast to teacher training approaches which bestow training knowledge upon, frequently demotivated and resistant, teachers. Watanabe used weekly journals, focus group discussions, individual interviews, and classroom observation as reflective practice interventions. One of the goals of the interventions was to create opportunities for reflection that engaged the participants. Reflection opportunities included both classroom and broader personal/professional topics. A key driving force behind this effort is the idea that teachers can extract powerful learning takeaway from self-observation of their own practice and that this powerful takeaway can be integrated and transferred into both future teacher action and cognitions.

Watanabe (2017) introduces a concept she calls ‘the reflective continuum.’ She defines this as:

“...a non-linear and recursive journey of reflection that individuals travel in different ways and at different speeds. The participants accessed the continuum in unpredictable and very individual ways. ...it is important to keep in mind that the different dimensions of reflection at each point do not have to happen in a strictly ordered way, and that any point can be reaccessed at any time.” (p. 45)

Further, Watanabe identified five categories of reflective engagement in her research. These are:

- Description (Stating/announcing of facts, significances, and understanding elements/relationships/importance. This can sometimes serve as a gateway to further reflection, especially on problematic points.)
- Reconfirmation (Restating what is important about a previously stated belief/idea. This can involve self-monitoring, affirmation, and may lead to reinterpretation and awareness.)
- ‘*Hansei*’ or Negative and Reflective Self-criticism for Self-improvement (Self-criticism aimed at prompting future improvement. This can sometimes have negative emotional impact that reduces motivation, prompts avoidance/compensation, and inhibits exploration/rethinking. This can lead to reinterpretation and awareness.)
- Reinterpretation (This is a change of notions/understanding of past happenings and future possibilities. It involves re-evaluation and can affect both actions and cognitions.)
- Awareness (Marked by an objective stance and critical attitude toward one’s practice and beliefs. Often highlights the overlap and contradictions between teacher principles and actions. This is key to fostering teacher development recognition and acceptance by the reflective teacher.)

Watanabe's research is relevant here in two important ways. First, it establishes five reflective categories and the reflective continuum framework for understanding teacher reflection in a dynamic manner. Second, her reflective interventions point to valuable reflective practice tools for supporting both novice and experience teachers to reflect and expand their cognition. By developing meta-awareness, teachers are more likely to benefit and engage in exploration (moving out of their comforts zones) and professional development.

General teacher/language teacher cognition issues also shed light on ways in which experienced/novice game-using teachers can be supported. First, teacher beliefs related to confidence to affect student performance, perform tasks, and apply task knowledge/implementation may greatly impact teaching. This means it may be useful for new game-using teachers to receive step-by-step support and guidance. Second, personal experience and reflection were identified as crucial elements in the cultivation expertise and advanced cognition. Thus, teachers ought to be supported in pairing these elements together within their practice and efforts should be taken to account for differences in expertise related to teacher contributions, support, and leadership with the field. This may include encouraging the exploration of classroom game use, new/different approaches, and deep reflective practices. One note of caution is that reflection may sometimes drift into overly self-critical reflection and that even if this is aimed at improvement it may dampen the reflector's efforts/practice. Issues related to teacher self-awareness around games and classroom use of games are also a key point. Researchers and supporters of TTG-mediated L2LP ought to consider employing a variety of methods to promote teacher reflection on relevant self-awareness as it may be the gateway to encouraging further or deeper reflection.

Teacher Development

This section will focus on teacher development and awareness at the individual level and the professional community level. These areas are being examined as they have the potential to be significant influences on general teacher cognition, but more specifically, and in relation to this research, on language teacher cognition related to tabletop game use. Subsequently, the specialist teacher interviews will be examined for examples of teaching development and awareness at both the individual and professional community levels. Understanding how to support and nurture individual development related to TTG-mediated L2LP is essential for encouraging novice game-using teachers to adopt principled approaches and sustain the interest of experienced game-using teachers. Additionally, understanding community level teacher development will help to leverage teacher relationships and networks to increase shared common ground, increase personal accountability, and sustain motivation/interest.

Individual level.

Gebhard (2017) illustrates the importance of self-development for language teachers at all stages of their career. He identifies eight points as being central to principled language teacher self-development. A brief summary of these points is as follows:

- 1) Self-development takes time (teachers need to devote time to this endeavour and work through various processes)
- 2) Development requires ongoing commitment (spans a career and can apply to exploring new ways of teaching and thinking about teaching)
- 3) Engaged reflection (thoughtful and ongoing reflection on teaching beliefs, attitudes, assumptions and practices)

- 4) Problem-solving (recognizing problems, developing solutions and considering results)
- 5) Exploration for its own sake (cultivate interest, curiosity, and a willingness to experiment)
- 6) Paying attention to and reviewing the fundamentals of language teaching (consider how these are borne out in the classroom and find ways to enhance their contribution to our teaching practice)
- 7) Seeking out opportunities for development (taking the initiative to engage in behaviours that will enhance development like reading, talking with other teachers)
- 8) Cooperating with others (understanding that self-development of teaching beliefs and practices requires engagement with others to provide feedback and help us to better understand ourselves).

All of these points will be considered when analysing the interviews with the specialist TTG language teachers. Possible patterns of self-development will be identified and discussed in terms of relevant significance for TTG-mediated L2LP.

Gebhard (2017) also detailed some key means of exploring self-development. These included self-observation and analysis of teaching, observing others and reflecting, engaging in discussions with other teachers, and journaling to reflect on beliefs, practices, and feelings. Specialist TTG-mediated L2LP teacher descriptions of these means of exploring self-development will be examined and related to potential impact on teacher cognition and TTG-mediated L2LP.

Gebhard and Oprandy (2005) present an exploration-based approach to language teaching awareness and language teacher development. This approach has some overlap with a teacher development approach; however, it places greater emphasis on awareness

development. The authors posit that when teachers explore their own beliefs and practices, they can raise their awareness and knowledge to take informed action. This approach does not rely on ‘one-size fits all’ solutions and considers the complex nature of language teacher development for language an exploratory self-development approach:

- 1) Taking responsibility for own teaching (teachers should take initiative and carry a sense of personal responsibility for exploration and self-development)
- 2) Need of others (a rich self-development process requires engagement with others)
- 3) Description over prescription (when possible, seek to understand and learn by describing, rather than by forcing teaching into predetermined pathways)
- 4) Non-judgemental stance (limiting the ways in which our existing judgements may impede a fuller understanding of teaching and potential)
- 5) Attention to language and behaviour (examining language and behaviour choices, both our own and those of others, with relation to possible implications for teaching, beliefs and knowledge)
- 6) Various pathways to awareness through exploration (different ways of exploring teaching, such as problem solving, trying opposite approaches and random behaviours, seeing the results of contrast and beliefs related to actions, and clarifying feelings)
- 7) Personal connections to teaching (integrating the ‘whole person’ in the self-development and exploration process by making connections and links to elements outside and inside the classroom)

- 8) Attention to process and understanding the role that our growing awareness of teaching beliefs and practices can play in our teaching (being engaged in the ongoing, personalized, and dynamic process of exploration)
- 9) Cultivate a beginner's mind (engage with others, our practice, and ourselves without the baggage of limiting preconceptions)

Gebhard and Oprandy (2005) suggest that rich engagement with an exploration-based approach to self-development yields heightened awareness and this in turn enables informed action. Moreover, they indicate that an exploration-based awareness supported by the foundation that they have described is more likely to move beyond 'superficial awareness.' Examples of these kinds of 'rich' exploration will be highlighted and identified in the specialist teacher interviews.

Understanding individual development related to TTG-mediated L2LP is important as it can help guide efforts to address the individual development needs of new game-using teachers and experienced game-using teachers. Specifically, this can involve providing opportunities for initial exploration/implementation and also encouraging deeper long-term development by experienced teachers/researchers in the field.

Professional community level.

At the professional community level, it will be helpful to discuss some general considerations as well as some of the actual professional community resources available to teachers seeking support or information exchange related to TTG-mediated L2LP. After all, teaching is sometimes described as a lonely profession due to teachers feeling isolated from professional support or interaction (Gebard and Oprandy, 2005). Thus, understanding how specialist TTG-mediated L2LP teachers cope with this isolation and overcome it is crucial.

Likewise, individuals growing in their knowledge related to games may also benefit from collaboration, particularly given the nascent state of game literacy studies (Zagal, 2010).

Teacher game literacy is essential to principled implementation of TTG-mediated L2LP. This applies in general to GBLT, and one important way in which teachers can inform themselves is through online media regarding games (Kuhn, 2015). This could include databases (BGG), review videos, websites or platforms specifically exploring GBLT, podcasts (Game Design Roundtable, The Dice Tower), or other game-informing or TTG-mediated L2LP-informing media. In many cases, the platforms making these resources available will either directly or indirectly produce communities. An example of direct community engagement could be a blog discussion or a dedicated discussion thread about a relevant topic (e.g. a BGG thread on games in the language-learning classroom). An indirect community example could be something like a Reddit sub-forum created to discuss a podcast or game). The following online locations were identified as some of the potential resources available for encouraging or supporting a professional TTG-mediated L2LP community (note that this is not intended to be an exhaustive list):

- Japan Game Lab: <http://www.japangamelab.org/2016/06/02/who-are-we/>

(website on the topic of language learning through games with three teacher-researcher contributors based in Japan)

- James York's (one of the three teacher-researchers mentioned above) BGG list of tabletop games used for language learning

(list of games linked to a master database with linked material on each game and user comments)

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- BBG Forum Subject ‘Those exploring or researching game-based language learning’:

<https://boardgamegeek.com/thread/2065934/those-exploring-or-researching-game-based-language>

(discussion thread on the topic of TTG-mediated L2LP where teachers and researchers exchange ideas, share advice, and share findings)

- Mark Rasmussen Blog: <https://markrass.wordpress.com/2017/02/01/using-a-game-design-enhanced-approach-to-tblt-the-example-of-the-social-deception-tabletop-game-coup/>

(blog that occasionally features posts related to tabletop game use in language learning classrooms)

- Dicletower: <https://www.dicletower.com/> and <https://www.youtube.com/user/thedicletower>

(homepage and YouTube channel for a board game review and board game-related media producer)

- Brantford Games Network Lab: <http://bgnlab.ca/>

(general information on games and a variety of information related points related to learning, design, and implementation)

- Scott Nicholson publications and info: <http://scottnicholson.com/>

(personal website of academic and board game designer, Dr. Scott Nicholson)

- Game Design Roundtable: <http://thegamedesignroundtable.com/>

(general game design discussions, often featuring tabletop game designers)

- EFL Teaching with Games Blog: <http://www.teflgamer.com/top-10-best-board-games-for-teaching-english/> and <http://www.teflgamer.com/10-things-in-elt-which-board-games-do-best/>

(EFL game suggestions and top 10 lists)

- BGG geeklists about games users suggest in language learning classrooms: <https://boardgamegeek.com/geeklist/238708/lessons-esl-class-solely-based-board-games> and <https://www.boardgamegeek.com/geeklist/32451/games-provide-fun-english-practice-collegeadult-es> and <https://boardgamegeek.com/geeklist/1827/great-games-teaching-english-second-language>

(user-created game lists linked to a master database with linked material on each game and user discussion and/or comments)

- Reddit board games discussion forum: <https://www.reddit.com/r/boardgames/>

(general discussion on board games, though specific topics related to teaching and language learning can be posted or searched for)

- BGG Guilds (Discussion Groups): <https://boardgamegeek.com/guild/653> and <https://boardgamegeek.com/guild/513>

(focused discussion groups based on various themes such as ‘games in the classroom,’ ‘academics using games,’ etc.)

- Publications: <https://boardgamegeekstore.com/search?page=1&q=casual+game> and <https://boardgamegeekstore.com/search?q=counter> and <https://boardgamegeekstore.com/search?q=spielbox>

(digital and print publications on the topic of tabletop games, such as Casual Game Insider, Counter, and Spielbox)

As we can see from this list, media and media consumer engagement are combining to allow teachers greater access to TTG-related information and engagement with others on topics related to TTG-mediated L2LP. This proliferation owes much to the nature of online distribution and facilitation. Examining some of the principles, mechanisms, and affordances associated with current professional learning communities in our digital age may prove helpful.

One concept which has been previously proposed as a model for transforming and reforming schools through engaged professional collaboration is sometimes termed as ‘Professional Learning Communities’ (DuFour, 2004). This involves a whole-school commitment to ensure student learning through proactive and reactive collaborative efforts. By collaborating, ideas about what has been successful, how this success can be leveraged, and what is needed to foster greater success at student and classroom levels, are shared and discussed.

This push for professional learning communities came through the recognition that educators too often work in isolation, that by working together educators can analyse and improve classroom practices, and that engaging with group-relevant questions can promote deep learning about how to better support learners. In other words, a school-based culture of collaboration can be developed which helps teaching professionals grow and overcome challenges and barriers.

Though the online community opportunities differ from professional learning communities in that they are not school specific, they do share some important qualities related to collaboration and resources for teacher development. A cursory view of the aforementioned online resources for teachers interested in TTG-mediated L2LP shows evidence of informed professional sharing, discussion, advice seeking, collaboration, and deep questions about TTG-mediated L2LP being reflected upon by a group. Examining the

extent to which the specialist teachers avail themselves of these resources will be an important aspect of the interview analysis.

Looking at the term ‘Community of Practice’ (CoP) (Lave and Wenger, 1991), we can find some clearer alignment with what has been highlighted in terms of TTG-mediated L2LP teacher online collaboration and CoP interactions. Wenger and Snyder (2000) propose that a CoP is a set of relations in which people are bound together by shared expertise and passion for a joint enterprise or shared goal. Considering online communities and platforms facilitating TTG-mediated L2LP discussion and promotion from this perspective, we can see that they may fall under this umbrella. These communities clearly facilitate relations between people engaged in implementing various degrees of TTG-mediated L2LP and related pedagogical development and reform. Thus, as individuals taking part in these CoPs, they may be seeking to improve their own practice or share something, but as a group, they are advancing a common goal of exploring, guiding, promoting, and contributing to TTG-mediated L2LP. Without this kind of CoP, there would be an increased danger of TTG-mediated L2LP teacher/researcher isolation and insulation, perhaps especially in cases where instructors engage in broad GBLT. This is because finding and communicating with others engaging in a similar broad application may be more difficult given that there may be fewer practitioners of TTG-mediated L2LP than a more restricted TTG-mediated L2LP approach.

Zagal (2010) provides direct support for the value of CoPs related to cultivating game understanding among professionals. Zagal notes how these communities can facilitate engagement and collaboration in a way that accommodates various levels of understanding. For example, novices or those with lesser degrees of understanding can participate in the CoP through legitimate peripheral participation (contributions to the community that are not the main focus of the community). This paves the way for future learning, growth, and engagement for these individuals in the CoP. Also, the rich collaborative environment

creates distributed knowledge within the CoP. As Zagal further notes, this allows for the development process of understanding and the process of ‘becoming.’ Zagal makes explicit mention of the collaborative and community value of specific CoPs for game scholars and game designers, and also of the importance of broader CoP overlap interaction. Regarding TTGs, this could mean specific CoPs for educators using TTGs, educators implementing TTG-mediated L2LP, TTG game designers, TTG-mediated L2LP researchers, etc. Growing deeper understandings of games and their use in language learning through both specific CoPs and inter-CoP discussion is an important avenue of community level professional development. The value of this “passionate affinity space” (Gee and Hayes, 2012) is further supported in terms of fostering and developing TTG literacy and pedagogical TTG understanding by York, deHaan, and Hourdequin (2019). They point to “passionate affinity spaces” playing a key role in supporting language teachers interested in using and already using TTGs and remark that:

“Our experience as teacher-researchers reveals that a crucial first step to using tabletop games in language learning contexts is the development of one’s own literacy around games and gaming culture. What this means in practice is gaining familiarity with resources and communities that exist *around* tabletop games, and learning, playing, and play-testing a wide variety of games. Though perhaps overwhelming at first, www.boardgamegeek.com is a hub for information about board games that serves as a centralized global games database and also as a what Gee and Hayes (2012) would call a “passionate affinity space” for interaction around games. It is a place where users categorize and rate games, upload text and video reviews and explanations, provide their own expansions and other materials, and discuss a wide variety of topics in a diverse range of forums. The resources on this and other sites can help teachers find games that suit their pedagogical goals. A pedagogically-focused blog maintained by authors of this chapter (www.japangamelab.org) also provides a growing list of additional online resources that can help teachers as they combine their game literacies with language pedagogy.” (p. 134)

Tseng and Kuo (2013) further note that digital information and technological innovations offer teachers means of joining CoPs to boost teaching efficacy, promote professional growth, advance pedagogical knowledge, enhance teaching skills, raise general and specific teaching competence, and reinforce teaching practice. A general list of positive

points mentioned about participation in online professional CoPs includes expanded and enhanced sharing, increased pro-social commitment, creation of professional support networks, increased performance expectation and self-efficacy, greater recognition (both for others and for the participant), and an increase in willingness to share useful resources within the profession. In short, there is evidence to suggest that online professional CoPs can support professional growth and development related to socio-cognitive and cognitive factors.

Godwin-Jones (2003) details some of the digital collaboration tools available to teachers. Discussion forums were singled out as a powerful asynchronous collaboration tool with broad appeal. They allow for group exchanges and also log messages for semi-public viewing and review. This supports peer-to-peer networking and ‘buddy learning’ (learning which occurs through structured and focused pair work). Group chat rooms and individual/group video chats were noted as being especially useful synchronous tools for facilitating professional interaction. In addition, blogs were highlighted for their ability to present professionally relevant content in a controlled fashion and with connections to a network of related media and information. Thus, blogs often serve as a focal point for professional dissemination of information, interaction, and exchange. Wikis were mentioned as being tools that are potentially even more collaborative. As they act as a shared repository for growing collaborative knowledge, they pair well with dedicated and vibrant CoPs. During the interview analysis, specialist teacher responses will be examined for engagement with these kinds of professional development community tools. Possible impact on socio-cognitive factors will be explored with respect to these specialist teachers using TTG-mediated L2LP.

Again, direct evidence of the value of these kinds of resources for promoting the flourishing of ‘game understanding’ comes from Zagal (2010). He identifies both the

individual and community level utility of blogs. Specifically, he notes how blogging can empower reflection on game understanding and the integration of new understanding with existing knowledge. He also mentions how blogging can stimulate meta cognitive awareness of game understanding and also develop learner (teachers can be considered learners of games) autonomy. Furthermore, blogging opens the door to collaborative learning, professional exchanges, support, and ‘meaning making.’ Considering blogging from a TTG-mediated L2LP cognition standpoint, it seems like a potentially useful tool to help teachers develop both their own understanding and the professional community. An effort will be made to search for this kind of behaviour in the specialist teacher interview research findings.

Zagal (2010) also identifies public ‘game logs’ as a useful tool for cultivating game understanding at both the individual and community level. One benefit may be that the act of engaging in the ‘logging’ activity may help shift the gameplay perspective from only ‘play and enjoyment’ to deeper game understanding, game-specific analysis, and general game comparison. Zagal suggests that the activity of logging plays and reflecting on both the play experience and one’s understanding of games can potentially sharpen game awareness and analysis skills. In a shared community, one can also learn by gaining and developing new insights from the logs, comments, and reflections of others. A final key insight by Zagal (2010) that stems from blogs, game logs, and shared wiki resources is that game understanding exists on a continuum of cognition. In this sense, the aforementioned resources can be considered professional cognitive development tools that function on both a personal and community level.

Duncan-Howell (2010) surveyed teachers who were members of online professional learning communities. Respondents indicated they devoted 1-3 hours per week to the online professional learning resource. This is between 60-90 hours of professional learning per year. Reasons for membership were varied, though the meeting of professional requirements

and emotional support were popular responses. Other reasons mentioned included convenience, rapid feedback, specific (personalized and authentic) nature of feedback, and potential impact on teaching. Thus, online professional communities have great potential to offer prompt and accessible support, guidance, and inspiration to teachers interested in TTG-mediated L2LP.

Additionally, teachers may receive development support through professional development (PD) programs organized by schools or administrations, or as part of a teaching initiative. These PD efforts often seek to deepen teachers' understanding of instructional content and also expand to and/or improve their teaching practices. Callaghan, Long, van Es, Reich & Rutherford (2018) discuss the usefulness of PD efforts for teachers implementing GBL. Specifically, they indicate that this can assist teachers in gaining a deeper understanding of games and help them link game-based teaching to the content of the class more effectively. Evidence of organized PD for teachers employing TTG-mediated L2LP will be investigated with the specialist teachers. Additionally, if a lack of organized TTG-mediated L2LP PD is found, potential teacher desire for this kind of support will be gauged.

Further evidence of support for professional development programs with the specific intent of supporting Digital Game-Based teachers' pedagogical skills cultivation is presented in Hébert and Jenson, 2019. Building on prior contributions to Digital Game-Based Learning research, they note that there is a need to shift from a focus on games, systems, and content, to teacher pedagogical must-knows related to curriculum, organization of activities, and support of student play and engagement. Further, they reference Groff, Howells, and Cranmer's (2010) call for considering the important role of well-planned implementation and well-organized environments in supporting and fostering desired learning outcomes.

In Hébert and Jenson, 2019 teachers were asked to participate in research of their classroom implementation of a game. Some of the participants were provided pedagogically-focused professional development and other participants were not provided this professional development. The professional development-supported teachers received pedagogical support on components relating to walkthroughs and content, exploration of teacher manuals and activity guides, and discussions about curricular connections and collaborative lesson planning. The walkthrough and content support included:

- overviews of key gaming elements and content,
- teachers were guided in terms of prompting student noticing and engagement with specific game elements.

The teacher exploration of teacher manual and activities guide support included:

- detailed and comprehensive guided examination of the aforementioned two resources,
- a thorough examination of the resources (ensured and the teachers were able to make connections between the resources and the curriculum),
- relevant summaries of the teacher manual and student activity guide.

Teacher discussions on curricular connections and collaborative lesson planning support included:

- discussions emphasizing connections between key game-based experience concepts and curricular objectives/guides,
- collaborative lesson planning (creating learning goals, establishing success criteria, and evaluation expectations),
- opportunity to create unit plans, lessons, and assessments (shared and presented in PD groups).

Using classroom observation and teacher interview data, the researchers were able to establish nice digital game-based pedagogies (grouped in three general categories of gameplay, lesson planning and deliver, and framing technology and the game). The game-based pedagogies noted are:

- teacher knowledge of and engagement with the game during gameplay (gameplay)
- focused and purposeful gameplay (gameplay)
- collaborative gameplay (gameplay)
- meaningful learning activities (lesson planning and delivery)
- cohesive curricular design: structured lessons (lesson planning and delivery)
- appropriate lesson pacing and clear expectations (lesson planning and delivery)
- technological platforms not a point of focus (framing technology and the game)
- game positioned as a text to be read (framing technology and the game)
- connections to prior leaning and to the world beyond the game environment (framing technology and the game)

In considering the success of participant teacher alignment/engagement with the above-mentioned digital game-based pedagogies, the analysis showed varying results. 26% of the participants were identified as highly successful, 29% were identified as somewhat successful (significant partial or intermittent implementation), and 45% were identified as being unsuccessful (haphazard implementation). Deeper investigation revealed that the teachers receiving the pedagogically-focused professional development, as a group, were more likely to display highly successful or somewhat successful alignment/engagement with principled game-based pedagogies (Strong Alignment 29%, Moderate Alignment 32%, and Weak Alignment 39%). Conversely, the teachers who did not receive the pedagogically-focused professional development, as a group, were less likely to display highly successful or

somewhat successful alignment/engagement with principled game-based pedagogies (Strong Alignment 17%, Moderate Alignment 17%, and Weak Alignment 66%).

Though this research is clearly focused on digital game-based classroom implementation, the conclusion, that pedagogically-focused professional development can have a significant and positive impact on teachers, is highly relevant for teachers using TTGs in language learning classrooms and those cultivating TTG-focused classroom practices.

Dikkers (2012) analysed the professional development trajectories of teachers successfully integrating and practicing with new information and communication technologies. Findings emphasized that 1) training in traditional certification programs was sometimes found to be wanting in terms of innovation preparation for integration/practices, 2) multiple and equal professional development paths exist and a single-best approach mind set ignores individuals/situational needs, 3) informal and digital professional development efforts/tools are tremendously useful for PD, especially PD related to innovative integration/practices, 4) digital tools have an important role to play, but also have limitations in that they do not cause or sustain innovation, 5) effective leadership plays a crucial conditional/generative role in allowing innovative practice to occur. The final point in particular will be explored during both the expert TTG-using teacher interviews and also the researcher recommendations related to supporting the development of teacher expertise related to TTG-mediated L2LP.

Understanding how professional connections can support game-using teachers and overcome professional isolation is useful as building ties at the community level is potentially helpful in building/expanding shared knowledge and sustaining individual motivation. In particular, leveraging the bonds around passionate game and game-using teaching communities is key to supporting professional development and growth. Moreover, focused

professional development initiatives, both given to and within communities of game-using teachers, is a potentially very effective way to support broad principled teacher development.

Chapter II – Research Methodology

Research Methods Introduction

Quantitative questionnaire research methods.

The subsequent sections will outline this investigation's research methodology and findings. The quantitative research was collected using an online questionnaire sent to language instructors (mostly ESL/EFL) in a wide variety of contexts. The responses were gathered over a period of three months. The questionnaire was composed of nineteen questions. Fifteen of these asked respondents to indicate agreement or disagreement using a six-point Likert scale, presented as: strongly agree, agree, slightly agree, slightly disagree, disagree, and strongly disagree. However, it must be noted that some of the Likert responses had supporting information linked to the responses (e.g. when prompts discussed frequency of gameplay or when prompts included relevant numbers related to prompts like a certain number of games). There were also four questions which asked respondents to input answers. Two of these gathered general biographical data related to classroom teaching context and locations. The other two questions asked for specific examples of 'modern tabletop games' the respondents enjoy playing and examples of games available at their schools.

This questionnaire was distributed by various ESL/EFL professional organizations, posted on a number of social media platforms, and was forwarded to language teaching professionals working in a wide variety of countries, classrooms, levels and contexts. In an effort to solicit responses from international perspectives, the questionnaire invitation was posted on the following social media platforms and pages:

- BrELT (a Facebook page for ESL/EFL teachers in Brazil),
- TESOL China (a Facebook page for ESL/EFL teachers in China),
- KOTESOL (a Facebook page for ESL/EFL teachers in South Korea),
- TESOL France (a Facebook page for ESL/EFL teachers in France),
- TESOL.org groups for Adult Education, EFL, Global Education, Elementary Education, Materials Writers, Non-Native English-Speaking Teachers, and the myTESOL Lounge (TESOL.org community platform for professional discussion and interaction)

The questionnaire was also distributed to the principals of forty-eight schools in the Catholic Independent Schools of Vancouver Archdiocese in British Columbia, Canada. A detailed letter of invitation asked the principals to forward the questionnaire to language instructors working at their schools. This included schools at the elementary, middle school, and high school level. The questionnaire was also distributed by two professional ESL/EFL organizations. The first one, TESL Canada, operates at a national level, while the second, BC TEAL, operates at a provincial level in the Canadian province of British Columbia. Additionally, the questionnaire was distributed to people affiliated with the Trinity Western University MA TESOL program (current and former students, as well as professors). Finally, the questionnaire was distributed using a convenience sampling approach to various professional contacts known to the researcher. Questionnaire data was collected from late September 2018 to late December 2018. The purpose of the general questionnaire was to get a big picture sense of tabletop game use in language learning classrooms, investigate teacher awareness of tabletop games as resource, and explore teacher attitudes toward and beliefs related to tabletop games.

There were various areas of cognitive inquiry present in the questionnaire. One area investigated language instructor reported behaviours in class (e.g. frequency of TTG use in class, use of TTG in connection with curriculum, TTG creation). Another area investigated teacher affect with relation to TTG use in the classroom (e.g. enjoyment of TTG use in the classroom). The third area, belief, (the largest area of inquiry) gathered teacher reported beliefs related to TTG use, purpose, perceived student enjoyment, perceptions of validity (student, administration, and teacher), perceived access to appropriate pedagogically-supportive tabletop game materials for class, and beliefs regarding their level of awareness about popular modern tabletop games (in and out of class). The final area examined teacher efficacy around TTG classroom organization and implementation (e.g. confidence).

Teacher TTG knowledge was investigated through a number of questions. For example, teachers reported the number of games their schools have and then listed the games that they remembered. Moreover, the teachers were also asked to list the modern TTGs they enjoy playing. The researcher then examined game databases to determine game ratings and publication dates for all of the games mentioned (the main database used was BoardGameGeek, though RPGgeek was used for a few entries). In addition to gathering general information about the games reported to be at schools and enjoyed by teachers, the researcher was able to gain insight into the relationship between teacher beliefs of TTG awareness and demonstrated knowledge of specific TTGs. Finally, language teacher self-reported behaviour outside of the class was gathered. For example, frequency of TTG play outside class and games enjoyed. These various areas were examined for specific patterns that may shed light on language teacher cognition related to TTG use. At the beginning of the questionnaire, the term ‘tabletop game’ was defined and noted to include various types of primarily non-digital games (board games, card games, dice games, tile, games, tabletop role-playing games, etc.) that are a) played on a table or other flat surface, include games with

varying player counts. The definition also excluded sports, video games, live action role-playing, etc. Note that a distinction between teacher-made games and games published for the commercial market was not made in the definition. However, in several of the subsequent questions, inclusion of teacher-made materials was emphasized and, as the definition given above focuses on the design qualities and not point of origin, it logically includes both teacher-made and commercial games. The questionnaire prompts and relevant literature rationale are as follows:

Table #1: Questionnaire prompts with relevant literature connections

*I frequently use or have used tabletop games in my language learning classrooms.
Behaviour/reported behaviour (Borg, 2015; Watanabe, 2017)
Individual preference (Borg, 2015; Watanabe, 2017)
Behaviour and belief gap/differences (Borg, 2015; Uysal & Bardakci, 2014; Farrell and Dennis, 2013; Zhang and Liu, 2014; Cirocki and Caparoso, 2016)
Game literacy (Zagal, 2010; Chik, 2011b)
Game-use in language learning classroom (Reinhardt & Sykes, 2012; Becker, 2017)
Use/Acceptance of materials/approach/technology (Davis, 1989; Lee, 2000; Mahmood, Halim, Rajindra and Ghani, 2014; Wang & Ha, 2013, Dogan and Akbarov, 2016; Hsu, Tsai, Chang, and Liang, 2017)
*I enjoy using tabletop games as a classroom language learning resource.
Teacher interest/enjoyment in materials (Tomlinson, 2013; Wang & Ha, 2013; Davis, 1989)
Game literacy confidence/anxiety (Chik, 2011b; Zagal, 2010)
Individual cognition factor affecting teaching (Borg, 2015; Davis, 1989; Watanabe, 2017)

*I think that tabletop games are a useful classroom resource for enhancing language learning.
Perception, belief or thought (Borg, 2015; Uysal & Bardakci, 2014; Watanabe, 2017)
Pedagogical connection (Filsecker & Bündgens-Kosten, 2012; Sykes and Reinhardt, 2013; Reinhardt & Sykes, 2012)
Learning affordances (Gee, 2003; Sykes and Reinhardt, 2013; Cirocki and Caparoso, 2016; Fung and Min, 2016; Masada and deHaan, 2015; Zagal, Rick and His, 2006; Yong and Yo, 2016, York, deHaan, & Hourdequin, 2019; Murphey, 2001; Murphey, 1998; Reinders & Wattana, 2014; Mizer, 2016; Harris & Mayer, 2010; Huizenga, ten Dam, Voogt, and Admiraal, 2017)
Classroom function of game (York & deHaan, 2017; Byrne, 1978)

*I believe that tabletop games are a good reward or break from regular classroom study.
Classroom function of game (York & deHaan, 2017; Byrne, 1978)
Game literacy connection to perceived validity (Chik 2011b, 2012)

*I use or have used tabletop games in the language learning classroom in a way that is usually connected to the curriculum.
Pedagogy (Filsecker & Bündgens-Kosten, 2012; Hourdequin, deHaan, & York, 2017; Sykes & Reinhardt, 2013; Hébert and Jenson, 2019)

*I believe that my students would enjoy or have enjoyed playing tabletop games in class to facilitate language learning.
Belief (Borg, 2015)
Student interest/enjoyment in materials (Tomlinson (2013)
Teacher belief about student perception of materials/games (Gebhard, 2017; Reinhardt, Warner, & Lange, 2011)
Game literacy (Chik, 2011a, 2011b, 2012; Zagal, 2010)

*I believe that my students have regarded or would regard tabletop games in the classroom as a valid use of class time.
Perceived validity of materials (Davis, 1989; Francoisi, 2015; Bolliger, Mills, White, & Koyama, 2015; Tomlinson, 2013, Richards, 2001; Tayan, 2017)

*I believe that my school administration has regarded or would regard the use of tabletop games in the classroom as a valid use of class time.
Perceived validity of materials (Francoisi, 2015; Bolliger, Mills, White, & Koyama, 2015; Tomlinson, 2013; Richards, 2001)
Institutional level support (Hourdequin, deHaan, & York, 2017; Wang & Ha, 2013)

*I see the use of tabletop games in classes as a valid and effective use of class time.
Perceived validity of materials (Davis, 1989; Francoisi, 2015; Bolliger, Mills, White, & Koyama, 2015; Chik, 2011b; Chik, 2012; Tomlinson, 2013, Richards, 2001; Dogan and Akbarov, 2016; Sardone and Devlin-Scherer, 2009)
Behaviour and belief gap/differences (Borg, 2015; Uysal & Bardakci, 2014; Zhang and Liu, 2014; Cirocki and Caparoso, 2016; Tayan, 2017; Watanabe, 2017)
Perceived validity/viability of the approach (Cohen and Tellez, 1994; Chen, 2002, Wang & Ha, 2013)

*I feel confident that I can teach and organize tabletop game play in my classroom.
Game literacy (Zagal, 2010; Chik, 2011b; Chik 2012)
Pedagogical consideration (Filsecker & Bündgens-Kosten, 2012; Sykes and Reinhardt, 2013)
Teacher confidence with materials/resource (Hsu, Tsai, Chang, and Liang, 2017; Davis, 1989; Karadag, 2015)

*I have access to appropriate pedagogically-supportive tabletop game materials for my classes (including online teacher-support forums, resources purchased by schools, teacher-made materials or teacher owned materials).
Game literacy (Zagal, 2010; Chik, 2011b; Chik 2012)

*I am aware of popular modern tabletop games played inside and outside classrooms (e.g. 'Settlers of Catan' [also known as 'Catan'], 'Apples to Apples', 'Ticket to Ride', 'Rory's Story Cubes', 'Dixit', 'Pandemic', etc.).
Game literacy (Zagal, 2010; Chik, 2011b; Chik 2012)
Commercial Off The Shelf Games (COTS) (Woods, 2012; Sykes & Reinhardt, 2013)

*I often play tabletop games outside the language learning classroom.
Game literacy (Zagal, 2010; Chik, 2011b; Chik 2012)
Connection between 'knowledge of' and use in classroom (Mahmood, Halim, Rajindra and Ghani, 2014)

*Please list some of the modern tabletop games, if any, that you enjoy playing.
Game literacy (Zagal, 2010; Chik, 2011b; Chik 2012)
COTS (Woods, 2012)

*My school has or had tabletop games available for teachers to use in their classes.
21 st Century Skills materials support at institutional level (Hourdequin, deHaan, & York, 2017)

*If your school has or had tabletop games, please list those that you recall.
Game-enhanced and game-based titles (Reinhardt & Sykes, 2012)
COTS (Woods, 2012, Sykes & Reinhardt, 2013)
Game literacy (Zagal, 2010)

*I have created, made, developed or modified tabletop games for my classrooms.
Game-based (Reinhardt & Sykes, 2012)
Novice-gamer teacher game-based perceived validity (Chik, 2011b, 2012)
‘Educational game’ design problems (Nicholson, 2010; Bruckman, 1999)
Teacher-designed game/materials (Tomak, 2014; Gebhard, 2017; Kusuma, Adnyani, and Taharyanti, 2017)
Game literacy (Zagal, 2010)

*Please indicate what kind of language learning classes you teach or are currently linked with and have been linked with (e.g. ESL, EFL, EAP, a language other than English, etc.).
Personal/Professional cognition factors potentially influencing teaching (Borg, 2015, Watanabe, 2017)
Pedagogical connection (Filsecker & Bündgens-Kosten, 2012; Japan Game Lab, 2016)
Contextual constraints (Tomlinson, 2013; Richards, 2001; Borg, 2015; Chik, 2012; Watanabe, 2017)

*Please indicate the country or countries where you were raised, the country in which you currently reside and the countries in which you have taught.
Personal cognition factors potentially influencing teaching (Borg, 2015; Watanabe, 2017)
Pedagogical connection (Filsecker & Bündgens-Kosten, 2012)
Contextual constraints (Tomlinson, 2013; Richards, 2001; Borg, 2015; Chik, 2012; Watanabe, 2017)

Quantitative questionnaire research expectations.

The questionnaire research expectation was that:

- Many instructors do not regularly use games in their classes (Chik, 2011b, 2012)
- Most do not use games with modern tabletop game design principles in their classrooms (Zagal, 2010; Chik 2011b)
- Some believe their game use connects to classroom learning (Filsecker & Bündgens-Kosten, 2012)
- A few outliers frequently use modern tabletop games as an integrated resource linked to learning (Filsecker & Bündgens-Kosten, 2012; Sykes and Reinhardt, 2013; Hourdequin, deHaan, & York, 2017)
- Most instructors who use tabletop games in class will use them sparingly as a break, reward, or review (Chik 2011b, 2012)
- Many instructors believe their students enjoy using games to learn (Chik 2011b)
- Many instructors believe tabletop games lack face validity for administration, teachers and perhaps students. (Chik, 2011b; Gebhard, 2017; Reinhardt, Warner, & Lange, 2011)
- Many instructors only have access to older tabletop games (Zagal, 2010; Chik, 2011b; Tomlinson, 2013)
- Many instructors have experience creating tabletop games based on older designs (e.g. *Snakes and Ladders*, *Monopoly*, etc.) (Nicholson, 2010; Kusuma, Adnyani, and Taharyanti, 2017; Zagal, 2010)
- Some instructors have access to newer tabletop games (Zagal, 2010; Chik, 2011b, 2012)

- Schools are not a broadly reliable source of modern tabletop game resources and/or pedagogically appropriate language learning materials (Zagal, 2010; Chik, 2011b, 2012; Tomlinson, 2013)
- Few instructors have access to classroom-ready tabletop games with newer design features (both in terms of teacher belief and actual resource access) (Zagal, 2010; Chik 2011b, 2012)
- Gaps between teacher belief and knowledge related to tabletop games exist (Zagal, 2010; Borg, 2015; Watanabe, 2017)

Qualitative interview research methods.

The qualitative research was collected by interviews with six self-identified ‘successful’ TTG specialist teacher and/or ‘expert’ users of TTGs in language learning classrooms. These interviewees were identified by the researcher through professional connections and through online interactions related to tabletop game communities and tabletop games in education. The purpose of the TTG specialist teacher interview was to better understand tabletop game use in the language learning classrooms of specialists using TTGs, investigate teacher awareness of tabletop games as resource, examine impact outside of the classroom that is related to TTG use, and explore teacher attitudes toward TTG-mediated L2LP. The interviewees were sent a written set of interview questions to which they replied in written form. Subsequently, each participant was given a copy of the initial response transcript with some follow-up questions, and they were given an opportunity to respond and suggest changes. Interviews began in late September 2018 and finished in January 2019. Interview participants have been anonymized.

Participants were selected not only based on TTG-mediated L2LP expertise, but also in an effort to represent a range of teacher backgrounds, classrooms, and contexts. This chart shows some of the basic research participant background information.

Table #2: Participant background information

Reported gender	Males (4) Females (2)
Native speaker or Non-native speaker of language being taught	Native speakers of English (4) Native speaker of Italian (1) Non-native English speaker teaching English (1)
Country of birth/childhood	Canada Great Britain (2) Italy Poland United States of America
Current country of most recent teaching context	Canada Italy Japan (2) Poland South Korea
Relevant professional experience	ESL/EFL/ELL (various ages and contexts) EAP Business EFL Italian as a Second Language

	French (Core)
	Game design

In addition to general biographical information, the questionnaire explored participant experiences, behaviours, beliefs, attitudes, knowledge and awareness related to TTG implementation. Qualitative interview data was coded according to four general cognition categories and related subcategories identified by the researcher. These were:

- Background (personal information and experience, teaching background and experience, and non-TTG-mediated L2LP experiences)
- Game Material Related (game awareness, game literacy, TTG access, and classroom experience with TTG-mediated L2LP)
- Language Teaching Related (pedagogical basis, benefits of games as a classroom resource, and perceived student and school perceptions of TTG-mediated L2LP)
- Professional Development Related to Cognition (personal or community-level professional development efforts, expressions of concern/challenge or successes/victories, and wisdom/advice/explicit learning related to implementation of TTG-mediated L2LP)

Subsequently, the respondent interview data was analyzed using an iterative process of response comparison and contrast. The emerging patterns prompted the researcher to develop new categories, subcategories, theories, conclusions, and significant or ‘noteworthy’ unexpected findings that helped to explore teacher cognition related to TTG use in language learning classrooms. The general structure of this analysis is similar to the approach taken by Zagal (2010).

The questionnaire prompts and relevant literature rationale are as follows:

Table #3: Interview questions with relevant literature connections

*Could you please tell me your name, where you are from, and how long you have been teaching (or taught, if not currently teaching) in language learning classrooms?
Personal cognition factors potentially influencing teaching (Borg, 2015)
*If you are open to sharing this information, would you be willing to tell me which age bracket you fall into?
Personal cognition factors potentially influencing teaching (Borg, 2015)
*If you are open to sharing this information, would you be willing to tell me which gender you self-identify with?
Personal cognition Factors potentially influencing teaching (Borg, 2015)
*Could you tell me about the language teacher training (or any other teacher training) that you have received (e.g. degrees, certificates, other relevant courses or programs of study, etc.)?
Teacher cognition based on experience (Borg, 2015)
Pedagogical connection (Filsecker & Bündgens-Kosten, 2012; Sykes and Reinhardt, 2013; Reinhardt & Sykes, 2012; Hébert and Jenson, 2019)

***Could you tell me a bit about how you got started teaching languages and a bit about your teaching career or experiences?**

Teacher cognition based on experience (Borg, 2015)

Pedagogical connection (Filsecker & Bündgens-Kosten, 2012; Sykes and Reinhardt, 2013; Reinhardt & Sykes, 2012; Hébert and Jenson, 2019)

***Could you tell me about your current employment and most recent teaching position(s)?**

Teacher cognition based on experience (Borg, 2015)

Pedagogical connection (Filsecker & Bündgens-Kosten, 2012; Sykes and Reinhardt, 2013; Reinhardt & Sykes, 2012; Hébert and Jenson, 2019)

***How long have you been/were you there? (Please show for both current employment and most recent teaching position)**

Teacher cognition based on experience (Borg, 2015)

Pedagogical connection (Filsecker & Bündgens-Kosten, 2012; Sykes and Reinhardt, 2013; Reinhardt & Sykes, 2012; Hébert and Jenson, 2019)

Do you have a particular focus or specialization in terms of your teaching career, training or classroom experience? If you do, could you perhaps talk a bit about that (e.g. EAP Writing, Settlement ESL, EFL, Junior High School, ESP Business, Public School ESL, Other language learning context, etc.)?

Teacher cognition based on experience (Borg, 2015)

Personal/Career development (Gebhard, 2017)

Pedagogical connection (Filsecker & Bündgens-Kosten, 2012; Sykes and Reinhardt, 2013; Reinhardt & Sykes, 2012; Hébert and Jenson, 2019)

***Which language learner groups do you work with, or have you worked with, most? (Please include age range, contexts, type of language instruction and nationalities)**

Teacher cognition based on experience (Borg, 2015)

***When you were a child, did you play any tabletop games? (Tabletop games are primarily non-digital games which are usually played on a table or flat surface [e.g. card games, board games, tile games, role-playing games, dexterity games, etc.]**

Personal cognition factors potentially influencing teaching (Borg, 2015)

Game literacy (Zagal, 2010)

***If yes, could you please tell me a bit about those experiences (e.g. were they negative, positive, or a mix of both) and name some of the tabletop games that you played? If no, did anyone in your family play tabletop games when you were growing up?**

Personal cognition factors potentially influencing teaching (Borg, 2015)

Game literacy (Zagal, 2010)

***As a child, how regularly did you play tabletop games?**

Personal cognition factors potentially influencing teaching (Borg, 2015)

Game literacy (Zagal, 2010)

***Could you perhaps tell me a bit more about how you perceive your prior tabletop game experiences?**

Personal cognition factors potentially influencing teaching (Borg, 2015)

Game literacy (Zagal, 2010)

***If you had mainly positive experiences, what do you think contributed to your positive experiences playing tabletop games? If you had mainly negative experiences, what do you think contributed to your negative experiences playing tabletop games?**

Personal cognition factors potentially influencing teaching (Borg, 2015)

Game literacy (Zagal, 2010)

***Do you ever play any tabletop games outside of the classroom (in a personal or non-classroom related capacity)? Could you also tell me how frequently you play and what kind of impact, if any, tabletop gaming has had on your personal or professional life?**

Personal cognition factors potentially influencing teaching (Borg, 2015)

Game Literacy (Zagal, 2010; Becker, 2017)

***If you frequently enjoy playing tabletop games, could you please name some of the different games that you play? If you don't frequently enjoy playing tabletop games, could you please tell me the main reasons why you don't?**

Game Literacy (Zagal, 2010; Becker, 2017)

***Could you tell me about how potential tabletop game buyers today might go about making informed purchases (retail stores, game stores, online shopping, video reviews, community support, etc.)? Please consider anything that might be helpful to someone who is thinking about buying a modern tabletop game.**

Game literacy (Zagal, 2010; Becker, 2017)

***How would you compare tabletop games that are produced today to tabletop games made 35 or more years ago?**

Game literacy (Zagal, 2010)

*Would you please tell me about any experiences that you have had using tabletop games in your language learning classrooms? Why did you decide to use them? How did you use the game in the classroom and which tabletop games can you remember using? What worked and what didn't work? Could you talk about how you selected those specific games and detail any other steps you took prior to introducing the game in the classroom or after the gaming experience (e.g. pre-gaming vocabulary building, reflection activities, assessments, etc.)?
Critical reflection and benefit of experience for belief/behaviour alignment (Farrell and Dennis, 2013; Borg, 2015; Watanabe, 2017; Hébert and Jenson, 2019)
Teacher knowledge (Shulman, 1986b, 1987)
Creativity and teacher qualities (Horng, Hong, ChanLin, Chang, and Chu, 2005)
Materials (Gebhard, 2017, Tomlinson, 2013)
Teacher roles (Marklund & Alklind Taylor, 2016; Hébert and Jenson, 2019)

*How frequently do/did you use tabletop games in the classroom, how much time in class do/did you spend on the game and what purpose(s) did using the game in the classroom serve?
Pedagogy and affordance (Filsecker & Bündgens-Kosten, 2012; Sykes and Reinhardt, 2013; Hébert and Jenson, 2019)
Classroom function of game (York & deHaan, 2017; Byrne, 1978)

***Have you ever made, modified or created a tabletop game for one of your classes? How did that go? How did you use the game in the lesson? How do you think the students reacted to the game in the classroom? How would you evaluate your own 'game design' awareness and abilities?**

Game design anxiety and awareness (Karadag, 2015; Tomak, 2014)

Game literacy (Zagal, 2010)

Teacher game creation (Kusuma, Adnyani, and Taharyanti, 2017)

***Could you tell me about any useful resources (in person, in print or online, etc.) that have helped you learn about tabletop games, use tabletop games in the classroom or create your own games for the classroom? How have these resources been useful in helping you use tabletop games successfully in your language learning classrooms?**

Challenges of using games (Marklund and Alklind Taylor, 2016; Hébert and Jenson, 2019)

Choosing and using games (Becker, 2017; Zagal, 2010)

Materials/Game literature selection support (Gebhard, 2017; Kuhn, 2015; Zagal, 2010)

Making use of research (Sibanda and Begede, 2015)

*Have you discussed the topic of tabletop game implementation in the language learning classroom with other people? With whom have you discussed this topic, what was the mode or context of communication and what was the purpose of the discussions?
Critical reflection and benefit of experience for belief/behaviour alignment (Farrell and Dennis, 2013; Borg, 2015; Watanabe, 2017; Hébert and Jenson, 2019)
Self/peer reflection and development (Gebhard, 2017; Gebhard and Oprandy, 2005; Watanabe, 2017; Hébert and Jenson, 2019)
Making use of research (Sibanda and Begede, 2015)
Game literacy/Teaching support through CoP, and digital interactions (Zagal, 2010; DuFour, 2004; Wenger and Snyder, 2000; Tseng and Kuo, 2013; Godwin-Jones, 2003; Duncan-Howell, 2010)
Professional development (Callaghan, Long, van Es, Reich & Rutherford, 2016; Watanabe, 2017; Hébert and Jenson, 2019; Dikkers, 2012)

*From a language learning resources perspective, what is your opinion on the use of tabletop games in language learning classrooms? Do they or can they support language learning in the classroom? If they do support language learning, what are some different ways they do or could support language learning? Are they or can they be used as an integrated part of language learning lessons?
Cognition and behaviour gaps (Zheng & Borg, 2014; Borg, 2015; Watanabe, 2017)
Critical reflection and benefit of experience for belief/behaviour alignment (Farrell and Dennis, 2013; Borg, 2015; Watanabe, 2017)
Perception, belief or thought (Borg, 2015; Uysal & Bardakci, 2014; Watanabe, 2017)
Pedagogy and affordance (Filsecker & Bündgens-Kosten, 2012; Sykes and Reinhardt, 2013; Hsu, Tsai, Chang, and Liang, 2017; Hébert and Jenson, 2019)
Motivation (Gee, 2003; Sykes and Reinhardt, 2013; Dörnyei, 2001, 2005; Reinders & Wattana, 2014)
Holistic/Social impact (Schut, 2013; Wilson, 2017; Smith, 2003; Blume, 2019)
Implementation awareness and function of game (York & deHaan, 2017; Byrne, 1978; Sykes and Reinhardt, 2013; Reinhardt and Sykes, 2012; Hébert and Jenson, 2019)

*If yes, please explain your opinion and insights. How do/can teachers successfully implement tabletop games as valid materials? Are there any challenges? Are there any benefits? If no, please explain your opinion and insights. Are there specific barriers to implementation or are the materials simply not compatible with good pedagogical practices?
Cognition and behaviour gaps (Zheng & Borg, 2014; Borg, 2015, Watanabe, 2017)
Critical reflection and benefit of experience for belief/behaviour alignment (Farrell and Dennis, 2013; Watanabe, 2017; Hébert and Jenson, 2019)
Creativity and teacher qualities (Horng, Hong, ChanLin, Chang, and Chu, 2005)

*Do you think tabletop game publishers and educational resource suppliers are producing enough quality games that can be used in language learning contexts? If you think more could be done, please explain with respect to both game publishers are resource suppliers. If you think enough is being done, please explain with respect to both game publishers and resource suppliers. If you have another opinion, please explain with respect to both game publishers and resource suppliers.
Expert gamer opinions about ‘educational games’ and COTS (Chik, 2011b; Chik 2012; Zagal, 2010)
Game literacy (Zagal, 2010)
Motivation (Dörnyei, 2001, 2005)
Reference to game-enhanced or game-based materials (Sykes and Reinhardt, 2013; Reinhardt and Sykes, 2012)

*Based on your experiences using tabletop games in language learning classrooms, what have you learned? Has your opinion, belief or understanding of the place of tabletop games in the language learning classroom changed or evolved? What advice would you give to instructors thinking about using language learning in their own classrooms?
Developing teacher-wiseness (Mak, 2011; Alyaz and Genc, 2016; Karadag, 2015; Sardone and Devlin-Scherer, 2009; Borg, 2015; Watanabe, 2017)
Critical reflection and benefit of experience for belief/behaviour alignment (Farrell and Dennis, 2013; Watanabe, 2017; Hébert and Jenson, 2019)
Challenges of using games (Marklund and Alklind Taylor, 2016)
Creativity and teacher qualities (Hornig, Hong, ChanLin, Chang, and Chu, 2005)
Creativity in teacher development (Gebhard and Oprandy, 2005)
Implementation awareness (Sykes and Reinhardt, 2013)
Pedagogical connection (Filsecker & Bündgens-Kosten, 2012; Sykes and Reinhardt, 2013; Reinhardt & Sykes, 2012; Hébert and Jenson, 2019)
Teacher roles (Marklund & Alklind Taylor, 2016)

Based on your experiences, how do you think students perceive tabletop games in the language learning classroom?
Belief (Borg, 2015)
Student interest/enjoyment in materials (Tomlinson, 2013)
Teacher belief about student perception of materials/games (Gebhard, 2017; Reinhardt, Warner, & Lange, 2011)
Game literacy (Chik, 2011a)
Implementation awareness for game and teaching (Sykes and Reinhardt, 2013; Hébert and Jensen, 2019)

Based on your experiences, how do you think your schools perceive/perceived tabletop games in the language learning classroom?
Institutional-level support (Hourdequin, deHaan, & York, 2017; Wang & Ha, 2013; Dikkers, 2012)

*Did/Does your school have tabletop games at your school for you to use? Approximately how many? Can you remember any of the games that they have/had? Have you used any of those games? Have you used any of your own games in class?
Game literacy (Zagal, 2010; Chik, 2011b)

*Approximately, how many tabletop games do you currently own?
Game literacy (Zagal, 2010)

***What are your favourite games to play outside of the classroom? What is it that you enjoy about these games?**

Game literacy (Zagal, 2010; Chik, 2011b, 2012)

Which are your favourite games to use inside the language learning classroom? What is it that you believe makes these games successful?

Motivation (Dörnyei, 2001, 2005)

Choosing and using games (Becker, 2017)

Teacher knowledge and beliefs based on XP (Borg, 2015; Watanabe, 2017)

Game literacy (Chik 2011a, 2011b, 2012; Zagal, 2010)

Pedagogical connection (Filsecker & Bündgens-Kosten, 2012; Sykes and Reinhardt, 2013; Reinhardt & Sykes, 2012)

Learning affordances (Gee, 2003; Sykes and Reinhardt, 2013; Cirocki and Caparoso, 2016; Fung and Min, 2016; Masada and deHaan, 2015; Zagal, Rick and His, 2006; Yong and Yo, 2016, York, deHaan, & Hourdequin, 2019; Murphey, 2001; Murphey, 1998; Reinders & Wattana, 2014; Mizer, 2016; Harris & Mayer, 2010; Huizenga, ten Dam, Voogt, and Admiraal, 2017; Hébert and Jenson, 2019)

Classroom function of game (York & deHaan, 2017; Byrne, 1978; Hébert and Jenson, 2019)

*Do you have any concerns or comments about tabletop game resources in language learning classes?
Developing teacher-wiseness (Mak, 2011)
Understanding of game-informed / gamification issues (Reinhardt and Sykes, 2014)
Challenges of using games (Marklund and Alklind Taylor, 2016)
Teacher knowledge and beliefs based on experience (Borg, 2015; Watanabe, 2017)
Beginner's mind and try new things in the profession (Gebhard and Oprandy, 2005; Watanabe, 2017)
TTG-mediated L2LP field awareness (Sykes & Reinhardt, 2013; Reinhardt & Sykes, 2012; Hébert and Jenson, 2019)
Teacher Roles (Marklund & Alklind Taylor, 2016)

Qualitative questionnaire research expectations.

The qualitative interviews will provide rich information regarding the experiences, actions, and perceptions of teachers who have successfully used tabletop games in language classrooms. The interview research expectations are:

- Most are very knowledgeable about modern tabletop game design principles (Zagal, 2010; Woods, 2012; Chik, 2011b, 2012)
- Most are very knowledgeable about how to connect the game experience to language learning or SLA goals (Sykes & Reinhardt, 2013; Filsecker & Bündgens-Kosten, 2012; York & deHaan, 2017; Hébert and Jenson, 2019)
- Most have overcome challenges related to using, procuring, modifying, or implementing tabletop games for the classroom (Marklund & Alklind Taylor, 2016; Borg, 2015; Mak, 2011)

- Most are highly aware of the difficulties or challenges of implementing TTG-mediated L2LP (Marklund & Alklind Taylor, 2016; Borg, 2015; Sykes & Reinhardt, 2013; Watanabe, 2017; Hébert and Jenson, 2019)
- Most indicate a belief in the potential value of TTG-mediated L2LP, and this belief is grounded in knowledge stemming from their implementation experiences (Borg, 2015; Filsecker & Bündgens-Kosten, 2012; Sykes & Reinhardt, 2013; Horng, Hong, ChanLin, Chang, and Chu, 2005; Mak, 2011; Alyaz and Genc, 2016; Karadag, 2015; Sardone and Devlin-Scherer, 2009; Farrell and Dennis, 2013; Hébert and Jenson, 2019)
- Most have at least a few reservations, words of caution, and caveats about TTG-mediated L2LP implementation (Borg, 2015; Marklund and Alklind Taylor, 2016; Sykes & Reinhardt, 2013; Mak, 2011; Alyaz and Genc, 2016; Karadag, 2015; Sardone and Devlin-Scherer, 2009)
- Most have developed some awareness as to their own classroom successes and failures with regard to TTG-mediated L2LP implementation (Zagal, 2010; Borg, 2015; Sykes & Reinhardt, 2013; Mak, 2011; Alyaz and Genc, 2016; Karadag, 2015; Sardone and Devlin-Scherer, 2009)
- Some use tools/procedures/feedback mechanisms to deepen their game understanding from a language teaching perspective (Sykes & Reinhardt, 2013; Gebhard, 2017; Chik, 2011b; Gebhard and Oprandy, 2005; Zagal, 2010; Borg, 2015; Farrell and Dennis, 2013; Callaghan, Long, van Es, Reich & Rutherford, 2016; DuFour, 2004; Wenger and Snyder, 2000; Tseng and Kuo, 2013; Godwin-Jones, 2003; Duncan-Howell, 2010; Sibanda and Begede, 2015; Kuhn, 2015)

- Most enjoy playing games themselves and feel confident teaching games (Zagal, 2010; Chik, 2011b; Borg, 2015; Horng, Hong, ChanLin, Chang, and Chu, 2005; Tomlinson, 2013; Kuhn, 2015)
- Most are very knowledgeable about supporting resources related to tabletop games or using tabletop games in the classroom (Zagal, 2010; Borg, 2015; Sykes & Reinhardt, 2013; Hébert and Jenson, 2019)
- Some perceive ‘task’ value in gameplay itself and do not always connect it to explicit language learning (Borg, 2015; Filsecker & Bündgens-Kosten, 2012; Hourdequin, deHaan, & York, 2017; Nunan, 2004)
- Some take a ‘task-based’ or multi-class approach to tabletop play in class and include supporting/peripheral curricular elements (Sykes & Reinhardt, 2013; York & deHaan, 2017; Nunan, 2004)
- Some use a TTG-mediated L2LP practice with a broad ‘game at centre’ approach (Sykes & Reinhardt, 2013; York & deHaan, 2017; Nunan, 2004; Filsecker & Bündgens-Kosten, 2012; Hébert and Jenson, 2019)
- Some are involved with either professional development or a CoP related to TTG-mediated L2LP (Zagal, 2010; Callaghan, Long, van Es, Reich & Rutherford, 2016; Farrell and Dennis, 2013; Gebhard, 2017; Gebhard and Oprandy, 2005; Wenger and Snyder, 2000; Tseng and Kuo, 2013; Godwin-Jones, 2003; Watanabe, 2017; Hébert and Jenson, 2019; Dikkers, 2012)

In the following two sections, the research findings are presented and analysed. The quantitative findings are presented first, and the qualitative research findings are presented second.

Chapter III – Data Analysis

Presentation of Quantitative Research Results and Analysis

General questionnaire results.

The presentation of questionnaire data starts with the demographic and background information gathered in questionnaire items 18 and 19 (contexts of teaching experience and countries where respondents taught, reside and were raised). Next, data from questionnaire items 1-13, 15, and 17 are presented. These questionnaire items relate to teacher behaviours (classroom and game-literacy related), teacher cognition (knowledge/awareness), teacher beliefs (pedagogical, materials-related, classroom-related), and attitudes (affect, efficacy, etc.). Next, data from questionnaire items 14 and 16 (game titles that teachers enjoy playing and are reported as being at schools) are presented and analysed according to game rating averages, publication dates, and game materials in a board game database (BGG). This provides information about respondent game averages and game resources at schools. Subsequently, teacher reported game creation tendencies are considered in relation to their game rating averages (for games ‘liked’). Next, teaching context experience is analysed according to game creation tendencies, reported game availability at school, perceived administration and student validity of game use, teacher believe in classroom game usefulness, and teacher classroom game use enjoyment. Finally, two salient questionnaire-external respondent interactions are presented and discussed.

This quantitative questionnaire was developed to get a broad sense of teacher cognition factors related to tabletop game use. For this reason, responses were solicited through a variety of professional channels and connections specific to language teachers. There was no focus on those with specialized tabletop game knowledge or experience. In all, 202 respondents took part in this questionnaire. Some of the respondents did not answer all

of the questions, consequently the total number of respondents for each question varies.

Also, a questionnaire construction and implementation error hindered the gathering of some question data, though this problem was remedied early on in the questionnaire data collection process. The error was isolated to two questionnaire items in which teachers were invited to input game names (questions 14 and 16). The error resulted in responses to these specific questions not being gathered for the first 50-55 respondents. As soon as the researcher became aware of the issue, it was fixed. All future respondents were able to input responses to the previously mentioned questions. The questionnaire collection process began in late September 2018 and ended in late December 2018.

Respondent demographic information from items 18 and 19.

Question 19 asked respondents to indicate the countries in which they were raised, the countries in which they have taught, and the country in which they currently reside. By examining this information first, it may be possible to better understand the perspectives being represented by the respondents. The table below shows where the respondents reported being raised. Responses are ranked in terms of response frequency. In all, 202 responses were given, and 44 locations were reported. When multiple countries were given, all were entered separately with a single response value.

Table #4: Countries in which respondents were raised

Country Reported	Frequency of Response
United States of America	81
Canada	75
Brazil, Russia	5
United Kingdom* (Separate country responses were not combined and are listed below)	4
China*, Germany, India, Ireland, Mexico (‘Hong Kong’ responses were not combined and are listed below)	3
Australia, Ethiopia, Hong Kong, Jordan, Malaysia, Saudi Arabia, South Korea, Ukraine, United Arab Emirates	2
Bangladesh, Bolivia, Costa Rica, Czech Republic, England, Europe, Finland, Honduras, Hungary, Iran, Israel, Italy, Jamaica, Japan, Kuwait, Palestine, Puerto Rico, Romania, Scotland, South Africa, Taiwan, Trinidad and Tobago, Tunisia, Turkey, Virgin Islands	1

The data show an overwhelming majority of respondents being raised in North America, with the United States of America representing 85 responses and Canada representing 75 responses (over three-fourths of the response total). Cultural influence related to games and teaching is one potential source of cognitive influence on teachers. For this reason, the largely North American experience of most respondents suggests a limitation on the broad applicability of these questionnaire findings. Further research into how teacher cognition of tabletop game use in the language classroom is affected by culture may be called for. Indeed, one questionnaire respondent made a point of contacting the researcher to comment on how ‘extremely cultural games are,’ and how this can pose challenges related to communication, enjoyment, and logistics. Having said that, some evidence for cultural

diversity can be found in the responses. Forty-two responses identified countries outside Canada and the United States of America. These specific cultural differences may exert varying degrees of influence on teachers depending on their personal histories and experiences.

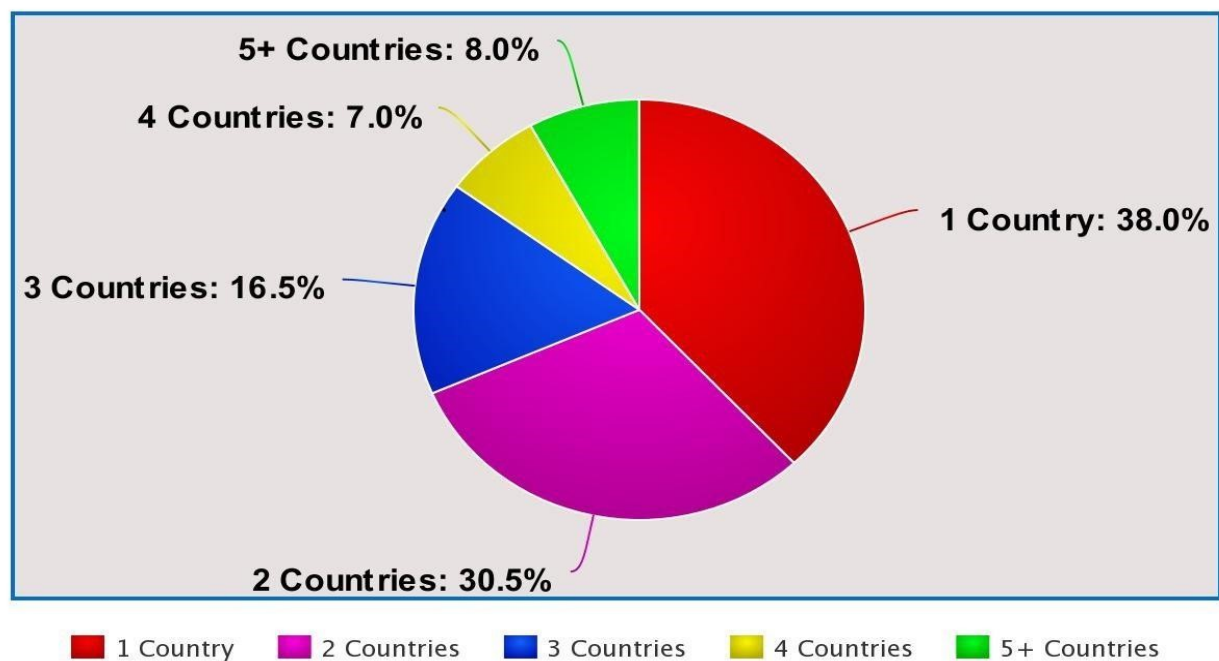
Another cultural and experiential impact which should be considered is the countries in which the respondents currently reside. Response patterns indicated respondents are teaching in EFL contexts in foreign countries, EFL in home countries, ESL in home countries, ESL in foreign countries, and many other contexts and situations. As before, the relationship between culture of upbringing, culture of residence, tabletop game cognition, and teaching is difficult to parse and falls outside the scope of this research. The table below is provided in an effort to clarify the population influences on respondents and their cognition. It shows the responses to the item asking respondents what country they currently reside in. In all, there were 202 responses and 29 locations were reported.

Table #5: Countries in which respondents currently reside

Country Reported	Frequency of Response
Canada	95
United States of America	62
Japan	9
China, Malaysia	3
France, Honduras, India, South Korea, Turkey	2
Bangladesh, Bolivia, Brazil, Bulgaria, Chile, Costa Rica, Ecuador, Indonesia, Kazakhstan, Romania, Russia, Saudi Arabia, Scotland, South Africa, Spain, Thailand, Ukraine, United Arab Emirates, ???* (‘???’ was entered as a response. One possible reason for this response may be that the respondent travels or has only short-term residence in countries.)	1

Another area of cognitive impact related to country, professional experience, and culture is the number of countries in which respondents have taught. This may relate back to the point about how ‘extremely cultural games are.’ It is not clear how teaching experience in other countries may impact teacher cognition and if this impact is specific to each country or if the experience of teaching in other countries may have some general cognitive influence. The chart below shows the number of countries in which the respondents have taught. The responses were analyzed in terms of the number of countries in which individual respondents have lived. Over 200 responses were collected and analyzed in this chart:

Figure #2: Number of countries in which respondents have taught



The results indicate a heterogeneous response group in this respect. Slightly more than one-third of respondents have only taught in one country, slightly less than one-third have taught in two countries, and slightly less than one-third have taught in more than two countries.

By looking at specific countries in which respondents have taught, we can gain additional insight into some of the cultural contexts influencing this group of respondents.

The chart below lists the countries according to frequency of response. A total of 79 countries/contexts were given by respondents.

Table #6: Countries in which respondents have taught

Country/Response	Frequency of Response
Canada	95
USA	73
Japan	36
China*	27
*(Response of 'Hong Kong' is recorded separately)	
South Korea	25
Thailand	12
Taiwan	11
Brazil, United Kingdom*	9
*(Responses 'England' and 'Scotland' are recorded separately)	
United Arab Emirates	8
Costa Rica, Ecuador, France, Mexico, Saudi Arabia, Spain,	6
Malaysia, Russia	4
Dominican Republic, Hong Kong, Hungary, Indonesia, Nigeria, Peru, Qatar, Turkey	3
Cambodia, Europe, Finland, Honduras, Ireland, India, Italy, Jordan, Kazakhstan, Kuwait, Mongolia, Oman, Online (global), Philippines, Romania, Singapore, Slovakia, Ukraine	2
Australia, Austria, Azerbaijan, Bangladesh, Belize, Belarus, Bolivia, Bulgaria, Central America, Chile, Cyprus, Djibouti, East Asia, Egypt, England, Ethiopia, Germany, Guinea, Iran, Latvia, Lebanon, Lithuania, Moldova, Myanmar, Nepal, New Zealand, Nicaragua, Poland, Puerto Rico, Scotland, South Africa, Syria, Trinidad and Tobago, Uzbekistan, Vietnam	1

Given the large number of responses previously indicating Canada and the United States of America as being a common place of current residence and a common place where respondents grew up, it makes sense that Canada and the U.S.A. rank the highest for specific teaching contexts. This suggests that perhaps many of the respondents have some experience teaching in their home countries. Other frequently mentioned country contexts are Japan, China, South Korea, Thailand, and Taiwan (ten or more mentions). The significant Asian response clusters may relate to general ESL/EFL employment patterns. More research may be required to determine how these specific cultures and other non-represented cultures affect teacher cognition related to tabletop game use in language learning classrooms.

Having considered cultural influences on respondents, the next consideration is language learning contexts. Question 18's prompt is 'Please indicate what kind of language learning classes you teach or are currently linked with and have been linked with (e.g. ESL, EFL, EAP, a language other than English, etc.). A variety of responses were given by respondents, and in many cases, respondents identified being linked with multiple language learning class contexts. In all, 33 contexts were reported by the 202 respondents. The table below shows the full range and frequency of responses. Responses are, for the most part, reported as they were entered by respondents. That is, abbreviations are not being decoded by the researcher and groups have not been combined.

Table #7: Language learning class contexts with which respondents have been linked

Responses	Frequency of Response
ESL	107
EAP	57
EFL	54
Language Learning for Settlement (various)	23
TESOL/Training	8
IEP, Exam Prep (various)	7
Content/Subject-Based Language Learning	6
ESP Business, General English, Workplace English,	5
EAL, ELA, ESOL, Pronunciation/Accent Focus	4
ELL, French	3
ESP, Spanish, Administration/Management	2
Bengali, Community English, Early Literacy, EOP, GED, Italian, Japanese, Portuguese, Russian as a Foreign Language, Sign Language, Special Education, SSL, Young Learners	1

Four high frequency teaching contexts were identified. It is important to note that respondents identified all contexts that they had experience in, so the responses do not necessarily indicate the current employment status of all respondents. Rather, it shows the kinds of teaching contexts potentially affecting the respondents' cognition. The most frequently identified context was ESL (107). The second most frequently identified context was EAP (57). The third most frequent was EFL (54), and the fourth was Language Learning for Settlement (23). This provides significant insight into the professional experience of the respondents and is likely to have impacted their individual responses.

Demographic information related to general teacher TTG game use is an important factor impacting teacher cognition. Game literacy, beliefs/experiences regarding

teaching/learning, contextual constraints/affordances, and professional context/experience may impact and shape both teacher TTG-mediated L2LP beliefs and behaviours. As such researching relevant teacher attitudes, beliefs, and practices is important for understanding the state of current TTG-mediate L2LP, potential future pathways for development, and identifying specific ways to support future principled adoption in a way that accounts for specific teacher needs. That these demographic research findings present a specific cross section of attitudes, beliefs, and practices is simultaneously useful in terms of its specificity and limited in terms of its broad applicability. The final part of this analysis will consider factors related to demographic information in relation to specific beliefs, behaviors, and other cognition-related factors. For now, the remainder of the questionnaire responses will be examined.

Questionnaire results for items 1-13, 15, and 17.

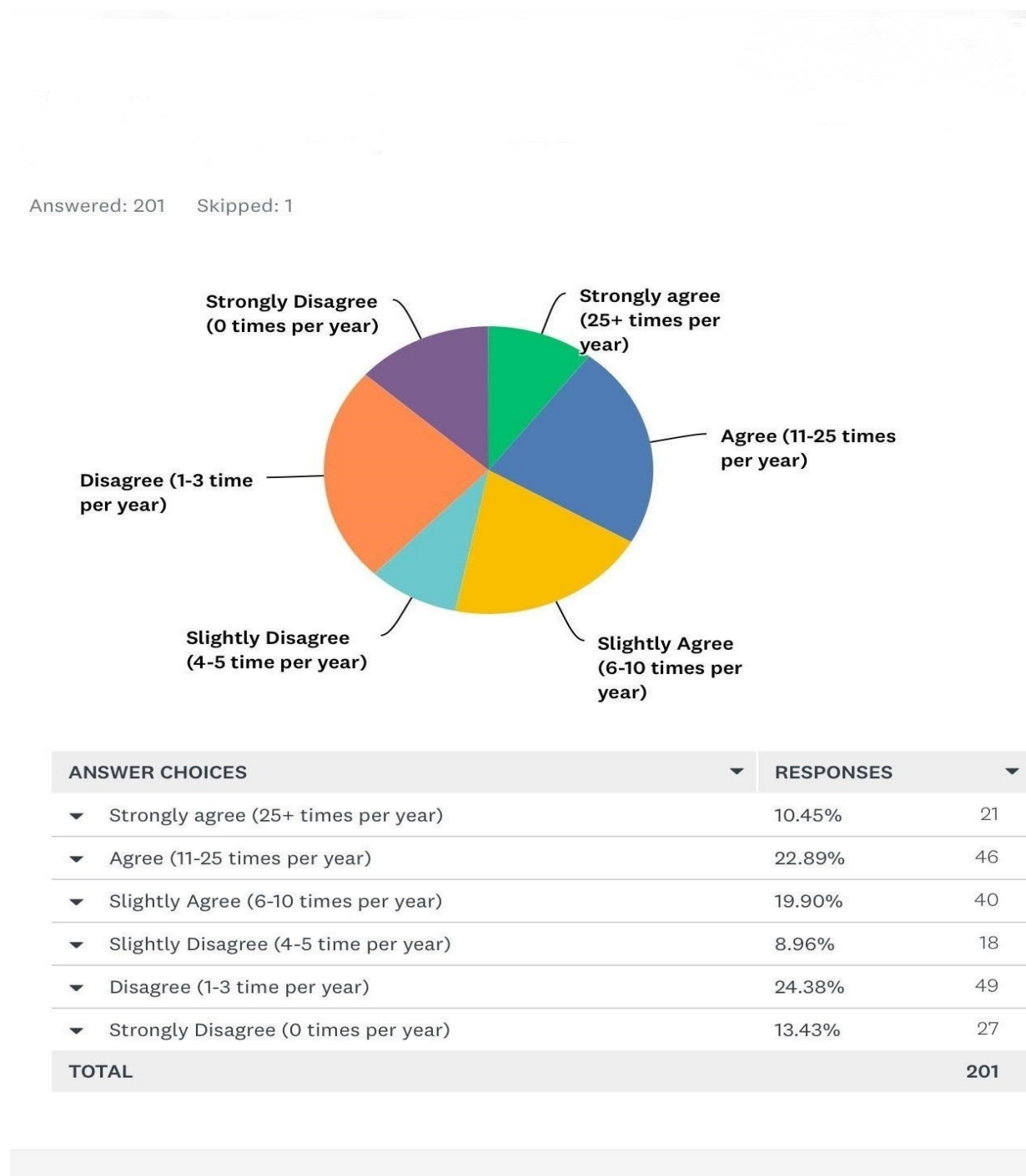
This first question of the questionnaire asked participants how frequently they use or have used tabletop games in their language learning classrooms. The response findings indicate that teachers use games with varying frequency. 53.24% of respondents reported using tabletop games in language learning classrooms between 6 and 25+ times per year (strongly agree to slightly agree response item range). This suggests that tabletop games are a resource that teachers employ with some frequency. Further, 22.89% of respondents indicated they use tabletop games 11-25 times per year and 10.45% indicated they use tabletop games 25 or more times per year. This means that over one-third of the teachers reported using tabletop games in the language learning classroom at a frequency that is most likely greater than once per month.

46.77% of respondents reported using tabletop games between 0-5 times per year. Approximately 9.00% reported using tabletop games 4-5 times per year. Approximately

LANGUAGE TEACHER COGNITION AND TABLETOP GAME USE

24.00% of respondents indicated they used tabletop games in class only 1-3 times per year.

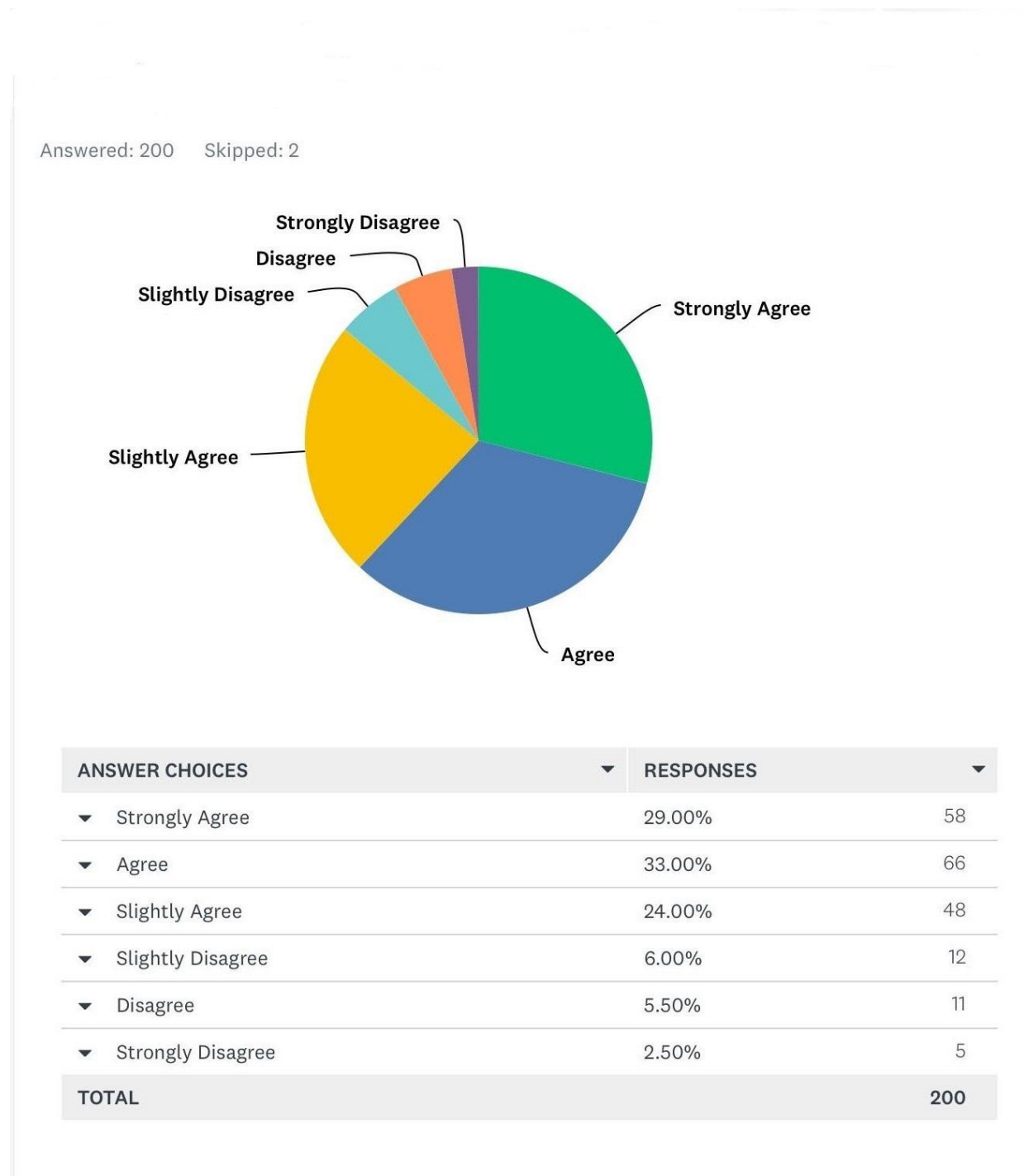
Finally, nearly 13.50% of respondents reported not using tabletop games at all. This group of tabletop game non-users is of significant size and the results suggest that tabletop games play little to no role in some language learning classrooms. Overall, the responses to this question suggest tabletop games are a somewhat frequently used resource, but that there is great variability in how often teachers use them. Issues related to tabletop game resource quality and context of use are not clarified through these responses alone. In the final parts of this section, game use frequency patterns will be analyzed for potential impact related to teaching context. The following figure shows the response breakdown:

Figure #3: Frequency of tabletop game use in language learning classrooms

The second questionnaire item asked respondents to indicate their agreement with the prompt, 'I enjoy using tabletop games as a classroom language learning resource.' Response options included: strongly agree, agree, slightly agree, slightly disagree, disagree, and strongly disagree. 86.00% of the responses ranged from slightly agree to strongly agree.

This suggests strong evidence of general teacher enjoyment associated with the use of tabletop games in class. What is not clear is how much this factor influences teacher decision making. The theme of enjoyment related to the use of this resource and teaching practice will be examined in greater detail during the TTG specialist teacher interviews. Within this, 29.00% strongly agreed that they enjoyed using games as a language learning resource, 33.00% agreed, and 24.00% indicated slight agreement.

Responses disagreeing with the prompt were limited. Only 2.50% strongly disagreed, 5.50% disagreed, and 6.00% slightly disagreed. These findings suggest that although teachers may enjoy using games as a language learning resource overall, the sentiment is not unanimous. Indeed, it is plausible that some teachers may not make use of tabletop games as a teaching resource for this very reason (setting aside issues of resource quality, fit, availability, and teacher perceptions of context appropriateness). Having said that, the low levels of disagreement with ‘enjoyment’ related to using tabletop games as a classroom language learning resource suggests that teachers have some broad amenability to the resource. There may, of course, be other factors and pressures which impede or limit actual classroom implementation. An analysis of how this factor may be affected by teaching context will be explored in the final parts of this section. The following figure shows the response breakdown:

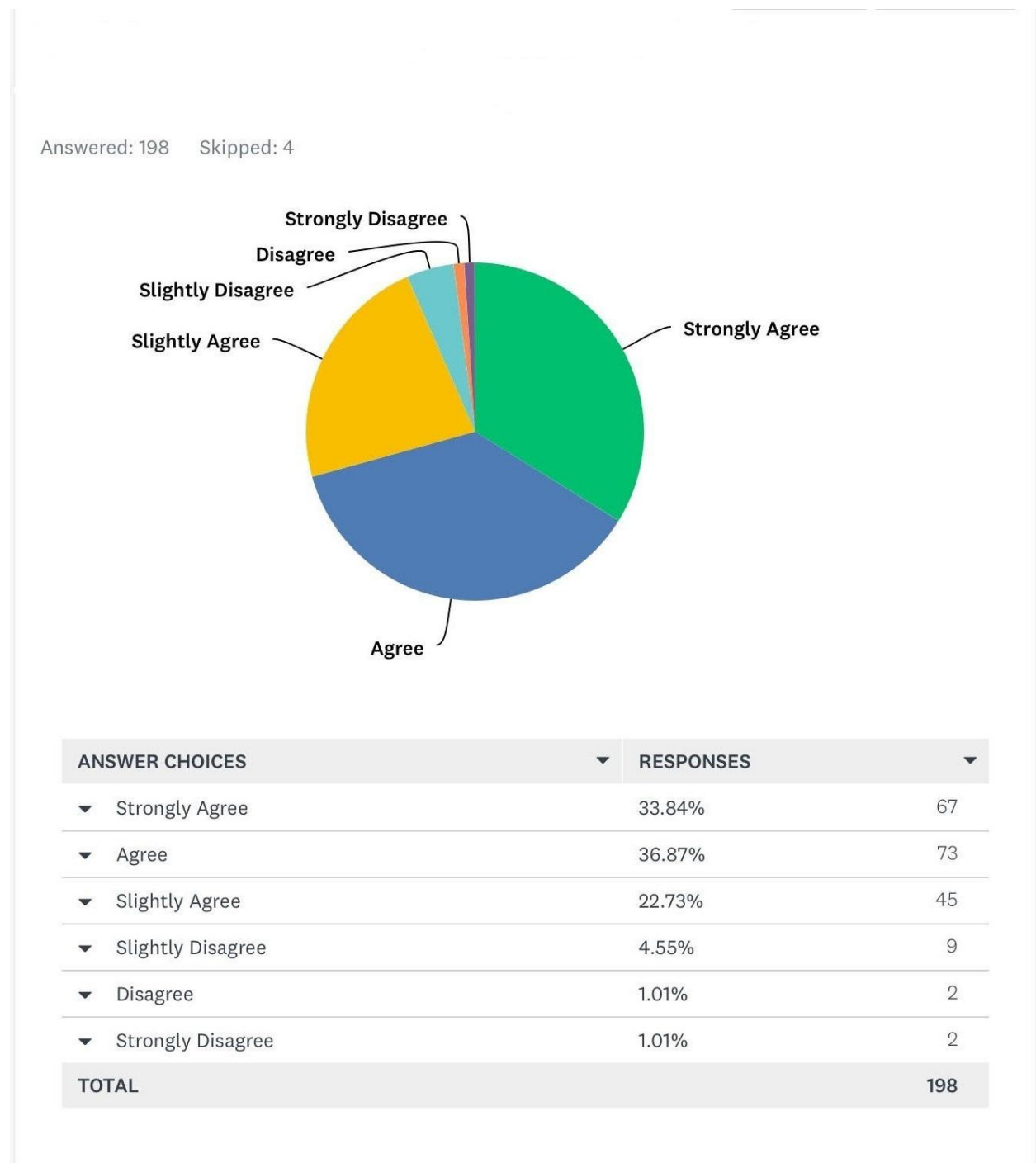
Figure #4: Enjoyment of using tabletop games as a classroom language learning resource

The third question also asked respondents to respond to a prompt. In this case, the prompt is, 'I think that tabletop games are a useful classroom resource for enhancing language learning.' Response options included: strongly agree, agree, slightly agree, slightly

disagree, disagree, and strongly disagree. 93.44% of the respondents responded within the slightly agree to strongly agree range. This suggests that, broadly speaking, teachers perceived tabletop games as a useful classroom resource for the purposes of enhancing language learning. Over 33.50% of respondents strongly agreed with the prompt, over 36.50% of respondents indicated agreement, and over 22.50% indicated slight agreement. These are very large response blocks and point to strong positive teacher beliefs in terms of tabletop game usefulness as a classroom resource.

A little more than 6.50% of respondents slightly to strongly disagreed with the statement indicating a belief in tabletop game usefulness for classroom language learning purposes. The majority of these negative responses (over 4.50% of them) clustered under 'slightly disagree.' Approximately 2.00% of respondents either disagreed or strongly disagreed with the 'usefulness of tabletop games' prompt. It is worth noting that the disagree range of responses to this question on usefulness is smaller than the range to the previous question on 'enjoyment'. This may suggest that some teachers who do not enjoy using tabletop games in class may have slightly more favourable views toward the resource in terms of general resource usefulness. It is unclear to what extent perceived usefulness may impact resource decisions, particularly when the teachers may not 'enjoy' using the resource. As before, this factor will be examined later with additional consideration of teaching context-related cognition factors. The following figure shows the response breakdown:

Figure #5: Usefulness of tabletop games as a classroom resource for enhancing language learning

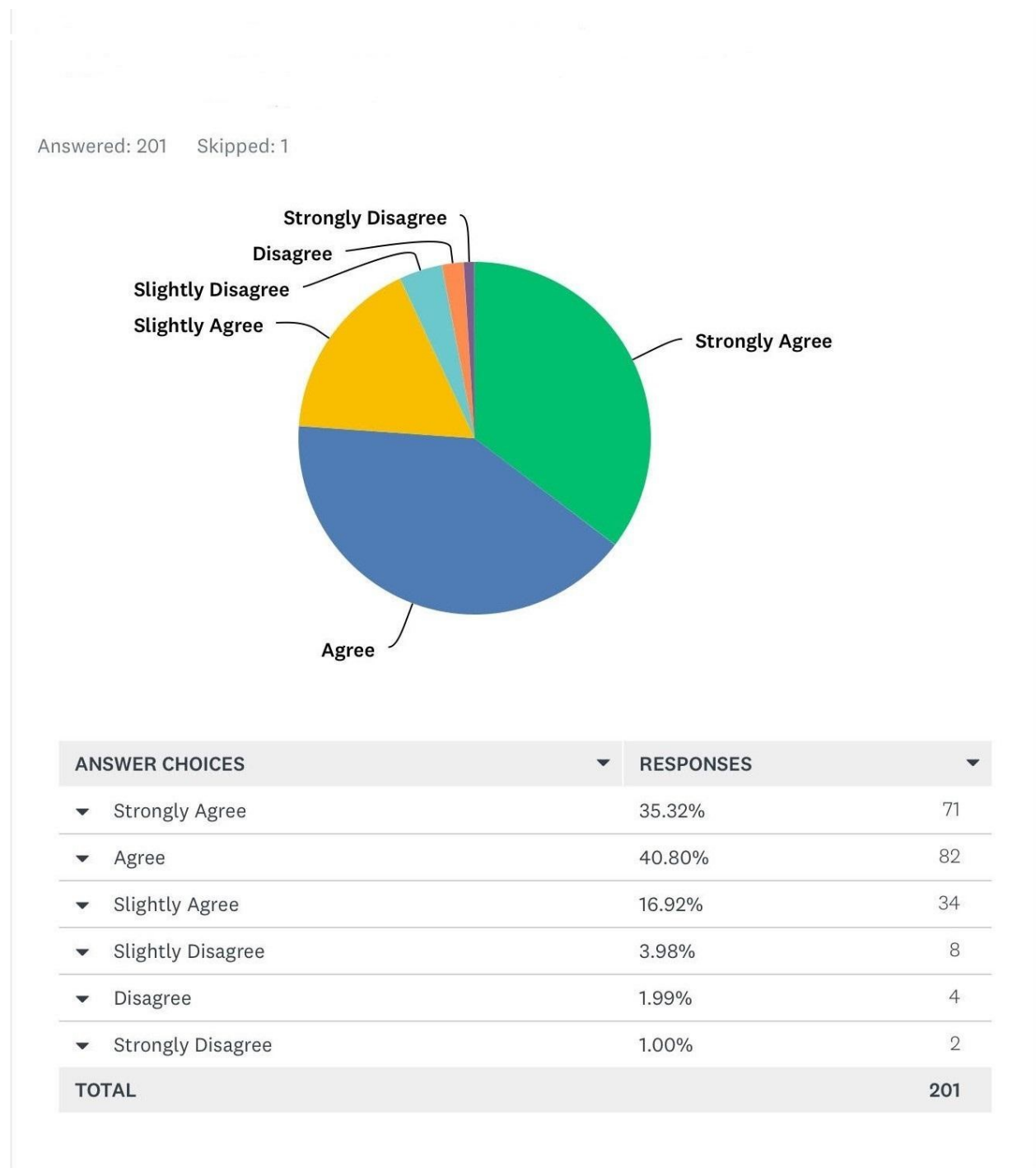


The fourth question involves the prompt, 'I believe that tabletop games are a good reward or break from regular classroom study.' Response options included: strongly agree, agree, slightly agree, slightly disagree, disagree, and strongly disagree. 93.04% of

respondents indicated a response in the slightly agree to strongly agree range. A large block of respondents, 35.32%, had strong agreement with the belief that tabletop games are a good reward or break from regular classroom study. 40.80% agreed with this belief statement. 16.92% slightly agreed with the statement. These large numbers may suggest that most teachers see utility in tabletop games for the purposes of reward and break from regular study. This does not speak to issues related to game integration or non-integration into the greater lesson or curriculum.

Responses ranging from slight disagreement to strong disagreement were just under 7.00%. It is unclear if these respondents objected to the use of tabletop games in general or if the participants reacted to this prompt based on their belief in using tabletop games in a primarily integrated manner. That is, they are not rejecting tabletop games, but rejecting the notion that games should be seen as a reward or break. Likewise, it must also be acknowledged that some respondents supporting the ‘break’ and ‘reward’ utility of tabletop games may have other reasons and motivations for using tabletop games in the classroom. Some may see these points as the main or primary classroom function of tabletop games and others may see traits as two among many. This point will be explored in greater detail during the TTG specialist teacher interview analysis. Further research into this point exploring the views of teachers who do not use games may be a useful future line of inquiry.

Figure #6: Belief that tabletop games are a good reward or break from regular classroom study



The fifth prompt is ‘I use or have used tabletop games in the language learning classroom in a way that is usually connected to the curriculum.’ This examines teacher beliefs about their tabletop game implementation behaviour. It is important to note, that this

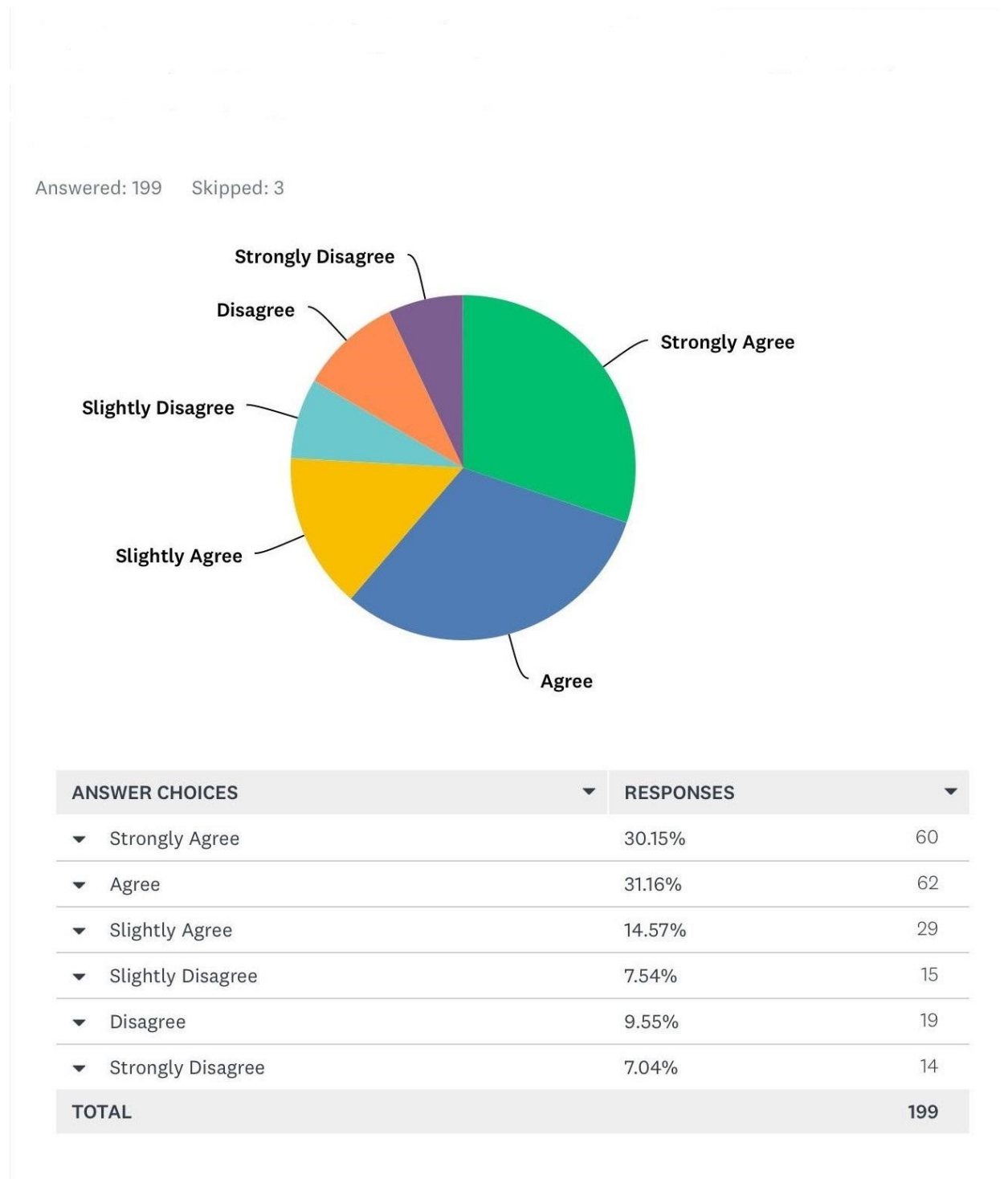
reported data may not accurately reflect actual classroom implementation behaviours.

Nonetheless, as it sheds a spotlight on what teachers believe is their implementation behaviour, it is useful information for understanding how teachers view the resource and their relationship with it in terms of pedagogy and teaching practice.

75.88% of the respondents responded in the slightly agree to strongly agree range. 30.15% of these respondents strongly agreed, 31.16% agreed, and 14.57% slightly agreed with the statement affirming game implementation behaviours that connected to the curriculum. This response suggests most respondents believe they usually use or have used games in a principled fashion.

Responses in the slightly disagree to strongly disagree range were about 24.00%. This includes 7.54% slightly disagreeing, 9.55% disagreeing and 7.04% strongly disagreeing. It must be noted that negative responses to this question may include both responses from teachers who do not use tabletop games in class (and thus do not use them in an integrated fashion) and from teachers who uses games in an non-integrated fashion (e.g. solely as a break, reward, time-filling, or isolated activity). It is also important to acknowledge that not all responses to this prompt will reflect actual classroom behaviour patterns. As was referenced in Communicative Language Teaching (CLT) implementation efforts, teachers can sometimes have varying degrees of understanding regarding how their behaviours may or may not align with specific implementation objectives.

Figure #7: Use of tabletop games in the language learning classroom in a way that is usually connected to the curriculum

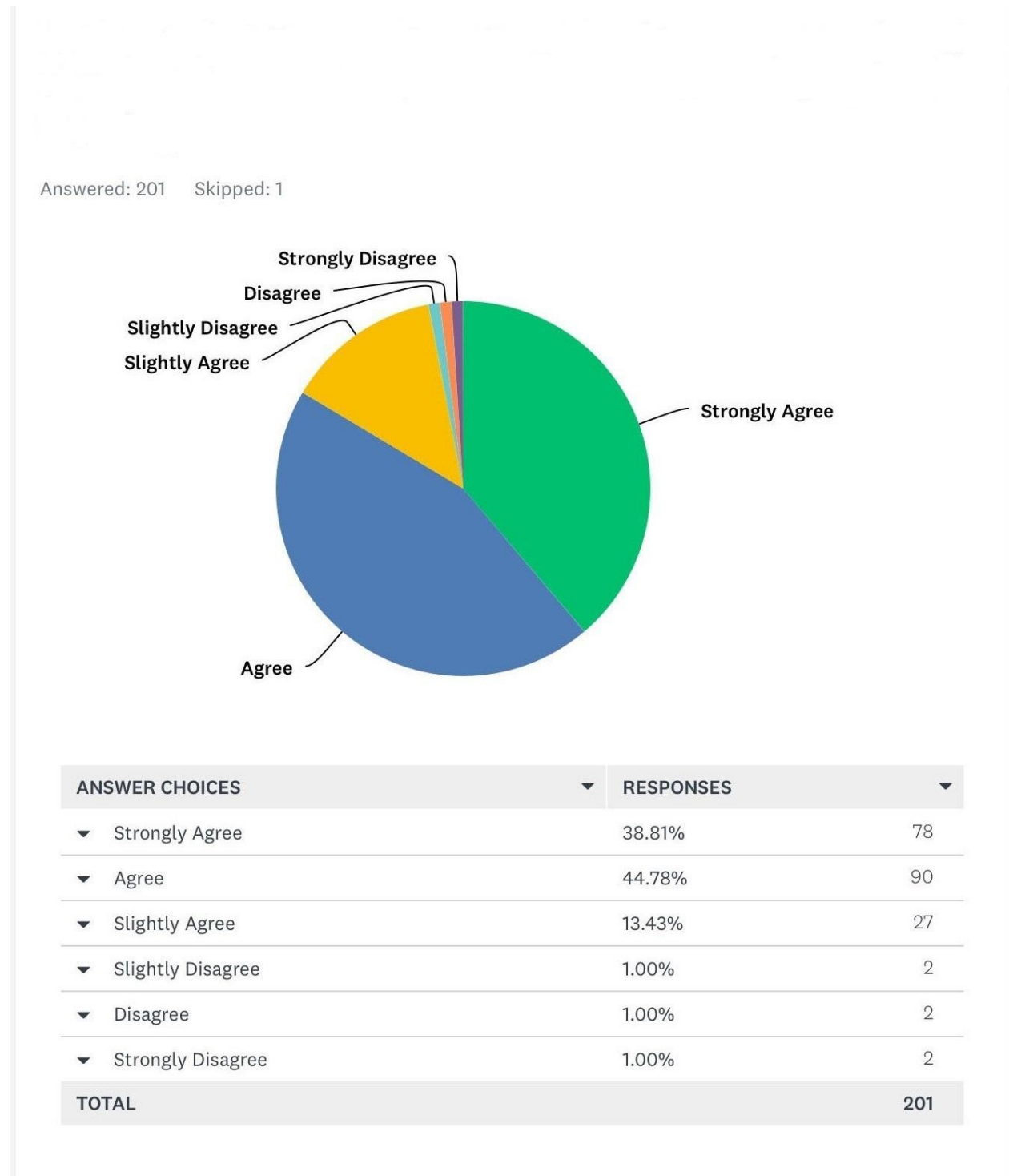


The sixth question has the prompt, 'I believe that my students would enjoy or have enjoyed playing tabletop games in class to facilitate language learning.' Establishing teacher

beliefs regarding student tabletop game enjoyment in the classroom is an important factor for understanding potential teacher TTG implementation. The data indicate broad teacher belief that their students would enjoy the TTG learning resource. 97.02% of respondents answered in the slightly agree to strongly agree range. Specifically, 38.81% of this figure indicated strong agreement, 44.78% indicated agreement, and 13.43% indicated slight agreement. This should be considered strong evidence supporting this general cognition-related belief linked to the respondent population in question. More research is required to determine if similar beliefs are held by teachers from other backgrounds and contexts.

Figures for disagreement were 3.00%, with slightly disagree, disagree, and strongly disagree responses each measuring 1.00%. This is a very low percentage of disagreement and it suggests that most respondents believe that their students would enjoy tabletop games as a classroom resource. It should be noted that the broad agreement appears to have been present across almost all contexts of experience and backgrounds. What is less clear is if there are fluctuation patterns in terms of degree of agreement linked with specific contexts of experience or backgrounds. Furthermore, it is not clear to what extent this belief may or may not impact teacher decisions related to resource use. This theme will be explored in general during the specialist teacher interview analysis. More research into this area with non-specialist TTG-using teachers may be helpful in clarifying more general patterns of impact.

Figure #8: Belief that students would enjoy or have enjoyed playing tabletop games in class to facilitate language learning



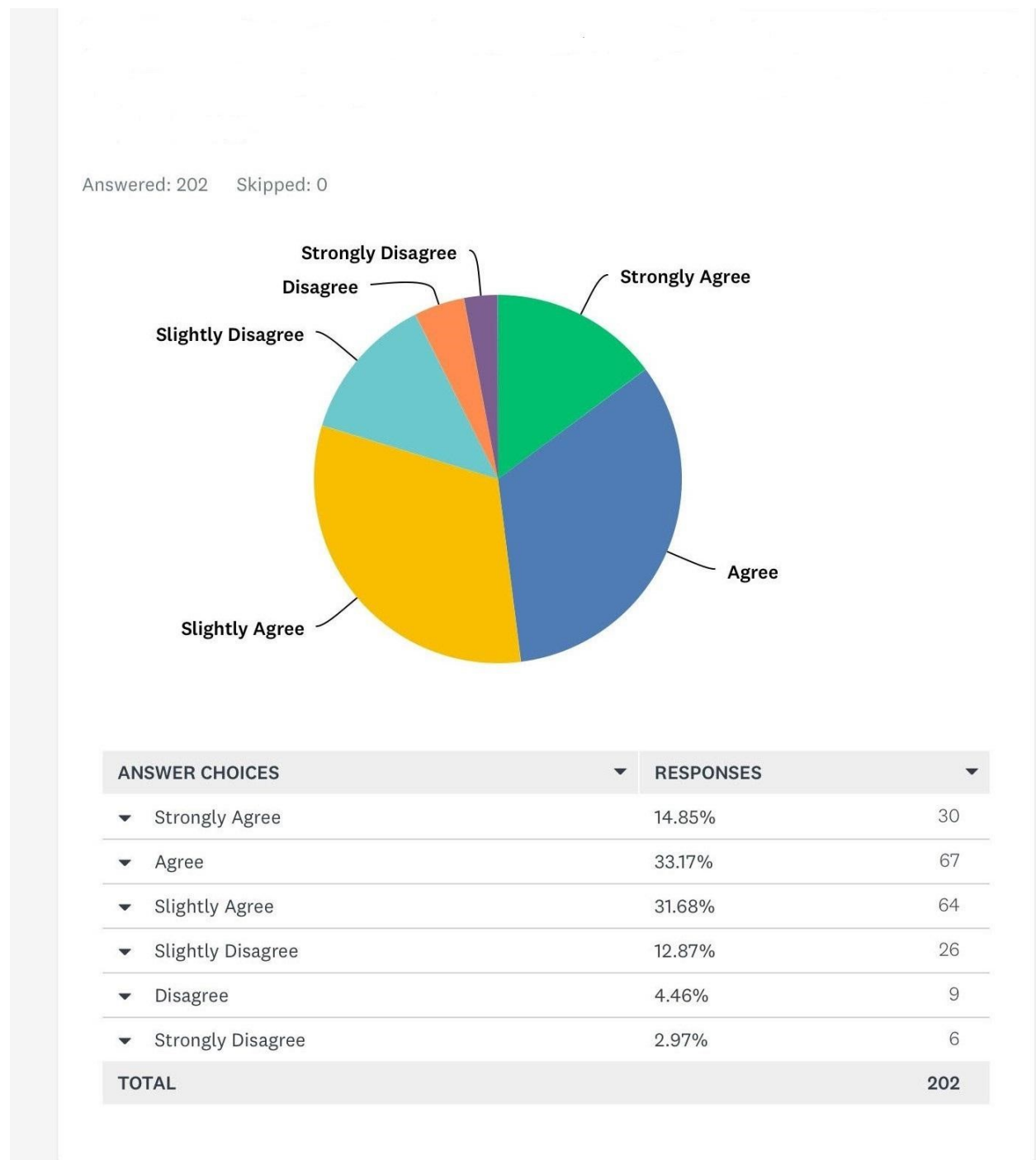
The seventh question is the first of two focusing on teacher beliefs concerning stakeholder perceptions of tabletop game resource validity. The prompt for question 7 is, ‘I believe that my students have regarded or would regard tabletop games in the classroom as a

valid use of class time. Response options included: strongly agree, agree, slightly agree, slightly disagree, disagree, and strongly disagree. It is important to note that teacher beliefs about student perceptions may not accurately reflect actual student beliefs about tabletop game validity. Despite the fact this prompt is limited to only shedding light on teacher beliefs and perceptions, it is nonetheless an important line of enquiry as it highlights the potential impact on teacher cognition, and this stands independent of actual student beliefs.

79.70% of respondents replied within the slightly agree to strongly agree range. This suggests most teachers believe their students would see classroom time spent on tabletop games as valid. 14.85% strongly agreed with the belief, approximately 33.17% agreed, and 31.68% slightly agreed.

12.87% slightly disagreed, 4.46% disagreed, and 2.97% strongly disagreed that their students would see classroom TTG use as a valid use of time. Thus, 20.30% of respondents answered within the slightly disagree to strongly disagree range. The overall response trend suggests that most teachers believe students see TTG use as valid. The quality of games mentioned by these teachers on later questions and their stated level of tabletop game awareness will be analyzed in relation to responses to this question. This will be presented in the final parts of this section. A related point which may be worth future exploration is teacher investigation of student perceptions of TTG use via classroom questionnaires. However, this is outside the scope of the research presently being discussed.

Figure #9: Belief that students have regarded or would regard tabletop games in the classroom as a valid use of class time



The eighth question prompt is, 'I believe that my school administration has regarded or would regard the use of tabletop games in the classroom as a valid use of class time.'

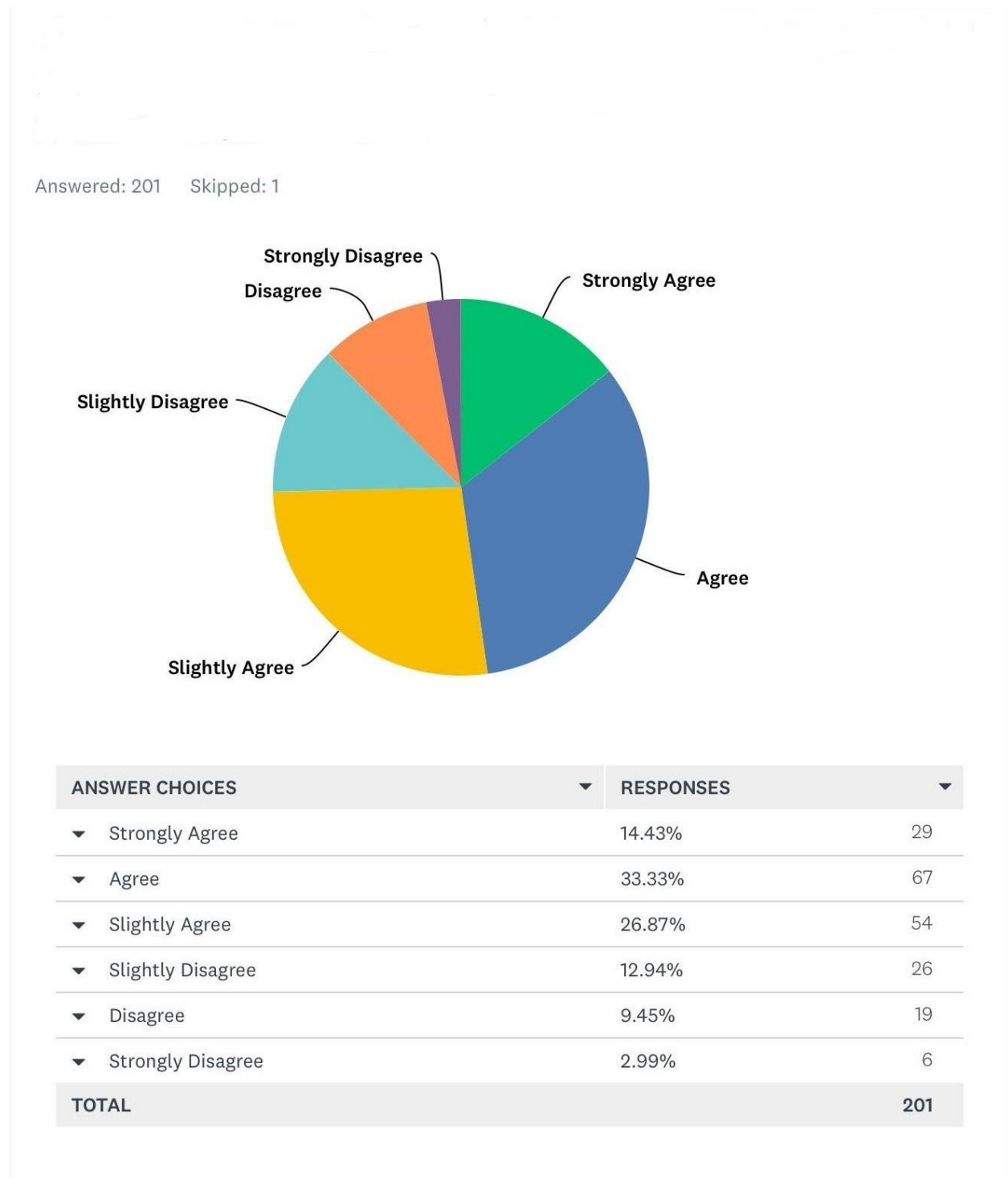
74.63% of respondents indicated a response in the slightly agree to strongly agree range.

14.43% strongly agreed, 33.33% agreed, and 26.87% slightly agreed. This suggests that most

instructors believe that their school administrations would see the use of tabletop games in class as valid. Again, this is a reflection of teacher belief and not necessarily actual administration attitudes, and the same is true for teacher beliefs in the slightly disagree to strongly disagree range.

Disagreement responses totalled 25.38%, with 12.94% slightly disagreeing, 9.45% disagreeing, and 2.99% strongly disagreeing. It is not clear to what extent expressed disagreement with this prompt may limit teacher use of tabletop game resources. That is, some respondents who perceive their administrations as disapproving of tabletop games as resource may persevere in their use of the resource based on other factors (perceived utility, enjoyment, etc.). Nonetheless, teacher behaviours exist within specific contexts, and it should not be assumed that administrative attitudes and roles are homogeneous. In some cases, teachers may be at liberty to disregard disapproving administrations. In other cases, teachers may have no choice but to toe the line. In the specialist teacher interviews, we will explore this theme further and will see some examples of how perceived administration attitudes can impact both teacher cognition and behaviours. This factor will also be explored in the final parts of this section with a consideration of respondent context and experience.

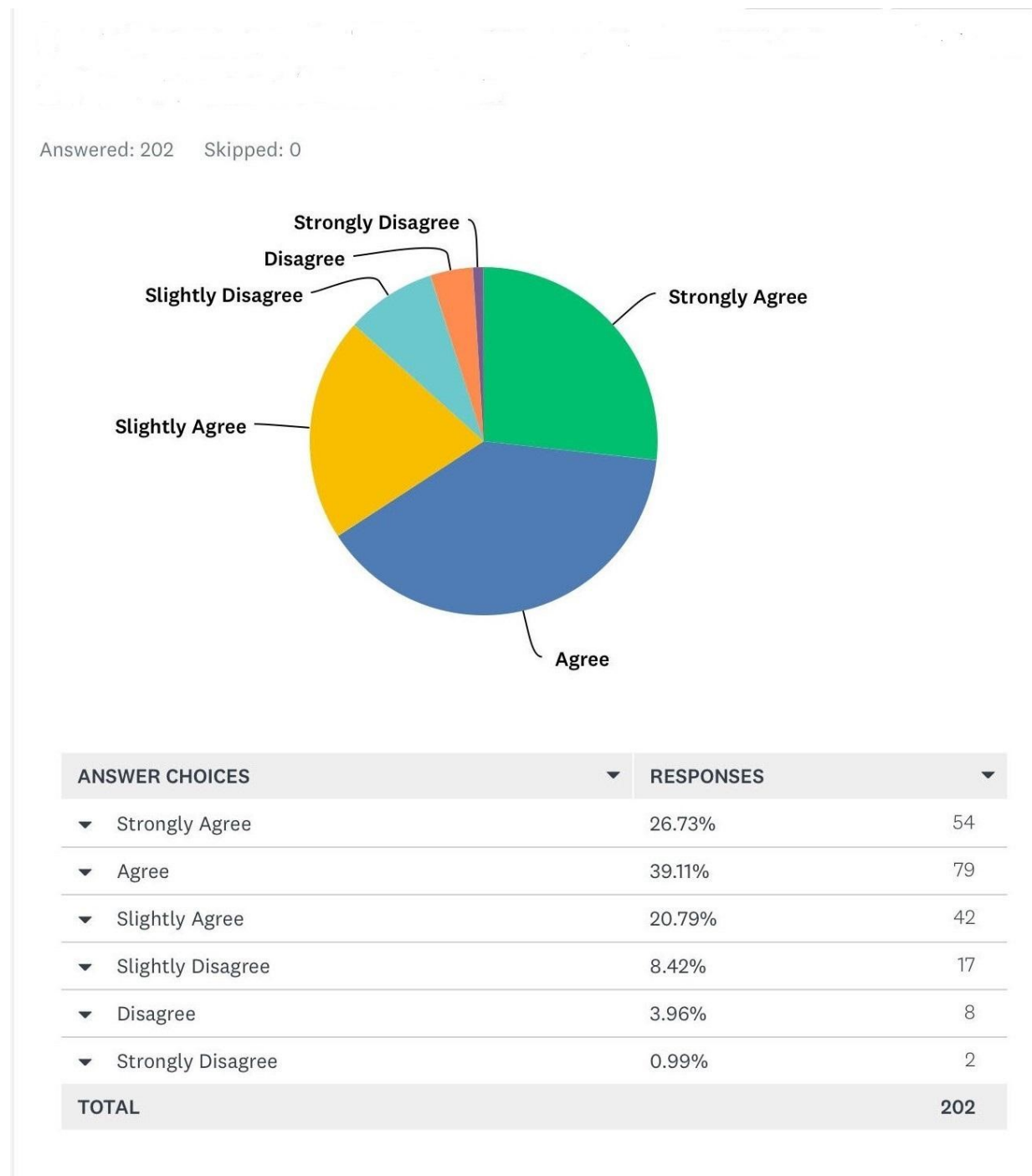
Figure #10: Belief that school administration has regarded or would regard the use of tabletop games in the classroom as a valid use of class time



The ninth question's prompt is, 'I see the use of tabletop games in classes as a valid and effective use of class time.' This question explores teacher beliefs about tabletop game

validity in the class and usefulness as an effective classroom resource. Consequently, this is a very significant response item for cognition issues related to tabletop game use or non-use in language learning classrooms. Overall, 86.63% of respondents answered in the slightly agree to strongly agree range. This shows very strong evidence of broad teacher belief in the general validity and effectiveness of tabletop games as a resource. Specifically, over 26.73% strongly agreed, 39.11% agreed, and over 20.79% slightly agreed. Looking back at the responses to the frequency of tabletop game use prompt, we can see results that may point to some disparity between perceived resource validity and frequency of use. That is, 86.63% indicated that they saw the use of tabletop games in classes as a valid and effective use of class time, but frequency of use agreement (slightly agree, agree, and strongly agree) totaled 53.24%. This may be the result of teacher decisions based on a host of other cognition factors. It may also be caused by teachers perceiving the resource as having a narrow but effective usefulness.

Disagreement totaled 13.37% across the slightly disagree to strongly disagree range. 8.42% slightly disagreed, 3.96% disagreed, and 0.99% strongly disagreed. It is worth noting that this figure is significantly lower than the disagreement ranges for teacher beliefs connected to both student and administration attitudes about tabletop game validity. Both of these measured over 20.00% disagreement, giving a difference of approximately 7.00%. Thus, it seems reasonable to conclude that some teachers who see validity in tabletop game use as a language learning resource may believe their administration and/or students may see it as less valid. Efforts to better understand how teachers act and make decisions when faced with these kinds of belief tensions will be undertaken in the specialist teacher interview analysis.

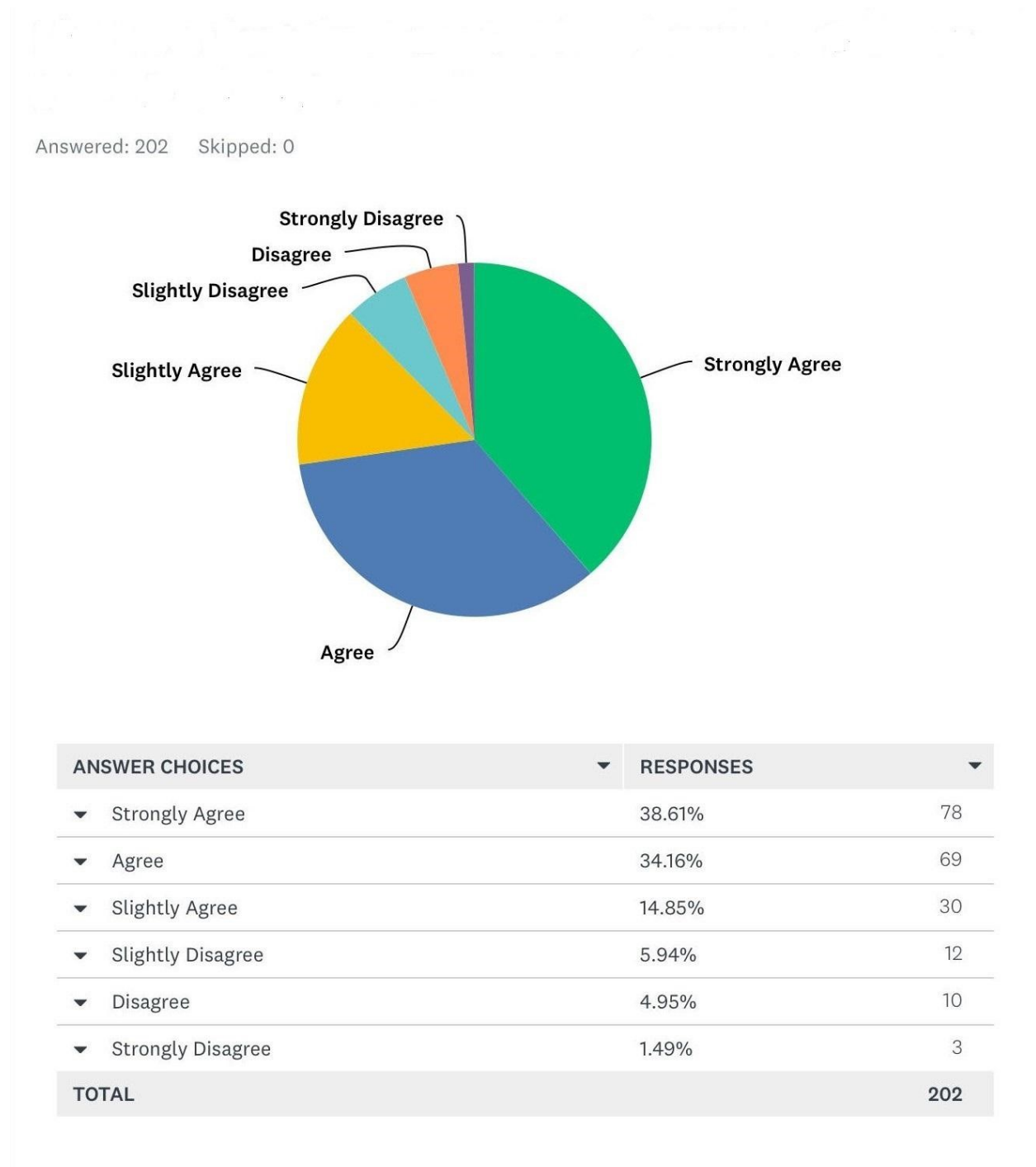
Figure #11: Use of tabletop games in classes viewed as a valid and effective use of class time

The tenth question prompt is, ‘I feel confident that I can teach and organize tabletop game play in my classroom.’ This question seeks to gather information related to teacher feelings of self-efficacy related to tabletop game implementation in the classroom. 87.62% of respondents gave responses in the slightly agree to strongly agree range. This included

38.61% strongly agreeing, 34.16% agreeing, and 14.85% slightly agreeing. The results suggest very high feelings of confidence and self-efficacy related to tabletop game organization and teaching in the classroom. The results, however, do not determine the actual level of ability to teach and organize tabletop game play in classrooms. The response findings are limited to reported respondent confidence levels for this activity. Further research into how confidence may positively or negatively impact principled implementation may be a helpful line of investigation. For example, it is quite possible that some teachers may feel confident but lack principled game implementation and organization skills. Conversely, it may also be possible that reservations and reduced confidence could prompt some teachers to take helpful steps in ensuring principled implementation and organization.

All disagreement responses totalled 12.38%. This included 5.94% slight disagreement, 4.95% disagreement, and 1.49% strong disagreement. This suggests that a small but sizeable portion of respondents have lower levels of confidence regarding tabletop game organization and teaching. These results do not address the complexity or quality of the game resources the respondents were considering. Additionally, it is not clear what role game literacy levels may play in terms of organization and teaching confidence. This area will be explored further in the specialist teacher interviews, but more research is required in this area among the general teaching population.

Figure #12: Teacher confidence regarding teaching and organizing tabletop game play in the classroom



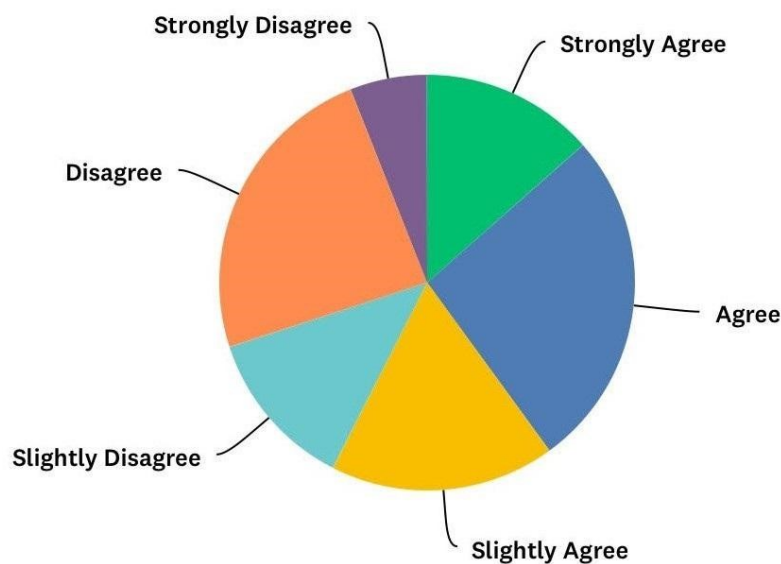
The eleventh question's prompt states, 'I have access to appropriate pedagogically-supportive tabletop game materials for my classes (including online teacher-support forums, resources purchased by schools, teacher-made materials or teacher-owned materials).' In all,

57.50% of respondents expressed agreement between slightly agree and strongly agree, with 13.50% strongly agreeing, 26.50% agreeing, and 17.50% slightly agreeing. Comparing this total to the frequency of use prompt in question one, we can see very similar response values. It may be that some degree of causal relationship exists between these response points. One limitation to consider for this general agreement is that it reflects respondent beliefs rather than actual ‘appropriate access.’ It is also quite probable that respondents varied greatly in terms of the understanding and conception of ‘appropriate pedagogically-supportive tabletop game materials.’ This theme will be explored in much greater detail in the specialist teacher interview analysis.

In total, 42.50% expressed slight to strong disagreement. Specifically, 12.50% slightly disagreed, 24.00% disagreed, and 6.00% strongly disagreed. This block of disagreement is quite significant as the broad nature of the prompt included school purchased resources, teacher-made resources, and teacher owned resources. It seems fair to say that many respondents do not feel as if they have access to appropriate pedagogically-supportive tabletop games. Having said that, it must also be noted that teacher beliefs with respect to this question may not align with actual access. For this reason, later sections of this analysis will examine factors pointing to teacher game literacy, resource access, and context. Teacher belief is a very important factor as it may shape and influence teacher behaviour; however, it does not manage to tell the full story of resource access, resource pedagogical quality, or use. The following chart shows the responses:

Figure #13: Teacher perceived access to appropriate pedagogically-supportive tabletop game materials for my classes (including online teacher-support forums, resources purchased by schools, teacher-made materials, or teacher owned materials)

Answered: 200 Skipped: 2

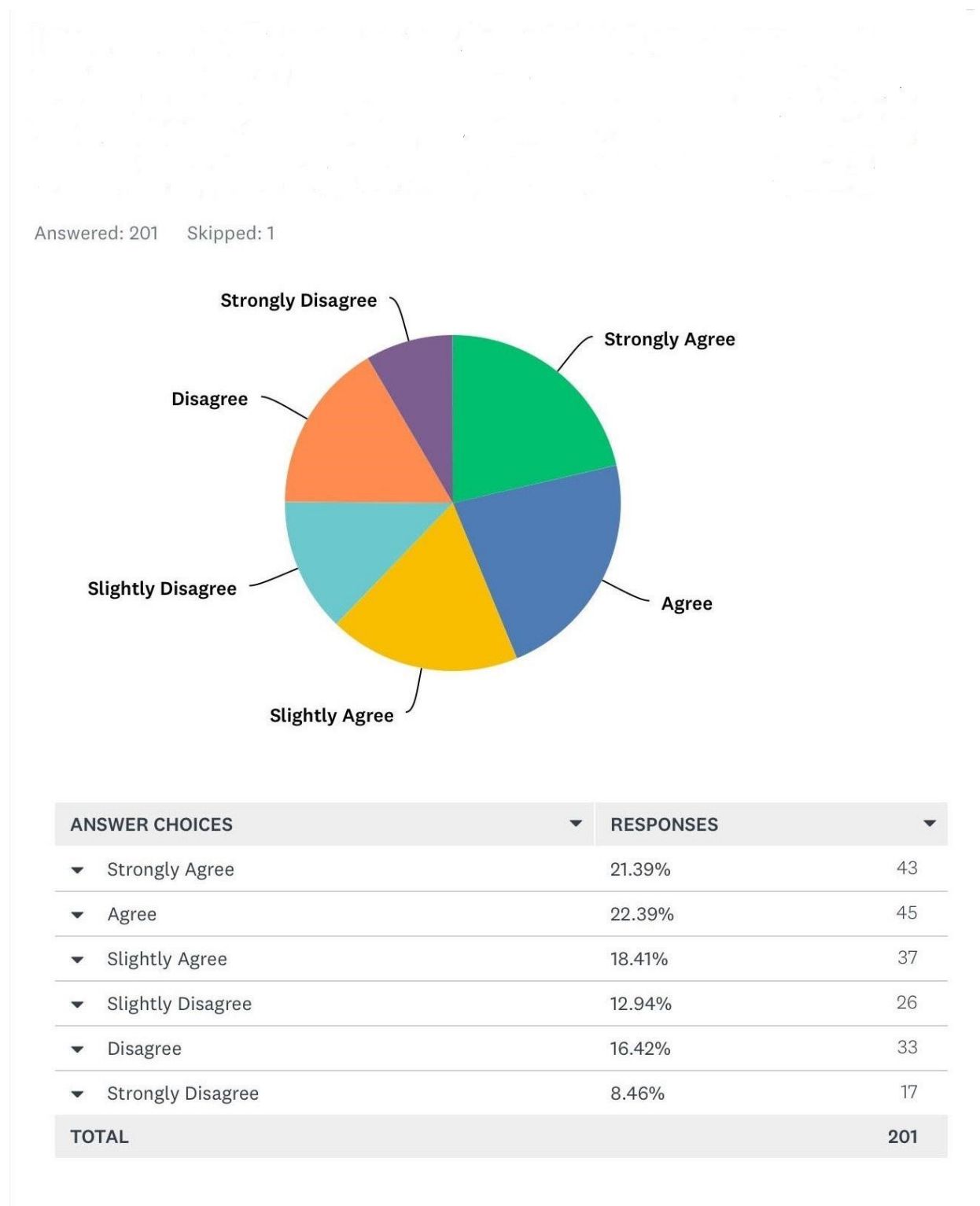


ANSWER CHOICES	RESPONSES
Strongly Agree	13.50% 27
Agree	26.50% 53
Slightly Agree	17.50% 35
Slightly Disagree	12.50% 25
Disagree	24.00% 48
Strongly Disagree	6.00% 12
TOTAL	200

The twelfth question's prompt is, 'I am aware of popular modern tabletop games played inside and outside classrooms (e.g. 'Settlers of Catan' [also known as 'Catan'], 'Apples to Apples,' 'Ticket to Ride,' 'Rory's Story Cubes,' 'Dixit,' etc.).' In terms of agreement, 62.19% indicated a response between slightly agree and strongly agree (21.39% strongly agreed, 22.39% agreed, and 18.41% slightly agreed). This suggests that a significant portion of the respondents believe they have some awareness of modern tabletop games. Game awareness is an important aspect of game literacy (Zagal, 2010), and though this figure does not confirm actual awareness, it suggests some indirect evidence of general awareness. Further steps are required to determine actual awareness in general and to better understand how awareness may interact with other teacher cognition factors such as beliefs, teacher decisions, and classroom behaviours.

For disagreement, 37.82% responded between slightly disagree and strongly disagree (12.94% slight disagreement, 16.42% disagreement, and 8.46% strong disagreement). This represents a fairly large segment of the respondents and highlights a significant potential challenge for potential classroom implementation in many cases. One caveat related to this data is that there may be some self-selection bias at play. That is, it may be that people who were either familiar with games or strongly opposed to games in the classroom may have felt disproportionately compelled to participate in the questionnaire. More research is required to investigate the general implications of the findings and their accuracy. In later parts of this section, specific steps will be taken to find evidence related to respondent game literacy levels. These findings will be compared with teacher access beliefs (among other cognition factors). Overall, the results show a distribution only slightly in favour of agreement of teacher 'awareness' of modern tabletop games.

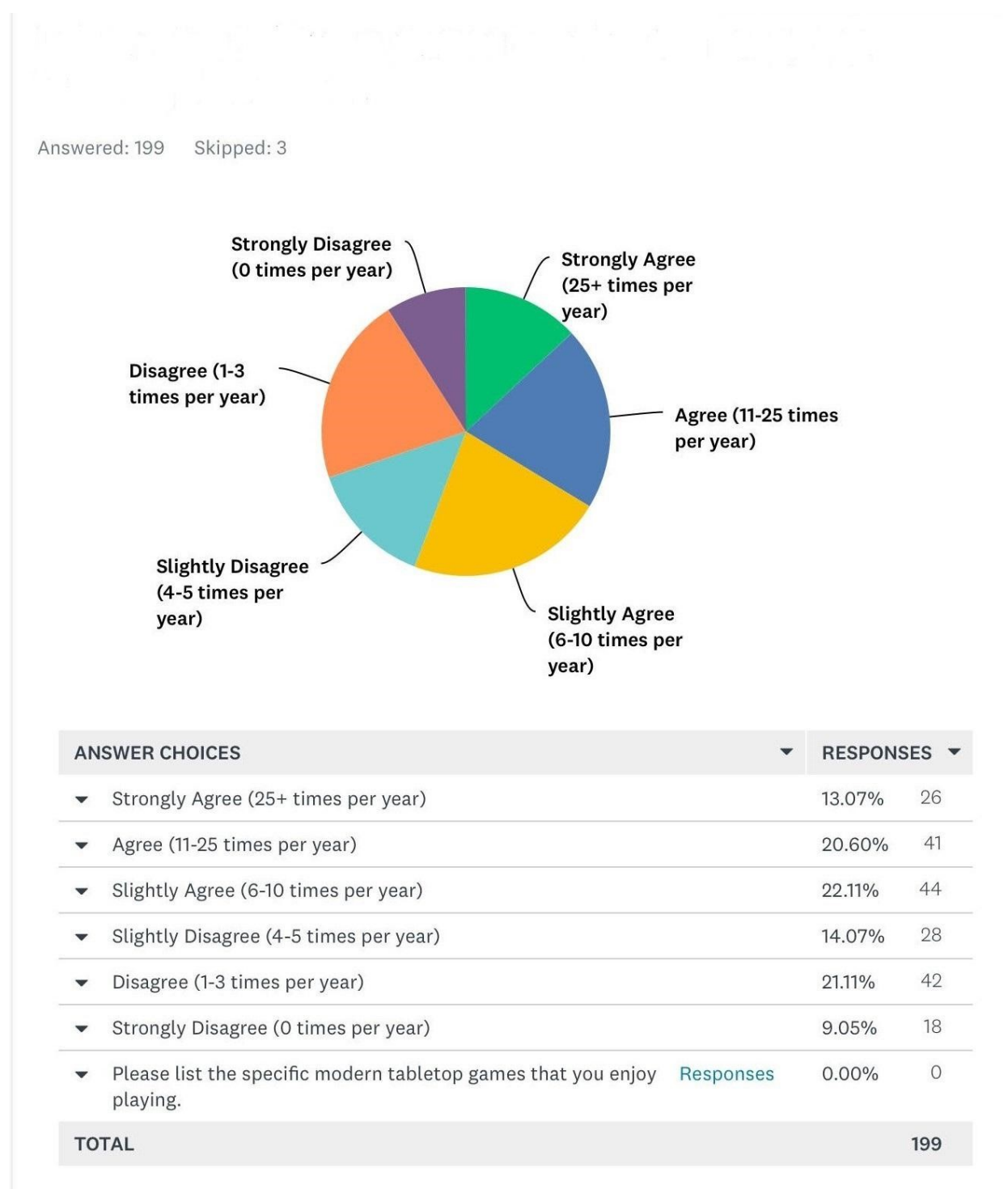
Figure #14: Teacher awareness of popular modern tabletop games played inside and outside classrooms (e.g. ‘Settlers of Catan’ [also known as ‘Catan’], ‘Apples to Apples,’ ‘Ticket to Ride,’ ‘Rory’s Story Cubes,’ ‘Dixit,’ ‘Pandemic,’ etc.)



The thirteenth question prompt is, ‘I often play tabletop games outside the language learning classroom.’ Response options included strongly agree (25 or more times per year),

agree, (11-25 times per year) slightly agree (6-10 times per year), slightly disagree (4-5 times per year), disagree (1-3 times per year), and strongly disagree (0 times per year). This examines a teacher-reported pattern of behavior that potentially provides more information related to both teacher game literacy and attitudes toward the tabletop game resource. However, it must be noted that it is not entirely clear if high levels of game literacy necessarily increase game use and classroom implementation behaviours. 55.78% of respondents indicated an answer between slightly agree and strongly agree (13.07% strongly agree, 20.60% agree, and 22.11% slightly agree). This value is strikingly similar to the values for both frequency of use (prompt one) and pedagogically-appropriate tabletop game materials access (prompt eleven).

44.23% of the respondents indicated an answer between slightly disagree and strongly disagree (14.07% slightly disagree, 21.11% disagree, and 9.05% strongly disagree). Frequency of game play may be one factor contributing to game literacy, though only one among many. Indeed, a respondent who plays very frequently may play only one game of undetermined quality. Game play frequency outside of class may offer some indirect evidence of game literacy, but more factors need to be considered in attempting to ascertain the fuller game literacy picture. The above findings suggest great variation in teacher tabletop game play habits. How this translates into classroom implementation or teacher beliefs is not clear. This theme will be investigated in the specialist teacher interviews; however, more research into this area for general teacher cognition would also be useful in unpacking the various connections, beliefs, and patterns of behavior.

Figure #15: Frequency of tabletop game play outside the language learning classroom

The fifteenth question has the prompt, ‘My school has or had tabletop games available for teachers to use in their classes.’ Response options included: strongly agree (13+ games),

agree, (8-12 games) slightly agree (5-7 games), slightly disagree (3-4 games), disagree (1-2 games), and strongly disagree (0 games). This question establishes teacher beliefs about resource availability and can be compared to teacher responses to access to pedagogically supportive resources.

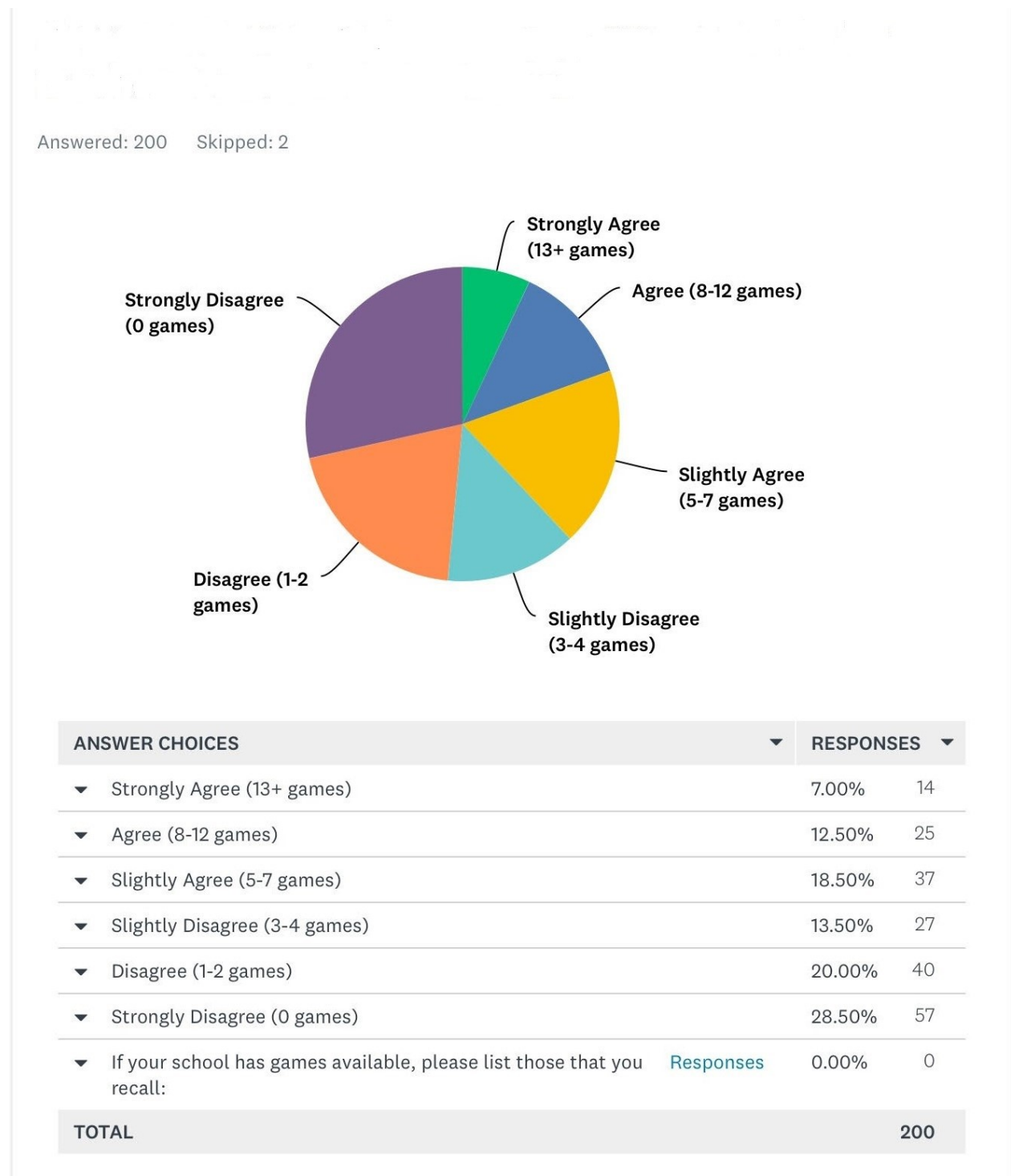
Looking at the responses in the slightly agree to strongly agree range, 38% agreed with the prompt (7.00% strong agreement, 12.50% agreement, and 18.50% slight agreement). These figures provide some indirect support of tabletop game presence in many schools. However, the issue of game quality and access of these resources is not clarified by these responses. Indeed, it is possible that some of those agreeing with this prompt may have rarely used these resources or never used them at all. The issue of school tabletop game resources and teacher access will be discussed in greater detail during the specialist TTG teacher interviews.

In all, 62% of the responses fell in the slightly disagree to strongly disagree range. The distribution increased in terms of disagreement: 13.50% slightly agree, 20.00 % disagree, and 28.50% strongly disagree. Given the relatively high numbers for strongly disagree and disagree, it is clear that many respondents do not believe that their schools have tabletop games available. It is therefore likely that school tabletop game resources may be lacking in some schools and contexts. However, it must be noted that teacher belief may not completely reflect the resource reality in schools. Nonetheless, teacher perceptions in this area can be useful in shedding light on teacher beliefs and in providing some evidence regarding the possible dearth of tabletop games in schools.

A better understanding of how teachers access tabletop game resources relates to both teacher cognitions about games (especially when the resource is cultivated by the teacher, but also when the resource exposes the teacher to new possibilities) and teacher perceptions of

school and peer support of tabletop game use. If a school has tabletop game resources and teachers see them being used, it seems likely to have an impact on what behaviours teacher may perceive as acceptable. Social Network Theory (Daly, 2010) suggests a strong link between close peer influence on teacher actions, learned-behaviours, and perceived constraints. Also, peer support related to game implementation and game suggestions can also thrive in a school environment with games. It must also be noted that this question does not indicate whether teachers use or value these tabletop resources. In fact, some may have access to games at school, but may choose to either create their own games, access game resources from their own collections, or refrain from using them in the classroom at all.

Yet another follow-up question touching on the school resource point is related to how much work may be required for teachers to make these resources ‘classroom ready’ in terms of both classroom logistics and connection to classroom learning. For example, do schools have multiple copies of games so that simultaneous classroom play can be organized, do games afford whole-class engagement, or have supplemental learning resources been developed to allow for principled classroom use? On top of these questions, even if these resources exist, it is unclear if the teachers would have a sense of how to play the games, use the games, or connect them to the curriculum. This connects to Zagal’s (2010) elements of game literacy. For this reason, additional research may be required to determine what tabletop resources exist in classroom contexts for non-specialist users of tabletop games, and how cognition may affect their use or non-use of these resources.

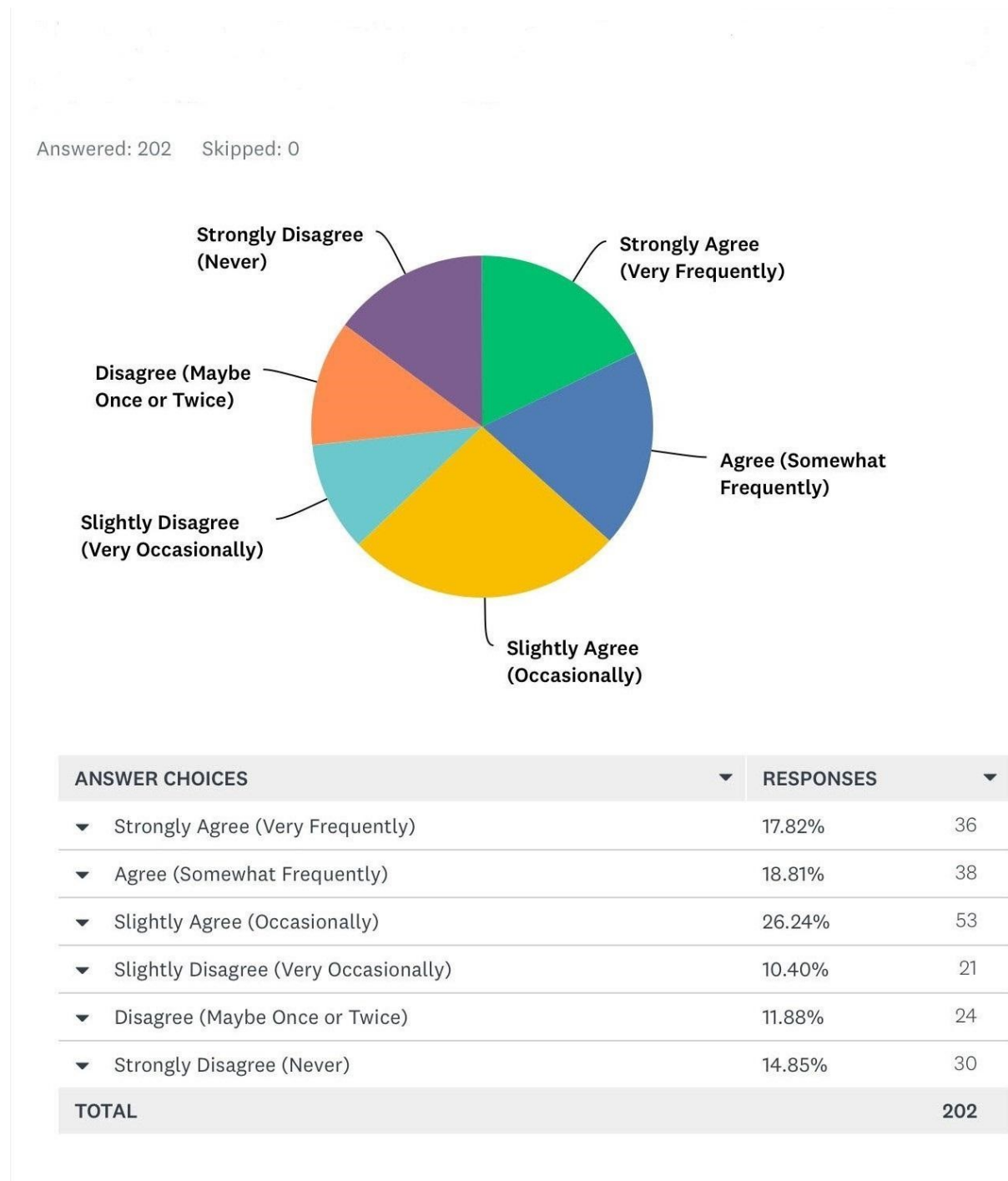
Figure #16: School-provided tabletop game availability for teachers to use in their classes

The seventeenth question prompt says, ‘I have created, made, developed or modified tabletop games for my classrooms.’ Response options included: strongly agree (very

frequently), agree, (somewhat frequently) slightly agree (occasionally), slightly disagree (very occasionally), disagree (maybe once or twice), and strongly disagree (never). The responses in the slightly agree to strongly agree bracket were 62.87% (17.82% strongly agree, 18.81% agree, and 26.24% slightly agree). This suggests that many teachers believe that they engage in a significant amount of tabletop game creation, development, or modification. For this reason, subsequent analysis in the next section will focus on better understanding how game creation may be impacted and influenced by cognition factors related to context and game literacy. Additionally, related patterns in the specialist TTG teacher interviews will be examined to see what game creation behaviours ‘specialist game using language teachers’ report.

In total, 37.13% of respondents answered in the slightly disagree to strongly disagree window (10.40% slightly disagree, 11.88% disagree, and 14.85% strongly disagree). This is a significant response section, and it suggests that many respondents do not frequently create, make, develop, or modify tabletop games for their classrooms. Despite not creating or modifying TTGs, it is possible that at least some of these respondents may use professionally published tabletop games in class. Indeed, increased game literacy may translate to increased access to published games that could be used in class. Conversely, some respondents may have little interest or opportunity to implement tabletop game resources in their classrooms and therefore do not invest time in tabletop game creation or modification. Subsequent analysis will focus on understanding how combinations of contextual factors and cognition may impact teacher game creation behaviours.

Figure #17: Teacher reported frequency of tabletop game creation, development, or modification for classroom use



The relevance of the results presented thus far requires making connections to the current state of TTG-mediated L2LP among the general teaching population and potential future efforts to support principled implementation. Firstly, reported frequency of TTG use suggested some patterns of current frequent classroom use (one-third of respondents use games once per month or more). This provides evidence for a foundation of teacher adoption of TTG materials implementation. Further investigation is required to determine both the pattern of use and the connection to pedagogy. Future efforts should be made to support increased teacher exploration of TTG materials and to promote guidance and reflection on principled implementation, game literacy, and curricular connections. Second, teacher perception of stakeholder attitudes (enjoyment and validity) suggest generally positive support for TTG adoption. However, as some teachers indicated potential stakeholder (students and administration) validity and enjoyment concerns, support related to predicting and proactively addressing TTG-related concerns may be a beneficial way of supporting both current and future TTG-using teachers. Teacher responses indicate significant attitudes and beliefs which can be leveraged to sustain and promote future principled TTG-mediated L2LP implementation. These included perceptions/beliefs related to materials validity, enjoyment, usefulness in supporting language learning, connecting TTGs to the curriculum, and confidence in TTG classroom use. Again, this suggests generally positive beliefs and attitudes among teachers and that this can be used as a platform for justifying the need for further research to support these teachers and explore/promote expanded implementation. Moreover, the results point to the need for additional investigation into general teacher patterns of TTG use, especially with respect to pedagogical use and classroom implementation. Future efforts among researchers and expert game-using teachers promoting/supporting TTG-mediated L2LP ought to promote/cultivate teacher reflection on game literacy, pedagogical function, and classroom implementation. Teacher game literacy

based on knowledge and familiarity with games is a significant factor that may influence teacher access to TTGs, perceived affordances, and ability to implement the materials. Support efforts ought to focus on increasing teacher game literacy, appropriate pedagogic framework awareness for TTG-mediated L2LP, and materials access for new game-using teachers, as well as encourage experienced game-using teachers to more fully leverage learning affordances (in, through, and around the game) in principled ways. Teacher belief regarding appropriate TTG materials access highlight a potential constraint on implementation. Further research on teacher interpretations of ‘appropriateness’, game literacy, and amenability toward various TTG-mediated L2LP classroom approaches is needed. Moreover, potential connection between teacher game literacy, teacher creation habits, and appropriate materials access need to be researched. TTG researchers and experts should invest effort in supporting outreach/support related to teacher game literacy and classroom implementation for teachers new to TTG game use and provide both reflective opportunities and access to research/supports with experienced TTG-using teachers. Researchers and expert teachers ought to also advocate for and guide schools and administrations by providing TTG materials support. Likewise, the TTG-mediated L2LP game library cultivation efforts of teachers ought to be supported. Creating and maintaining a game library is difficult, costly, and time-consuming. Support in these efforts can reduce some of the burden by sharing ‘collective wisdom’ about various aspects of TTG-mediated L2LP game libraries.

Data analysis of responses for items 14 and 16.

The fourteenth question is a prompt that says, ‘Please list some of the modern tabletop games, if any, that you enjoy playing.’ A complete list of the games reported by respondents was compiled. Subsequently, the researcher searched for each game in the BGG database to determine the associated ‘geek rating’. The BGG database is a large online resource that

records information about tabletop games, including ‘user ratings.’ The ‘user rating’ is the rating that users of the BGG website can give to games in the database. A game’s ‘geek rating’ is based on ‘user ratings’, but with a slight difference that will be explained after first explaining how ‘user ratings’ work. Users of the BGG website who have created an account (which is free to do) can rate games according to the following 10-point scale:

- 1 Awful – defies game description.
- 2 Very bad – won’t play ever again.
- 3 Bad – likely won’t play this again.
- 4 Not so good – but could play again.
- 5 Mediocre – take it or leave it.
- 6 Ok – will play if in the mood.
- 7 Good – usually willing to play.
- 8 Very good – enjoy playing and would suggest.
- 9 Excellent – very much enjoy playing.
- 10 Outstanding – will always enjoy playing.

Ratings assigned by users are collected by the database and are aggregated to create an average. Users are able to change their game ratings at any time and they can also enter comments for other users to read.

‘Geek Ratings’ are similar to ‘user ratings,’ except this system controls for differences of game popularity, newness, and market presence. It does this by adding some ‘dummy’ ratings in the middle rating range to games that have at least thirty user ratings (games with less than thirty ratings do not receive a ‘geek rating’). The number of added ‘dummy ratings’ reduces as games gain more user ratings. This system helps reduce ratings manipulation or imbalances in which a game with a handful of perfect ratings might be able to jump to the top of the ‘BGG game ranking list.’ This list ranks games in the database according to their geek

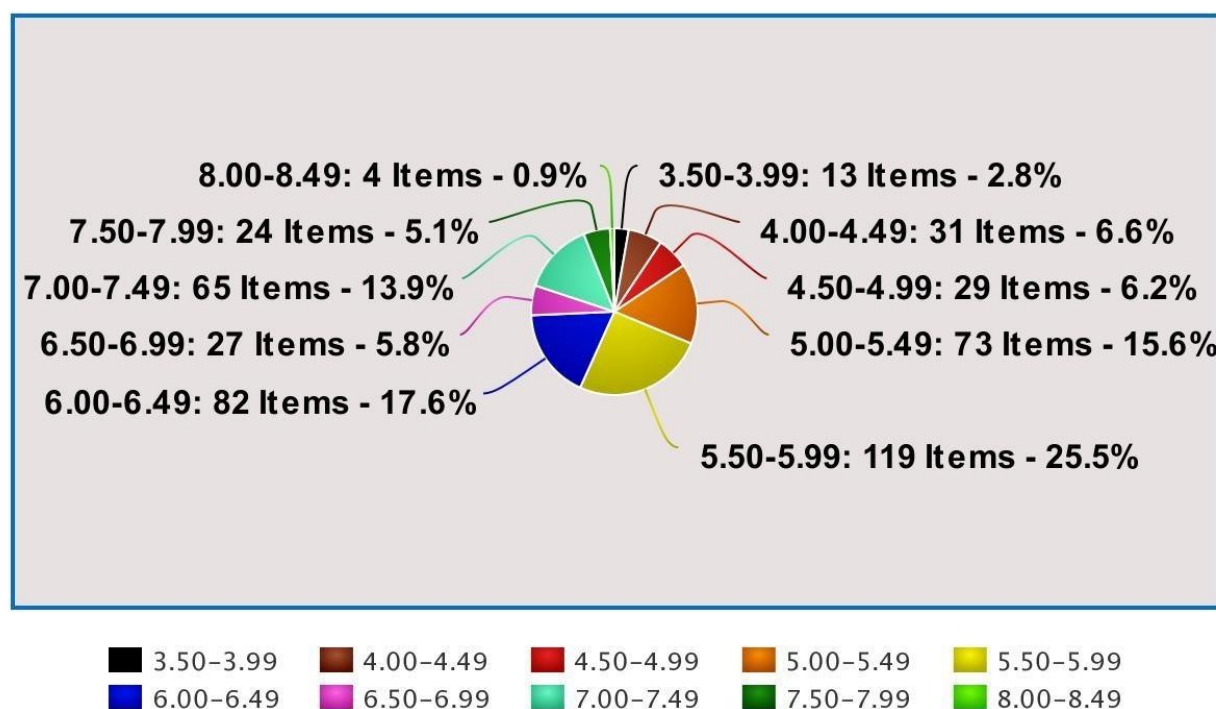
average. A more detailed account of how the ‘geek rating’ is determined and why can be found in Appendix A. For the purposes of this research, the ‘geek rating’ is useful as it yields controlled and normalized game ratings values generated by users who have significant game literacy related to TTGs. In this sense, the rating system gives us a tool by which we can compare games based on broad popularity. Broad popularity provides some general evidence for the appeal of the game’s design and/or production.

As mentioned previously, the respondents listed the games that they enjoy playing, and the researcher then looked for each game’s geek rating. In cases where a geek rating was not found, the user rating was recorded and considered (assuming it did not appear to be clearly manipulated). In some cases, the exact game mentioned by a respondent was not found in the database. In these cases, the researcher used similar search terms to see if perhaps the respondent entered an incorrect game title. In many cases when original searches failed to turn up results, the use of similar or related research terms resulted in locating games in the database which may align with the respondent’s intended entry. However, one caveat of these research findings is that it is possible that some errors or incorrect ratings have been assigned based on faulty inductive search term reasoning by the researcher. Additionally, in a few cases, no clear game entry could be determined. In these cases, it is possible that the game has not been entered into the database yet, or that the title recorded was significantly different from the actual title used in the database. In these cases, a geek rating was not recorded by the researcher. The geek ratings used by the researcher were retrieved during the research period, and once found for a specific game, the same geek rating was used. This is important to note as geek ratings can fluctuate based on day-to-day user rating changes.

After collecting all of the geek ratings, the researcher noted that all of the games fell between 3.5 and 7.99 on the BGG rating scale. The researcher then created a pie chart showing the geek ratings for games the respondents enjoy.

As can be seen in the chart, 25.50% of the games mentioned fell between 5.50 (Mediocre – take it or leave it) and 5.99 (Ok – will play if in the mood), and this was the most common rating window that games mentioned fell within. The next most common rating window was between 6.00 and 6.49, with 17.60% of the games mentioned falling in this section. Games rating between 5.00 and 5.49 represented 15.60%. 13.9% of the items fell in the 7.00 to 7.49 range. Games rating between 4.00 and 4.49 came to 6.60%. Games rating 4.50 and 4.99 represented 6.20%. Games rating between 7.50 and 7.99 (‘very good – enjoy playing and would suggest ‘) represented 5.1%. Games between 3.50 and 3.99 came to 2.80%. Finally, games in the 8.00 and 8.49 range totalled 0.09%.

Figure #18: Teacher reported game rating averages for tabletop games enjoyed



Games scoring 7.00 and above tend to be held in fairly high esteem by many tabletop gamers rating games on the BGG website. In fact, games ranked in the ‘Overall’ top 100 typically have geek ratings from 7.00 to well over 8.00. Conversely, games rating 4.99 or lower

(mediocre – take it or leave it’) are often less well regarded. That is, user ratings for these games have indicated ambivalence or general dislike of these games. If we consider a ‘6+’ rating (‘ok – will play if in the mood’) as on the positive side of mediocre, we can see that slightly less than half of the games mentioned by respondents are above this standard. This suggests that many of the games that language teachers enjoy playing may not have a high reputation for ‘quality’ or ‘design’ among tabletop game players. Consequently, this may hint at game literacy related issues for these respondents, as, if they are not aware of higher quality games in general, they may be more likely to implement poorer quality games in the classroom. This factor, teacher game literacy, should not be mistaken as being more important than teacher TTG-mediated L2LP awareness and knowledge. Rather, teacher game literacy may be considered one area of competency of game using teachers that has practical implications for the learners and teachers.

There are several important caveats to note with respect to this finding. First, teachers may have awareness of higher rated games, but chose to input games with lower ratings. Indeed, the researcher’s second favourite game barely rates above a ‘6’ on BGG. Thus, the role of individual enjoyment of lower rated games needs to be understood as being related to, but somewhat independent of awareness. However, response averages from the games mentioned by individual teachers suggests that some awareness patterns can be discerned. Another limitation on this research is that some respondents may not have strong general game awareness, but they could still possess relatively stronger game selection, classroom game implementation abilities, or game design abilities. Nonetheless, the awareness element relates to general game literacy support, and for this reason it can be considered indirect and supporting evidence of one element of game literacy.

Overall, 56.70% of the games liked by teachers had a geek rating below 6. This means that over half of the game titles mentioned did not meet the ‘ok’ level identified on the

BGG rating system. This provides some indirect supporting evidence that for many teachers, game literacy may be limited based on their tabletop game awareness. This list shows the top ten most popular games mentioned as being enjoyed by teachers ranked according to the frequency of mention. Geek rating and publishing date are also provided in the list.

Top Ten Modern* Tabletop Games Teachers Listed That They Enjoy Playing

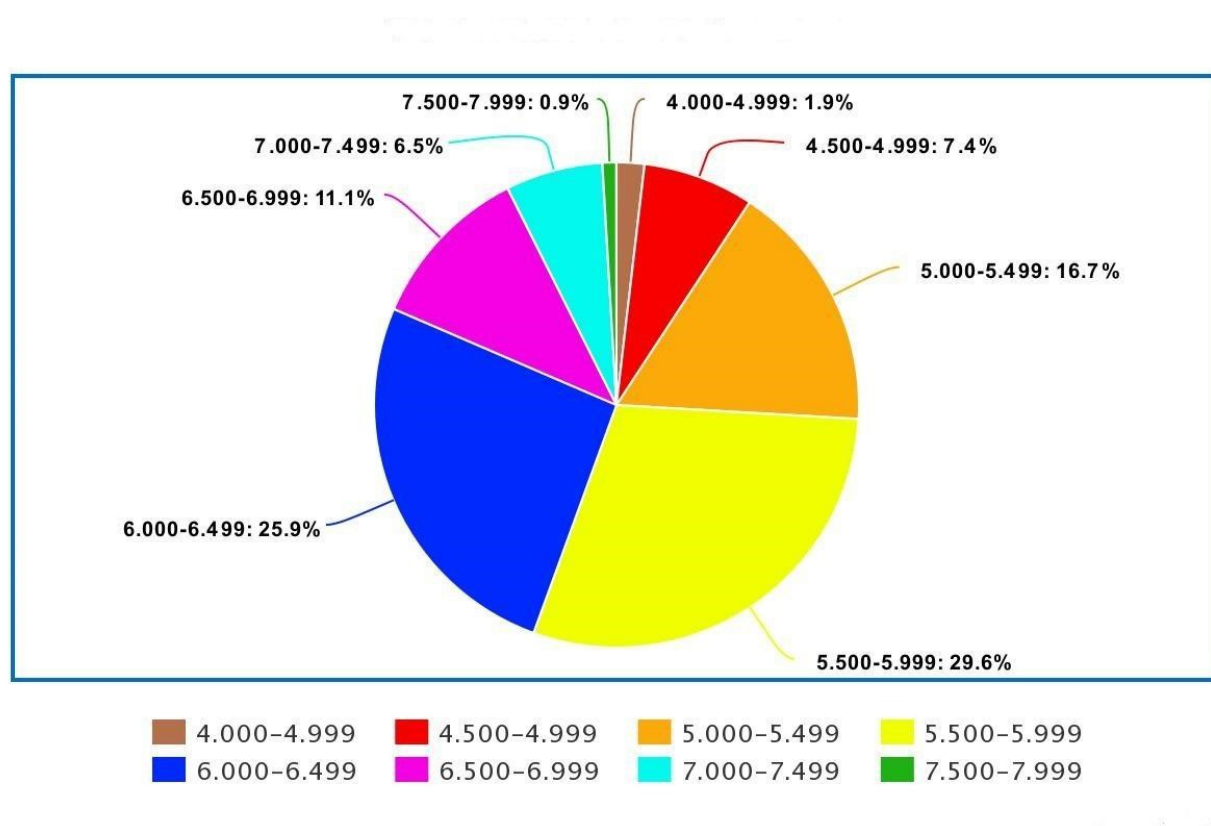
*Note that the term ‘modern’ appeared in the questionnaire prompt and that some of these games may not reflect ‘modern’ tabletop game qualities

1. Scrabble (Geek Rating 6.179, Published in 1948)
2. Apples to Apples (Geek Rating 5.769, Published 1999)
3. Catan (Geek Rating 7.057, Published 1995)
4. Monopoly (Geek Rating 4.332, Published 1933)
5. Uno (Geek Rating 5.280, Published 1971)
6. Clue (Geek Rating 5.560, Published 1949)
7. Cards Against Humanity (Geek Rating 5.886, Published 2009)
8. Ticket to Ride (Geek Rating 7.355, 2004)
9. Taboo [tied with 10th] (Geek Rating 6.136, Published 1989)
10. Unspecified Card Games [tied with 9th] (Geek Rating 5.6 [average based on other card games], Published 1900 [averaged based on other card games])

Six of the titles on this list have geek rating scores below 6, and six of the titles were published prior to 1994. Two of the titles have geek ratings above 7.00, and two titles are above 6.00 but below 7.00. However, the results show some definite indirect signs of modern tabletop game awareness and game quality awareness. In particular, Scrabble (1948), Catan (1995), Ticket to Ride (2004), and Taboo (1989) have geek ratings that support this. Also, the publication dates and design features of Apples to Apples (1999), Catan (1995), Cards Against Humanity (2009), and Ticket to Ride (2004) support the aforementioned point.

Moving from an analysis of the frequently mentioned resources to the geek rating averages of respondents, this graph shows the geek rating averages for respondents based on the games they listed as enjoying. It highlights the variance in game quality enjoyed by teachers, and perhaps points to how varying game awareness levels may figure into teacher tabletop game literacy. Again, this evidence should be considered within a greater context of teacher tabletop game literacy, general game literacy, and teacher cognition.

Figure #19: Teacher geek rating averages for games liked



As can be seen, 55.60% of the respondents had a geek rating average between 4.000 and 5.999. The 5.500-5.999 average was the largest group at 29.6%. This offers further indirect evidence of significant ‘above mediocre and approaching ok’ game rating level awareness present in many of the teachers taking part in the questionnaire. Rating averages varied greatly, and higher ‘geek rating’ averages did not always translate to principled game implementation or resource development. For example, the respondent with the highest

‘geek rating’ average reported using tabletop games very rarely in classrooms and never creating or developing game materials for the classroom.

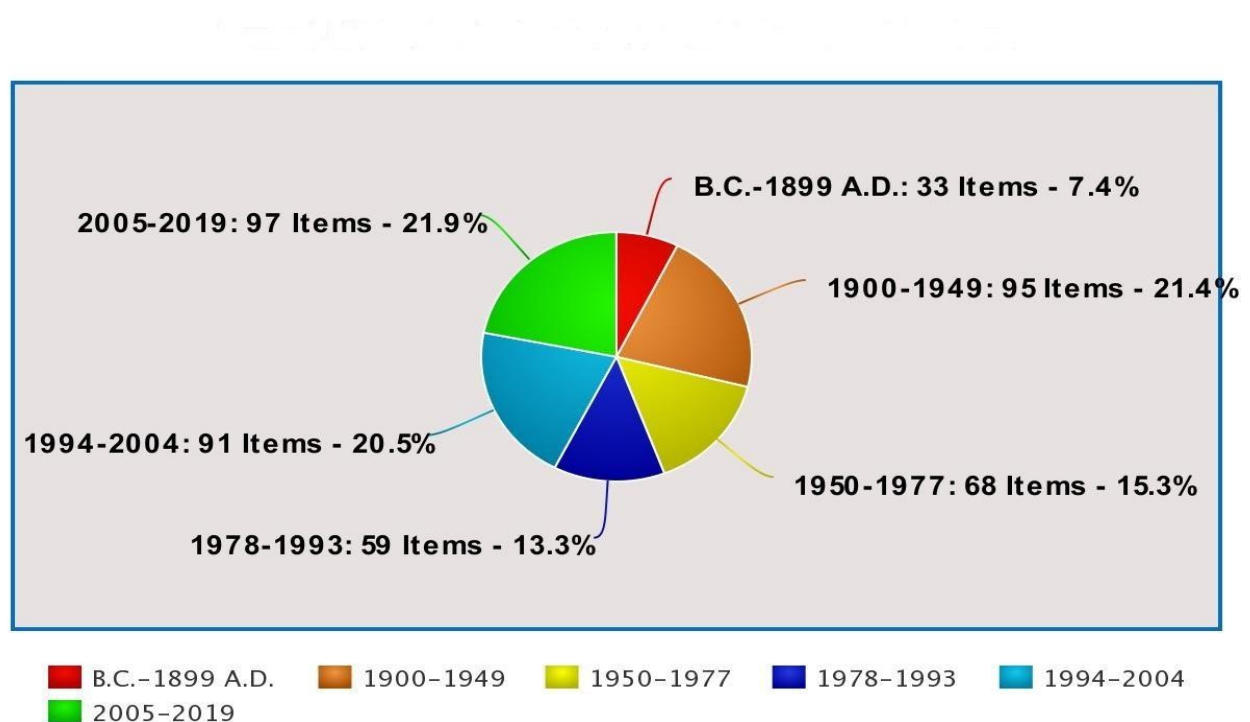
Another consideration when analyzing the quality and ‘modern quality’ of the games mentioned by teachers is game publication date. One reason that this is important relates to the tabletop game design revolution mentioned previously in the research. Finding games published after this point increases the likelihood that these games will have been influenced by this revolution and employ some of its design principles (which prioritize player engagement through game-related mechanisms). Likewise, finding games published before this design revolution may suggest games employing older design principles are being played. There are four significant caveats to understand when considering this information. First, there is no clear line that can be pointed to that absolutely delineates where ‘modern’ tabletop game design starts. Indeed, the design shift may actually involve a series of small steps in various markets and arenas of game design starting in the 60s, late 70s, 80s, and 1990s. Second, not all games published after this game design revolution represent modern game design principles and, even though some do, they are not necessarily good games. Third, some games created and developed long ago are still great games today. Finally, game publication date and period do not speak to the more significant issue of how the game is potentially used within a classroom. Nonetheless, on the whole, the game rating values and publication years may indicate some general evidence of game design advancement. Thus, considering game publication data is one point to consider while deepening our understanding of teacher game literacy.

The following graph shows all of the games mentioned as being enjoyed by teachers according to publication date. The researcher divided the game publication periods into the following timeframes based on some general game design periods and social factors:

- pre-1900 (includes pre-industrial revolution period and early mass production era),
- 1901-1949 (first half of the 21st century designs and advent of modern mass production in consumer markets),
- 1950-1979 (post-WWII design shift),
- 1978-1994 (Spiel des Jarhes established in Germany),
- 1995-2010 (post-Catan game design period),
- 2011-2018 (contemporary period)

The results are as follows:

Figure #20: Game publication dates for games enjoyed by teachers



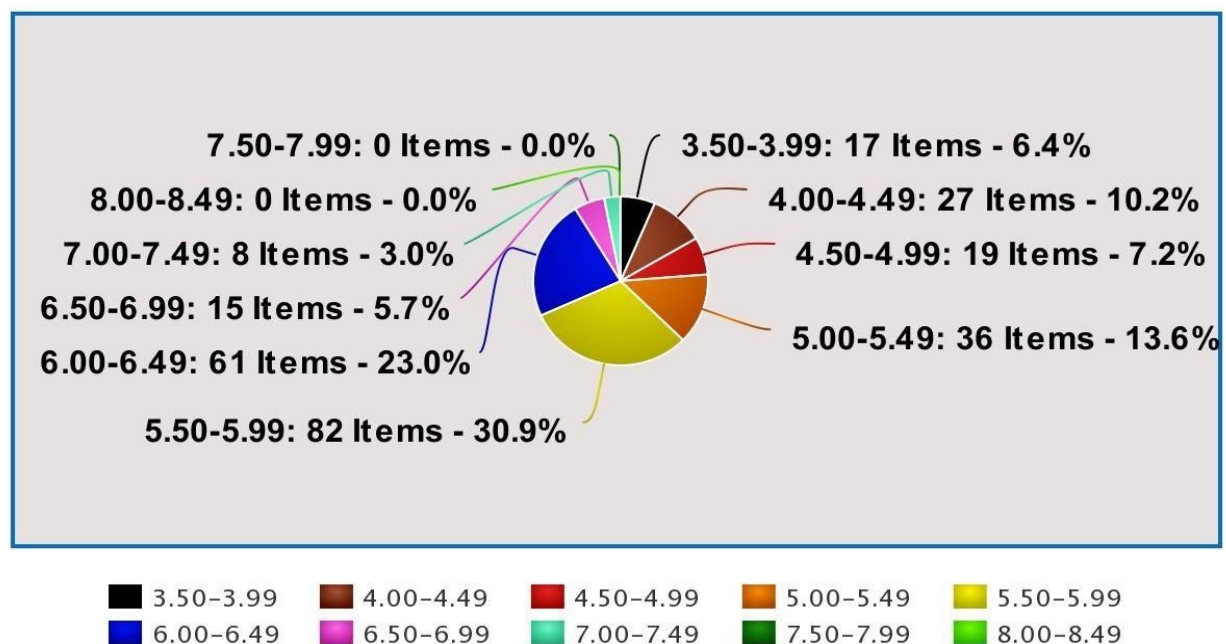
Overall, this suggests wide degrees of varying modern tabletop game literacy among respondents. One reason this may be important is that, in some cases, lower tabletop game literacy may contribute to teacher reluctance to use games because they may simply be

unaware of engaging modern designs or unaware of learning affordances related to games.

Also, lower tabletop game literacy can impact the classroom implementation of games when teachers select inappropriate games, implement the games in an ill-advised fashion, or create games. Resource quality and teacher game literacy will be examined both in the specialist TTG teacher interview analysis and in later sections of this analysis.

The sixteenth question prompt says, ‘If your school has or had tabletop games, please list those that you recall.’ This chart shows the games grouped according to their geek ratings:

Figure #21: Game rating averages for teacher reported tabletop games at their schools



Looking at the results, we can see the game geek rating values of all the games mentioned. 68.30% of the games had geek ratings less than ‘6’ on BGG. This included 6.4% at 3.50-3.99, 10.2% at 4.00-4.49, 7.2% at 4.50-4.99, 13.6% at 5.00-5.49, and 30.9% at 5.50-5.99. This is a significantly larger collection of sub-6 games than those that the teachers

mentioned enjoying themselves (56.70%). It is also worth noting that close to 24.00% of the games listed had geek ratings below 5.00 (mediocre or worse). On the flip side, 31.70% of the games mentioned rated 6.00 or above (ok or better). It is important to note again that neither low nor high geek ratings alone give a clear indication of a game's appropriateness as a classroom resource. Moreover, a clearer indication of a game's appropriateness and quality in the language learning classroom might be better determined by having students rate games and cultivating a ranking system based on either the games which are broadly used in various language learning classrooms or specific classroom rankings. This point will be discussed in the conclusion section.

In terms of specific titles, this is a list of the ten most frequently games mentioned as being at schools, the geek ratings of these games, and the publication date:

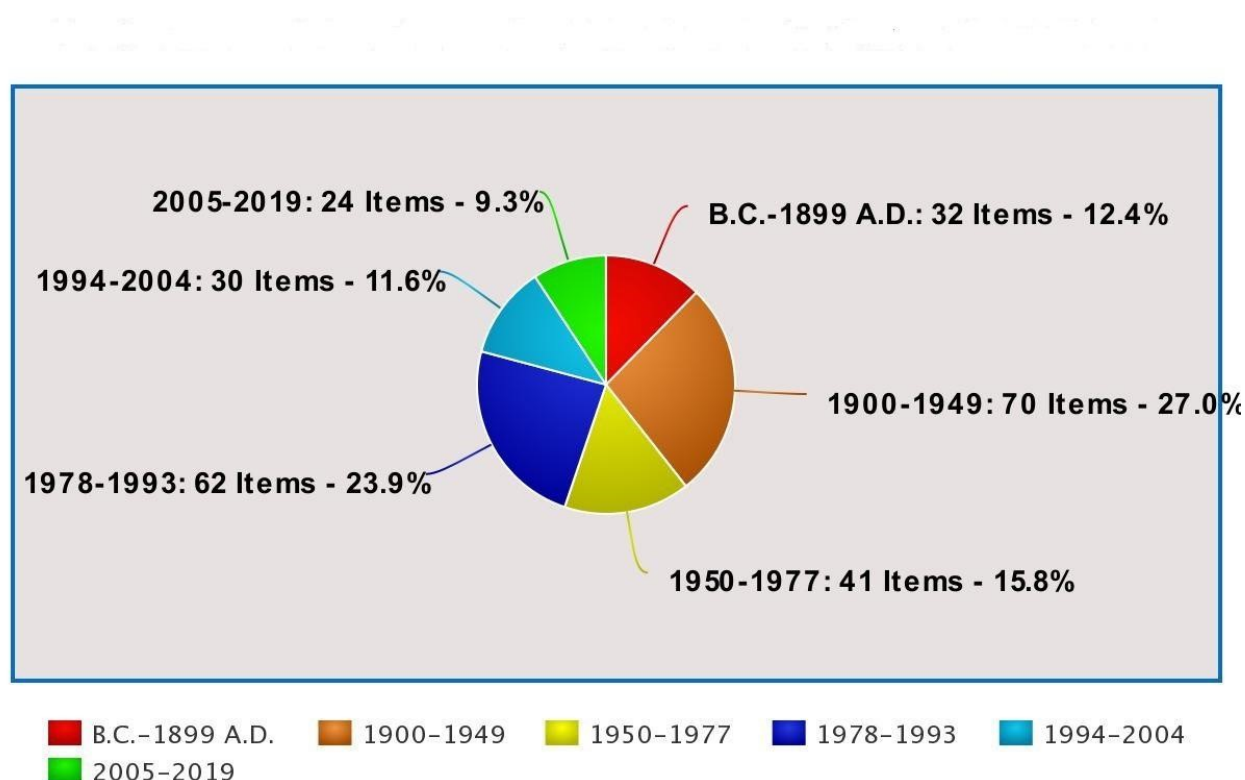
Tabletop Games Teachers Listed That Their Schools Have/Had:

1. Scrabble (Geek Rating 6.179, Published in 1948)
2. Monopoly (Geek Rating 4.332, Published in 1933)
3. Apples to Apples [tied with 4th] (Geek Rating 5.769, Published 1999)
4. Taboo [tied with 3rd] (Geek Rating 6.136, Published 1989)
5. Teacher-Made Games [without specific base design mentioned] (Geek Rating N/A, Published N/A)
6. Pictionary (Geek Rating 5.711, Published 1985)
7. Bingo (Geek Rating 3.823, Published 1530)
8. Boggle (Geek Rating 6.026, Published 1972)
9. Scattergories (Geek Rating 5.992, Published 1988)
10. Clue (Geek Rating 5.562, Published 1949)

Six of the games have a geek rating below 6, and one of the entries (teacher-made games) did not have a geek rating. Understanding how teacher game literacy may affect game creation is something that will be explored further in this research. Further, eight of the

games listed in the top ten were published before 1994 (this is significant as this was when Settlers of Catan brought newer design principles to the mass tabletop game market). Again, teacher-made games cannot be considered here in terms of publication, but one may wonder whether these game designs more closely resemble older game designs or whether they incorporate more modern game design principles. Moreover, the specific affordances and limitations of teacher-made games yields a narrower range of potential pedagogical outcomes. It is probable that that many of these outcomes involve basic drills and activities. The following chart shows game publication dates for the teacher reported tabletop games at schools:

Figure #22: Publication dates for teacher reported tabletop games at schools



The chart above shows the publication year distribution for the game resources identified by respondents. Since 1994 was a significant publication year in terms of modern game design, it is helpful to analyze the results using this year as a focal point. From this perspective of

analysis, 79.10% of the games mentioned and found in the database were published before 1994. This includes a total of 39.4% published before 1950, and a total of 55.20% published before 1978. This suggests that ‘modern tabletop design qualities’ have an underwhelming representation. This is indirect evidence of further game literacy limitations among respondents. Zagal (2010) underscores the important role that game familiarity and awareness can play in game literacy. Given that three-quarters of the items were not published in the ‘modern’ design age, this is yet more indirect support of the idea that many of the respondents may have limited access to quality games through their schools. The broader concern of limited access is bolstered by the large number of responses in slightly disagreeing, disagreeing, or strongly disagreeing that they have access to pedagogically-supportive tabletop game materials for their classrooms (37.82%) as described in the analysis of responses to prompt twelve. Again, however, it must be noted that game publication dates do not reveal much regarding connection to pedagogical use or classroom implementation.

Understanding general teacher cognition related to game literacy is important as it reveals information about how teachers maybe be currently implementing games and can show areas requiring potential support. In general, some indicators of game literacy were present, though there was a great variety among respondents. As such, researchers and expert game-using teachers ought to support teacher game literacy among those with lower game literacy and also support awareness of/guide classroom implementation. This will help to provide teacher motivation to use the material, improve materials selection, increase awareness of utilization opportunities, broaden pedagogical awareness, and enhance language learning outcomes. Moreover, research into TTG non-use among teachers with high game literacy may be beneficial in better understanding constraints, challenges, and pressures. In turn, efforts can be made to support informed anticipation and successful navigation of these challenges. Classroom game resource reports reveal significant information about

administration/school materials support. In this case, the game rating quality and dates of publication suggest school materials have greater materials quality limitations than the teacher game literacy suggested. Given this, researchers and expert game-using teachers ought to advocate for schools and administrations to provide more TTG materials support to teachers and to consider the potential benefits of promoting/supporting teaching approaches which can better leverage broad curricular game-related learning affordances (e.g. 21st Century Skills-based approaches). Additionally, efforts should be made to promote and cultivate teacher responsibility and independence related to TTG materials cultivation.

Analyzing responses based on combinations of cognition-related factors.

Considering the issue of how game literacy may affect game creation, the chart below divides the respondents according to their agreement and disagreement to the previously mentioned tabletop game creation prompt (seventeenth interview prompt) and then shows the geek rating averages for the respondents in each of the six groups. The averages were determined by finding rating averages for each respondent according to the games they reported enjoying. Overall, the chart suggests that the reported frequency of game creation seems to decrease as geek rating averages increase.

Table #8: Frequency of Game Creation Response Groups and Group Geek Rating

Averages

Strongly Disagree (Never)	Disagree (Maybe Once or Twice)	Slightly Disagree (Very Occasionally)	Slightly Agree (Occasionally)	Agree (Somewhat Frequently)	Strongly Agree (Very Frequently)
6.492	6.121	6.220	5.940	5.688	5.562

This pattern could be the result of a variety of related factors. First, respondents with higher levels of game literacy may be more likely to use modern published games. Game literacy may correlate with having access to materials, possessing implementation savviness, and having pedagogical awareness of how to connect published games to learning. Second, respondents with higher game literacy may not regard tabletop games as a classroom resource, but rather as a hobby or interest. Third, it is possible that with higher levels of game awareness, teachers feel more trepidatious about engaging in game design based on their experience with well-designed games and/or pedagogical concerns regarding teacher game creation. Conversely, teachers with lower levels of game awareness may feel more confident about implementation and design. Moreover, if older game design mechanisms are commonly being used in teacher-made games, the designs themselves may be easier to implement. This final point may significantly impact and limit design quality and learning outcomes, especially when teacher game creation results in ill-advised materials and/or pedagogical approaches. On a practical level, one might also wonder how rich the game-related learning affordances are for most teacher-made games and how well they aligned with the frequently touted benefits of game use for learning purposes.

Considering the four most frequent contexts in relation to respondent reported game creation habits, we can begin to examine how experience related to certain teaching contexts may influence game creation. The table below shows responses to the game creation prompt according to context. Note that many respondents may have their response represented in multiple contexts.

Table #9: Teaching contexts and frequency of creating, making, developing, or modifying tabletop games for the classroom

	ESL (107)	EAP (57)	EFL (54)	Settlement Language Learning (23)
Strongly Agree (Very Frequently)	14.02%	08.77%	14.81%	21.74%
Agree (Somewhat Frequently)	26.17%	14.04%	09.26%	13.04%
Slightly Agree (Occasionally)	26.17%	29.82%	37.04%	21.74%
Slightly Disagree (Very Occasionally)	12.15%	19.30%	05.56%	17.39%
Disagree (Maybe Once or Twice)	13.08%	12.28%	09.26%	17.39%
Strongly Disagree (Never)	08.41%	15.79%	14.81%	8.70%

Game creation frequency by context shows some interesting patterns. First, EAP strongly agree responses were significantly lower than the other contexts. Second, response segments ranging from strongly agree to slightly agree show that the ESL (66.36%) and EFL (61.11%) contexts suggest increased game creation frequency. EAP totals for strongly agree to slightly agree were 52.63% and Language Learning for Settlement totals were 56.52%. This may indicate differences in teacher tabletop game use and creation that are somehow influenced by either variation in experience or context (student views of resource validity, administration

views of resource validity, teacher views of resource validity based on context, etc.).

Looking at the responses in the slightly disagree, disagree, and strongly disagree range, we can the following sums for each group: ESL 33.64%, EAP 47.37%, EFL 29.63%, and Settlement Language Learning 43.48%. The respondents with EAP and Settlement Language Learning experience reported significantly less frequent game creation behaviours. Conversely, respondents with ESL and EFL experience rate lower in disagreement. This may indicate that context specific expectations are influencing teacher behaviors.

Teachers may regard evidence of school resource support as encouraging tabletop game use in their classrooms. That is, if schools have provided game resources, teachers may perceive the use of games as being more ‘valid’ or acceptable, although this does not necessarily mean that these games will be appropriate or useful. The table below respondents’ answers about resources at schools compared to their teaching contexts.

Table #10: Teaching context and availability of games for teacher use

	ESL (107)	EAP (57)	EFL (54)	Settlement Language Learning (23)
Strongly Agree (13+ games)	07.55%	07.02%	05.66%	04.35%
Agree (8-12 games)	12.26%	10.53%	15.09%	08.70%
Slightly Agree (5-7 games)	19.81%	12.28%	13.21%	13.04%
Slightly Disagree (3-4 games)	14.15%	12.28%	09.43%	21.74%
Disagree (1-2 games)	20.75%	17.54%	22.64%	30.43%
Strongly Disagree (0 games)	25.47%	38.60%	33.96%	21.74%

The chart values show some common patterns. For example, the highest and lowest ‘strongly agree’ response values are within approximately 3% of each other. Additionally, the responses in the ‘slightly disagree’ to ‘strongly disagree’ range show some similar values: ESL 60.37%, EAP 68.42%, EFL 66.03%, and Settlement Language Learning 73.91%. Only respondents with Settlement Language Learning experience produced significantly higher values in the disagreement range. This may suggest that this context has slightly lower tabletop game resource availability. It may be worth noting that the ‘strongly agree’ response to the game creation prompt scored highest among respondents with Settlement Language Learning experience. There are a number of potential reasons for this:

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- these contexts may have fewer game resources available in classrooms,
- these teachers may not perceive commercially produced games as being generally suitable for this context,
- there may be a greater culture of teacher game creation among teachers in this context,
- teachers in this context may especially enjoy making games for their classroom activities
- teachers using teacher-made games in this context may be deemed useful and suitable for their pedagogical purposes

The next table compares ESL, EAP, EFL, and Settlement Language Learning experienced respondents in terms of how they believe their administration will see the validity of tabletop game use.

Table #11: Teaching context and belief that school administration will see the validity of tabletop game use

	ESL (107)	EAP (57)	EFL (54)	Settlement Language Learning (23)
Strongly Agree	12.15%	14.29%	27.78%	26.09%
Agree	34.58%	33.93%	22.22%	21.74%
Slightly Agree	29.91%	23.21%	18.52%	21.74%
Slightly Disagree	13.08%	14.29%	18.52%	21.74%
Disagree	09.35%	10.71%	05.56%	08.70%
Strongly Disagree	00.93%	03.57%	07.41%	00.00%

EFL (27.78%) and Settlement Language Learning (26.09%) ‘strongly agree’ responses were approximately twice as high as ESL (12.15%) and EAP (14.29%) responses; however, the range of slightly agree to strongly agree responses were very similar (ESL 76.64%, EAP 71.43%, EFL 68.52%, and Settlement Language Learning 69.57%). This suggests some slight variation linked to context but similar patterns overall with regard to perceived administration attitudes. One large caveat to these findings is that the question does not explore how games are being used in these contexts. As constraints, stated or unstated, can significantly limit pedagogical approach options, this is a very significant point. An

administration may see limited use of games as valid, but regard multi-class frameworks as questionable or problematic.

Another useful comparison is between teaching contexts and the perception that students will view tabletop game use as valid in the classroom.

Table #12: Teaching contexts and perception that students will view tabletop game use as valid in the classroom

	ESL (107)	EAP (57)	EFL (54)	Settlement Language Learning (23)
Strongly Agree	13.08%	10.53%	16.67%	04.35%
Agree	31.78%	31.58%	31.48%	34.78%
Slightly Agree	36.45%	31.58%	31.48%	34.78%
Slightly Disagree	11.21%	14.04%	09.26%	17.39%
Disagree	06.54%	05.26%	07.41%	04.35%
Strongly Disagree	00.93%	07.02%	03.70%	04.35%

The strongly agree to slightly agree range of results show similar totals: ESL 81.31%, EAP 73.69%, EFL 79.63%, and Settlement Language Learning 73.91%, although the EAP results are slightly lower. There is also some variation in terms of the degree of agreement. For example, Settlement Language Learning ‘strong agreement’ is noticeably lower than the

other context response groups. It should also be noted that the degree of disagreement varied among the groups as well. For example, EAP (07.02%) was significantly higher than ESL (00.93%), EFL (03.70%), and Settlement Language Learning (04.35%).

The following table compares teaching contexts to the teachers' perception of the usefulness of tabletop games as a classroom language learning resource.

Table #13: Teaching contexts and perception of the usefulness of tabletop games as a classroom language learning resource

	ESL (107)	EAP (57)	EFL (54)	Settlement Language Learning (23)
Strongly Agree	27.88%	29.09%	37.74%	30.43%
Agree	43.27%	40.00%	24.53%	34.78%
Slightly Agree	21.15%	25.45%	28.30%	34.78%
Slightly Disagree	05.77%	03.36%	05.66%	00.00%
Disagree	01.92%	00.00%	00.00%	00.00%
Strongly Disagree	00.00%	01.82%	03.77%	00.00%

The 'strongly agree' results suggest a slightly higher value in respondents with EFL experience. Disagreement with the prompt is minimal, though with slight variations between the groups. Settlement Language Learning showed no disagreement at all compared to the

other groups which had totals for the three levels of disagreement ranging between 6% and 10%. This suggests that there is not a significant context-related impact affecting respondent answers to this prompt. Specific cultural impact is not examined in this data, though it may be an influencing factor.

The final table shows teaching contexts compared to respondents' ratings of their enjoyment of tabletop games as a language learning resource. Note, that some responses to this prompt may relate to respondent personal language learning experiences, while other responses may be focused on teaching experiences.

Table #14: Teaching contexts and reported enjoyment of using tabletop games as a language learning resource

	ESL (107)	EAP (57)	EFL (54)	Settlement Language Learning (23)
Strongly Agree	25.47%	25.00%	35.19%	31.18%
Agree	41.51%	41.07%	29.63%	31.18%
Slightly Agree	20.75%	17.86%	20.37%	31.18%
Slightly Disagree	04.72%	07.14%	05.56%	00.00%
Disagree	0.8.49%	05.36%	03.70%	00.00%
Strongly Disagree	00.00%	03.57%	05.56%	04.55%

Though there is some variation in degrees of agreement, overall the range of values for strongly agree, agree, and slightly agree combined are quite similar: ESL 87.73%, EAP 83.93%, EFL 85.19%, and Settlement Language Learning 93.54%. This suggests similar respondent perceptions of tabletop game enjoyment.

Understanding how teacher cognition is impacted according to instructional experience (most commonly reported being ESL, EFL, EAP, and Settlement Language Learning) is useful as it provides insight into specific individual factors of experiential influence and also potential constraints/affordances based on teaching context. Teacher perceptions of TTG usefulness as a language learning resource, enjoyment related to resource use, game creation, game availability, perceived stakeholder validity, and perceived student enjoyment may take specific shape depending on context and experiences. As such, researchers and expert game-using teachers should take care to support teachers in specific contexts through appropriate channels and organizations. Moreover, supporting and advocating for systemic TTG support (governments, administration, schools, etc.) based on teaching contexts is another area where organized support can be provided. In terms of individual influences, researchers and expert TTG-using teachers should seek to mine these rich teacher experiences for new ways of understanding the materials implementations based on different contexts. In other words, teachers should be encouraged to reflect on their experiences (positive and not-so-positive) and be provided with platforms to share and engage in discussion. Topics related to culture, context, pedagogical utility of materials in specific situations, and professional development are potential areas of significant intersection.

General Questionnaire Respondent Spontaneous Contact with the Researcher

Two respondents to the general questionnaire contacted the researcher by email to discuss tabletop game use in language learning classrooms. The first respondent commented on the following points. First, she has a desire to include more games in her classes, but she feels as if she does not have the time or energy to overcome obstacles related to implementation. Second, she mentions that she believes that some of her students do not perceive game use as a particularly valid or useful language learning activity. Third, she noted that logistical problems like simultaneous gameplay troubleshooting and management, teaching rules, enforcing rules compliance, teaching gameplay concepts (e.g. taking turns or player markers), and teaching necessary game vocabulary can be problematic. Finally, she notes ‘how very cultural games are.’ People in different cultures may be unfamiliar with particular types of games and related social customs and this may create sociocultural game-related gaps. These gaps are potential challenges which teachers need to contend with, but they also offer an opportunity for students to learn about sociocultural differences. She ends on this point by saying, “I think being exposed to games or puzzles changes the way we problem solve and think about things.”

Some clear connections between these observations and Zagal’s (2010) position that understanding games as cultural artifacts is an element of developing game understanding and, ultimately, game literacy. This final point would apply equally to both students and teachers and could impact general classroom dynamics. Expert game-using teachers and researchers ought to help teachers predict the aforementioned challenges and leverage sociocultural learning opportunities. The respondent also has cultivated experience-based awareness regarding classroom implementation challenges, which may relate to ‘teacher-

wiseness' (Mak, 2011) and lived-experience knowledge based on implementation constraints/value (Borg, 2015).

The second respondent, Richard J. Stockton (name used with permission), contacted the researcher to share a classroom language learning tabletop game which he has developed, may publish, and has written an article on. The respondent's article is titled 'Developing English Language Teaching Metaphorical Associative Cards (ELTMAC): Complete report.' His article was published in *Humanising Language Teaching* (April 2019), but a pre-publication version was sent directly to the researcher. The article details the rationale behind his game creation efforts (investigating the language learning potential of using an archetype and journey-based ELT card game), the gameplay, classroom implementation (pre-game schema activation, scaffolding, gameplay with game-based language planning and output, reflection/creation stemming from gameplay themes, and assessment), and his action research findings related to classroom game usage. The artefact sent to the researcher, the pre-publication article, can be found in Appendix B.

Actions taken by the respondent correspond to various teacher cognition themes discussed previously. Tomlinson (2013) stresses the importance of developing materials with experiential relevance to learners, and appeal to both teachers and students. Gebhard (2017) discusses how teachers are more likely to engage in materials creation when they are dissatisfied with materials they can access. This materials creation behaviour is echoed in Kusuma, Adnyani, and Taharyanti (2017). Gebhard further notes that, from a professional development perspective, problem solving, and exploration are important cognition elements. Gebhard and Oprandy (2006) highlight the value of paying attention to language behaviours and using this to help drive exploration-based professional development. In this case, the innovative game-creation behaviour seems to be, in part, driven by the teacher's beliefs related to language learning, use, and production. Finally, the respondent's action research

and article publication align with Gebhard's (2006) professional development elements related to taking initiative and cooperating with others. Expert game-using teachers and researchers ought to research and learn from teachers engaging in this kind of materials creation behaviour, seek to better understand said teacher motivations/influences, and research the outcomes of this kind of contribution. But more than that, connections and relationships should be established in order to build a web/network of game-using teachers/researchers. Otherwise, it is possible that efforts and research like this might receive limited consideration and/or exploration. Potential contributors to the field may operate in isolation and remain disconnected from the 'mainstream' of game-mediated L2LP research and discussion.

Presentation of Qualitative Research Results and Analysis

Interviewee biographical information.

The qualitative data in this research was gathered from six interviewees. As mentioned in Part 6, the interviews were conducted by email. The researcher sent the predetermined interview questions to the previously selected interviewees and the interviewees sent them back to the researcher. The researcher then read through the responses and added follow-up questions before sending these to the interviewee for further edits, clarification, and feedback. All of the interviewees have significant classroom experience using tabletop games and are specialist users of tabletop games in language classroom contexts. Interviewee expertise was established through a combination of interviewer identification, interviewee self-assessment, and other relevant expertise related to TTG-mediated L2LP. Having said that, the interviewees differ greatly in their backgrounds, teaching experiences and contexts, and connections to tabletop gaming. In the presentation and discussion of the data, the identity of the interviewees will be anonymized as one of the

following: Interviewee #1, Interviewee #2, Interviewee #3, Interviewee #4, Interviewee #5, and Interviewee #6. The numbers have been assigned according to the order in which the initial interview responses were provided. In the course of the data presentation, some information may be provided which may allow interviewees to be identified. In these cases, special permission was sought by the researcher. The following paragraphs provide a brief biographical sketch of each interviewee.

Interviewee #1 is between 41-50 years of age, is from the United Kingdom, lives in Japan, and identifies as male. He has 27 years of experience teaching in language learning classrooms. His language teaching training included a TEFL certificate and 20+ language teaching training experiences (workshops, seminars, conferences, etc.). His general education included a BSc in Mathematics and an MA in Japanese Studies. He entered the teaching profession as an Assistant Language Teacher at a junior high school in Japan. After that, he worked at the elementary, junior high, and high school levels. Following this, he worked part-time at several universities and also began to operate a small language school of his own. Lastly, starting in 2009, Interviewee #1 began teaching full-time at the university level. This started as an adjunct instructor, but his responsibilities grew over time. He was given responsibilities related to project management for the “in-the-field education program” focusing on global studies and is now in charge of the 1st year English program at a Japanese university while also being involved in the university’s study abroad program. He considers his main teaching specializations as ESL, communication skills, task/project/cooperative-based learning, active learning, game-based learning, study abroad, and test preparation. In his university position, his students are mainly Japanese university students (1st-4th year). Additionally, he works with some international students (China, Taiwan, Baltic States, UK, US, Peru, etc.), teaching them both Japanese culture and language. Finally, he also teaches students aged 7-16 at his private school.

Interviewee #2 is between 31-40 years of age, is from the United Kingdom, lives in Japan, and identifies as male. He has 13 years of experience as an EFL teacher in Japan. His initial teacher training was a week-long course designed to prepare him to be a good assistant language teacher (ALT). During his four years as an ALT, Interviewee #2 completed an MA in Applied Linguistics and TESOL. He is currently completing a PhD in Education Research. In particular, his research focus explores the practical implementation of games in language learning pedagogy and attempts to further the field of game-based language teaching. His current teaching position, which he has had for nine years, is as a lecturer at a university in Japan. He describes his current classroom focus as TENOR (Teaching English for No Obvious Reason) and he uses it to explore game-based teaching with non-English university majors. His students are Japanese, university-level, low-proficiency and low-motivation English learners in the science and technology department of his university.

Interviewee #3 is between 31-40 years of age, is from Canada, lives in Canada, and identifies as female. She has four years of experience teaching EFL in Japan as an ALT. More recently, she has gained ESL experience working at private ESL camps and as a teacher in the Canadian school system. Her language teaching training includes Assistant Language teacher training and an online TEFL certificate (200 hours). Her general education includes a Bachelor of Fine Arts (New Media), CEGEP Diploma (Creative Arts), and a Bachelor of Education (Middle Years). Interviewee #3 is currently a grade 6/7 homeroom teacher at a Canadian middle school (British Columbia) with many EAL students (English as an Additional Language). She also regularly teaches Core French and has taught drama. She has two years of experience teaching in the Canadian public-school system. Her previous students have included Japanese EFL students and EAL students from all over the world (Brazil, Mexico, Japan, Taiwan, Korea, China, Hong Kong, Vietnam, Iran, France and the USA). Her current classes are a mix of native English speakers and EAL students. Many of

the EAL students have recently moved to Canada, while others are taking part in study abroad homestays. Students in her classroom range in age from ten to thirteen. Her EAL students are predominantly Chinese or Korean, but there are also Filipino, Indian, Pakistani, and Japanese. Many of these EAL students receive additional language support outside of the classroom.

Interviewee #4 is between 31-40 years of age, is from Poland, lives in Poland, and identifies as female. She has fourteen years of experience teaching in language learning classrooms (mainly in Poland), and began working as a course book and ELT materials editor at a large publishing house six months ago. Her language teaching training included various teacher training courses, focusing on methodology. In terms of general education, she has an MA in English Studies and Philology. Her previous employment experience related to language education includes work as a teacher, teacher trainer, and director of studies. Her teaching specialization included teaching EFL (children, teenagers, and adults) and ESP Business (adults). She primarily taught in private language schools and worked with Polish students or in mixed nationality classes with significant Polish representation.

Interviewee #5 is between 31-40 years of age, is from the United States of America, lives in South Korea, and identifies as male. He has six years of teaching experience in language learning classrooms. In terms of language teaching training, he completed a TESOL certificate (30 credit hours) and an MA TESOL. Moreover, his undergraduate degree was also in linguistics. His first experiences teaching involved providing informal language instruction as a social work volunteer. Later, he did some teaching as part of his TESOL certificate practicum in the USA. After this, he moved to South Korea to teach English in the public school system, working at a middle school and then an elementary school. While working at the elementary school, he completed his master's degree. He then

taught at university for a year. Six months ago, he began teaching English conversation at a robotics high school in South Korea. It is his responsibility to design, create, implement, and evaluate an entire English conversation curriculum for 1st and 2nd year high school students. His specialization background includes communication-based classes, culture, ESL through literature-based textbooks, various sociocultural focused approaches, Concept-Based Instruction, and game-enhanced Task-Based Language Teaching/Learning. His students have ranged in age from six to over forty, though most have fallen within the 12-15 age bracket. Most of his current and former students are Korean.

Interviewee #6 is between 51-60 years of age, is from Italy, lives in Italy, and identifies as male. He is not a language teacher by profession, but is a freelance tabletop game designer, game design lecturer, games journalist, games author, games educator (teachers and students), and long-time language learning classroom implementer of tabletop games. In 1996, the Italian Ministry for Public Teaching named him “Expert Game Inventor,” and since 1991, he has been invited to introduce librarians, teachers, and students to tabletop games. In addition to teaching about the use of games to teachers and students, his hands-on classroom work involved visiting the classrooms of school teachers in order to implement various games for language learning purposes. Language learners in these classes were newcomers to Italy and were learning Italian as an Additional Language. This included classes focused both on general Italian and Italian Literature. Most of the language learners were between the ages of seven and nineteen years of age. These students were not yet proficient in Italian and may have had low motivation stemming from their experiences in traditional language learning classrooms. Interviewee #6 does not have formal teacher training.

Understanding the biographical information of expert teaching is useful as it may reveal key supports or contributors to the development of expertness. This information can be used to support, engage, and train novice TTG-using teachers in ways that enable them to develop expertness. It may also highlight ways in which expert TTG-using teachers can contribute to the field. In this section, personal/biographical factors and quirks, country/culture of upbringing, teaching experience, teacher training, context and professional standing/status were presented. Individual factors like personal/biographical points are likely to have significantly impacted teacher cognition, however it is not clear how to broadly leverage this with respect to general teacher training/support. It may instead be helpful to encourage teachers to explore their own personal connections and harness their own motivations to use/not use TTG materials in their language learning classrooms. Teaching experience is another significant area here as it is likely to shape the quality and form of TTG-mediated L2LP implementation. In considering teachers without significant TTG classroom use, this may mean providing novice teachers with targeted training and supports and providing experienced teachers with opportunities for guided exploration of TTG materials/approaches that also respects teacher expertise and autonomy. Teacher training related to both teaching in general and language teaching is also likely to impact and shape the ways in which teachers approach the materials and implement them. As such, increasing teacher training opportunities during pre-service training, training workshops, and guided in-service professional development are useful ways in which expertise can be nurtured. Exploring teacher contexts (teaching objectives, constraints/supports, student needs/attitudes, school/cultural expectations, etc.) will also help to establish and predict common patterns for current/future TTG-mediated L2LP teachers and point the way toward support/action. Effort might be channelled into cultivating TTG-mediated L2LP grassroots teacher-groups focusing on supporting specific countries or teaching contexts. Online communities and professional

development opportunities also represent significant potential with respect to addressing teacher needs based on context. Above all, celebrating and making expert TTG-using teachers visible will help to provide models for success and will potentially encourage other teachers to implement or explore the resource/approach. Expert TTG-using teachers can do much to support others by clarifying their own context-relevant rationales, decisions, and pedagogical journeys. Moreover, the professional status and standing of the teachers is important as it can highlight professional reasons to engage in the exploration of this material and provide personal motivation as well. Also, having ‘role model’ teachers and proponents of game use in language learning classroom helps raise the profile of both the resource and approaches. Additionally, as teachers gain status as experts, their voice and reach can increase. This can also be leveraged through publications, videos, podcasts, workshops, and other outreach initiatives. Finally, recognition of expertise in this area suggests that there is support for the approach/material and it clearly demonstrates attendant ‘rewards’ are achievable. Providing special recognition to teachers, researchers, and contributors within the field may provide extra momentum to this effort.

Impressions of tabletop gaming during childhood.

Several of the questionnaire items were developed to better understand the childhood tabletop gaming experiences of the interviewees. This was done in order to examine possible impact on their future tabletop game use in classrooms and general personal connections to games as adults.

The results suggested that most of the interviewees have pleasant but unremarkable childhood experiences involving tabletop game play, and that the activity was not overly impactful on their lives or development. All mentioned playing tabletop games with family and friends as having been a fun way to pass the time. Most of the games the interviewees

mentioned playing in childhood were traditional games, mass market commercial games (several interviewees referred to ‘classic’ games), and card games. Interviewee #1 mentioned that he played tabletop games mainly during summer holidays and on other holidays. Interviewee #2 played tabletop games about once a month growing up. Interviewee #3 remembered playing tabletop games 2-3 times per month, and Interviewee #4 played about once per week. Interviewee #5 played tabletop games 1-5 times per year (during holidays and holiday seasons). Several of the interviewees mentioned that these game experiences were a fun way to spend time with others, especially friends and family. Interviewee #6 stood out from the other responses in terms of impact. He reported playing tabletop games every day for most of his childhood. He also reported playing a wider range of games (traditional games, commercial games from both national and international markets, role-playing games, wargames, and simulation gaming. Further, Interviewee #6 reported designing his own games as a child. It seems that the general impact of the childhood gaming experiences was more significant for interviewee #6, and this is borne out in his professional tabletop game design experience.

Based on the interviewee responses, these are the positive aspects related to their childhood gaming experiences: learning about game design, winning, developing math skills, language use, learning history, literature, topology, and strategy, pretending/immersion, communication, passing time, engaging in cognitively challenging activities, testing their wits against family and friends, and being creative (making ‘house rules’ or engaging in creative play).

Interviewees were also asked about possible negative elements. Though the responses were mainly positive, some did mention that overly competitive games were not fun (interviewee #3), childhood games were sometimes too simple or simplistic (interviewee #4

and #1), experiences were positive but also superficial (interviewee #5), and regret that childhood games were of lower design quality compared to tabletop games today (interviewee #4). Moreover, two interviewees made a pointing of minimizing the potential impact of these childhood gaming experiences on their current use of games in the classroom. Interviewee #3 mentioned that she, “never saw them as being educational.” Interviewee #2 stated, “My prior experiences of board games did not prompt me to start using them in my classroom. There are other concrete reasons that I started to explore board games.”

Finally, some other notable responses from the interviewees are also worth highlighting. Interviewee #6 specifically mentioned how his family and relatives encouraged his engagement in the tabletop gaming hobby (especially by giving him games). Also, Interviewee #2 mentioned that his childhood development and gaming experiences were much more affected by video games. He described being surrounded by PC games and consoles, and that his father was an amateur video game developer.

In summary, the reported childhood tabletop gaming of most of the interviewees suggests that they had generally positive but not overly impactful experiences. The notable exception is Interviewee #6, whose childhood gaming experiences had a more direct personal and professional impact. Therefore, it seems likely that these childhood experiences may be less significant contributing direct cognitive factors toward the interviewee’s use of tabletop games in the classroom. Having said that, positive experiences may have made the interviews more amenable to consider the use of games, especially if usage is further supported by a clear pedagogical rationale and personal motivation.

Understanding childhood factors of influence on TTG-using expert language teachers is helpful as it provides some information about individual variables affecting future users of TTGs. In general, these experiences may be leveraged and used to inform teacher game

literacy efforts and also provide reflective experiences for teachers to consider when predicting language learning classroom implementation challenges/benefits. Moreover, understanding the results may help to clarify the role of personal childhood experiences/beliefs in driving a given teacher's decision to use/not use TTGs. The results suggest that childhood experiences may exert an influence, though not as a primary or main determiner of use. As such, efforts to encourage TTG-mediated L2LP exploration and use need not assume the resource will only appeal to lifelong tabletop games and should consider that some non-gaming teachers may become interested in the merits of principled TTG materials use.

Tabletop gaming impact as an adult.

Adult tabletop gaming habits were also explored in an effort to better understand what level of familiarity the interviewees have with modern tabletop games and to see what kind of contribution these experiences may make to their classroom use. The adult tabletop gaming behaviours of the interviewees suggested some common themes and some interesting differences. Several of the interviewees commented on the profound impact tabletop games and the tabletop gaming 'hobby' has had on both their personal and professional lives. The game collection sizes of the participants varied from 7 to somewhere between 1,000 and 2,000. The interviewees were also asked to name some of the games that they enjoy playing. For each interviewee, the geek rating averages for these games have been determined and will be presented at the end of each interviewee's summary.

Interviewee #1 owns approximately 500 tabletop games and reported playing 2-3 times per week. In particular, he noted that he plays with students every Tuesday and Thursday. He said, "Tabletop gaming is a major part of both my professional and personal life." In fact, he even mentioned that he has given numerous workshops on the use of

tabletop games in language learning classrooms. In terms of the games he likes to play, he identified twenty-three games by name, and the average board game geek rating for these games is 6.969. Concerning the publication dates, twenty of the games mentioned were published between 2005-2019, two of the games were published between 1994-2004, and one game was published in the B.C.-1899 bracket. The interviewee mentioned enjoying gaming with players of differing levels of game familiarity, and he specifically mentioned that he enjoys games with multiple paths to victory.

Interviewee #2 owns approximately 75 tabletop games and did not report a specific frequency of play. He simply commented that he plays ‘a lot’. As far as the impact of tabletop game play, he said, “As a professional-- it has completely changed the way I teach, the research I am doing, and my whole life trajectory as an academic. Personally—it has allowed me to make deep connections with a few keen students and colleagues, given me an interesting hobby to pursue and allowed me to have fun with friends and family face-to-face.” In terms of the games mentioned that he likes to play, he identified eight games by name and his board game geek rating average for these games is 7.730. Concerning publication dates, seven of the eight games mentioned fall within the 2005-2019 publication dates. Only one, Snap (1965), is outside of this bracket and was first published in the 1950-1977 dates. The interviewee mentioned that he sometimes plays with his children, with his spouse, and with friends. He described particularly enjoying party games with social interaction that also involve some kind of surprise or revelatory element (e.g. Two Rooms and a Boom).

Interviewee #3 owns approximately 15-20 tabletop games, and she described playing at least once per week with her son. She mentioned that it is a good way to spend quality time with him while helping him to develop cooperative skills, spatial skills, number sense, and communication skills. She also plays games with family and friends and has enjoyed

playing tabletop games at gaming cafes. Additionally, she mentioned that she purchases games for play at home. In terms of games she likes to play, she identified twelve games by name, and her board game geek rating average for these games is 6.516. Concerning the publication dates, eight of the games were published between 2005-2019, one was published between 1950-1977, one between 1900-1949, two were published from B.C.-1899. The interviewee described enjoying games with interesting point systems that are sophisticated but aren't too complicated. She also reported enjoying the feeling of building or developing something during game play. Finally, she mentioned the importance of beautiful aesthetic aspects of games (e.g. game art or components).

Interviewee #4 owns over 200 tabletop games, and she plays at least once per week. She described it as a hobby and mentioned that she often found inspiration in the hobby for games to use in language learning contexts. She also described how her tabletop gaming hobby experience helped her become more aware of how important clear instructions are in language learning materials and contexts. Further, she mentioned that her knowledge of games allowed her to find new and interesting materials and approaches to use in the classroom. Finally, her game awareness enabled her to inform other teaching professionals about the affordances and uses of tabletop game materials. Her gaming hobby impacted her professional life, professional development, and teaching community in a symbiotic way. In terms of the games that she mentioned enjoying playing, she identified eight games by name and her board game geek rating average for these games is 7.703. She specifically mentioned the following game types: euro games, party games, cooperative games, card games ('deck builders' and 'living card games'), and legacy games. Considering publication dates, all eight of the games mentioned were published in the 2005-2019 period. As for what she enjoys about tabletop gaming, she mentioned planning out a strategy, working to get combinations, and maximizing her achievement through points. In particular, she mentioned

enjoying strategy optimization/efficiency, resource management, variable player powers/abilities, and worker placement in games.

Interviewee #5 reported playing tabletop games about once per week while he is teaching and slightly less than that when he is not teaching. He owns seven games in total. He specifically mentioned that he plays games outside class in an intellectual pursuit to know of specific games, mechanisms, or themes that would be good to leverage inside the classroom. He sees games as a professional pathway to realize theoretical concepts like embodied cognition, Vygotskian psychology, and communities of practice. He also mentioned investing time outside of class watching tabletop game-related videos and looking for new games, ideas, and themes. On a personal note, he feels that he is slowly becoming a peripheral member of the global tabletop community. Further, he said that he is now fully committed to implementing a pedagogy using tabletop games as content. Interviewee #5 mentioned six games by name that he enjoyed playing, and the board game geek average for these games is 7.045. He identified how social deduction's emergent and created experience qualities and player interactions create very enjoyable TTG experiences. He also mentioned how 'meta experiences' spread out over multiple games can be quite interesting. Fun and strategy were two other points interviewee #5 valued in his own gaming experiences. In addition, he mentioned that games with task-based win conditions and 'real world' themes are more engaging for him. Conversely, he made a point to mention that games with designs that focus on 'victory points' are less enjoyable for him (even though he understands the function and utility). Considering the publication dates of the game mentioned, five of the six games were published between 2005-2019, and one was published between 1994-2004.

Interviewee #6 reported playing tabletop games 'very often'. He did not specify a frequency, but as he played almost daily as a child and currently is a tabletop game designer

and writer, it seems likely that he plays very frequently. He also reported owning between 1,000-2,000 tabletop games. Regarding his tabletop game play habits, he mentioned that he plays games to playtest his own game designs or to demonstrate games, plays for pleasure with his family, and plays other games in order to stay abreast of tabletop gaming trends and changes. When talking about how tabletop gaming has affected his life he says, ‘having become a game designer and game expert, the impact is enormous.’

Interviewee #6 identified fifteen games by name that he enjoyed playing and the board game geek rating average for these games is 6.125. Considering publication dates, five of the games were published between 2005-2019, three between 1994-2004, and seven between 1978-1993. Thus, the interviewee who may be the most knowledgeable about tabletop game design, has a lower geek rating average than the other interviewees and also enjoyed more games published in an earlier period. These findings highlight how nuanced the process of assessing tabletop game awareness is and should give us pause in using only the geek rating average or game publishing dates as absolute indicators of game literacy. In this case, it may also be possible that the designer is drawing upon his deep knowledge about games to identify older designs and perhaps less popular games (at least in terms of geek ratings and the responses of the other interviewees). Interviewee #6 indicates that he enjoys games that have depth and are quick, fun, and not overly complicated. He bundles these points under something he defines as game ‘elegance.’

In summary, many of the interviewees mentioned that their tabletop game hobby or experience has had an impact on their personal lives, professional lives, and teaching activities. This intersection is worth noting, as it seems that the hobby aspect plays a role in not only teaching but also in professional development. The way in which the influence is expressed is quite different for each interviewee. Some placed more emphasis on the tabletop

gaming hobby, others on the teaching/research aspect, and others had an even mix of both.

Overall, the frequency of play is high and weekly contact with game experiences seems to be the norm for the interviewees. There is also variety in the people the interviewees mentioned gaming with: family, friends, students, and colleagues. Moreover, the qualities that the interviewees mentioned enjoying about tabletop games also seems to be a blend of commonly shared elements and unique points. Finally, the interviewees reported both direct and indirect evidence of deep tabletop game knowledge. Some examples:

- number of games mentioned,
- number of games owned,
- game geek rating quality,
- recent publications,
- various tabletop game types,
- game designs/mechanisms,
- physical aspects of game,
- game-peripheral activities (watching videos, forums, going to game cafes, etc.).

These specialist users of tabletop games in language learning classrooms seem to be highly aware of tabletop game materials and spend significant amounts of time playing games. Tabletop games appear to play an important part in their personal and/or professional lives. For some, this may be a major factor in providing motivation to explore games as a potential professional resource. Many seem to be conscious of this interplay and actively look for ways to build upon it both in the classroom and in the professional domain. Looking at Zagal (2010), the responses indicate an awareness of tabletop games as artifacts, the context of games compared to other games, and the technological affordances and impact of

tabletop game materials (platforms), as well as an awareness related to deconstructing and understanding of how game elements and components interact and facilitate play experience.

Understanding teacher habits, beliefs, and behaviours related to tabletop games is important for several reasons. First, it gives an indication of teacher game literacy and access to games. Teachers with higher game literacy levels will be better able to access games, select games, identify game/game-related affordances/limitations, implement game play, leverage games for rich pedagogical opportunities, and modify/support games in the language learning classroom. Teacher frequency of game play, game collections, geek rating information, and awareness related to games all represent general game literacy indicators. It may be beneficial for the field to find a variety of ways to help support teacher game literacy development through online and in-person outreach. Personal connections to gaming are also important as these may be helpful in both sustaining teacher motivation and ensuring teacher awareness of game-peripheral affordances. Interacting within game-peripheral communities and engaging with game-related media was a significant and meaningful activity for many of the game-using teachers. Creating similar but TTG-mediated L2LP-focused communities or media is one potential avenue for engaging both novice and experienced game-using teachers. Finally, professional impact related to TTG use is significant as it can provide professional motivation and rewards which help to give focus and goals to expert game-using teachers. It is important to recognize contributions within the field, create/cultivate new professional opportunities/pathways, and to celebrate professional development milestones/rewards/benefits. Teachers and researchers should feel confident that TTG-mediated L2LP is worth doing.

Tabletop game resource awareness, access, and knowledge for TTG-mediated L2LP.

Further evidence of interviewee game literacy in terms of awareness, access, and knowledge was found in their responses to a combination of interview questions. Teacher game literacy was identified by Zagal (2010) as a key factor for understanding how games are used in the classroom, comprehending/overcoming classroom implementation challenges related to game literacy, and supporting principled and appropriate use. Some of the game literacy evidence gathered in this research relates to general tabletop game literacy and some relates to classroom implementation support. The first prompt asked how potential tabletop game buyers today might go about making informed purchases. Interviewees were asked to consider anything that might be helpful to someone who is thinking about buying a modern tabletop game. The reasoning behind this question was that since interviewees have significant experience finding and selecting games for classroom use, it may be useful to understand the ways in which they suggest a game buyer make an informed purchase (Zagal, 2010; Becker, 2017). Knowledge of helpful resources supporting game purchases suggests understanding of game elements/components, relevant points of game comparison, general game impact as cultural artifacts, and possible peripheral participation related to tabletop games (Zagal, 2010). Many would consider themselves to be insiders within the tabletop gaming hobby, and this means they may be more aware of how to best find and select materials than non-insiders. After discussing the suggestions, ranked according to frequency of response, additional advice given by the interviewees will be presented.

The most common recommendation interviewees made for making informed tabletop game purchases was to look at the BoardGameGeek website. Responses included general suggestions of use and also more specific directives, such as looking at game ranking

information, comparing ‘top ten’ lists, reading user comments, etc. Given the broad recommendation, it seems clear that the interviewees find the game database and community surrounding it to be a valuable source of tabletop game information. It is worth noting that while anyone can view most general BoardGameGeek website information, if a user wants to download files, engage in discussions, or make contributions, she or he will need to create a user account. This is free of charge and allows more complete access to the database and website affordances.

The second most popular recommendation was that potential purchasers watch video reviews of games. Video reviews often feature some kind of general introduction to game components, an introduction to how to play the game, and some kind of evaluation or commentary by the reviewer. It is important to note that many game reviews in video form can be found on the BoardGameGeek website. However, game review videos can also be found on a wide variety of other websites and platforms, such as YouTube. It is also important to note that there is great variation in review quality across this broad spectrum.

There were two recommendations that were the third most common. The first of these was for potential buyers to avail themselves of specific video or podcast review channels. Several interviewees mentioned review channels by name (The Dice Tower, Shut Up and Sit Down, Tuesday Knight Podcast, etc.). This suggestion has been differentiated from the one above because following one review channel allows the listener/viewer to have a better understanding of the reviewer’s own tastes and opinions (and how those may or may not align with his or her own preferences). The second of these suggestions was to go to a local tabletop game shop. Several interviewees mentioned that one significant benefit of doing this is being able to see and perhaps even play games in person. Another factor

mentioned was that the store staff may also serve as general game experts and may be able to make specific suggestions based on their knowledge of one's gaming tastes.

The following three suggestions had two mentions each. The first was to watch playthrough videos of games. The main difference between a playthrough video and a review is that the playthrough video often shows more detailed examples of gameplay. This may allow the viewer to have a fuller understanding of whether a game is a good fit so he or she may not have to rely as heavily on a reviewer's opinion. Several interviewees specifically noted that playthrough videos are perhaps a better source of information than reviews. The second suggestion was to attend a local game meetup or club. Again, this allows the potential purchaser to try games before buying them and also to seek advice and feedback from other gamers. The third recommendation was to seek advice and support from gaming friends. This can include playing a specific game with an informed friend (again allowing for hands-on play) and also asking for an informed opinion on a potential purchase.

Though the frequency and distribution of these suggestions vary, the general recommendation list may be useful both for informing new tabletop game purchasers and helping us understand the interviewees' awareness of how to select and access tabletop games. These recommendations were: following and joining Reddit sub-forum discussions, visiting a game café (to play games before purchasing and to expand game literacy), looking for games in second-hand stores, attending game conventions (events where larger groups of gamers who may not know each other gather to play games), attending game fairs/shows (events for game designers and publishers show off their games to potential buyers), reading game magazines and books (some of these can be received by subscription), following general articles and broadcasts about games, gaming, or the gaming industry.

In terms of general advice for making informed purchases, the interviewees made a number of points. First, one interviewee noted that the BoardGameGeek website can be overwhelming for first time users. Consequently, he suggested that people could look for different ‘top 10’ lists to identify common games of interest and then search for videos about these games (this interviewee strongly recommended playthrough videos). Two interviewees mentioned how expensive tabletop games can be, and that this means making an informed choice is even more important. One of these interviewees suggested seeking out games at second-hand stores as a more affordable option. The other interviewee recommended that buyers adopt a cautious approach in which they research games, compare reviews, compare games to previous likes/dislikes, listen to expert opinions, and spend significant time reflecting on each potential purchase. Even with all these considerations, this interviewee gave two examples that illustrated just how difficult it can be to make informed purchases. In the first example, his wife purchased a game on a whim, and he was skeptical about how fun it would be, yet it turned out to be a ‘hit’ in class. In the second example, he carefully researched a game and purchased it after seeing a lot of positive reviews and feedback, only to find that the game was poorly received in his classroom context and it now sits underplayed and collecting dust. Continuing this ‘cautious’ theme, this interviewee also warned against backing Kickstarter games as they are less likely to have received post-production reviews and are riskier. Another interviewee said that because of the great variety of games available, it may be difficult to find a game that is the right fit. Finally, one interviewee pointed out that even though videos and online communities can be great resources for information, they also contain a lot of ‘noise’ (new game ‘hype’, biased self-promotion, and ill-formed opinions). It can be difficult for potential buyers to parse the useful and less-useful resources.

In summary, the interviewees demonstrated significant awareness, knowledge, and resourcefulness regarding how to make tabletop game purchases. It seems quite likely that this information was gained over time and through trial and error as purchasers for games related to both their personal hobbies and also their classroom contexts. This ‘insider’ gap may be a significant materials acquisition barrier for teachers interested in using commercially produced games that reflect modern game design principles. As mentioned previously, Zagal (2010) indicates that developing game literacy can be time consuming, necessitates materials access, and requires practice. Additionally, knowledge of these resources suggests the interviewees are engaged in peripheral participation in the tabletop game communities (forums, media, etc.). Indicators of game literacy ‘understanding’ abound.

When asked to compare tabletop games of today to tabletop games made 35 years ago or more, the interviewees gave a range of responses that offer further evidence of a high degree of game literacy. It is likely that this knowledge and awareness is related to both personal experience in the tabletop hobby and their use of modern tabletop games in the classroom. The following responses are presented according to frequency of mention.

Two responses received four mentions. The first is that today, there is a greater variety of games available for purchase. It should be noted that this can be beneficial in terms of buyer options but can also lead to purchasing confusion. The second response indicated that modern game designs often have better or more varied game play mechanisms. This response indicates that the interviewees have a good awareness of the design changes that tabletop games have undergone.

Six responses received two mentions. The first was that modern tabletop games have better production values and are made from better materials. Similar to this point, the second

response was that modern tabletop games have better overall aesthetic qualities. It is clear that the interviewees feel that both physical production and overall appearance have been improved. Another response was that modern games are often much shorter and more engaging. Similarly, two of the interviewees said that older designs were often too slow and sometimes ‘dragged on’ in a less engaging way. Both response items address the quality of play experience afforded by the newer game designs. Two interviewees mentioned that modern tabletop games are often deeper, heavier, and more complex. This perhaps suggests that these interviewees perceive many older game designs as being shallower and less engaging, which in turn may point to interviewee awareness of tabletop game design shift outcomes. Finally, two interviewees pointed out that many modern game designs allow for and have expanded upon cooperative gaming experiences. This shows that some of the interviewees find this design affordance to be significant and important for modern tabletop gaming.

A number of comments received only one mention. Some of these are related to previously mentioned concepts and others seems to stand alone. One interviewee mentioned that modern tabletop games are of ‘better quality’. Another interviewee indicated that modern games often have a more thematic quality. Moreover, she noted that modern designs are more accessible while also being more complex. One response mentioned that modern game designs place more focus on strategy than luck, which may indicate that the interviewee felt older designs placed too much emphasis on luck in game play. Finally, one interviewee mentioned that the modern tabletop game market includes global participation from designers and publishers around the world.

In summary, the interviewees showed significant awareness regarding modern tabletop game qualities. This included having a greater range of consumer choices, design-

specific improvements, physical production and materials improvements, game-experiential improvements and affordances, and an increased ‘global’ aspect to modern tabletop gaming. Again, this seems to be hard-won insight related experience purchasing games for personal hobby purposes and the classroom. Going back to Zagal (2010), these findings suggest that the interviewees have developed game literacy ‘understanding’ related to the context of comparing games to other games and deconstructing and understanding game components and elements (interaction and play experience). Game literacy is one element of broader TTG-mediated L2LP expertise, though it does not guarantee the development of more general pedagogical expertise.

The next comments to be considered are those regarding whether or not interviewees feel game publishers and educational resource suppliers are producing enough quality games that can be used in language learning contexts. The intent is to clarify interviewee opinions about the use and appropriateness of both ‘commercial-off-the-shelf’ games (COTS) that are designed without specific language learning audiences in mind and commercial games which may be designed for general language learning contexts. It may also provide some insight into TTG specialist-teacher material use behaviors.

All six of the interviewees indicated that they are satisfied with the large number of COTS games available. Interviewees used terms such as ‘many,’ ‘plenty,’ ‘high volume of quality games,’ and ‘huge variety,’ to underscore the strength of their opinions. Half of the interviews indicated that it is the responsibility of the educator to properly select games for the classroom based on the fit to their classroom needs. A similar single response indicated that there was a plethora of choices available to fit classroom needs. One interviewee went a step further and also added that game library curation is one of the jobs of dedicated pursuers of TTG-mediated L2LP. Two interviewees indicated that games designed for educational

purposes often lack the ‘game’ feeling and may fail to engage students (who perceive them as exercises). This may be part of the reason why none of the interviewees gave specific positive comments regarding tabletop game resources provided by educational resource suppliers. Further, one interviewee indicated that he welcomed well-designed games that might come from the educational resource market, but he felt that this generally does not reflect the games currently on the educational resource market. Interviewee #6 indicated that he felt that games designed for educational purposes should be designed by people with game design experience. Interviewee #1 commented that, in general, educational resource suppliers would do well to embrace and adapt to new teaching methods and the need for individualized resources. Interviewee # 6 also noted how many COTS already have language learning or teaching potential. Finally, interviewee #5 noted that COTS publishers might be able to take steps to improve rulebook clarity, introduce more engaging rules explanation methods (e.g. teaching the rules and increasing complexity through gameplay), and improve player reference materials in ways that meet general player needs and also the needs of language learners.

In summary, the interviewees were very positive about the COTS games available to them. Moreover, there were strong calls for teacher responsibility in selecting games. This perhaps implies that these interviewees believe the burden of being informed about game resources is the duty of the teacher. Previous interview information suggests that most of these teachers have taken on this responsibility directly in their own practice. No direct support was provided for educational resource suppliers, and several interviewees noted significant concerns about the quality of games available from this avenue. However, some potential for well-designed games in this area was noted. Two interviewees also mentioned the need for reform in educational supplier materials and COTS producers. Teacher preference for COTS and caution over potential ‘educational game’ use aligns with ‘expert’

game literacy attitudes shown in Chik (2011b). Additionally, interviewee emphasis on the responsibility of the teacher to act as informed COTS selector potentially suggests experience-informed teacher cognition related to classroom implementation (Marklund & Alklind Taylor, 2016; Borg, 2015; Sykes and Reinhardt, 2013; Tomlinson, 2013).

Another line of inquiry in the interviews was related to interviewee experiences with creating and/or modifying tabletop games for language learning classes and also evaluating their own ‘game design’ awareness and abilities. As the quantitative data showed significant evidence of tabletop game creation among teachers in general, it was important to establish TTG specialist teacher behaviour patterns and beliefs in this area.

Only one of the interviewees made any mention of using tabletop game creation in his language learning classrooms. This was reported by interviewee #6, the professional tabletop game designer, and even his experience was limited to guiding students in creating their own role-playing games and choose-your-own-adventure gamebooks. He reported that he had never created a board game specifically for the language learning classroom. Several of the interviewees responded in ways that emphasised strong feelings or thoughts about this topic. For example, interviewee #1 reported having ‘never created a tabletop game,’ and interviewee #2 reported ‘I have NOT developed a game for my classes.’ These responses suggest strong opposition or negative views toward teacher game creation from TTG-mediated L2LP specialists. Having said that, three of the interviewees mentioned that they have modified or simplified existing games for either classroom fit and/or rules simplification. Moreover, interviewees #2 and #5 mentioned adding ‘house rules’ to games, especially related to language use. Both interviewees had specific contextual challenges related to learners sharing a common first language. Interviewee #5 specified linking language-related rules to game-based actions. Both described adding rules in some cases to

penalize L1 use during game play, and in others to reward L2 use. Interviewee #3 described making flashcards for simple language drill-based games, but she did not classify this as game creation. Interviewee #5 also made a comment noting that creating a game for his class might work against his efforts to make the ‘global community an integral part of my classroom....’ The aversion to game creation in the language learning classroom by these teachers may relate to the point raised in Chik (2011b) where ‘expert’ game literate teachers strongly preferred the motivating game aspects of well-designed COTS over ‘educational games’ which often seemed to neglect fun, motivation, and engagement. Additionally, COTS preference may also be due to pedagogical alignment factors (promoting peripheral participation, learning around the gameplay, 21st century skills, Task-Based Learning, etc.).

In terms of the interviewee self-evaluations of their game design awareness and abilities, there was a range of responses. Interviewee #1 reported that he has, ‘a fair amount of awareness about what will make a good game or not but very few original ideas.’ Interviewee #2 reported that he teaches a game design course at his university. He rated his game design awareness and ability as being quite strong. Interviewee #3 described her game design skills as being ‘minimal.’ Interviewee #4 mentioned only that she does not feel able to evaluate her own game design abilities since she has only engaged in modification of games for her classes (rules simplification and reduction of complexity for classroom needs). Interviewee #5 described his game design awareness as ‘emerging.’ He explained that he is developing greater and greater game element awareness and critical abilities when it comes to evaluating games. However, he noted that his knowledge has limits, and he does not feel it extends to competence in the game design department. Interviewee #6 indicated that he is a professional game designer with numerous commercially published games to his credit.

In summary, the specialist teacher interviewees show many signs of high levels of tabletop game literacy, knowledge, and awareness. None of them engaged in significant classroom tabletop game design behaviours. Many seemed to acknowledge the limitations of their own game design abilities and saw game creation as somewhat questionable from both a pedagogical and practical perspective. This stands in contrast to the higher rates of tabletop game creation behaviors in the quantitative research. Zagal (2010) suggests that in some sense, the ability to make games may represent a more sophisticated element of game literacy which builds on the ‘ability to play’ and the ‘ability to understand’. Interviewees showed some willingness to modify games to ensure better classroom fit or language learning outcomes, but significant game creation for language learning classrooms was not something they reported investing energy in. More research into how classroom and program constraints and opportunities may affect COTS use and other TTG game implementations among specialist and non-specialist teachers may be needed. One COTS affordance the interviewee data suggests that specialist TTG teachers value is cultural, social, and linguistic opportunities related to game participation/peripheral participation. This is connected to commercial games being shared cultural artifacts (Sykes and Reinhardt, 2013).

Moving closer to cognition related to classroom implementation of tabletop games, the next area to consider is interviewee responses related to their knowledge of available resources for learning about tabletop games or tabletop games use in the classroom. This is useful in establishing specialist teacher cognition regarding resources to support implementation. Thus, this area bridges both general tabletop materials knowledge and knowledge of classroom language teaching using tabletop games.

The most commonly cited resource was consulting with other TTG specialists (teachers or researchers) in the field. This was suggested by four interviewees. Two

responses had three mentions each. The first is reading research findings and academic guidelines on the subject, and the second is conducting online searches for helpful websites (unspecified). There were five responses that received two mentions each. First, online videos were suggested being useful resources both outside and inside the classroom. Second, the usefulness of the BoardGameGeek teaching sub-forum discussion area was mentioned. There are several discussion threads there about using tabletop games in language learning classrooms. Also, lists of games recommended for the various classroom situations can be found on BoardGameGeek website. Links to some of these lists can be found in these sub-forum discussions. Registered users can leave comments and discuss game use experiences. Third, a website hosted by one of the interviewees was referenced in two responses. The website is Japan Game Lab (Japan Game Lab, 2016). A wide variety of tabletop game teaching resources can be found there (research, reflection on practice, suggestions, etc.). Fourth, professional workshops were mentioned by two interviewees as potential ways to learn about classroom implementation of tabletop games. Fifth, two interviewees mentioned that books may be helpful resources. A large number of suggestions were mentioned only once. One interviewee mentioned the website, ‘Games2Teach.’ This site, a resource aid for instructors and learners, is hosted by well-known academics in the field of game-based and game-mediated language teaching research. Other suggestions included watching playthrough videos, visiting game cafés, or talking to game store clerks, and listening to a podcast called ‘Board Gaming with English.’ One interviewee, #5, mentioned elsewhere in his responses that he produces a blog, markrass.wordpress.com, which offers reflections on implementation and theoretical exploration/discussion. Finally, one interviewee suggested that friends and family might be a helpful resource. Overall, the responses suggest that the interviewees value TTG specialist and ‘experience-based’ advice through either direct personal connections, online communities, or professional channels. These resources seemed

to include teachers and researchers who were highly informed about teaching, tabletop games, and TTG-mediated L2LP. Mention of these resources provides further evidence of behaviours which support game literacy development (Zagal, 2010). Often, advice and resources coming from these sources was concrete, practical, and well-supported.

There are a number of salient points worth mentioning that are not included above. For example, interviewee #2 mentioned that he does not believe that there are a lot of resources available to support educators using games in language teaching and that this is his *raison d'être* in terms of research, academic interest, and professional contributions. Interviewee #5 indicated that professionally, he feels very isolated in his work and does not feel he has much in the way of informed interactive feedback. He further expressed some concern that this lack of feedback might negatively impact his ability to reflect on his practice and stay true to it. Interviewee #6 indicated that he primarily relied upon his own game design experience as a key resource in aiding his classroom game implementation efforts. Given his background as a professional game designer, this seems like an example of deep experience and knowledge that differed somewhat in its perspective from the experiences of the other interviewees. These points may underscore the variation and individual nature of teacher cognition factors of influence and related actualized behaviours (Borg, 2015).

Understanding teacher cognition related to resource awareness, access, and knowledge for TTG-mediated L2LP implementation is important as these elements highlight how expert teachers are leveraging resources and game literacy to inform their classroom practice. The findings also suggest ways in which novice teachers can be guided. Expert TTG-using teacher awareness showed significant evidence of being gained over time and through experience with specific communities and resources. It may be possible to streamline and cultivate new communities or resource platforms with increased focus for

expert TTG-using teachers. Additionally, novice TTG-using teachers can be directed and welcomed into these communities and provided with easy-to-navigate versions of these resources. Another key point worth understanding here is that teacher game literacy may also impact teacher attitudes toward COTS and educational game use in the classroom. This may be related to how teachers perceive the resources in terms of affordances and also how their research into TTG-mediated L2LP has shaped their beliefs. Expert TTG-using teachers and researchers promoting principled classroom TTG use ought to better research teacher resource perception differences and support teacher reflection/guidance on resource use. Workshops, CoPs, forums, and supporting materials (research and classroom materials) may aid significantly in this effort.

Teaching, learning, and training experiences not related to TTG-mediated L2LP.

This section provides a very brief look at some of the unique teaching, learning, and training experiences that these specialist teachers have had that seem to have indirectly affected their TTG-mediated L2LP approaches. It is important to note that the teachers have taken very different paths and that their individual experiences have likely impacted their teaching choices in a variety of ways and to varying degrees. Thus, the purpose in exploring these points is not to show direct causation but rather to highlight the interconnectedness and complexity of teacher experience and individual factors influencing each teacher's cognition.

Some comments shed light on teacher attitudes and dissatisfaction toward 'regular' classroom and educational resources. This is an example of one teaching factor which may prompt teachers to explore new resources, other teaching methods, and approaches.

Interviewee #1 made specific critical remarks at current educational resource suppliers. He says that they need to, "...embrace new teaching methods and not focus on colorful textbooks that are only half-used in a 15-week semester. Resource suppliers need to think more about

active workbooks or more individualized courses....” This seems to suggest that interviewee #1 has had some frustrating teaching experiences related to traditional classroom course books (and perhaps also experiences related to being asked to follow a specific approach that may evolve from following from course book structure and format). This aligns with Gebhard (2017) which indicates that educators may create or explore new materials/approaches in their teaching practice due to a sense of professional/classroom staleness and personal or personal development-related motivations.

Interviewee #2 stated that his own L2 learning experiences were a key factor in spurring his interest in language learning theory, research, and teaching. This suggests a cognition element related to ‘lived-experience’ (Borg, 2015). He also mentioned that his first teaching experience was as an Assistant Language Teacher and that this kind of position can sometimes be limited to regurgitation of textbook material (without any other real responsibilities). He also explained that his university curriculum prompted him to work through a ‘generic textbook’ as ‘efficiently as possible’. Further, interviewee #2 reported that when he was teaching in this context, he had little sense of research interest or goals. These points align with elements of professional development mentioned by Gebhard (2017) (exploration, seeking out development opportunities) and exploration-based professional development (initiative, personal connections to teaching) mentioned by Gebhard and Oprandy (2005).

Interviewee #3 shared that her current context involves classrooms with a mix of native English speakers and English as an Additional Language learners, as well as core French classes (basic) non-native French speakers. In addition, she has recently taught a range of other subjects and in a number of other contexts. It is possible that her shifting environment has had some influence or impact on her teaching approach.

Interviewee #4 reported remembering that, as a child, she learned a lot of English from games (as well as TV and PC games). She mentioned that the purposeful nature of the experiences motivated her to learn in order to achieve specific goals or understand things. She contrasted this motivated and purpose-driven learning experience with ‘forceful’ learning experiences. Interviewee #4 cited this as one of the main reasons that she started using tabletop games in her language learning classrooms. This fits with Chik’s (2011b) descriptions of teachers with high levels of game literacy both recognizing the language learning potential in gameplay and also placing a high premium on providing engaging and motivating play, which promotes language learning that is entwined with the player’s motivations to progress and enjoy the game itself. This also aligns with Borg’s (2015) ‘lived-experience’ influence on cognition and Mak’s (2011) concept of ‘teacher-wiseness’.

Interviewee #5 has been working at his current school for less than a year. He stated that his classroom does not have a set curriculum, and that it is his job to create one that meets school requirements. Since implementing a curriculum with significant use of tabletop games, he has had some workplace conflicts related to his decision to implement a non-traditional approach. This has created some workplace tension, and interviewee #5 mentioned that he now also invests time in preparing to justify his choices to his school and less supportive colleagues. These constraints, tensions, and professional pressures may provide a kind of ‘rebel teacher’ motivation (Cohen and Tellez, 1994). Regardless, these challenges also highlight potential limitations on professional peer support/mentoring, further development of game literacy, and TTG-mediated L2LP development (Zagal, 2010; Wenger and Snyder, 2000; DuFour, 2004; Gebhard, 2017; Borg, 2015).

Interviewee #6 has not had formal teacher training. Most of his language teaching experience came through being an invited facilitator specializing in engaged learning

opportunities that offer an alternative to prevailing traditional educational approaches. In this way, interviewee #6 has worked with various levels of government and in a wide variety of contexts (language learning classrooms and other situations). His game literacy expertise is being leveraged within the language learning classroom and to help expand teacher game literacy in general. In this sense, he may be considered to be engaged in a kind of game literacy TTG-mediated L2LP mentoring (Borg, 2015; Zagal, 2010)

In summary, the aforementioned points may help demonstrate some of the different frustrations, insights, motivations, challenges, and forces that can indirectly shape and influence the interviewees' teacher cognition. These forces often occur outside of their TTG-mediated L2LP classrooms, and some occurred even before the interviewees had any inkling to pursue this teaching approach. However, some of these forces continued to exert their influence as teachers implemented TTG-mediated L2LP.

Understanding the relationship between general classroom experiences/relevant experiences and teacher implementation of TTG resources may shed light on teacher motivations, rationales, and situational impacts. Identifying trends among expert teachers may allow researchers and expert TTG-using teachers to offer support/guidance to both experienced and novice-TTG using teachers. Moreover, it is perhaps useful to consider supporting grassroots efforts to advocate for and support teachers who may be interested in exploring TTG-mediated L2LP. This could include promoting both systemic changes in specific countries, school systems, and classrooms, as well as general efforts to inform stakeholders about TTG-mediated L2LP. Long-term success in terms of TTG-mediated L2LP adoption may be more stable if it involves both sustained top-down and bottom-up initiatives. These may result in a pedagogical 'sea change' in terms of the way TTG-mediated L2LP is perceived and implemented. Returning to the interviewees, the expert

TTG-using teacher results show how significant individual experience and motivation is related to resource use/implementation. Consequently, efforts should be made to engage/appeal to individuals based on their interests, needs, and curiosities.

Classroom experience with TTG-mediated L2LP and related cognition.

This section will begin with a breakdown of the classroom games the interviewees reported using, geek rating averages for each specialist teacher (based only on the classroom-used games mentioned by name in each interviewee's transcript), and a brief comment about the kinds of games they like to use and why. This is done in an effort to examine TTG specialist teacher game literacy (Zagal, 2010) as a supporting element of TTG-mediated L2LP (Filsecker and Bündgens-Kosten, 2012). Then, each interviewee's reported classroom implementation process will be presented and analyzed based on the robustness of their reported implementation (Reinhardt & Sykes, 2012; Sykes and Reinhardt, 2013), reasons for game use (Borg, 2015; Tomlinson, 2013), teacher reflections or beliefs on what has worked and what has not (Gebhard, 2017; Watanabe, 2017), specific references to connecting game use to teaching or learning (York & deHaan, 2017), and other relevant cognition points stemming from the responses.

The following chart shows the number of games mentioned by each interviewee, the geek rating average, the publication date ranges, and other significant information related to game materials used in class.

Table #15: Interviewee Number of Games Mentioned, Geek Rating, and Publication**Ranges**

Interviewee	Number of Games	Geek Rating Average	Publication Date Ranges	Other Information
#1	3	7.261	2005-2019 (3)	A much more detailed game list record was shared with the researcher (sent via email by the interviewee).
#2	3	6.848	2005-2019 (3)	A much more detailed game list record was shared with the researcher (sent via email by the interviewee).
#3	18	6.113	2005-2019 (8) 1994-2004 (2) 1978-1993 (2) 1950-1977 (1)	

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			1900-1949 (1) B.C.-1899 (3)	
#4	19	6.209	2005-2019 (13) 1994-2004 (3) 1978-1993 (2) 1950-1977 (1)	
#5	3	6.981	2005-2019 (2) 1994-2004 (1)	
#6	3	5.738	1994-2004 (1) 1978-1993 (2)	

Interviewee #1 reported using games in class that are interesting, aesthetically pleasing, and easy to learn. He believes that tabletop games can be an integral part of language learning by creating a risk-free practice environment, engaging students, and generating interest. This can help students with low levels of confidence in particular. Furthermore, he pointed out that tabletop games can promote more natural conversation in the classroom, and that students can comment on what has happened (practising linguistic output), practice humour, social interaction, and deceptive skills.

Interviewee #2 reported using games in class that provide good opportunities for language output, allow for teamwork, and have a slow pacing. He also indicated a fondness for using cooperative or semi-cooperative games. He sees tabletop game experiences as providing opportunities for authentic language use, engaged participation, and also for introducing students to alternatives to ‘money-sucking smartphone games.’

Interviewee #3 mentioned that she uses games that she thinks the students will enjoy, are easy to play, have clear point systems, are cute, have short play times, involve easy

language, and have multiple rounds of play with some kind of player catch-up mechanism (so that players continue to feel engaged). She sees the games as a way of giving the students a practical ‘task’ in which to use their English to communicate in a culturally diverse classroom. She also sees the games as building interpersonal relationships, community, and fostering team spirit.

Interviewee #4 emphasized using games that are fun to play, easy to teach, and that allow students to learn English in a way that does not ‘force’ the learning upon the students. She also noted the tactile benefit of game use for students and the intrinsic motivation aspect of language use or learning when couched within good gaming experiences. Another point she mentioned was that tabletop games are able to contribute to the learning environment in a variety of positive ways. For example, they can facilitate language practice, serve as icebreaker activities, provide fun ways to use English while giving students a break from other classroom instruction patterns, and help students bond within the class. Finally, interviewee #4 sees tabletop game resources as having great versatility in terms of function within the lesson.

Interviewee #5 reported using games that are short, and that allow players to rebound from bad play (either by playing the game again or by recovering in a subsequent round of the same game), involve clear tasks that relate to an understandable goal, have a narrative that works with the game mechanisms and language use, have turn-based play, feature simple language (e.g. in game and turn-based language), allow players to self-organize, provide experience-based surprise, afford game-related analysis or discussion, and have supportive related content online.

Interviewee #6 reported using games mainly when invited into classrooms as a tabletop game specialist. He mentioned two different primary usages: a) modified

commercial games used for ‘whole-class’ and ‘teacher-fronted’ language learning classes aimed at targeted language practice, and b) collaborative game creation with a language output component that is facilitated and moderated by the teacher and yields a tangible student-created tabletop ‘choose-your-own-adventure’ gamebook. He sees game-implementation benefits in terms of increasing student confidence, providing an icebreaker function, and allowing students to practice communicating ideas and specific skills or language. Finally, he noted that tabletop game use can provide an alternative to ‘proper studying’ and ‘real lessons’, though he mentioned that this is not meant in a pejorative sense and does not imply that game use in the classroom is not potentially beneficial for language learning.

The next area examined is interviewee game use according to their reported implementation. Before considering the interviewee responses, it is important to acknowledge that the analysis being presented does not take into consideration appropriateness in terms of specific classroom fit or comparative effectiveness of differing approaches. Student age and levels, classroom context, teacher objectives, and teaching constraints are just a few of the factors that should be considered. Having said that, analyzing how the TTG specialist teachers approach game use and implementation can contribute much to our understanding of purposeful tabletop game use in the language learning classroom. The interviewee implementations are presented according to perceived complexity levels of the implementations (starting with the least complex and building up to the most complex).

Interviewee #3 described utilizing regular periods of classroom game implementation at a junior high school (once per day in the summer and one-and-a-half hours per week the rest of the year). In her approach, student autonomy and self-regulation are key. She makes a point of demonstrating new game set up and game play, but generally lets students select

the games they want to play. She didn't mention taking any other specific pre-game or post-game action. She sees playing games mainly as an opportunity to facilitate fun, practical, natural, and useful language tasks for the diverse language learners in her class. She placed special emphasis on the way valuable game play can assist language learners in overcoming 'culture clash' miscommunication by being unified through the shared game objective (playing together). She also mentioned that she believes physical board games should be used over digital games because they allow for more self-regulation by the students, and they also make it easier to implement cooperative or collaborative classroom game experiences. Finally, she noted that games provide motivating opportunities for language use in a way that allows the students to be less inhibited than in regular classroom contexts. In summary, game use in this classroom is not explicitly connected to language learning directly supported by the interviewee and nor is it connected to a multi-step language teaching approach on the part of the teacher. It may even be fair to say that this approach, from a language teacher perspective, seeks to indirectly facilitate language acquisition (as well as other valuable student takeaway) through the game experiences.

Interviewee #6 participated in weekly 2-hour classroom implementations at a high school. The implementation was mainly limited to one self-contained experience. The first hour involved having the class play either adapted or modified board games as a whole class or play a collective writing game with linguistic constraints. The key point in both cases is that the game play is controlled by the interviewee, and the class engaged with the game activity as one group. The objective of the first hour is to learn new words and train or develop word use, sentences, and longer form language production (e.g. stories). The game play is seen as facilitating the opportunity to acquire, learn, practice, and use language. The interviewee did not describe specific explicit or direct action beyond game facilitation to support language teaching/learning.

The second hour involved the interviewee guiding the learners in creating a class choose-your-own-adventure gamebook. As a class, they selected a setting, characters, and situation. The interviewee recorded this information on a grid and then directed the students to create plot development actions by writing them out (in pairs or individually). Afterward, they reviewed, tested, and refined the student productions as a class. The revised versions were collected, and after the class they are compiled into a gamebook. This was distributed to the students after it was assembled and copied. The interviewee also mentioned that he has modified this approach in elementary school classes to have the students translate a choose-your-own-adventure book into English and then send it to students in foreign countries in an effort to initiate an exchange and get their feedback.

This whole approach involves two independent elements. The first is a form of single-class play aimed at providing practice opportunities and building language production confidence through a fun game activity. The second activity involves interviewee-facilitated whole-class game creation with a language production element. The interviewee's role in language learning does not involve a lot of explicit involvement or multi-class implementation. That is, each classroom game experience is complete and independent from subsequent game experiences. It is probably most explicit at the stage where learner-created plot developments are reviewed and refined. It is also worth noting that the interviewee plays the role of game developer. This makes sense given that interviewee #6 is a professional game designer without formal language teaching training.

Interviewee # 4 described playing games in a single class timeframe. Further, she indicated that she tries to use games in almost every lesson, although the role of the game could range from being a warm-up activity, to a middle-of-the-lesson practice activity, to an end-of-class activity. She identified games as serving the purposes of reviewing old material,

practicing new material, providing communication stimuli, and also being fun English activities to provide a short break. She has implemented game use in a variety of classroom learner groups and learning contexts. The interviewee described three different implementations based on the type of game being used, two of which included specific pre-game language learning prior to the actual classroom game play.

The three game types mentioned were word games, storytelling games, and party games. In the case of word games, the interviewee uses class time to pre-teach vocabulary using the game components or essential game words. For example, they examine a game card together to determine possible vocabulary related to the picture on the game card, possible word use related to game play, and establish familiarity with the game components as a language element. After this pre-teaching, the learners play the game in small groups. The interviewee explained that these games often introduce a time pressure or competitive element, and this can stimulate learner memory.

For storytelling games, the interviewee explained that she first introduces a specific grammar point or language point in the class. She then introduces a game that allows students to practice using this language in the context of the game. For example, the students may have to create coherent or logical stories or sentences in a specific grammatical tense, and these would be prompted by some kind of game-related visual cue (e.g. a card, image, or verbal prompt). The game element would conclude with some kind of point system or voting mechanism to establish scores and determine a game winner. The interviewee also mentioned that the storytelling games sometimes involve thematic constraints linked to specific topics or concepts (e.g. holidays).

The final game type she mentioned was party games. In this case, the interviewee described gameplay in which students play a short, motivating game that involves some kind

of language production. For instance, they may play or select cards and then have a discussion related to justifying the card or hold a related interactive discussion about card play. The interviewee mentioned that this kind of game worked well in classroom ‘ice breaker’ situations and also as an output activity that emphasizes language acquisition rather than ‘forcefully’ learning language.

Interviewee #1 mentioned a previous implementation context of 15 weeks and a current implementation context of 5 weeks. Lessons were reported as being 90 minutes in length in both contexts. When implementing games, the interviewee reported including both teaching elements and student game play. The teacher began by dividing the students into groups and giving them a game. The students, as a group, learn to play the game and improve their understanding. The teacher then outlines various clear, and specific tasks that the students will complete. They are also informed that they will have to present and write a report on their games (the teacher provides a model report). At the end of the process, the students have to give an overview of the game, ‘sell’ the game as if they are on a TV shopping channel, suggest winning strategies, and list useful English phrases for play.

Interviewee #1 also described some prior implementation efforts. In the first one, he provided students with games that had simplified rule sets. They would learn the games and then teach them to other students. Interviewee #1 noted that the particular approach implementation that he employed in this case did not work and that, “It was important to take ME out of the process.” Upon further refinement, future implementations were more successful. In his second approach, he implemented cooperative gameplay with the students. The interviewee mentioned that this did not work very well because he failed to introduce pre-game cooperative activities as scaffolding. In particular, he mentioned cultural and personality issues related to cooperative game dynamics that saw some students being less

engaged or overshadowed in the play experience. The interviewee keeps reflection document about classroom TTG implementations (See Appendix C). The researcher noted a general trend of increasing detail as the interviewee gained more and more experience.

Interviewee #2 reported he has been using games in the classroom for three years, and that he teaches ‘communicative English’ to undergraduate science and technology students at a university in Japan. He explained that his first efforts at implementation involved a flipped classroom approach. The students were asked to pre-study the rules, supporting materials, grammar, and to learn the game at home. Class time was intended for actual game play. Additionally, the interviewee reported limiting gameplay so that learners were only able to play the games through once. After implementing in this fashion, the interviewee noted that this approach ‘did not really work’. Some students neglected to do the at home pre-study and others did it but did not understand it properly. Also, limiting game experience to a single play was problematic as some students seemed to require multiple plays to fully comprehend the rules and enjoy the game. The interviewee noted that playing a game multiple times is often key for non-classroom game enjoyment, rules consolidation, and engagement, so it makes sense that a similar consideration may be helpful for classroom game play.

Currently, he implements TTG-mediated L2LP within a six-week cycle, with a single game being the focus of implementation through six stages and weekly classes. He calls this the Kotoba Rollers framework (‘Kotoba’ means ‘language’, ‘word’, or ‘speech’ in Japanese). He uses this system over two semesters, and there are some significant differences between the first and second semester implementation. These are the six stages he mentioned:

- Class 1: Students learn the rules and consider the language they will need for gameplay,

- Class 2: Gameplay which is audio recorded using student smartphones and make transcriptions based on these recordings,
- Class 3: Students analyze their recordings as a group looking for morphological, lexical, and syntactic errors,
- Class 4: Students play the game again and produce a new audio recording of the gameplay and make transcriptions based on these recordings (This also acts as a speaking test, and the interviewee evaluates student oral output),
- Class 5: Students compare their two transcriptions/recordings to see if the number of errors they made has been reduced,
- Class 6-8: Students contribute a final game report by making something of value for future students (e.g. a 'how to play' video).

In the first semester, the interviewee selected two games for the students (Two Rooms and a Boom [2013] and Spyfall [2014]). Both of these games have cooperative and team elements. The interviewee mentioned that he does this because students may not know each other at the start of the semester, so this acts as an 'icebreaker.' It also provides a structure in which he can evaluate each student's language output. In addition, the interviewee mentioned that by selecting both of the games played in the first semester, he is able to ensure all students receive specific guided support early on in the implementation process. In the second semester, the interviewee selected one game for the students (One Night Ultimate Werewolf) and also required the students to select a second game from a curated list of games. He noted that the level of support given during the first game of the second semester depended on the class.

The interviewee provided the researcher with a link to the list of curated games (See Appendix D). The list presented 48 tabletop games in alphabetical order and included

information about the key mechanisms for the games, the number of players it could accommodate, the complexity or ‘weight’ of the game ranked on a scale from 1 (light) to 5 (heavy), the game’s play time, and, in some cases, personal recommendations from the interviewee. Some games were accompanied by links to game rules or student-created content. The researcher clicked on some of the student-made content links, but many had been removed on account of the videos being flagged for copyright issues. The interviewee says,

“My whole class is dedicated to learning with and around board game play. The board game is at the centre of my 6-week play cycle. And even in classes where students are not playing a game, they are doing analytical activities that are related to prior or subsequent gameplay sessions.”

The interviewee implements a multi-class approach with connected tasks and game elements connecting together. As an approach, it appears to be quite detailed and explicitly builds language learning/teaching into the lessons.

Interviewee #5 works in a South Korean high school where he teaches one 50-minute class per week using the game-related approach. In his classes, he usually spends the first 10-20 minutes explaining some information (game rules, game play, language for game, etc.). Then, during the remaining 30-40 minutes, the students either play the game or engage with media related to the game (videos, forums, etc.). In all, the interviewee estimates that the learners engage in approximately 15 hours of gameplay during the course. Furthermore, he emphasizes the extremely important role of out-of-class student action in his approach.

He described using a Bridging Activities (BA) cycle with three main parts. This cycle is based on Reinhardt and Sykes’ (2011) ‘Explore, Examine, and Extend framework.’ The first portion of the reported BA cycle is ‘Explore.’ During this stage, students play the game, read forums/rulebooks, and watch game-related videos in an effort to find important words or

ideas expressed in these experiences and media. The purpose is not complete understanding, but rather to identify important vocabulary, especially those that may be of import for future action (e.g. gameplay). The rulebook is used as a resource for collecting additional important or peripherally significant words and answering emerging questions. During the second stage of the BA cycle, 'Examine,' the students take their collection of identified words and compare them to their 'own past understanding,' the language collections of their classmates, and how the collected language is used outside the game. Interviewee #5 remarked,

“This contrast helps to build up a system of forms that can be transferred across contexts and registers. I am now trying to implement Concept-Based Instruction particularly at this stage of the BA model by introducing SCOBAs (schemas for the complete basis of action).”

In the 'Extend' stage, students either participate in a 'community of practice' (usually in the form of a game review, a playthrough video, a strategy guide, or rules questions/clarifications) or reflect on their exploration and examination. This involves making an outline or map of their thinking (in either their L1 or in English). This prompts the students to conceptualize the language and culture needed for game play, game-related forum participation, and/or community content creation. The interviewee explained that he uses dynamic assessment done moment-to-moment (during in-class instructional consultations and during homework instructional consultations). The instructional conversations are ongoing throughout the course and involve reflective elements, comments, and suggestions. At the end of the semester, the interviewee helps the students to understand how their own answers have changed (developed in terms of length and complexity) and how his instructions have changed (become more or less explicit). In this way, students become more aware of their language development and progress. One of the aforementioned community participation activities or reflection activities is selected as a semester-end performance test. For this, students must submit a project, defend their participation in the

project, and, as the interviewee put it, “explain the source of their inspiration in the community.” Finally, students complete a self-evaluation based on a set of standards which is developed by the interviewee and the class. As with interviewee #2, interviewee #5’s approach is spread across all of the classes in the semester and features connections between lessons. The approach is extremely detailed, is based on an established game-mediated L2LP framework, and explicitly builds language learning/teaching into his teaching (among other pedagogical considerations).

A cursory analysis of the reported implementation approaches suggests the following levels of robust implementation. Interviewee #3’s approach is the least developed and the implementation has more limited connections to either general or specific language learning/teaching goals. Interviewee #6 and #4 described more developed approaches, with language learning and teaching that are usually directly linked to the game experience and occur in one single class. Interviewee #1 described an approach that expands to include teaching and learning activities that are related to the game experience, but which also involves non-play-specific experiences. His approach is implemented over a multi-week process. Finally, interviewees #2 and #5 presented the most robust approaches. These approaches also occur over a multi-week process. Their reported teaching cycles include very purposeful and detailed steps or stages. Specific and purposeful language teaching/learning is built into these approaches and references to previously existing or purposefully created game-implementation frameworks were referenced. Clear connections to undergirding pedagogical considerations were provided as rationales supporting the use of these frameworks. The approaches also have clear tasks, clear goals, feedback mechanisms, opportunities for language learning reflection/noticing, and components involving teacher assessment/evaluation. The robust qualities were attributed specifically to interviewees #2 and #5, though most of these points also apply to interviewee #1.

The following chart compares the key elements of the ‘single-class’ and ‘multi-class’ implementation approaches described by the interviewees.

Table # 16: Single-class and Multi-class TTG-mediated L2LP Elements

Single-Class Approach	Multi-Class Approach
Careful selection/curation/modification of game materials (may involve teacher selection, student selection, or a mix of both)	Careful selection/curation/modification of game materials (may involve teacher selection, student selection, or a mix of both)
Material fit emphasizes games with short play times, simple rules, clear language use/language learning connection, and fun/interesting experience	Materials fit emphasizes rich direct and indirect learning opportunities, games with appropriate classroom play times, simple rules, clear language use/language learning connection, and fun/interesting experience
Connection to language learning purpose is that the game often allows students to practice a previously studied point and build confidence in a fun and low-risk context (may also involve language learning-peripheral benefits like socio-cultural bridging through task-motivation)	Connection to language learning purpose is complex, multifaceted and involves both direct and indirect learning opportunities (scaffolding activities, transcription, text analysis, language input/output, students teaching, students creating/producing, students reflecting)

Logistical implementation considerations (same game can be used multiple times, learning content/objective can be changed/modular, student familiarity with game/rules can make classroom management simpler)	Emphasis on the fact that students interact with a cultural artifact (game) which is often linked to engaging in peripheral participation (production of material, learning from material, etc.) and this participation occurs around the gameplay
Often does not involve formal assessment	Includes formal assessment component (though this often not directly related to game play)
Pedagogical support/framework is less explicitly developed (perhaps because the game use is couched within a larger approach or framework and the game use serves a specific purpose)	Frequently described in terms of a framework with phases, stages, or cycles that have clear objectives, language teaching support, feedback, and pedagogical connection

Turning to reasons for game use, a variety of reasons were identified by the interviewees. This included some overlap as well as some significant non-overlap.

Interviewee #1 explained that he initially gave the students a choice between learning through tabletop games or discussion topics, and his students selected the games. He mentioned that tabletop games familiarize the students with active learning. He also sees it as providing interesting, new, and atypical materials typically not found in academic settings for his

students. He feels there is value in engaging the students with the material in practical ways (game play, presentations, and reports). In terms of affordances for language learning (Gee, 2003; Sykes and Reinhardt, 2013), he mentioned that using tabletop games in the language learning classroom provides students with natural English input, an ability to practice English in a risk-free environment, and gives students with low communication confidence a context and structure in which they may feel more confident and motivated to engage and contribute (Reinders & Wattana, 2014, 2012). Finally, it should also be noted that interviewee #1, in response to other interview questions, suggested some discontentment with existing language teaching materials. It may be possible that this sentiment has played some role in his decision to use tabletop games as classroom material more in line with his pedagogical interests (Gebhard, 2017).

Interviewee #2 indicated that in his initial classroom experiences, he inherited a textbook-driven course that had set grammar goals linked to each chapter. He became ‘extremely bored’ with teaching this way and made a decision to change something (Gebhard, 2017). He also mentioned that he reflected on his own language learning experiences (Borg, 2015) and personal experiences as an ‘avid gamer’ (enjoying digital games and becoming increasingly familiar with tabletop games) when he began considering a tabletop game focused approach (Zagal, 2010; Chik, 2011b). Another large influence was academic and teacher literature related to Computer Assisted Language Learning (CALL) and Game-Based Language Learning (Reinhardt and Sykes, 2012; Sykes and Reinhardt, 2013). In considering these elements with respect to his context, he decided that tabletop games might be a good fit and may also help overcome some of the challenges of CALL implementation (Lee, 2000). Tabletop game resources tend to not directly involve as much technology during implementation compared to CALL resources (Borg, 2015; Mak, 2011). He considers his ‘long journey’ of exploring tabletop game use to have given him a teaching

focus, research focus, and academic opportunities. Moreover, he acknowledges that he still feels like he is a ‘long way from being happy with the current setup.’ This suggests the interviewee may be cultivating both the willingness to develop and persistence noted as belonging to successful creative teachers (Horng, Hong, ChanLin, Chang, and Chu, 2005). The interviewee made repeated references to Task-Based Language Learning/Teaching and Game-based Language Teaching/Learning and how tabletop game use in language learning classrooms can mesh with these approaches.

Interviewee #3 emphasized that she uses tabletop games to promote and facilitate purposeful language interactions (with a ‘task element’) between speakers with different first languages (Nunan, 2004; Sykes and Reinhardt, 2013). An idea which she mentioned in connection with this is the importance of the game experiences helping to build a friendly classroom community, a cultural bridge between students from different cultural backgrounds, and a sense of ‘team spirit’ (interpersonal relationships and collaboration). She sees value in the motivating and fun aspect of gameplay and believes that they can lower student inhibitions (Gee, 2003). In her classroom, she also sees them as providing a break from regular teacher-fronted instruction or lectures. Further, she noted that the game experience provides a very practical way for students to use English and practice. This mirrors calls for innovative, engaging and relevant materials use in language learning classrooms (Tomlinson, 2013). She stated, “I think that games are an important part of my language learning classroom.”

Interviewee #4 related that her personal language learning experiences helped motivate her to try tabletop games as they would allow language learning without being ‘forcefully taught’ (Borg, 2015; Chik, 2011b). Her approach leverages language acquisition through indirect and less intentional language focus during gameplay. Having said that, her

approach does also clearly include explicit structured language teaching related to specific target vocabulary and grammar. The interviewee sees the game experience itself as providing the motivation for communication. She mentioned that she sees value in tabletop games as an ice breaker with new groups or classes and that the resource can provide authentic opportunities to practice or use language in the classroom (e.g. vocabulary or language use development). She also emphasized the tactile element of the tabletop game as something that might appeal to students (Woods, 2012). Finally, the interviewee noted that tabletop games, though somewhat expensive, can be reused and easily implemented (if preparation has already been done). This relates back to Zagal's (2010) point regarding game literacy challenges based around time required to learn games and game/materials access. Her approach also seems to suggest a close relationship between her personal tabletop game hobby experiences and her teaching experiences (Gebhard and Oprandy, 2005; Chik, 2011b).

Interviewee #5 reported that, while he was teaching, he was completing an MA degree. During his studies, he explored digital material creation and the use of digital gaming in language teaching. He noted various specific academic influences and how their promotion of using commercial games in the classrooms also inspired him (Wenger and Snyder, 2000; Sykes and Reinhardt, 2013). He also mentioned that his studies involved considering and evaluating game fitness according to tasks and goals, interaction, feedback, context and narrative, and motivation. While working through this process with a digital game, the interviewee noticed that using tabletop games in his classroom might be more feasible (Davis, 1989; Lee, 2000). Thus, his academic pursuit and belief in the utility of the approach helped prompt him to try using tabletop games. The interviewee emphasized that the use of games fits into his larger Bridging Activities cycle as a language teaching approach. He also noted that the games he selects are a good fit in accordance with the needs mentioned and identified in the materials evaluation approach (Tomlinson, 2013). He further

highlighted that the game implementation affords learners opportunities to increase their participation in the ‘global community’ and move away from the periphery (Sykes and Reinhardt, 2013). This is reflected in some of the project participation built into his teaching approach (e.g. producing or practicing the production of materials for the tabletop community).

Interviewee #6 indicated that in the contexts in which he uses tabletop games for language teaching the students have low motivation and poor attention, so the games may provide engaging and motivating learning experiences for the students (Gee, 2003). He mentioned that games allow them to improve specific skills, practice or develop language abilities (vocabulary or sentences), and communicate notions and ideas in fun situations (Filsecker & Bündgens-Kosten, 2012). He also noted that game use has helped students increase their confidence and see practical evidence of their language competence (often at higher levels than students previously thought). As interviewee #6 is a professional game designer, his expertise may have contributed significantly in his estimation of tabletop game potential for language learning. Personal language learning experiences related to tabletop game play were not mentioned by the interviewee, but this may be another contributing element in his use of games in these classes. The interviewee does speak English in addition to Italian (his L1) and use of English appears to play some role in his TTG experiences/interactions (e.g. use of English on the BGG website, playing TTGs that use English, etc.). As mentioned previously, interviewee #6 teaches Italian to non- native Italian speakers.

In summary, interviewees identified a mix of specific material affordances related to language learning/teaching, practical considerations related to classroom implementation, personal interest/knowledge, and professional motivations. It seems likely that there are

multiple paths to TTG-mediated L2LP, and that selection of a specific approach may be significantly influenced by individual teacher preferences, beliefs about teaching/learning, and classroom contexts.

The next area to explore is interviewee reflections or beliefs on what has worked and what has not worked with regard to TTG-mediated L2LP. Additionally, interview mentions of formal efforts to cultivate reflective practice will be noted and considered in terms of potential impact on the interviewee's classroom implementation.

Interviewee #1 described noting errors in his own early classroom implementation approaches. In particular, this was linked to the early structure of implementation where he was too involved in the process and also to his decision to implement a specific type of gameplay (cooperative) without prior related scaffolding activities. Additionally, the interviewee shared a word document in which he had recorded reflections and notes on fifteen semesters of classroom game implementation. This included game notes, game use, specific tasks, teaching/learning focus, semester-wide game implementation planning, and, as a complete document, a history of the interviewee's approach and development. The interview data suggest possible reflective practice categories relating to description, reconfirmation, '*hansei*', reinterpretation, and awareness (Watanabe, 2017).

Interviewee #2 indicated that his earlier 'flipped classroom' and 'single play' approach did not work well. He also made comments indicating that he sees his efforts as part of a 'long journey,' and that he is actively seeking to improve his approach. The interviewee mentioned the need for having to create rules sometimes to enforce/encourage L2 use in the gameplay. Moreover, the interviewee shared a specific blog post (See Appendix E) that is intended to serve a reflective purpose, as well as to make a contribution to other educators and academics in the field. The interviewee contributes to and helps maintain this

blog (Japan Game Lab). Numerous contributions on the blog show further evidence of reflection in the interviewee's teaching practice and research interest. Again, the data suggest possible reflective practice categories relating to description, reconfirmation, '*hansei*', reinterpretation, and awareness (Watanabe, 2017).

Interviewee #3's reflections mainly focused on classroom management issues and student materials use considerations. For example, she highlighted the fact that she has had more success with game use in classes where students do not share an L1. Also, she indicated that sometimes there are classroom issues related to students' gameplay (cheating, being too competitive, poor sportsmanship, etc.). In addition, she noted that she has learned that students enjoy having choices regarding what they play and some choices in terms of game types. Consequently, she suggested that having a wide variety of games for students to choose from is quite important. She did not offer comments related to specific implementation changes that she had made to her approach. The reflective practice categories here are more limited and seem to be more related to description, reconfirmation, and general awareness (Watanabe, 2017).

Interviewee #4 mentioned that she found games with too many rules were problematic for classroom implementation. She noted that taking too much time to explain rules would reduce game time experience. In fact, she says, "short rules are the best, a classroom game should be simple, but clever." This points to a combination of classroom teaching experience related to materials use and also game familiarity. The interviewee also mentioned that through her experiences, she has developed an appreciation for tabletop games in the classroom as a powerful way of motivating students to use and acquire language. The interviewee's responses suggest possible reflective practice categories relating to description, reconfirmation, '*hansei*', reinterpretation, and awareness.

Interviewee #5 specifically mentioned that he feels his ability to get professional feedback and engage in personal reflection is hindered by his current teaching situation and general lack of professional networking with other teachers using tabletop games in the language learning classroom. Having said that, the interviewee indicated that he often uses his own blog for reflective purposes (<https://markrass.wordpress.com>). In addition to sharing his thoughts on classroom implementation of games in his language teaching approach (See Appendix F), he also explores a range of other professional topics on his blog. Also, the interviewee specifically mentioned that he is now trying to introduce Concept-Based Instruction as part of his teaching approach. This shows intentional and informed teaching practice development. In terms of classroom implementation, the interviewee explained that he has sometimes implemented 'house rules' to police L1 language use during gameplay. Additionally, he stated that careful consideration of the teaching objective is important when undertaking game selection and implementation. Currently, learner autonomy and participation in the global community are key points driving his approach. The interviewee's responses suggest possible reflective practice categories relating to description, reconfirmation, '*hansei*', reinterpretation, and awareness.

Interviewee #6 reflected on the overall classroom experiences and noted they have been positive and fruitful. In particular, he noted the utility of classroom game use in terms of motivated training, practice, and improving the confidence of language learners. Specific reflection on his approach was not significant in his responses. Having said that, it seems possible that some informal reflective element is at play with respect to game design experience, and specific classroom implementation takeaway experiences in terms of student engagement and enjoyment. The interviewee's responses suggest possible reflective practice categories relating to description, reconfirmation, '*hansei*', and awareness.

In summary, interviewees # 1, #2, and #5 showed greater signs of purposeful reflection on their own practice. Some of this was contained in personal writings/documents and some was shared on blogs (making contributions to TTG-mediated L2LP and teaching). This aligns with noted professional development benefits stemming from reflective practice (Watanabe, 2017), personal reflection (Gebhard, 2017; Watanabe, 2017), shared reflection (Zagal, 2010; Gebhard, 2017; Watanabe), and experience-based feedback (Farrell & Dennis, 2013; Borg, 2015; Watanabe, 2017). All interviewees showed some degree of reflection on practical aspects of game implementation. The reflective tools mentioned by interviewees #1, #2, and #5 also offer some insight into how different teachers using tabletop games in may cultivate specific reflective practices (individually or as part of a larger CoP). Blogs and personal records/journals detailing implementation and reflecting on the nature of said implementation are valuable in terms of documenting how a teacher's practice is developing and also may provide opportunities for gaining new insights that may have otherwise gone overlooked. Moreover, reflective practice interventions (Watanabe, 2017) may be an effective way for TTG specialist teachers to support and facilitate professional development.

Understanding teacher experiences, takeaway, and reflections with TTG-mediated L2LP implementation can be useful as it can show patterns of expert TTG-using teachers, highlight different pathways of expertise, and suggest a variety of ways to appeal to novice TTG-using teachers and support them. Expert teacher personal motivations for TTG-mediated L2LP, perceptions of general learning utility, connections to specific pedagogical approaches and materials, and reflections on implementation all combine to show how teacher cognition is linked with expertise in classroom implementation. Further, the interview data suggest that many of these practice elements can be cultivated, supported, and developed over time. Supporting in-service and pre-service teacher TTG education and training is an important step in empowering novice TTG-interested teachers to explore both

the materials and connect them to principled pedagogical approaches. Some things that may be helpful in terms of specific support include providing guided opportunities to implement and use pedagogical frameworks, curated game lists, guidance related to materials affordances, and troubleshooting guides. Strengthening expert TTG-using teacher reflective opportunities and frameworks will do much to support experienced teachers and engage/cultivate communities.

Pedagogical term use or general teaching reference, language teaching reference, and language learning reference.

The interviewees' written responses were analyzed for instances of pedagogical term use or reference to teaching, language teaching reference, and language learning reference (Filsecker & Bündgens-Kosten, 2012; Hébert and Jenson, 2019). This analysis is aimed at noting the degree to which formal knowledge and pedagogical expertise can be inferred from interviewee description and language use. TTG specialist teacher cognition involves a combination and integration of both formal knowledge and rich experiential knowledge in a manner that empowers the teacher to select appropriate materials and approaches based on specific needs, accurately envisage learning potential within contexts and anticipate/respond to challenges appropriately (Borg, 2015). Analysis was focused on specific questions related to teaching practice (considering the totality of a teacher's approach, and pedagogy), game use, and teaching. Each sentence containing at least one of the aforementioned response types were recorded and placed in a 'main' response type category (determined by the researcher according to an interpreted 'main idea'). The following table shows the results of the analysis.

Table #17: Interviewee Pedagogical Term/Learning References, Language Teaching References, and Language Learning References

	Pedagogical Term Use or General Learning Reference	Language Teaching Reference	Language Learning Reference	Total
Interviewee #1	12	10	10	32
Interviewee #2	17	20	12	49
Interviewee #3	7	7	9	23
Interviewee #4	6	12	4	22
Interviewee #5	20	30	18	68
Interviewee #6	7	10	7	24

The specific volume of identified response types by individuals varied greatly. A major difference between the responses is the length of each interviewee's response. Looking only at the overall total number of identified responses for interviewees, Interviewee #5 and #2 produced the most references in the above categories, followed by Interviewee #1. The lowest number of references were given by interviewees #6, #4, and #3, who all had similar volumes of frequency. Looking at the interviewee's individual responses, only Interviewee #3 had more responses in the 'language learning reference' category than the other categories. This may correspond to her usage of the game in a less structured manner and with less explicit/intentional language teaching efforts. Interviewee #1 was the only one with a higher response volume in the 'pedagogical term use or general learning reference' category than the others. All other interviewees, #2, #4, #5, and #6, had the highest number

of responses in the ‘language teaching reference’ category. Another point worth noting is that response volume variation was more significant in the categories of interviewees #2, #4, and #5. For the other interviewees, the response variation between categories was less prominent.

That interviewee #3 makes more ‘language learning references’ than ‘language teaching’ and ‘pedagogical/general learning’ references seems to align with her classroom implementation approach which favours language acquisition (indirect and implicit language learning). Similarly, the interviewees identified as having the most robust language implementation approaches (interviewees #2 and #5) showed a higher frequency of ‘language teaching’ responses. Both of these interviewees also had the highest total number of responses, so this may be reflective of their cognition related to tabletop game use in their teaching practice (formal knowledge). It may also be indicative of their commitment to and/or passion for the approach. It seems probable that through informed, principled, increased, reflective, and purposeful classroom implementation of tabletop games in language learning classrooms, teachers may also increase their ‘language’ output related to describing their own practice. This may include both ‘language’ volume and ‘TTG-mediated L2LP-specific language (using terms connected to their classroom implementation, practice, and pedagogy).

Understanding how teacher cognition is impacted by explicit and direct knowledge related to TTG-mediated L2LP theory, formal knowledge related to teaching/materials implementation, and connections to learning/teaching is crucial to uncovering the pathway to future teacher support. Analyzing the patterns of expert TTG-using teachers and the source of training support, research access, and specific professional development will help researchers and teacher to better understand the relationship between these supports, teacher

cognition, and implementation. This could include noting instances where theory and formal knowledge support principled implementation and also instances where gaps or formal knowledge misunderstandings affect implementation. In turn, specific pre-service training efforts during TESOL certification courses, MA TESOL/Applied Linguistics courses, and other training efforts can be adjusted to explore principled teacher implementation, reflection, and guided connection to theory. Moreover, access to research, training, and classroom supports/materials for in-service teachers will help to provide opportunities for exploration and revisiting of the materials and approaches. Specific emphasis ought to be placed on prioritizing teacher ease of access to useful, adjustable, and principled materials/supports/research. In this way, a discussion involving explicit connections between pedagogy, language learning, and language teaching will be generated and will engage new TTG-using teachers. This is likely to increase teacher awareness, engagement, and reflection on implementation. Additionally, increased engagement between teachers and researchers will potentially expand and inform research contributions, shape term use/language within the field, and generate findings/inquiry related to diverse classroom implementations.

Views of student TTG-mediated L2LP perceptions.

Quantitative data responses from the general questionnaire suggested that teacher beliefs regarding student perceptions of game use validity is an important point in considering potential teacher materials use (Tomlinson, 2013; Tayan, 2017; Bolliger, Mills, White, & Koyama, 2015; White & Mills, 2014; Dogan & Akbarov, 2016; Cirocki & Caparoso, 2016). This was also mentioned in the cognition literature section as a crucial element potentially influencing teacher choices and decisions. As such, interviewee responses on this point may shed more light on how perceived student perceptions possibly influence TTG specialist teacher tabletop game use. Two caveats need to be considered

when reviewing the responses. First, it is not clear that teacher perceptions accurately reflect student opinions or beliefs. Specific investigation of teacher implemented student feedback mechanisms may be useful for future research. Additionally, each particular teaching approach, classroom implementation, and use of the game may have a specific impact on actual student perceptions and beliefs.

Interviewee #1 mentioned that he believes his students perceive tabletop game use in class as an enjoyable activity when the game used is interesting for the students. In addition to this, he says, “students don’t feel that they’re doing ‘work’.”

Interviewee #2 noted that student reactions to the use of tabletop games depends on the student. He mentions that he believes ‘a lot’ of students consider it a frivolous waste of time. Further, he notes that,

“only a few students realise the power of the PEDAGOGY that I am presenting to them and how board-gaming is not only incredibly fun, but a fantastic way to develop their English language skills. (Learn—> play—> analyze—> replay —> reanalyze etc.).”

Interviewee #3 reported that she believes her students see the game use as ‘fun’. She notes that, “They love them. They ask to play them more. I have had students go buy the games I use in my classroom.” This opinion may be heavily influenced by the teacher’s ‘free play’ and ‘language acquisition’ facilitation approach (indirect and implicit). It is also noteworthy that her response suggests that some students may be independently engaging in the game play, and it is possible that this may lead some students further into the tabletop game hobby itself. Moreover, the students are exploring culture through and around games.

Interviewee #4 said that the student reactions have been almost entirely positive and enthusiastic. However, she remarked, “Some students at the beginning don’t like games that require creativity (e.g. storytelling), but they soon learn that the more they do it, the easier it

becomes, and it's even useful in other parts of their lives.” That the teacher notes that students may perceive the game play as having transferable language value outside of gameplay is a potentially significant factor shaping teacher decisions. The interviewee may also communicate this potential transferable language benefit and utility to her students.

Interviewee #5 explained that student expectations established prior to entering the class can have a large impact on how the approach is received. He mentioned that, in general, younger students are often more positive. However, he also mentioned that motivation and perception are ‘entwined’ with experience, and that ‘hesitant’ or ‘skeptical’ students may be won over through positive classroom experiences and skilled teaching. The interviewee also pointed out that clear demonstration and references to the game experience as a language learning experience may help. For example, he mentioned explicitly telling students that a reference sheet from a game is their ‘vocabulary sheet’. He said, ‘I try to use the language of traditional language classrooms as a way to emphasize the seriousness of the task. With young learners, often this is unnecessary, in my opinion because they have not entrenched education and school social concepts as deeply.’

Interviewee #6 mentioned that he believes the students see the games an alternative to ‘proper studying’ and ‘real lessons’. He further stated that this is not really problematic if the game use yields positive results upon implementation. He generally described the low motivation language learning students that he worked with to be very receptive to tabletop game use in the classroom.

In summary, the teacher perceptions of learner beliefs seemed to be greatly influenced by their classroom implementations, pedagogical approaches, goals and context of instruction. Interviewee perceptions of learner beliefs regarding classroom game use validity also seem to have reinforced usage (when the reactions were positive) and has prompted

additional ‘selling’ of the approach to learners and/or acknowledgement of the fact that some learners may be skeptical/resistant (when reactions were negative). The interviewees with the previously identified single-class approaches (interviewees # 3, #4, and #6) placed more focus on student enjoyment and motivation. It should be noted however that #4 also mentioned student perceptions of language transfer awareness and #6 mentioned an increase in student confidence and communicative self-efficacy. Both interviewee #4 and #6 also mentioned examples of explicit language teaching in their approach. These positive teaching experiences and the perceived receptivity of their students’ may lead to further exploration and implementation of TTG-mediated L2LP. One reason that teachers using single-class approaches may face less resistance about their approach is that the approach itself may share some pedagogical qualities with traditional classroom approaches. Moreover, these lessons may take up less time and course focus than a multi-class implementation. Devoting significant amounts of course time to TTG-mediated L2LP or implementing a ‘radical’ form of pedagogy may face challenges and skepticism from some students and other stakeholders. Interviewee #1 had a similar perception to that of Interviewees #3, #4, and #6. That is, his perception was that his students thought of TTG-mediated L2LP as mainly interesting and not ‘work-like’, despite his implementing a multi-class and explicit approach. Interviewee #2, implementing one of the more robust, explicit, and multi-class approaches, arrived at a very different conclusion and noted that he believes that a significant number of his students may regard the implementation as frivolous despite his efforts and full support of this pedagogical approach. Interviewee #5, also implementing one of the more robust, explicit, and multi-class approach, indicated that he is aware of the challenges in convincing students of this approach’s validity, and he suggested some ways to bolster and reinforce the ‘seriousness’ and connection to language learning (e.g. using established classroom terms to refer to game materials). Consequently, robust approaches may face additional and

significant contextual and practical challenges related to student perceptions. This increases the burden on teachers choosing to implement this kind of robust approach. However, Interviewees #2 and #5 show evidence of an awareness of these challenges and applied strategies to mitigate them. It would seem that they have developed both the awareness and strategies as key support elements in their TTG-mediated L2LP practices.

Understanding how teachers perceive student attitudes toward TTG materials is important because it may impact teacher decisions related to implementation/non-implementation and also the manner in which students perceive the actual implementation. The second point is particularly salient as expert TTG-using teacher efforts to prepare, frame, and negotiate the materials implementation with students may have a tremendous impact on how students receive or engage with the pedagogical approach. Teacher training and guidance on best implementation procedures related to approach/materials will help teachers to anticipate and navigate potential challenges stemming from student concerns. Key points may involve establishing the seriousness of the learning approach, clearly communicating learning opportunities/outcomes/expectations, addressing cultural concerns, and providing students with a voice and some autonomy related to the implementation (including an opportunity to express concerns). Additionally, harnessing common positive student perceptions related to the materials/approach will be helpful as well. More research into both kinds of reactions is called for. When these reactions are addressed skillfully, student buy-in and/or engagement may be increased/maximized and this may potentially increase learning. One final point relates to the long-term impact of TTG-mediated L2LP. The students of today will become the teachers, administrators, government officials, and parents of the next generation. Demonstrating the strengths of TTG-mediated L2LP in engaging and successful classrooms will plant the seeds of future support of the approach at both top-down and bottom-up levels.

Views on school TTG-mediated L2LP perceptions.

Another possible influencing factor or constraint on teacher decisions related to classroom game use is teacher perceptions of school beliefs and contextual constraints. This potential influential factor was reinforced in the earlier literature (Francoisi, 2015; Tomlinson, 2013; Richards, 2001; Hourdequin, deHaan, & York, 2017; Wang & Ha, 2013; Cohen & Tellez, 1994; Borg, 2015), especially in the section on teacher cognition, and in the quantitative data.

Interviewee #1 noted that older teachers at his school tend to consider games in the classroom as just games. However, speaking about other teachers at his school, he said, “those that have looked at new research into active learning and are open to new ideas, consider them as an interesting resource.” Highlighting an even more significant indication of support, interviewee #1 reported that two teachers from his school have joined a twice-per-week game group that he hosts in an effort to ‘learn more about board gaming.’ This suggests the interviewee perceives some mixed opinions at his school about game use, but that some at his school seem open to it and other specific individuals have taken steps toward exploring the resource even further.

Interviewee #2 indicated that he is unsure of how his game use is perceived on a ‘departmental level’. Emphasizing the lack of clear support, he mentioned that his department has “no concept of professional development.” It should be noted that interviewee #2 mentions that he has ‘made deep connections with a few keen students and colleagues’ and that this may have influenced his previous, current, or future workplace relationships. Overall, this suggests that interviewee #2 does not believe he is clearly supported in his efforts at the departmental level. However, a lack of clear support does not indicate opposition or constraints against game implementation. It seems like he believes he

has a ‘free hand’ to pursue his approach and that he may be forging some limited but significant relationships possibly related to his school (students and colleagues).

Interviewee #3 mentioned that the principal and librarian at her school ‘love’ the tabletop games and ‘encourage the use of games in the interviewee’s classroom.’ In fact, her school library has a small collection of tabletop games for students to play. Having games available for use is a significant indirect institutional support element. Overall, this suggests she believes she has a supportive environment for classroom tabletop game implementation.

Interviewee #4 offered a brief comment on the topic of school attitudes. She remarked that some of her schools were more enthusiastic and that others were less so. However, she emphasized that none of her schools were ever against the idea of using tabletop games in the classroom. This suggests that she believes her school perceptions have varied, but that at least she was afforded the opportunity to implement game use as she saw fit.

Interviewee #5 reported, ‘I have yet to have a manager or administration react positively to my use of games. My elementary school manager liked the idea of using games, but she didn’t like the idea of a whole month of classes being devoted to it.’ This manager allowed him to do it after he demonstrated the approach would still allow him to meet various textbook requirements. He further noted that his current school ‘would prefer that he doesn’t do it’ but that they are ‘stuck with it’ because they do not have a set curriculum and he is able to implement his approach in accordance with the school requirements (as per the regular duties related to his position). Interviewee #5 also said,

“In my experience, administrators and head teachers have never seen games used except as end-of-the-year fun or in simple games that textbooks sometimes have for target-language elicitation. They are overwhelmed by the idea and can’t see how it would be implemented. Even after explaining the syllabus and curriculum, my head teachers don’t really understand what I’m doing.”

As was mentioned previously, interviewee #5 has experienced some tension at work related to his tabletop game implementation at his school, and this has led him to devote significant time to ‘defending’ his approach to his colleagues. Overall, this suggests that the interviewee does not feel supported in his efforts at the school level and that he may even feel somewhat ‘embattled’ with regard to school perceptions.

Interviewee #6 reported that, in his experience, specific teachers and directors sometimes express an interest in using tabletop games in the language learning classroom. However, he also noted that many in the education system adhere to a more traditional view and may regard games in the classroom as a waste of time. Still, interviewee #6 mentioned that he has had very positive experiences and feedback from the Italian Ministry of Education (who invited him to introduce games in classrooms) and schools. He described his own involvement in these efforts and similar projects as, ‘interesting experiences’ and that the use of games was ‘very well perceived by many teachers.’ This suggests that the interviewee believes there are mixed attitudes toward game use, but also some significant top-down and bottom-up support (government, schools, classes).

In summary, we can see a wide range of perceived reactions and school beliefs related to the specialist teachers’ game use. Interviewees #1 and #3 reported positive levels of support and interest at schools. Interviewees #6 reported impressions of support from a broad range of stakeholders with whom he had personal interactions. Especially notable is the top-down governmental support mentioned. However, he notes that prevailing attitudes about education often tend to prefer more traditional approaches. Interviewee #4 reported mixed

school beliefs but mentioned that none of her schools forbade the use of games. Interviewee #2 implied a lack of departmental support, but a certain degree of freedom. While this may not be ideal in terms of professional development, this interviewee also engages in significant extra-school professional development and peer engagement. Interviewee #5 reported experiencing more active and clear disapproval from his schools. It is possible that some committed TTG-mediated L2LP practitioners will be dedicated to persevering through this kind of limitation due to their strong belief in the approach, interest in it, and personal will to pursue their own approach. Additionally, some practitioners may adopt a ‘rebel-teacher’ type of motivation (Cohen and Tellez, 1994) which may result in approach commitment increase in the face of resistance. Nonetheless, this kind of institutional pressure may be a significant and approach-limiting constraint for many. Moreover, the long-term effects may make it difficult to sustain teacher commitment. Thus, school-level perceptions about TTG-mediated L2LP seems to be a significant potential source of influence on teacher cognition related to tabletop game use or non-use in language learning classrooms.

Understanding how teacher perceptions of school views on TTG use will help highlight ways in which to predict school reactions (positive and negative) and support teachers in appropriate skillful navigation. This applies to both experienced and new game-using teachers. The range of points that may be helpful to guide teachers on is preparing for diverse reactions based on school/context, predicting/navigating reservations or opposition, maximizing school support, modeling/supporting peers at schools, empowering teachers to advocate for appropriate support, and leveraging school external supports (governmental, private sector, research, etc.). Support for these efforts/contexts could involve pre-service/in-service training, online guidance, and grassroots organization (drawing together teachers, researchers, and stakeholders).

Responses relating to professional development (teaching and other areas).

Interviewee #1 has given three presentations on board games in the classroom relating them to TBL (Task-Based Learning)/PBL (Project-Based Learning) and Active Learning. This indicates some influence on his professional development. The interviewee also described actively researching TTG-mediated L2LP in an effort to improve his own implementation.

Interviewee #2 reported that the use of tabletop games in his classroom has, ‘completely changed the way I teach, the research I am doing, and my whole life trajectory as an academic.’ He has given numerous presentations on the topic at teacher conferences, and he maintains an active presence on a blog dedicated to the subject. Additionally, he is currently focused on academic papers related to research and teaching and creating more accessible resources for teachers interested in TTG implementation. He mentioned that he is motivated to make these contributions because game use in SLA is ‘fragmented and troubled.’ Furthermore, he stated that he sees this as an opportunity both to make a contribution that will help other teachers and their students, and to advance his own academic career.

Interviewee #3 did not report any specific professional development related to tabletop game use. This may be reflective on her less intentional and explicit usage of the games as part of an integrated approach connected to language teaching. Indirectly, we may theorize that as her game use occurs in a supportive school environment, she may benefit from being recognized for her role in fostering community spirit and collaboration among her students. It is also possible that she could engage in professional development related to game use at a later point in time. Given her personal motivation, positive feedback from

students, and support from her schools, this seems a definite possibility. More research into this kind of professional development trajectory would be useful.

Interviewee #4 reported that she has conducted numerous teacher training events about the use of tabletop games in classrooms. She also mentioned that the use of games has helped her to improve her classroom instructions and even influenced her current position as a materials editor. She explained that she feels the use of games boosts the creativity of teachers (game selection, modification, implementation, etc.). Overall, interviewee #4 has found tabletop game use to have a significant professional impact.

Interviewee #5 keeps a fairly active blog that sometimes contains posts on the subject of his approach. This may be one way in which the interviewee develops himself (researching and preparing the posts for the blog). It may also help him to reflect on his practice. He also mentioned that he keeps up on research by searching for articles and other related publications online. It must be noted though that interviewee #5 expressed a certain level of professional frustration related to both school-level resistance toward his approach and his limited professional career prospects. It is possible that his negative experiences may result in his leaving the teaching profession altogether, bring his TTG-mediated L2LP professional development to an end, and close off the possibility of his future contributions to the field. He indicated that, given the sources and nature of these frustrations, he has a hard time seeing himself continuing a teacher. Teacher development opportunities and teaching prospects are reported as being significantly limited by interviewee #5.

Interviewee #6 reported that he has been invited to teach in classrooms and lead other projects by various schools and government agencies (national and municipal). Thus, his classroom implementation and design background do seem to be promoting professional development in some sense. Interviewee #6 also teaches a game design class, so his

classroom implementation experiences may have influenced him in that area as well (though it is expected that his professional game design background would be the main influence).

Overall, varying degrees of professional development-related responses were provided by the interviewees. Interviewee #3 did not provide specific mention of professional development. In contrast, interviewees #5 and #2 reported significant steps and interest in developing both their TTG-mediated L2LP practice and their general professional development related to TTG-mediated L2LP. Interviewees #1, #4, and #6 show evidence of impactful professional development, but to a lesser degree (at least according to the responses at this point) than interviewees #2 and #5. In terms of professional satisfaction, we may return to the literature themes of self-development (Gebhard, 2017) and explorative self-development (Gebhard and Oprandy, 2005) which suggest that teachers engaged in self-development may benefit from:

- An ongoing commitment attitude to self-development
- Seeking opportunities for self-development
- Cooperating with others/peers
- Reflection
- A spirit of problem-solving
- Taking responsibility for one's own development
- Cultivating a greater whole-person connection to one's practice

Many of the interviewees show some of these related behaviours/attitudes in a way that is connected to TTG-mediated L2LP. Interviewee #5's tensions at school and perceived professional and contextual constraints/limitations may represent a potential challenge for TTG-mediated L2LP-teacher professional development in general.

Understanding how teacher professional development opportunities relate to TTG-mediated L2LP will show ways in which teachers can be supported to contribute to workshops, research, materials development, communities of practice, and leadership. Shining a spotlight of professional development opportunities and related potential participation/status/recognition emphasizes the importance of long-term growth within the TTG-mediated L2LP approach, recognizes the range of teacher growth opportunities, and promotes meaningful opportunities and incentives for TTG-using teachers (expert and novice).

Responses referencing TTG-mediated L2LP CoPs.

Communities of Practice are one way in which practitioners of a specific approach can support, challenge, and learn from each other. It is one possible source of influence on TTG-mediated L2LP practitioners and it can have a variety of effects on their cognition. The responses of the interviewees were examined for evidence of CoP involvement.

Interviewee #1 reported that he actively follows the presentations, research, and reports of interviewee #2 and another Game-Based Language researcher/teacher. He also indicated that some of his coworkers and students attend a twice-weekly game group that he hosts. This is more of a ‘game group’ than a CoP; however, it may facilitate future discussions with these teachers. Finally, although the interviewee did not mention it, he is a participant on several BoardGameGeek threads/lists on the subject of using tabletop games in language learning classrooms. This suggests some beginning steps toward engaging in a CoP or with similarly supportive resources.

Interviewee #2 indicated that he is currently engaged in a joint research project with another researcher specializing in GBLT/L. He reported that they are, ‘exploring the Who, Where, What, Why, and How of GBLT.’ As mentioned previously, interviewee #2 actively maintains a blog. He posts quite frequently and sometimes fields posted questions from people reading the blog. Also, his participation in academic and teaching circles gives him a fairly wide range of professional reach. Moreover, though the interviewee did not report this, the researcher has discovered that Interviewee #2 has started several BoardGameGeek threads/lists aimed at contributing to GBLT/L and also fostering teacher discussion. In summary, there is strong evidence of not only CoP participation, but also facilitation, organization, and leadership.

Interviewee #3 said that she primarily discusses game use in the classroom with her school librarian, friends and family who are also educators, and, to a lesser extent, teachers in the workplace. In previous sections, she mentioned a significant amount of support from her school principal. She also stated that she has had conversations sometimes about game use with others over e-mail. Overall, this suggests a ‘convenience-based’ personal and professional CoP and it is not clear to what extent participants in this informal community are able to offer informed advice or meaningful profession-focused participation. It is possible that engagement in a TTG-mediated L2LP CoP may positively impact her classroom use of games related to language learning purposes.

Interviewee #4 mentioned speaking about tabletop game use with colleagues at language schools. In addition to this, though not reported by the interviewee, she also participates on BoardGameGeek game use threads/lists. This suggests some beginning steps toward a CoP or similar resources.

Interviewee #5 reported prior fruitful game implementation discussions with his academic advisor, classmates, and even teachers at a previous school. However, his current school does not support his use of games, and he does not feel like he has a peer group with whom to discuss his practice. “Now, I don’t talk with anyone”, he says. He mentioned that he keeps a blog in order to think through conversations and engage in critical self-reflection, but he also acknowledges its limitations. “I don’t have colleagues or peers that I can talk to in order to vent or talk through issues. And this is really harmful. I sometimes realize that I am not thinking clearly about my practice.” He reported that he is missing a sense of progress due to a lack of peer interaction. The interviewee mentioned sometimes fielding blog questions or contacting researchers in the field, but he describes these interactions as ‘transactional’. He also has some limited participation in a local professional language teacher’s organization, which, he explained, serves more as a contrast point to his practice or an opportunity to hear other professional views and ‘filter them through his own theoretical framework’, rather than as an interactive, supportive, and practice-relevant CoP. The interviewee described his situation as ‘quite isolating.’ Overall, he reported lacking a CoP which he feels would fill his professional needs. He is aware of this fact and of how it may be limiting and affecting his practice. He has taken some steps towards facilitated professional interaction; however, it seems that the interviewee desires a more meaningful CoP.

Interviewee #6 did not report taking part in a formal CoP. However, he did mention communicating with teachers and schools regarding classroom game implementation, but no significant evidence of a TTG-mediated L2LP CoP or a desire for a TTG-mediated L2LP CoP was shown. The researcher suspects that the interviewee may actively participate in game-design/development related CoPs. This inference may be supported by the

interviewee's reference to running a regular game playtesting group, which may feature game design and development discussion.

Overall, there was not significant evidence of ubiquitous CoP engagement, though certain specialist teachers have formed some professional practice links. Notably, interviewee #2 is playing a very active role in facilitating CoP-like engagement for other teachers using TTG-mediated L2LP. Interviewee #5 provides an example of how professional isolation can potentially affect a teacher's practice and also highlights the potential value of a publicized, specialized, and online TTG-mediated L2LP CoP or subgroup CoP on a general game-mediated teaching forum. BGG provides some of this, but the 'teacher' focus is not the website's primary aim. Given this, the depth of its discussions and pedagogical focus is perhaps more limited on this platform than discussion on a specialized forum/platform might be. Zagal (2010) gives strong support regarding the game literacy benefits related to participation in CoPs. Tseng and Kuo (2013) show that CoP participation can be linked to both cognitive and socio-cognitive benefits and that these can support/promote professional development and growth.

Understanding TTG-using teacher engagement in CoPs will show ways to leverage social relationships to sustain motivation, provide encouragement, and generate accountability. Participants can get/give feedback on implementations, search for/contribute support resources/materials, contribute/share in the distribution of knowledge and research generation, and increase general visibility related to TTG materials and TTG-mediated L2LP. These kinds of CoPs may also be a way to encourage diverse viewpoints within the field to seek common ground and also cultivate an atmosphere of civil professional accountability in a challenging, yet diverse space dedicated to relevant professional issues. Vibrant and healthy CoPs encourage networking and provide platforms for interaction/engagement. As

such, more attention should be given to researching current CoPs and exploring ways to both increase CoP access and visibility for novice and expert game-using teachers as well as promote new CoPs (localized and online).

Responses relating to concerns and challenges of TTG-mediated L2LP.

Interviewee #1 pointed out that one significant challenge is in ‘proving’ that students are learning and using English through the use of classroom tabletop games and related activities. He also noted missteps in his iterative process of classroom implementation, so this ‘evolving’ nature of informed implementation in specific classrooms may be a challenge for many teachers. Interviewee #1 also mentioned that his classroom context changed and that this necessitated adjustment in terms of his teaching approach. The interviewee calls for ‘more work to be done on how to better use tabletop games in classrooms.’ Finally, the interviewee said that he sometimes felt it necessary to simplify the rules or gameplay of commercial games. This may be interpreted as a challenge for teachers seeking to adapt games for their classrooms.

Interviewee #2 noted that classroom tabletop game implementation requires “very serious consideration of what pedagogical activities should surround the gameplay,” and that “gameplay itself is useless without wider pedagogical considerations.” Interviewee #2 also expressed concern that too many people may be looking for a ‘quick fix’ in approaches like gamification (applying aspects of games and game design to learning contexts). He cautioned that this may come at the cost of actually learning about principled game implementation and of carefully considering whether or not a particular principled approach fits their context. Moreover, interviewee #2 cautioned teachers that “games by themselves do not motivate learners to become more proficient English learners,” and that “games are not a panacea for saving English education.” He also warned against using games as a “treat at the

end of the day,” and explained that “the way most teachers are using games is not conducive to language learning.” In particular, he mentioned that many teachers use games as ‘language practice’ at the end of a PPP (Present, Practice, and Produce) approach without further analysis or reflection.

Interviewee #3 reported that her main concern is that game use in the classroom must be intentional. She mentioned that less intentional game use might lead students to ‘ignore other learning resources and experiences in the classroom.’ She argued that the teacher’s roles as game teacher, classroom manager, and positive environment cultivator (encouraging students to play together, teach each other, and collaborate) are crucial. She summed up her position by saying, “Games can be a successful part of teaching, but I don’t think it should be the only part.”

Interviewee #4 identified a teacher’s own mindset as a potential challenge. She said that if teachers think that games are childish and that they do not belong, it is unlikely that they will be utilized. Also, if teachers give the games to the students without principled and additional follow-up or integration, the game implementation may yield more harm than benefits. A final challenge mentioned by interviewee #4 is the cost of purchasing tabletop games (though she also noted that many games are reusable and may provide a long-term resource if treated with care) and curating a game library. She also mentioned that games with too many rules are challenging to implement because explaining the rules requires too much class time. Finally, interviewee #4 explained that she sometimes simplified game rules or gameplay to adapt the resource for the classroom, which indicates that this is a potential challenge for teachers.

Interviewee #5 mentioned that there are many challenges related to tabletop game implementation in language learning classrooms. He said that this is especially true for older

students as they may have difficulty accepting the ‘play’ aspect of games in the classroom as valid, and they may even perceive them as unhelpful and unlike regular classroom learning experiences. This may make them uncomfortable with this approach. The interviewee reported that this perception is also held by many ‘high achieving’ younger students. For this reason, he pointed out that the teacher must balance providing learner agency (game choice, playing independently, etc.) with guided orientation to the new experience of games being used in the classroom. This balancing act can be difficult to achieve, and it may involve dynamic scaling as the students become more familiar with the approach and particular games. Following on this point, if, at the start of the course, students are unaware of the extent of game use in the classroom, it is possible that students may react negatively to their use. For this reason, he recommended informing students early on about the intended use and how it fits within a principled and serious approach. Another challenge reported by interviewee #5 is the cost investment and selection process of procuring tabletop games. The interviewee has previously noted very significant challenges related to a lack of school-level support and limited access to a CoP. As such, he sees the limited opportunities for teacher and researcher collaboration and resource sharing in his TTG-mediated L2LP practice.

Interviewee #6 noted some classroom organizational challenges related to independent gaming (having the groups play the game smoothly and also provide instructional feedback and guidance). He mentioned that this can create difficulties when teaching games, learning games, and playing games in the classroom. He also noted that it can limit the teacher’s ability to monitor student output and provide feedback. Another challenge mentioned by the interviewee is that many ‘educational’ games may not be accepted by students and so the modification of existing commercial games for the classroom can be a challenge.

As Borg (2015) notes, one expressed behaviour of teacher cognition is an ability to predict and react to challenges within their practice. The manner of navigating challenges also seems to have a quality of flexibility about it. Borg (2015) suggests that, in part, specialist teachers are able to do this by combining and integrating experiential and formal knowledge. The descriptions above offer numerous examples of experiential knowledge, formal knowledge, and possible integrated combinations of the two. Additionally, several examples of ‘problem solving’ and reflection can be noted. These were emphasized as useful for teacher self-development (Gebhard, 2017). Each interviewee’s wealth of experience and teacher-wiseness (Mak, 2011) promises to grow with increased TTG-mediated L2LP experience and reflection. What remains to be seen is how focused and efficacious said growth will be and how other factors may influence their particular cognitions related to TTG-mediated L2LP.

Understanding teacher awareness of potential concerns and challenges related to TTG-mediated L2LP is helpful for preparing new TTG-using teachers to encounter these aspects successfully and in a grounded fashion. Moreover, experienced teachers can benefit from community and professional supports aimed at both resources and self/peer reflection. Cultivating reflective opportunities will help to encourage the development of teacher expertness on an individual level and also build relationships/networks between teachers and researchers. Expert TTG-using teachers and researchers have the potential to play a pivotal role in providing TTG-mediated L2LP outreach and support to new TTG-using teachers. Special efforts should also be taken to dispel the myth that game use somehow reduces teacher classroom burden or responsibilities. Principled teaching is built around teachers identifying, accepting, and meeting their responsibilities skillfully. The message from the field ought to focus on how to support teachers in using TTG materials skillfully, enhancing their pedagogical abilities, and supporting learners effectively.

Wisdom, advice, and suggestions about TTG-mediated L2LP implementation.

Interviewee #1 made a comment that acknowledges the frameshifting required for a teacher who is within the ‘hobby’ of tabletop games and is considering game use for language learning students. He remarked, “I need to take a step back and consider what would be interesting for first-time players, rather than veteran Euro players!” A ‘Euro’ here refers to a complex game type for which the interviewee mentioned having a penchant. He further indicated that ‘knowing your students is key and choosing the right games is something that takes trial and error.’ He also noted that the pathway to successful use of games in the classroom should include selecting the right game and giving clear instructions to the students about what they should achieve. He mentions that pedagogical considerations ought to be of prime importance.

Interviewee #2 emphasized that teachers should ‘ground gameplay in a specific approach or approaches to SLA (TBLT, multiliteracies, SCT, etc.), that the teacher should not assume student knowledge about the game or literacy skills, that gameplay should be augmented with a massive amount of support materials, that students should be given some choice in what to play, that learning in the classroom should be connected and made relevant to what is outside the classroom, and that reflection is also key to successful implementation.’ Interviewee #2 indicated that teachers using games need to be interested in them, must understand which games will work, and be active in supporting students (explaining rules, providing feedback, bridging breakdowns, connecting gaming to real-world). In presenting the evolution of his own approach, the interviewee noted that it has taken significant time and that he is still working on refining and improving the approach. He ended his advice with this, “Giving learners deep cognitive activities to do outside of gameplay is paramount in helping them to develop as an L2 speaker/user.”

Interviewee #3 mentioned that she believes tabletop games in the classroom should be, “intentionally used, taught about, and that the students should be encouraged to teach others how to play.” As mentioned in the previous subsection, she sees unintentional use as potentially distracting students from other learning opportunities. Having said that, she sees great value in game use in her classroom. She noted that she wants her students to learn how to respectfully treat others (winning and losing graciously, collaborating, politeness, etc.) and also to respect the game itself (experience and components). In this sense, interviewee #3 sees many potential benefits outside of specific language learning focus, and she believes that these should be considered as well.

Interviewee #4 echoed some of the previous comments regarding informed and purposeful utilization of tabletop games in the classroom when she said, “I believe that tabletop games can be a wonderful resource to use in language learning classrooms, but they should be used with a purpose, to serve a goal, not just for the sake of it. A teacher using them should be aware of why s/he is using them and what is the educational goal of the lesson. Using them in a smart way can prove very beneficial for the students.” Interviewee #4 also sees great benefits for the teacher in terms of engaging their own creativity in implementing tabletop game resources. She encourages teachers to try new games and new ways of using games in their specific classrooms. Moreover, she said that the process of implementation becomes easier the more a teacher does it.

Interviewee #5 noted that, “It’s important that I’m not teaching tabletop games simply because I like them, but because I actually think they have tremendous teaching and learning power because of their design, physicality, and sociality. I think this is important for students to know as well.” He mentioned that he thinks games represent an ‘ideal learning situation’ in that they provide ‘bounded social interaction that is in itself complete.’ The role of the

teacher is to harness this interaction and facilitate transference to other contexts and domains of use. Interviewee #5 mentioned that it is important for students to feel empowered to express their likes and dislikes about gameplay, and that this can be used in the learning process (examining, comparing, and creating game reviews). He provided the following suggestion for teachers considering the use of tabletop games, “I think it’s a good idea to have a framework that games can fit into and not the other way around.”

Interviewee #6 said, “I think that games can be very useful tools, but precise goals must be set before using them so to be clear on what the teacher expects to get. And then appropriate games must be chosen for these specific goals. Focus on the goals and choice of tools to achieve them is crucial.” He sees classroom game implementation as having great motivating potential, allowing for targeted language learning, and also increasing learner confidence. In summary, the following common themes emerged from the interviewees:

- The importance of beginning with classroom goal orientation and frameworks
- The importance of connecting the gameplay to greater classroom learning and transfer to out-of-class use
- The importance of the game use being informed and motivated by teacher belief in the language teaching and learning opportunities
- The principled game use should fit particular classroom needs, can be implemented in various ways, and may serve a variety of functions
- That a teacher’s TTG-mediated L2LP practice can sharpen and improve over time, but that this process may also include some missteps and trial-and-error

Overall, the interviewees indicated that classroom tabletop game use should serve specific learning goals or purposes and that this must be the rationale for principled classroom usage (Filsecker & Bündgens-Kosten, 2012; Sykes and Reinhardt, 2013). Two of

the interviewees (#2 and #5) emphasized the game use ought to exist within a framework or approach. Moreover, the theme of ‘long-term’ knowledge/growth/development through TTG-mediated L2LP experience was mentioned or implied by three interviewees (#1, #2, and #4). This relates to Borg (2015), Gebhard (2006), Zagal (2010) and Mak (2011).

Interviewee #1 and #2’s point about not taking the student’s game literacy or interests for granted is quite insightful. It highlights one way in which game literacy disparity can foster problematic classroom implementation (Zagal, 2010). This also helps to show that increasing game literacy alone is not enough and that increased game literacy can, without being tempered by contextual considerations, create new problems. Helping game literate teachers cultivate this attentive and student-focused mindset should be a key goal of TTG-mediated L2LP teachers, proponents, and researchers. Interviewee #4’s connection of game use to professional development and creativity also brings to mind the topics of self-development (Gebhard, 2017) and creativity (Tomlinson, 2013; Maley, 2013; Horng, Hong, ChanLin, Chang, & Chu, 2005; Gebhard, 2017). Teacher interest and fulfillment are also critical to sustain practice motivation, engagement, and development.

There were many differences in terms of interviewee approaches; however, this may be expected given the diverse experiences and individual factors of the interviewees. After all, they teach in a variety of contexts, are driven by different pedagogical beliefs and motivations, and may be focused on context-specific goals and outcomes. The most common threads drawing them together are their familiarity with tabletop game resources in general, their belief that principled TTG-mediated L2LP can provide beneficial language teaching and learning opportunities in their classrooms, and that their particular implementation approaches are in states of iterative development. They are in the ongoing process of learning to teach with games, they believe in the usefulness of games in their classrooms and

for their students (often as part of a greater framework or approach), and they are knowledgeable about and interested in tabletop games.

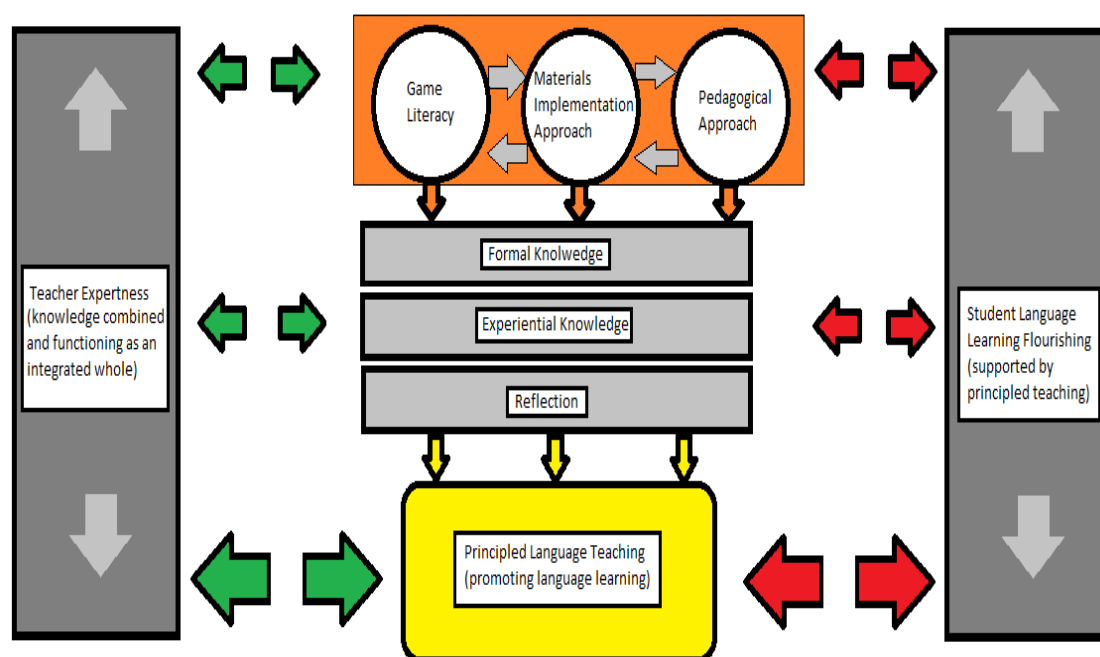
Understanding teacher takeaway in terms of wisdom, advice, and suggestions will allow researchers and expert TTG-using teachers to better understand teacher expertise development and predict challenges with a mind to follow them up with specific supports. For example, helping teachers understand how their TTG hobby and teaching practice can help/hinder principled implementation, promoting practical solutions for boots-on-the-ground teachers, generating teacher reflection on the marriage between theory and practice, and exploring/considering a diversity of opinions related to pedagogical approaches. Sharing and documenting teacher experience and wisdom, as well as promoting reflective practices engaged in these efforts, will help to both encourage/engage expert TTG-using teachers and provide guidance for new TTG-using teachers. Collecting and highlighting actual TTG-mediated L2LP takeaway will do much to both prepare teachers and build common ground for both research and practice within a disjointed field.

Chapter IV – Findings and Implications

Conceptual Model of TTG-mediated L2LP Teacher and Student Cognition

The following conceptual model shows one interpretation of how various elements of teacher and student cognition/behaviour interact and develop over time in the language learning classroom. The model attempts to capture dynamic interactions and developments over time related to TTG use for teachers, learners, and the common ground of interaction between the two. ‘Teacher Expertness’ is represented on the far-left side of the model. ‘Student Language Learning Flourishing’ is represented on the far-right side of the model. The upper-centre of the model shows relevant TTG-mediated L2LP inputs such as ‘Game Literacy,’ ‘Materials Implementation Approach,’ and ‘Pedagogical Approach.’ Shown in the mid-centre, are cognitive implementation-based lenses and filters such as ‘Formal Knowledge,’ ‘Experiential Knowledge,’ and ‘Reflection.’ The lower centre shows the model output, which is ‘Principled Language Teaching (supporting language learning).’

Figure #23: Conceptual model of TTG teacher and student cognition and behaviours



Teacher expertness.

Teacher expertness in this model is shown as being in a state of growth and expansion as well as interaction, direct and indirect, with other elements of the model. In part, teacher expertness involves the integration and application of formal and experiential knowledge. As this occurs, it leads to a greater and greater growth in expertness. Expertness can be connected and supported by teacher professional development (career and practice), CoP engagement, and personal engagement/enjoyment. The growth and expansion of teacher expertness is represented by the grey arrows within the teacher expertness box. Cognitive elements related to student motivation, identity, and lived experience also factor into the teacher box of accumulated cognition. The accumulation of experience and formal knowledge over time is an important factor relating to the process of expertness development. Reflection, both individually driven and peer-supported, is another key element of the cultivation of expertness. Focused reflection can increase the efficiency of teacher expertness growth and development. It should be noted that formal knowledge, experiential knowledge, and reflection are represented in the mid-center of the model in relationship to the inputs (game literacy, materials implementation approach, and pedagogical approach) and output of principled language teaching, but these elements also exist within the large teacher expertness box. The differentiation is intended to highlight the dynamic interactions between the inputs and outputs in specific implementations.

Moreover, cumulative teacher expertness both impacts and is impacted by the teacher's relationship with game literacy, materials implementation approach, pedagogical approach, and language teaching. This is represented in the model by the green arrows. Additionally, teacher expertness indirectly impacts and is impacted by student language learning. This occurs through the model interactions represented in the middle of the model, where both teachers and students have some degree of interaction and mingling.

Student language learning flourishing.

In this model, student language learning flourishing mirrors the teacher expertness model description. It is also shown as being in a state of growth and expansion as well as interaction, direct and indirect, with other elements of the model. Student language learning flourishing similarly involves the integration and application of formal and experiential knowledge. As this occurs, greater and greater language learning flourishing is facilitated. The growth and expansion of student language learning flourishing is represented by the grey arrows within the student box. Again, knowledge (experiential and formal) over time and reflection (individual, peer, and teacher-mediated) are important factors stimulating this process of growth. Cognitive elements related to student motivation, identity, and lived experience also factor into the student box of accumulated cognition. Expansion of language learning flourishing within this model involves legitimate and informed participation, autonomy, and connections to greater learning. Formal knowledge, experiential knowledge, and reflection are represented in the mid-center of the model in relationship to the inputs (game literacy, materials implementation approach, and pedagogical approach) and output of principled language teaching, but these elements also exist within the large student language learning flourishing box. The differentiation is intended merely to highlight the dynamic interactions occurring with the inputs and outputs in specific ways.

Student language learning both impacts and is impacted by their relationship with game literacy, materials implementation approach, pedagogical approach, and language teaching/learning. This is represented in the model by the red arrows. Additionally, student language learning flourishing indirectly impacts and is impacted by teacher expertness. This occurs through the model interactions represented in the middle of the model, where both teachers and students have some degree of interaction and mingling.

TTG-mediated L2LP inputs: ‘game literacy,’ ‘materials implementation approach,’ and ‘pedagogical approach’.

The inputs at the top centre of the model are game literacy, materials implementation approach, and pedagogical approach. All of these elements interact with greater integrated teacher and student cognitions of expertness and language learning flourishing and are affected directly by cognitive filtering and tools (formal knowledge, experiential knowledge, and reflection). These cognitive elements also affect the specific impacts of distinct inputs at specific moments/stages. Moreover, game literacy, materials implementation approach, and pedagogical approach elements facilitate the formation of teacher/student cognitive connections as they are combined in specific relationships together during implementation. This interaction is represented in the model by the grey arrows flowing between the inputs within the top-centre orange box. The particularities of a specific implementation dynamic between these elements impacts other areas/elements of the model. What games are used? How are they used and why? What materials are created? How are materials supported and implemented? Which pedagogical framework is guiding implementation? What level of refinement or development is supporting/guiding the implementation? How do these elements interact with each other to support meaningful language teaching and learning experiences over time?

Implementation-based cognitive tools/lenses: ‘formal knowledge,’ ‘experiential knowledge,’ and ‘reflection’.

The implementation-based cognitive tools/lenses in this model are represented in the mid-centre and are formal knowledge, experiential knowledge, and reflection. These elements are listed below the inputs to highlight the relationship between particular input selection and related cognition during a specific given period of time. This could include

cognition factors immediately prior to specific implementation, during said implementation, or after the fact. In truth, the cognitive elements also exist and interact within other areas of the model as a more general ‘body’ of cognition. For example, grey cognition arrows within the orange box can be seen impacting input selection and use and cognition impacts/influences are shown as flowing to and from the teacher (green arrows) and student (red arrows). Moreover, the aforementioned cognition elements are shown within the individual teacher and student boxes as grey arrows indicating cognitive expansion and development in terms of expertness (teacher) and language learning flourishing (student). Thus, cognition affects numerous specific instances of classroom implementation and also broader individual growth and development.

TTG-mediated L2LP output: ‘principled language teaching (supporting language learning)’.

In this model, principled language teaching (supporting language learning) is placed in the lower centre of the model, represented as the output of the materials implementation decisions affected by game literacy, materials approach, and pedagogical approach as well as formal knowledge, experiential knowledge, and reflection. Principled language teaching (supporting language learning) is the culmination of the implementation process, represents the fruit of the participants’ labour, and operates as a specific and shared implementation ‘objective/goal’ bonding participants together during implementation. In other words, this is the common ground shared by participants which makes tabletop game use in language learning classrooms potentially useful, valid, and fruitful.

Principled language teaching (supporting language learning) is further represented as impacting and being impacted by the broader body of integrated cognition of the participants (teacher and students). This is represented by the large green (teacher) and red (student)

arrows. Again, the model attempts to make a distinction between specific and particular implementation of TTG-mediated L2LP and broader body of accumulated cognition belonging to the individual participants. Teacher and student participation in this model highlights both relationships of interaction/negotiation and rumination, mediation, and knowledge. In short, the quality and substance of this output is directly and indirectly influenced by the inputs. Moreover, the quality and substance of the output has significant impact on the participants as individuals and relevance for the language teaching and learning outcomes of the participants invested in this process/relationship.

Conceptual model implications for research conclusions.

As mentioned previously, this conceptual model attempts to capture dynamic interactions and developments related to language learning classroom TTG use over time for teachers, learners, and the middle ground between the two. However, the specific focus of the research at hand is teacher cognition. As such, the primary areas of model relevance for the research are the teacher expertness box and the central implementation elements related to inputs (game literacy, materials implementation approach, and pedagogical approach), implementation-based cognition tools (formal knowledge, experiential knowledge, and reflection), and principled language teaching (supporting language learning). The research conclusions will mainly address findings falling within these areas. Student language learning flourishing, while certainly relevant to understanding the fuller extent of the model's relationships, interactions, and motivations, is not a primary area of focus for this research effort into teacher cognition. As such, research findings related to this area will be presented indirectly or as an ancillary area of relevance. It is hoped this conceptual model helps to frame and focus the research findings being presented (teacher cognition related to tabletop game use in language learning classrooms) and also serve as a starting point for future research on this topic.

Summary of Findings

Quantitative data.

The quantitative respondent results allow for the exploration of some game literacy and cognition factors for teachers of indeterminate specialization relating to tabletop games (general teacher group).

53.24% of respondents reported using TTGs six times per year or more in class. This suggests that TTGs are a frequently used resource among the respondents. 75.88% of the respondents indicated that they use TTGs in a way that is connected to the curriculum. The vast majority of respondents showed some degree of agreement with game usefulness (93.44%), teacher classroom game enjoyment (86.00%), confidence teaching and organizing gameplay (87.62%), games being a good break or reward (93.04%), perceived student game enjoyment (97.00%), perceived student game validity beliefs (79.70%), perceived administration game validity beliefs (74.64%). 55.78% of the respondents described playing TTGs more than six times per year. This may indicate a limitation on perceived usefulness related to materials usage limitations (Davis, 1989). Though respondents overwhelmingly agreed with a prompt suggesting TTGs are a useful classroom resource for language learning, this item does not measure the scope of potential use or manner of potential TTG use in the learning context.

62.19% showed some degree of agreement with the prompt ‘I am aware of popular modern TTGs played inside and outside classrooms.’ Thus, well-over half of the respondents believe they have an awareness of modern TTGs. Some of these responses indicating ‘awareness’ may be influenced by the ‘Dunning-Kruger Effect’ (1999, 2011).

55.78% of the respondents indicated that they played TTGs six times per year or more. This finding does not speak to the quality of the games played. However, this does indicate some general TTG awareness related to gaming experiences and enjoyment, and this may influence broad classroom implementation behaviours.

62% of the responses showed some degree of disagreement with the prompt ‘My school has or had TTGs available for teachers to use in their classes.’ Given the disagreement, it is clear that many respondents do not believe that their schools have TTGs available. This suggests many respondents in the general teacher group may have limited game access. This may also suggest some of the teachers in the general teacher group have limited game literacy and that this might limit the range of their implementation options.

57.50% of respondents showed some degree of agreement with the prompt about their access to pedagogically-supportive game materials for classes. This suggests that some teachers interested in using and/or already using TTGs may require additional appropriate materials access, resources to support appropriate material access, and/or training related to game selection and implementation.

62.87% of respondents showed some degree of agreement with the prompt asking if they have created, made, developed, or modified TTGs for their classrooms. This indicates significant teacher engagement in materials creation and related activities. Understanding how this engagement influences and is influenced by game literacy levels and materials creation/implementation is a crucial area of potential future research. Understanding how these points affect classroom pedagogical implementations is of particular importance.

55.60% of respondents had ‘geek rating’ averages below ‘6’ when their ‘games enjoyed’ were analysed. Looking at the list of the ten most popular games mentioned reveals

that six of the top ten games have ‘geek ratings’ below ‘6,’ and six of the games were published before 1994. Further, when teacher ‘geek rating’ averages were compared with game creation habits, it seemed to suggest that as teacher game literacy increases, game creation decreases.

68.30% of the game titles that teachers reported as being provided by schools had ‘geek ratings’ below ‘6’ (even lower than an ‘ok’ game). This suggests that game resources at educational institutions may be of lower rating quality than the games respondents mentioned they enjoy playing. Thus, school support of a TTG approach may be implicitly limited. 79.10% of the game titles reported were published before 1994. Six of the top 10 games most commonly reported by teachers as being at their educational institutions had ‘geek ratings’ below ‘6’. Further, the ‘top 10 item’, ‘teacher-made games,’ could not be assigned a ‘geek rating’. However, it is highly likely that these games would receive lower ratings as they are not designed by professional game designers and many likely copy older game designs. Eight of the top 10 games were published before 1994 and reflect older game designs. This finding does suggest some TTG resource limitations at schools and perhaps for many teachers. However, this does not indicate how these resources are or are not used. As such, pedagogical use of the resources cannot be clearly established. Frankly, it is not difficult to imagine principled pedagogical classroom implementation based around an older game or unprincipled pedagogical classroom implementation based around a new game. Nevertheless, the noted limitations do suggest possible general TTG-mediated L2LP practice limitations for non-specialist TTG using teachers.

Specific experience in classroom teaching contexts (ESL, EFL, EAP, and Settlement Language Learning) showed some differences among the respondents. In terms of teacher beliefs related to administration validity, the ‘slightly agree’ to ‘strongly agree’ response

ranges were quite similar in the four experience contexts (ESL 76.64%, EAP 71.43%, EFL 68.52%, and Settlement Language Learning 69.57%). General agreement over perceived student belief in game use validity was between 70% and 82% in all four contexts (EAP being the lowest at 73.69%). Teacher beliefs about game use validity did not show major differences by context. Teacher TTG classroom enjoyment responses were very high for all experience contexts, though it was highest in Settlement Language Learning (93.54%) and lowest in EAP (83.93%). This indicates broad enjoyment across the main classroom teaching contexts analysed. Game creation habits occurred more frequently among ESL (66.36%) and EFL (61.11%) experienced respondents and less frequently among EAP (52.63%) and Settlement Language Learning experienced respondents as a whole. However, it is notable that the Settlement Language Learning experienced respondents had the highest number of responses supporting the strongest option of game creation behaviour frequency. Teachers in Settlement Language Learning classrooms indicated the highest levels of disagreement (73.91%) that they had access to pedagogically appropriate games at their schools. EAP (68.42%) had the next highest amount of disagreement, followed by EFL (66.03%), and ESL (60.73%).

Qualitative data.

The interviewees all had generally positive childhood gaming experiences, but these experiences were not viewed as a significant spark for their TTG-mediated L2LP efforts. The notable exception here was interviewee #6, the professional TTG designer. Though the interviewees teach in a variety of countries, contexts, and language learning levels, they share a common belief that TTGs are a useful and essential part of their language teaching efforts. The interviewees had indicators of high TTG literacy (high geek ratings, awareness of modern TTGs and game elements, ability to compare games, TTG resource awareness).

Most described frequently playing TTGs in their personal lives and enjoying personal benefits related to the TTG hobby. This personal experience of significant TTG use may suggest a greater likelihood of perceived TTG usefulness (Davis, 1989) and, by extension, perceived usefulness for students. The interviewees also had general significant access to TTGs and knowledge about how to research and purchase games.

Overall, the interviewees see TTGs as a pedagogically rich and engaging resource which can be used to achieve learning objectives in their language learning classrooms. Having said that, the interviewees use games in very different ways, for very different purposes, and over very different lengths of time. Some described robust and multi-class approaches with tasks, goals, feedback, reflection, assessment, and evaluation. Others described single-class implementation which features targeted language learning and potential connections to greater learning (content-based, cooperation, teamwork, manners, problem solving, etc.). Thus, the roles games play in the teachers' approaches are highly individualized according to the teacher's constraints, classroom contexts, beliefs about learning/teaching, and level of commitment to TTG-mediated L2LP. Analysis of interviewee responses for term use (pedagogical, language teaching, and language learning) showed that interviewees with more robust and multi-class teaching approaches and frameworks (interviewees #1, #2, and #5) used more of the previously mentioned terms during their interviews. For the most part, interviewees have not engaged in game creation in the language learning classroom. Several expressed concern and resistance to the idea of using teacher-created games in the classroom. Personal motivation for game use was also reported (dissatisfaction with standard classroom curricula/materials, positive experiences learning with games, interest in games, pedagogical interest, professional opportunities, etc.). Views about student, school, and administration perceptions of TTG-mediated L2LP varied

according to interviewee. Some described encountering stiff resistance, some described an atmosphere of indifference, while others described receiving encouragement and support.

Many of the interviewees described learning from their TTG-mediated L2LP mistakes and likened their own developing awareness to a long-term process. Several kept records about their implementation efforts and noted what they did, what worked well, and what did not work well. In some cases, this took the form of personal files, and in other cases the form of public blogs. Regardless, the interviewees generally reported an awareness related to encountering challenges, making mistakes, and persevering to adapt, improve, and overcome.

Some evidence of CoPs and affinity spaces was found during the interviewee analysis. Many of the interviewees mentioned participating in teaching forums on BGG. Several described maintaining blogs. In interviewee #2's case, this involved participating in a joint research project with another academic and reporting related findings on his blog. Additionally, interviewee #2 has demonstrated numerous examples of CoP facilitation, engagement, and leadership. In interviewee #5's case, his blog seems to be his main CoP outlet, even though it is not a particularly interactive experience. In fact, he described feeling isolated and desiring a connection to a professional CoP. All of the interviewees mentioned discussing their efforts with co-workers and professional colleagues (if not currently, then in the past). Finally, some examples of interviewee CoP interaction were noted as occurring between interviewee #1 and #2, with interviewee #1 following the research findings, forum posts, and blog reports made by interviewee #2. Overall, the results suggest that high degrees of TTG-mediated L2LP CoP and affinity space engagement may correlate with more robust and multi-class implementations of TTG-mediated L2LP. This may be connected to expanded knowledge/interest in TTG-mediated L2LP, selection of teaching contexts which

afford more TTG-mediated L2LP implementation opportunities, and professional/personal investment in a fulfilling and long-term practice.

The data suggests that the specialist teachers possessed a combination of non-compartmentalized formal knowledge and experience-based knowledge that is brought to bear in their classroom implementations. General pedagogical knowledge, specific TTG-mediated L2LP, game literacy, knowledge of classroom constraints, knowledge related to learning opportunities/affordances, engagement in CoPs, awareness of professional development opportunities, and personal development awareness were highlighted in the interviewee responses. Variation among responses was shown to exist and it is likely that variation in ‘expertness’ is to be expected (relating to particular areas of formal and specific/general classroom experiential knowledge). In summation, the interviewees see TTGs as a powerful resource in their classrooms and that the use of this resource must be framed within a pedagogical approach. The scope and breadth of the approaches and TTG-mediated L2LP perspectives varied significantly between interviewees. This may reflect the nature of their different classroom contexts (student levels, location, curricular constraints, etc.), individual differences (preferences, training, cognition, etc.), stage and state of their professional practice, and beliefs related to TTG resource implementation.

General considerations based on the literature and data.

The research data gathered relating to teacher confidence, familiarity, self-efficacy, literacy, and training with specific technologies/materials/approaches may be in accord with the literature review presented earlier (Davis, 1989; Mahmood, Halim, Rajindra and Ghani, 2014; Wang & Ha, 2013, Dogan and Akbarov, 2016; Lee, 2000, Hsu, Tsai, Chang, and Liang, 2017). Low teacher confidence, low self-efficacy, limited literacy, and under-training can restrict teacher adoption of new classroom technologies, materials, and approaches.

Conversely, increasing teacher comfort and familiarity levels in these areas can boost teacher adoption and exploration of TTG-mediated L2LP. The overall trend of limited TTG adoption among the general teacher group and extensive TTG adoption among the specialist teachers may have several causes. First, it may highlight the fact that the specialist teachers have bolstered their TTG confidence, TTG self-efficacy, TTG game literacy, and TTG awareness through knowledge (experiential and formal) and that this has resulted in increased TTG use. Second, it may reflect the fact that the general teacher group represented a wider range of teacher TTG beliefs, experiences, and implementation patterns (including specialists, non-specialists, and everything in between). It does however seem possible that some of the teachers in the general teacher group, particularly those with an interest in using TTGs, may benefit from additional TTG-mediated L2LP support.

A connected point is that the research data may indicate that many in the general teacher group and many of the specialist teachers have made different cost/benefit analysis calculations related to TTG use and literacy development (Davis, 1989). In terms of use, this might include perceptions related to TTG implementation burdens on teachers (e.g. teacher roles) (Chen, 2002; Marklund & Alklind Taylor, 2016; Sardone & Devlin-Scherer, 2009). TTG literacy development also requires time and effort (Zagal, 2010), which is a precious resource for most teachers. As confirmed by a number of the specialist interviewees, TTG-mediated pedagogical development is also required. These costs may factor into the general teacher group's TTG limitations. Moreover, the specialist teacher interviews show ample evidence of 'cost payment' through hours of both TTG-related work and TTG-related play. The result is that the TTG specialists have higher levels of confidence and comfort using the TTGs, as well as a keen understanding of teacher responsibilities, materials, and classroom constraints.

Other key factors possibly affecting teacher use or adoption of technology/materials/approaches are student perceptions of appropriateness (Dogan and Akbarov, 2016; Bolliger, Mills, White, & Koyama, 2015; Wang & Ha, 2013; Tomlinson, 2013; Tayan, 2017), teacher perceptions of appropriateness (Francoisi, 2015; Wan, 2013; Tomlinson, 2013; Tayan, 2017), and other stakeholder views or influences (culture, peers, curriculum, administration, etc.) (Lee, 2000; Uysal & Bardakci, 2014; Wang & Ha, 2013; Zhang and Liu, 2014; Richards, 2001; Tomlinson, 2013; Cohen & Tellez, 1994; Dikkers, 2012). General teacher TTG patterns of use may have been impacted by these factors in a way that constrained teacher adoption and use. For example, the general teacher group questionnaire showed a difference between higher degrees of support for teacher perceptions of TTGs as a useful language learning resource (93.44%) and teacher perceptions of TTG classroom use validity/effectiveness (86.63%), and slightly lower support for teacher perceptions of their students' views on TTG classroom validity (79.70%) and teacher perceptions of their administration's view on TTG validity (74.63%). Moreover, while some general teacher respondents showed frequent (6-25+ times per year) TTG use (53.24%), the remaining respondents reported much more limited usage patterns. With the specialist teachers, many of these constraints/supports were present in some degree, however the teachers found ways to negotiate/nurture them. Further, as their practice developed, their ability to do so seemed to increase.

Support in terms of professional development, teacher CoPs, and digital resources was also identified as a potential source of influence on teacher cognition (Sancar Tomak, 2014; Duncan-Howell, 2010; York, deHaan, and Hourdequin, 2019; Zagal, 2010; Callaghan, Long, van Es, Reich & Rutherford, 2018; Tseng and Kuo, 2013; Godwin-Jones, 2003; Dikkers, 2012). The specialist teacher interviews presented significant evidence of positive influences on their TTG-mediated L2LP through professional development efforts, CoPs, and

digital resource support. Evidence of this nature was not sought in the general teacher questionnaire, however, it may be that TTG professional development, CoP engagement, and digital resource use was lower for some of the respondents. If focused TTG teacher development, CoP participation, and online TTG-teacher resources support and foster teacher TTG classroom implementation, the overall trend of limited TTG use may suggest that at least some of these teachers may not have access to these supports. Additionally, general teacher group agreement to the prompt ‘I have access to appropriate pedagogically-supportive tabletop game materials for my classes (including online teacher-support forums, resources purchased by schools, teacher-made materials or teacher-owned materials)’ was 57.50%. Clarification of the extent to which teachers in general have access to TTG professional development resources, CoP engagement, and online resource support is an area of important future inquiry.

Specialist teacher cognition appeared to be positively affected by teacher ‘reflection’ (Farrell and Dennis, 2013; Borg, 2015) and this, plus hands-on experience and formal knowledge, may have contributed to the development of TTG ‘teacher-wiseness’ (Mak, 2011). Whereas, this seems to have been less likely among the general teacher group (based on lower implementation experience and limited formal TTG-mediated L2LP knowledge).

As noted by Cirocki and Caparoso (2016), teacher beliefs about teaching and learning provide the foundation for teacher choices related to approaches, materials, etc. The specialist teacher behaviours showed a range of indicators which highlight some differences and similarities between them. Some used and referenced specific approaches/activities/frameworks like ‘Explore, Examine, and Extend’ (Reinhardt & Sykes, 2011), TBLT (Nunan, 2004), Transcription (York, deHaan, & Hourdequin, 2019; Murphey, 2001; Murphey, 1998), Active Learning (Bonwell & Eison, 1991), and the Kotoba Rollers framework (GBLT, Multiliteracies) (York, 2017). Specialist teacher belief in TTG

affordances was also evident (student motivation, WTC, confidence, engagement, etc.). One notable TTG affordance relevant for language learning classrooms not mentioned specifically by the TTG specialists was personal transformation (Wilson, 2017; Schut, 2013; Smith, 2003). Given the attention to the affordance by some, investigation into pedagogies and classrooms embracing TTGs as means of transforming individuals, students, teachers, and society ought to be identified and researched.

Overall TTG usage patterns by the general teacher group did not suggest a significant embrace of TTG-mediated L2LP. Given teacher game literacy limitations and game creation patterns, it may be possible that some of the teachers in the general teacher group used TTGs in a way the links to Present-Practice-Produce teaching and learning cycles (Harmer, 2008; Byrne, 1986) and/or educational games (Bruckman, 1999; Nicholson, 2012). Further research is required to clarify precise usage and pedagogical approaches used by teachers with game literacy limitations and high frequency game creation patterns. Materials selection anxiety may have also contributed to teacher usage limitations (Karadag, 2015). Teacher game creation was shown to be significant among the general teacher group. This behaviour may fall in line with teacher regular materials disenchantment and desire for creativity (Kusuma, Adnyani, and Taharyanti, 2017; Gebhard, 2017; Maley, 2003; Horng, Hong, ChanLin, Chang, and Chu, 2005). It may also point to a thirst for a pedagogical shift among some teachers. Similarly, the specialist TTG teachers seemed to have been motivated by regular materials disenchantment and creativity, but they avoided using teacher-created games and embraced COTS. Several of the specialist TTG using teachers emphasized the rich pedagogical opportunities that robust TTG-mediated L2LP provides. The specialist teachers also mentioned TTG motivation related to professional development/exploration, personal interest, and personal connections.

Chapter V – Conclusion

Main Hypothesis

The main hypothesis of this thesis is that tabletop game usage in language learning classrooms is affected by factors related to teacher cognition and that this influence can be inferred by the quality and pattern of materials use, materials connection to teaching approach, quality of the learning experience facilitated by the materials use, and general teacher beliefs and knowledge related to tabletop game materials or classroom use/non-use. This does not suggest usage of TTG materials is necessary or beneficial for all contexts, students, or teachers, but it does imply that related cognition does influence TTG usage/non-usage in general. An examination of the research findings and background literature suggests that the research hypothesis is generally supported. Specifically, the thesis examined the ‘patterns of TTG use’ and ‘quality of materials uses’ among specialist TTG-using language teachers and patterns of TTG use and related-cognition among a general teacher group. The following four areas were identified as proving strong support: 1) teacher cognition related to tabletop game literacy, 2) teacher cognition related to materials in general, 3) teacher cognition related to pedagogy/classroom implementation supporting principled TTG use, and 4) language teacher cognition factors related to ‘expertness’ using TTGs for language learning purposes. Though these are presented separately, these cognition elements are believed to be intertwined, interconnected, and dynamic in nature. Key findings and conclusions related to each of these areas are as follows.

Teacher cognition related to tabletop game literacy.

One of the key areas explored in this research is game literacy. The findings related to general teacher group game literacy come from both the general questionnaire responses and the game rating analysis. Zagal (2010) emphasizes the ‘understanding’ aspect of game

literacy and notes this as the ability to explain, discuss, describe, frame, situate, interpret, and/or position games with respect to 1) context related to human culture, 2) context of games, 3) context of platform, and 4) deconstructing and understanding components (including ‘experience’ and relationships). What do the research finding suggest about the game literacy among the respondents?

62.19% of respondents indicated awareness of popular modern tabletop games played inside and outside classrooms; 55.78% reported playing TTGs more than six times per year in their personal lives. This suggests some limited general awareness that may support understanding related to the cultural context of games, being able to compare games, and being able to grasp game experiences and component elements. However, there are three other considerations. First, as this is self-reported awareness, it is vulnerable to a Dunning-Kruger-type influence (Kruger & Dunning, 1999; Dunning, 2011) where some people with very limited knowledge may think they are quite knowledgeable. Second, frequent play does not demonstrate the play involves playing newer games or games of good design quality. Third, though both awareness and frequency of play are in the 55%-62% range, both of these percentages are significantly lower than the specialist TTG-using teacher indicators. 87.62% of respondents reported confidence teaching and organizing TTG play in the classroom. This suggests game literacy related to the ability to play games (Zagal, 2010); however, it does not speak to the type or quality of the games being played, nor the manner in which they are used.

57.50% of respondents felt they have access to appropriate pedagogically-supportive tabletop game materials (including online teacher-support forums, resources purchased by schools, teacher-made materials or teacher owned materials).’ This perhaps indicates that many teachers lack resource awareness related to the materials in question and this also may be related to lower game literacy levels. Perhaps connecting to this, 62.87% agreed they

created, made, developed or modified tabletop games for their classrooms. It is likely that a good portion of these behaviours yield teacher-made educational games. As Chik (2011b) noted, teachers with novice game literacy may view educational games as more valid than COTS. Also, it must be noted that teacher game creation habits show a general downward trend as game literacy increases. As mentioned earlier, this may mean that with increased game literacy teachers tend to make TTGs less frequently because they a) have access to and use COTS resources, b) have increased trepidation/resistance related to designing TTGs for the classroom, and/or c) have come to see TTGs as something hobby-related and not necessarily appropriate for the classroom.

Considering the questionnaire game analysis, we can see further indicators of game literacy limitations. 55.60% of respondents had geek rating averages between 4.000 and 5.999 (below 'Ok game'). 56.70% of the games liked by teachers had a geek rating below '6.' Moreover, the top ten preferred games list featured six games with ratings below '6' and six games were published before 1994. This suggests limited game literacy among the general questionnaire respondents. Zagal (2010) emphasizes that game literacy development is time consuming and also requires access to games. The research findings suggest that the general teacher group, compared to the specialists, may have had reduced TTG access and fewer TTG/TTG-related experiences. Increased exposure to games, access to games, and familiarity with games (e.g. playing and thinking about them), perhaps supported through a CoP (Zagal, 2010) as part of training (Becker, 2017; Borg, 2015), may be useful in increasing teacher tabletop game literacy. However, it must be noted that some teachers in the general teacher group showed markers of high game literacy and related TTG awareness, but limited patterns of classroom use. This suggests additional cognitive factors influencing and affecting teacher non-use/limited use.

Specialist TTG-teacher game literacy findings suggest much higher TTG literacy. Firstly, the interviewees' ability to play games, and related knowledge stemming from these experiences, is established by their high frequency of tabletop gaming. The range was from slightly less than once per week to two to three times or more per week. This is a significantly greater frequency than amongst the general teacher group. Somewhat connecting to this point is the fact that the specialist teachers have significant access to TTGs. Their personal TTG collections were reported as totaling 7, 15-20, 75, 200+, 500+, and 1,000-2,000 games. Geek rating averages for the interviewees were also quite high 6.969, 7.730, 6.516, 7.703, 7.045, and 6.125 (averages to a geek rating of 7.015). Most of the games mentioned by the interviewees are more recent publications (post-1994) and therefore reflect some awareness of more modern game design principles and affordances. These points suggest higher levels of TTG literacy among the specialist TTG teachers (Zagal, 2010).

Evidence of interviewee ability to compare games to other games and games in the context of culture emerges from the interview data. First, when asked to describe and compare the TTGs of today to TTGs from 35+ years ago, the interviewees noted many key differences: greater variety of games and more themes today, better game mechanisms today, greater production quality/aesthetics today, global aspect of TTG design/hobby, greater strategy in today's games, more engagement in today's games, fewer 'dragging' moments in today's games, today's games are deeper, and more cooperative games. Experiential knowledge of older games also emerged from interviewee childhood gaming descriptions. Similar observations regarding game quality related game experiences from those older games from childhood were made. Moreover, that the interviewees provided a variety of comments about TTG qualities they like suggests an in-depth knowledge of modern TTGs and TTGs in general. This included an appreciation for games with multiple paths to victory, party games with social interaction and a surprise element, interesting points systems, a

‘building’ feeling, game aesthetics, resource management, optimizing, variable player powers, worker placement, social deduction, real world tasks, strategy, quick gameplay, fun, and depth without too much complexity (elegance). The interviewees also mentioned some additional interesting points supporting game literacy understanding such as disliking victory points, liking Euros, liking party games, liking coops, liking card games (‘deck builders’ and ‘living card games’), liking legacy games, and enjoying the ‘meta game’ aspect of gaming. Again, these combine to show indicators of higher levels of TTG literacy (Zagal, 2010).

Interviewee awareness of game peripheral media and resources suggests greater awareness of TTGs within the culture, the TTG platform or materials, and also as a cultural artefact which connects to communities of participation and affinity spaces (York, deHaan, and Hourdequin, 2019). Resources mentioned included BoardGameGeek, video playthroughs (mentioned as being better for showing the gameplay), video reviews (allowing you to hear opinions from a trusted reviewer), podcasts, local game shops and shop staff, local game groups/meet ups, various forums, game fairs, assorted game-related print media, blogs (reading/contributing), and TTG player peer support. These resources provide both useful TTG information and also TTG community elements. Thus, the resources enable the interviewees to participate in the TTG hobby in a variety of ways and at various levels. Some interesting points raised by the interviewees which relate to game-peripheral knowledge and beliefs are that TTGs can be expensive, they can be difficult to predict in terms of enjoyment, crowdfunding games can be unpredictable and problematic, there is a lot of ‘noise’ and ‘hype’ around some games in the surrounding media and that this can make game selection difficult, and that the wide variety of game availability can make informed and appropriate game selection extremely difficult. All of these aforementioned points suggest that the interviewees have highly developed game literacy which is supported by and enhanced

through their participation in the TTG hobby (York, deHaan, and Hourdequin, 2019; Zagal, 2010).

The interviewees also described significant personal and professional impact related to TTGs and TTG-related teaching. In terms of the professional impact, this included ‘deep connections’ with colleagues and students, academic focus and trajectory, leading professional development (workshops, teaching guidance, presentations, etc.), recognition (government/teaching peers/gamers), and affinity spaces/networking/community connections with other teachers using TTGs or interested in using TTGs (York, deHaan, and Hourdequin, 2019). On the personal level, the interviewees described spending significant time playing TTGs, engaged/interacting in its community, consuming/producing media, and forging friendships. Personal connections are one point raised by Zagal (2010) and Resnick (1996). They noted that efforts to create communities for fostering game literacy could leverage these connections, while also providing a context for application of knowledge, reflection and the fostering of epistemological connections. All indications are that the interviewees might be described as knowledgeable about TTGs, passionate about TTGs on a personal/professional level, and able to engage in deep reflection about games, their hobby, and teaching using TTGs. They earned their game literacy after investing years of time, money and effort into learning about, buying, and playing games.

Table #18: Game literacy of general teacher group and specialist TTG teachers

GAME LITERACY	
General Teacher Group (indeterminate level of TTG specialization)	Specialist TTG-using Teachers
Play TTGs Occasionally (55.78% reported playing TTGs 6+ times per year in their personal lives.)	Play TTGs Very Frequently (Reported: 2-3 times per week, ‘a lot’, ‘once per week’, once per week, slightly less than once per week, ‘very often’ [perhaps multiple times per week].)
Smaller Personal Game Collection (Implied from reported ‘access’ and habits of game play.)	Large Personal Game Collections (Reported: 500, 75, 15-20, 200+, 7, 1,000-2,000.)
Significant Indicators of Game Literacy Limitations Based on Games Liked (Over half had sub-6 geek ratings and over half of the games liked had sub-6 geek ratings. The six of the top-10 liked games are sub-6 and six are published pre-1994.)	Significant Indicators of High Game Literacy Based on Games Liked (This includes higher geek ratings for games liked [6.969, 7.730, 6.516, 7.703, 7.045, 6.125] and mostly modern TTG publication dates.)
Lower Awareness of Games in Context of Other Games (62.19% indicated awareness of popular modern TTGs. However, many of the respondents did show indicators of significant TTG awareness.)	Higher Awareness of Games in Context of Other Games (Detailed game descriptions, comparisons, examples provided, and knowledge of resources supporting comparison [e.g. BGG, podcasts, game stores, etc.].)

Reduced Awareness of Games as Cultural Artifacts (57.50% felt they have access to appropriate pedagogically-supportive TTG materials. However, it should be noted that some respondents with high TTG literacy and access showed limited TTG implementation.)	Higher Awareness of Games as Cultural Artifacts (Awareness and participation in game-related communities of peripheral participation and affinity spaces, knowledge of game-related resources/materials. [e.g. BGG, forums, game-related videos, podcasts, design communities, etc.])
Limited Personal/Professional Impact (Unclear, though implied to be limited in the professional area for teachers with limited classroom TTG gameplay and/or limited TTG personal life gameplay.)	Significant Personal/Professional Impact (Interviewees commented on deep personal impact (friendships, hobby, community) and also large professional impact (classroom, academic life, designing, leading TTG-related professional development, and connecting TTG/TTG-classroom experience to other related positions [e.g. materials writing].)

Understanding how game literacy impacts expert TTG-using teachers highlights ways in which game literacy can be leveraged to improve/support principled implementation. It is also important to document and highlight the time invested in playing games, time spent learning about games and their cultural elements, time/money spent acquiring games, and deep personal connections related to TTG materials. As such, new TTG-using teachers can be guided/supported in researching games, playing games, and learning about TTGs through a range of cultural media resources. Limitations on teacher game literacy are likely to impact

teacher abilities related to resource selection type (e.g. COTS vs. educational game), materials quality, resource access, resource confidence/implementation know-how, direct game affordances, and indirect game affordances for learning.

Teacher cognition related to materials in general.

The questionnaire findings help to shed light on the general teacher group's materials-related behaviours and cognition. TTGs are a somewhat frequently used resource by the respondents (86.00% of respondents reported using TTGs 6 times per year or more in class). It was also found that most teachers tend to see TTG materials as valuable, valid, credible, useful, having appeal, and comfortable to use in class. Moreover, most teachers report enjoying the use of TTG in language learning classes, perceive student TTG enjoyment and appeal, and perceive significant student and administration TTG use validity. These points align with Tomlinson's (2013) suggestions regarding materials evaluation criteria.

General teacher materials access and perceived materials access also have a probable impact on teacher behaviours and cognition. 62% of respondents showed disagreement related to school TTG availability. Moreover, 68.30% of the reported school games had 'geek ratings' below '6' and 79.10% of the game titles reported were published before 1994. This suggests that some of the school TTG materials support may be considered low in terms of both quantity and quality. Only 10.45% of respondents used TTGs 25+ times per year in class and 53.24% played 6+ times per year in class. 57.50% of respondents showed general agreement with the prompt about their access to pedagogically-supportive tabletop game materials for classes. This expands the materials access issue to include online teacher-support forums, resources purchased by schools, teacher-made materials, or teacher owned materials. It also expands the exploration of materials to include TTG-related support materials. Given the contrast between this result and school materials access it may be that

some teachers access materials (TTGs or support materials) through personal COTS collections, online supports (affinity spaces or other online supports), and by teacher creation. However, the overall result indicates that many in the general teacher group do not feel that they have access to pedagogically-supportive TTG materials. This finding will be contrasted with specialist TTG-using teachers. In particular, it suggests some general teacher group alignment with Chik (2011b) which indicates some teachers may be less likely to see COTS as appropriate for classroom use and more likely to see ‘educational games’ as appropriate (perhaps including teacher-made games). Connecting to this final point, 62.87% of respondents showed some degree of agreement with the prompt asking if they have created, made, developed, or modified TTGs for their classrooms. This game creation behaviour was not present in the specialist TTG-using teachers. Motivation for the materials creation cannot be determined, but the researcher speculates that it may be linked to materials creation for specific pedagogical functions (e.g. ‘drilling and practice’), boredom/dissatisfaction with existing materials, and teacher/perceived student interest in game use. This does not mean that this is not a valid utilization, but it does suggest a materials gap between what is being implemented in the classroom and what is being lauded as TTG-use classroom benefits. Teacher game literacy is also a key consideration here as it will have considerable impact on teacher game selection and creation. This includes the act of not selecting a COTS game, perhaps seen as a cultural artefact (Zagal, 2010; Sykes and Reinhardt, 2013), and also the quality of teacher-made games and related implementation. Of particular relevance here is the fact that the research findings showed a trend that suggests that as teacher game literacy increases game creation behaviours decrease. The change in materials creation behaviour may involve increased COTS use and a general self-consciousness regarding game creation which may reduce classroom game implementation (despite familiarity with and access to COTS).

Turning to the specialist TTG-using teachers, the research shows that they overwhelmingly used COTS or modified COTS in the classroom (the only game materials creation mentioned was student-made and professional game designer-guided). Perceiving value in COTS in terms of affordances (e.g. language learning, motivation, [tactile] engagement, aesthetics, etc.) aligns with Chik (2011b) and in COTS as a cultural artefact around which student peripheral participation can be fostered/supported aligns with Zagal (2010) and Sykes and Reinhardt (2013). However, many of the specialists did describe the creation and use of support materials (e.g. scaffolding, skill building, reflection prompts, task or activity handouts, reports, etc.). Moreover, the specialists described very high frequencies of TTG classroom use or TTG-related classroom connections (often every class or spread out over multiple classes). Returning to Tomlinson (2013), the level of materials interest for both students and teachers seemed to be a key point considered. This is especially true when one considers the teachers' personal interest in TTGs and their belief in their benefits in terms classroom use. Interestingly some of the specialist TTG teachers described encountering administrative, peer, and student resistance or indifference to their approach and materials use (perhaps relating to perceived value, credibility, and/or validity). This seemed to be particularly true for the interviewees with the more robust and multi-class implementations. Connecting to this theme are Tomlinson's criterion of the material's 'long-term' learning potential and fit to the administrative requirements. The specialist teachers noted significant long-term learning benefits related to game use and also a general fit to their classroom. The implementation scope varied between specialist teachers and this may be related to both context and teacher preference. Flexibility is another material criterion which was mentioned by the specialists. This relates to the teachers having wide ranges of game materials implementation, materials purposes, and approaches (both on an individual level and for the group). Finally, Tomlinson also points to the professional development element of materials

selection. Most of the specialist teachers either mentioned or implied clear professional development-related benefits. Some degree of affinity space participation related to developing materials awareness (game, support-materials, and pedagogy) was also mentioned or implied by most of the interviewees, though the degree of participation varied greatly. Finally, the specialist teachers displayed careful materials selection/curation/screening habits, supported these choices (especially with respect to ‘gameplay’, ‘language learning’, and ‘balance’), and revised their opinions as needed based on careful reflection. This shows some alignment with Becker (2017) and suggests the specialist teachers are using either formal or informal materials screening methods (based on both pre-implementation and post-implementation reflection).

Table #19: Materials cognition related to the general teacher group and specialist TTG teachers

MATERIALS AWARENESS	
General Teacher Group (indeterminate level of TTG specialization)	Specialist TTG-using Teachers
Somewhat Regular TTG Use in Class (Only 10.45% of respondents used TTGS 25+ times per year in class and 53.24% played 6+ times per year in class. This may suggest a limitation on perceived usefulness related to limitations on personal usage.)	High Frequency of TTG Use or Related Classroom Activity (Classroom game use was daily, weekly, or spread out over a whole course and personal game use was generally frequent. This may suggest that materials perceived usefulness increased with personal usage and that this had some transfer to classroom use.)
COTS Use unclear (Access seems more limited and possible preference for teacher-made educational games is highly likely for many. Game quality and classroom implementation quality may be an issue for many.)	Significant Use of COTS (Greater and more sophisticated access [inferred due to game literacy indicators and support resource knowledge] and possible higher COTS affordance perception.)

Significant Teacher Game Creation (62.87% have created, made, developed, or modified TTGs for their classrooms.)	No Teacher Game Creation Behaviours (Some modification and limited teacher-guided student materials creation, but no game creation.)
More Limited Access to Pedagogically-supportive Materials and Games (This is inferred from the questionnaire behaviour/knowledge responses and game literacy analysis. The questionnaire prompt on access to appropriate materials for classes (including forums, resources purchased by schools, teacher-made materials or teacher-owned materials)' showed only 57.50% general agreement.	Greater Access and Resource Awareness of Pedagogically-supportive Materials and Games (Supported by described behaviours/knowledge and game literacy analysis [CoP, Affinity spaces, personal experience, classroom experience].)
More limited overlap with materials selection criteria* (Inferred because of less prominent usage of TTGs, personal connection, reduced knowledge/interest, and more limited professional development opportunities.)	Greater overlap with materials selection criteria* (Indicated by prominent TTG use, personal connection, increased knowledge/interest, and increased professional development opportunities.)

More Limited TGG Materials Selection Approach (Inferred from game literacy limitations and less frequent/broad implementation behaviours.)	More Sophisticated TTG Materials Selection Approach (Examples found in interviews relating to ‘gameplay’, ‘language learning’, and ‘balance’ [personal descriptions, affinity space, and CoP references].)

*Based on Tomlinson (2013)

Understanding teacher cognition related to materials in general helps to clarify patterns/beliefs common to expert TTG-users and may suggest ways in which new TTG-using teachers can be supported. For example, higher frequency of classroom use may suggest experiential insight should be acknowledged as part of the process of expertise development and that teachers with greater resource familiarity may be more predisposed to leveraging its affordances. The final point may also suggest that expert teachers have made or established clearer TTG ‘materials use’ justifications based on potential learning outcomes in their contexts. This is one way in which expert TTG-using teachers and researchers can support new TTG-using teachers. Also, teacher views on materials design appropriateness (COTS vs educational games) seems to have been impacted by teacher expertness. Finally, teacher access and awareness to pedagogical supports and also materials selection seems to be more informed and sophisticated among expert teachers. Outreach efforts should be undertaken to increase access and visibility to support resources to new TTG-using teachers. Moreover, expert TTG-using teachers and researchers should be encouraged to contribute to the field, professional communities, and through/on platforms where they can model principled approaches/engagement.

Teacher cognition related to pedagogy/classroom implementation supporting principled TTG use.

The general questionnaire does not provide significant evidence of general teacher TTG pedagogical consideration or a lack of said consideration. Some questions do touch on classroom implementation; however, they tend to relate to focus on frequency, patterns of use, and beliefs related to classroom use. As such, many of the interpretation given below are arrived at through inference.

First, the general teacher group appear to have overall more limited access, resource awareness, and support related to pedagogically-supportive materials and games. This can be inferred by considering a collection of teacher cognition indicators. In general, many individuals in the general teacher group appeared to have more limited TTG awareness, lower TTG literacy indicators (e.g. lower geek rating averages, older games, low self-rated awareness, infrequent TTG play, etc.). Limitations such as these (game literacy and resource awareness) are likely to negatively impact teacher game selection abilities (Becker, 2017) and informed materials selection/use/creation behaviours (Tomlinson, 2013). Game implementation frequency was also shown to be limited (compared to the specialist teachers) according to the questionnaire results. The reason for this limited implementation is not clear. However, one questionnaire item did indicate that many teachers feel as if they do not have enough access to pedagogically-supportive materials (42.50%). Further, this may suggest that some individuals in the general teacher group do not have significant affinity space support (York, deHaan, and Hourdequin, 2019). This may include forums, guides and other game and pedagogically-related support resources. This teacher-perception provides the strongest evidence of some respondent limitations related to pedagogically-supportive materials among the general teacher group. It may also connect to Gebhard (2006) in terms

of suggesting teacher materials creation (a behaviour also supported by the questionnaire) and Chik (2011b) pointing to reservations about using COTS.

Second, the more limited role of materials (scope and manner of implementation) can be inferred by several of the questionnaire items. In particular, TTG frequency and scope of use, the questionnaire results showed 53.24% of respondents used TTGs in language learning classrooms 6+ times per year and only 10.45% using them 25+ times per year. 13.50% of respondents did not use TTGs in class at all. 75.88% show agreement that they use TTGs in a way that is connected to the curriculum and 93.04% believe the TTG provides a good reward or break from regular study. Thus, TTGs may play a role, but not a prominent one in terms of frequency of use and scope of use. This connects to pedagogy as the more limited frequency and scope suggests many teachers in the general teacher group may use the TTG and TTG-related materials in a manner that supports a different pedagogical purpose or a different pedagogical emphasis than the specialist teachers. Moreover, patterns of non-use/limited use also connect to pedagogical cognition considerations (perhaps being sound and reasonable, depending on context and rationale).

Third, building off of the previous point, given the frequency of implementation, access and game creation habits, it seems likely that some of the individuals in the general teacher group use the games mainly as part of a practice or production function. In this sense, it might conceivably connect to either a behaviourist approach or a cognitivist approach (Filsecker & Bündgens-Kosten). Additional support for the conclusion that the approach used by some individuals in the general teacher group is more limited in scope comes from two previously mentioned questionnaire results. These being that 93.04% of respondents indicated agreement to the idea that TTG use provides a good break or reward from regular classroom study and 75.88% of the respondents generally agreed that they used

TTGs in the classroom in a way that is connected to the curriculum. It must be conceded that the basis for this conclusion is inductive in nature and this reflects a limitation of the questionnaire. Precisely how the general teacher population connects TTG use to pedagogy and learning is something which ought to be explored further in the future.

Finally, the limited prominence of TTG implementation in professional development/practice for some of the general teacher respondents may be implied through game literacy limitations, reported patterns of limited use/awareness, limited personal connections to TTGs, and limited classroom implementation behaviours. One implication of this is that teachers without pedagogically-focused professional development support may be less likely to align/engage with principled pedagogical game-based implementation (Hébert & Jenson, 2019). It seems probable that many teachers in the general teacher group are ‘less invested’ in both personal and professional TTG use, and that they are less likely to have honed their pedagogical approach through rich post-implementation reflection, affinity space support, and purposeful practice development (Watanabe, 2017). It must also be noted that it is possible that some of the general questionnaire respondents have availed themselves of TTG-related professional development opportunities and developed a rich TTG reflective practice.

Evidence for pedagogical connections and highly developed classroom implementations can be found in the specialist teacher interview responses. The key themes that emerge are as follows.

First, greater access, resource awareness, and support related to pedagogically-supportive materials and games can be established by looking at general specialist teacher game literacy, peripheral game-related media, and teacher affinity spaces/CoPs. As the previous sections have outlined the extent of the specialist teachers’ game literacy and deep

knowledge of TGG support media/resources, the researcher will not reiterate the points supporting this finding. However, the affinity spaces and CoPs connection is worth exploring here. The interviewees either explicitly mentioned or implied a variety of affinity spaces potentially support general TTG awareness for classrooms (e.g. BGG forums, videos, or peers) or more specific pedagogical game-use considerations, which may include suggested frameworks and explicit pedagogical discussions (blogs dedicated to supporting, exploring, and reflecting on principled TTG use in language learning classrooms). Two of the interviewees maintain blogs dedicated to the final point and a third interviewee reads these kinds of blogs and keeps personal reflection notes on his implementation. His notes reveal details related to his classroom framework, games used, and show a general trend of the interviewee adding increased implementation/pedagogical detail with each passing year. These three interviewees seem to have the more robust classroom implementations in terms of scope and perhaps how the game use is connected to the curriculum and greater pedagogy. This kind of creation and participation indicate significant affinity space facilitation and engagement. Elements of reflective practice (Watanabe, 2017) were present in their interview data and this helps to support the conclusion of complex and higher-level TTG-related teacher development. Another interviewee showed a pedagogical connection related to BoardGameGeek teacher forums (an affinity group connection) but did not mention dedicated blogs or research. Specific mention of the BoardGameGeek teacher discussion forums was made by most of the interviewees and this further shows affinity space connections. All of the interviewees provided examples of TTG-related affinity spaces related to both TTG personal play and pedagogical support (BoardGameGeek, game groups, teaching/professional peers, videos/video forums, etc.). Compared to the overall results in the general teacher group, the specialist teachers have greater TTG and TTG-media awareness/access and significant evidence of CoPs and/or pedagogical affinity space support.

Moreover, the correlation between affinity space support/participation and robust TTG implementation may have significant implications for related teacher cognition, classroom implementation, and effort to support both.

Second, expanded role of materials (scope and manner of implementation) was demonstrated through reported frequency of TTG use, scope of TTG use, high teacher game literacy, teacher-created support-materials, other support-materials [e.g. framework and guides], and COTS use preferences. Evidence supporting these points has been provided in previous sections and most of it does not need to be repeated here. However, it may be worth covering a few points. First, the potential connection between pedagogical affinity spaces and robust multi-class implementation is worth emphasizing again. Additionally, three of the specialist teachers (#1, #2, and #5) described implementing this kind of approach (spanning multiple classes) and all three showed some degree of interest in pedagogical affinity space participation. A salient point connecting to this pattern of implementation is interviewee reports of resistance or indifference from administration and school departments. How this affects specialist teacher cognition, classroom implementation, and student learning is something which would benefit from further exploration. The other implementation model that emerged was a single class model that connects to specific learning objectives, but with greater frequency of implementation when compared to general teacher group. This may suggest that these interviewees (#4 and #6) see greater pedagogical affordances in TTG use than many in the general teacher group and consequently incorporate it more frequently and with increased pedagogical connectedness. It is also important to note that the researcher is not indicating that the more robust multi-class approach is strictly better than the single use approach. Both may have specific utility or advantages depending on content, teacher pedagogical leanings, and teacher attitudes.

Third, significant connections to pedagogy/learning can be found by considering the high frequency of use as it connects to learner motivation and affordances, COTS preference, consideration of games as social artefacts, promotion of participation in game-peripheral communities, and verbal evidence of pedagogical/learning connections. Again, the interviewees' classroom implementations and beliefs are replete with descriptions of TTG-mediated L2LP affordances. It is the researcher's position that based on the wealth of affordances mentioned this could support 'associativist/behaviourist perspectives', 'cognitivist/constructivist perspectives and problem-based learning', 'situated perspectives and legitimate peripheral participation' (Bündgens-Kosten, 2012), and '21st Century Skills' approaches (Hourdequin, deHaan, & York, 2017). The approaches of interviewees #1, #2, and #5 strongly suggest connections to 'situated perspectives and legitimate peripheral participation', '21st Century Skills', and perhaps some elements of 'cognitivist/constructivist perspectives and problem-based learning.' These interviewees saw student participation in game peripheral communities as an integral part of learning and this suggests that the interviewees value the game as a social and cultural artefact with which students can interact both directly and indirectly. Interviewees #4 and #6 seemed to describe single-class implementations that align with specific language learning outcomes and either a 'cognitivist/constructivist perspectives and problem-based learning' approach or possibly an 'associativist/behaviourist perspectives' approach. Attention was given to scaffolding activities, learner motivation/engagement, WTC, and a host of other affordances. In particular, the TTG usefulness with regard to targeting specific learning points or language practice was emphasized by interviewees #4 and #6. Moreover, they lauded the fact that TTGs allow learners to benefit from this practice/learning with the benefit of an enjoyable game experience, task-focused learner interactions, and intrinsic motivation based on gameplay. Interviewee #3 seemed to have an approach that aligns with the

‘cognitivist/constructivist perspectives and problem-based learning’ and also had the least developed targets in terms of language learning outcomes (though general potential socio-linguistic outcomes were mentioned). However, interviewee #3 did note numerous language-peripheral learning outcomes and these were also mostly connected to the enjoyable game experience, intrinsic motivation, and task-focused learner interactions. The researcher also examined interviewees comments for pedagogical term usages, language teaching references, and language learning references.

The results suggest that interviewees #5 and #2 have the highest frequency of these markers (68 and 49, respectively). Interviewee #1 has fewer markers (32), but still more than the other interviewee totals (22-24). This may support the conclusion that interviewees #1, #2, and #5 may have greater awareness of their TTG-mediated L2LP pedagogical approaches and perhaps this is connected to the ‘burden’ of their multi-class frameworks. That is, such comprehensive approaches seem to require tremendous consideration, time investment, and mental resources in order to implement it in a principled fashion. Moreover, framework development based on repeated implementations and careful reflection appears to have an iterative quality to it. Also, it seems highly likely that many of these term usages show evidence of reflective description, reconfirmation, and awareness (Watanabe, 2017).

Another thread to consider relating to pedagogical term use is teacher education focused on language instruction. Interviewee #2 has an MA in applied linguistics and TESOL and is completing a PhD in Education Research. #5 has an MA TESOL and a TESOL certificate. It is highly likely that the teacher training of these interviewees has played a significant role in their pedagogical awareness related to TTG classroom use. Teacher training seems to be a key point for understanding teacher selection of classroom implementations and also cognition related to pedagogy and the TTG materials. For this

reason, future research into how teacher training can/does foster pedagogically sound TTG use would be beneficial as broader teacher training related to TTG materials may support more informed and more pedagogically sound classroom decisions. Interviewee #1 and interviewee #3 both mentioned having a TEFL certificate. Interviewee #4 mentioned receiving teacher training courses and interviewee #6 did not mention any specific teacher training or certification.

Finally, significant prominence of TTG implementation in professional development/practice was mentioned or implied by most of the interviewees. This is especially true for interviewee #2 (academic opportunities, research, contributions to supporting the development of others, presentations, etc.), but also holds for interviewees #1, #5, and #4 in terms of teaching and teaching peripheral development activities (workshops, writing, materials development, supporting the development of others through a blog, etc.). Interviewee #6 also mentioned related professional development, however these mainly related to professional/governmental recognition and his own contributions to the professional development of others (especially in the areas of raising game literacy and supporting/guiding classroom implementation). Interviewee #3 showed some professional development related to her use of TTG and her practice, however it was mainly focused on her school community and relationships with her school administration, co-workers and students. All of these professional/practice development points are relevant as the more invested and connected the interviewees are in TTG-mediated L2LP, the more likely they are to engage in behaviours related to professional development and practice development. This in turn could reinforce and sustain their commitment to the use of the TTG materials, and lead to increased pedagogical reflection opportunities over time, additional feedback from classroom implementation which may inform future pedagogical decisions and expanded

pedagogical awareness through a CoP or affinity space. This final point also aligns with York, deHaan, and Hourdequin (2019).

Table #20: Cognition related to pedagogical connections/classroom implementation by general teacher group and specialist TTG teachers

Pedagogical Connections/Classroom Implementation	
General Teacher Group (indeterminate level of TTG specialization)	Specialist TTG-using Teachers
More Limited Access, Resource Awareness, and Support Related to Pedagogically-supportive Materials and Games (Implied due to limited teacher access and awareness, as well as teacher implementation behaviours. Also confirmed by specific questionnaire response.)	Greater Access, Resource Awareness, and Support Related to Pedagogically-supportive Materials and Games (Informed teacher access and awareness demonstrated by teacher game literacy, game peripheral media awareness, and teacher affinity space/CoP support.)

Limited Role of Materials (scope and manner of implementation) (Implied based on frequency of TTG use, scope of use, limited game literacy, and teacher creation/access impact on implementation. Only 10.45% of respondents used TTGS 25+ times per year in class and 53.24% played 6+ times per year in class.)	Expanded Role of Materials (scope and manner of implementation) (Demonstrated through reported frequency of TTG use, scope of TTG use, high teacher game literacy, teacher-created support-materials, support-materials, and COTS preference.)
Unclear Connections to Pedagogy/Learning (Based on frequency of use, belief in ‘connection to curriculum’ [75.88% show agreement with use that connects to the curriculum], and limited game literacy, expected to be language practice/produce implementation. 93.04% believe games provide reward or break from study.)	Significant Connections to Pedagogy/Learning (High frequency use connected to learner motivation and affordances, COTS preference, games as social artefacts, promotion of participation in game-peripheral communities, and verbal evidence of pedagogical/learning connections.)

Limited Prominence of TTG Implementation in Professional Development/Practice (Implied as being less prominent due to factors related to more limited personal connections, less-likely professional impact, and limited classroom implementation.)	Significant Prominence of TTG Implementation in Professional Development/Practice (Prominent due to factors related to personal connections, professional development related to game-use focused practice, long-term professional impact, and classroom implementation.)

Understanding teacher cognition related to pedagogical connections and classroom implementation helps to emphasize the potential impact and usefulness of providing pedagogical research/support resources and training. Formal knowledge related to both TTG-mediated pedagogy and implementation is likely to play a significant role in shaping teacher behaviours. It would also help in shedding light on differences of specific pedagogical approaches and implementation scope (single class game implementations vs. multi-class approaches). Making training and supports available to new TTG-using teachers is critical to encouraging principled implementation among these teachers. Expert TTG-using teachers and researchers ought to be encouraged to contribute, discuss, and engage in a variety of discussion communities and platforms. Providing visibility to expert models and expert-approved supports will help to increase new TTG-using teacher access and understanding as well as expert TTG-using teacher professional engagement.

Language teacher cognition factors related to ‘expertness’ using TTGs for language learning purposes.

This line of research is relevant as it may help teachers and researchers to better understand current TTG-mediated L2LP differences between specialist TTG users and the general teacher group and also foster increased principled usage of tabletop game materials. Borg (2015), LOC 5185-5196, states that expert language teacher cognitions are characterized by “different forms of formal knowledge” and “experiential knowledge” functioning as an “integrated whole.” This allows the expert teachers to “envisage learning potential in instructional contexts” and “anticipate problems and to respond (often improvisationally) in ways which are both technically skilled and sensitive to learners.” Borg describes novice language teacher cognitions are characterized by “a higher degree of compartmentalization in their knowledge,” an “inflexibility in responding to unplanned learning opportunities,” a “less varied instructional repertoire,” and “difficulties thinking from the learners’ perspective.” Borg further notes that expertness and years of teaching experience do not always co-occur, though it is an important factor to consider when discussing language teacher expertness. A similar nuanced approach may need to be made when considering TTG-use expertness in language learning classrooms. First, many of the non-expert teachers appear to be experienced teachers within the profession. As such, it is probable that many have a certain degree to general ‘expertness’. However, based on the responses from the general questionnaire respondents, they do not appear to have significant classroom experience implementing TTGs. This in turn suggests more limited opportunities for reflective practice based on TTG use (Watanabe, 2017). There are also indicators that general game literacy and pedagogical assumptions about the TTG materials may suggest a limitation on formal knowledge related to the full range of TTG pedagogical opportunities. That is not to say that more limited implementations are ‘lesser than’, but rather the data does

not convincingly show that the teachers in the general teacher group are broadly aware of the fuller pedagogical pallet afforded to them through the rich TTG materials. Conversely, the TTG specialists displayed high indicators of game literacy, formal TTG-mediated L2LP knowledge, a wealth of classroom experience with TTG-mediated L2LP, and significant evidence of reflective practice. Thus, the TTG specialists show signs of TTG-mediated L2LP ‘expertness’ and the general teacher group shows fewer signs of ‘expertness.’

General teacher group limitations related to formal knowledge of TTG use and related pedagogy can be inferred from the previous sections discussing game literacy and pedagogical/classroom implementation limitations. As this has been covered, it does not need to be reproduced here other than to note that it is presumed TTG use does serve some pedagogical purpose in the classrooms of many in the general teacher group, but the overall results suggest that formal knowledge of the potential range of TTG use and range of potential pedagogical connections is likely to be more limited. This may reflect the fact that some teachers are not particularly interested in exploring the topics more formally, some are interested but perceive barriers to implementation, and others may have a potential interest but have not had the opportunity or support related to in-depth TTG-mediated L2LP.

Again, the general teacher group limitations on experiential knowledge related to TTG use and related pedagogy have been discussed in previous sections. Specifically, this is shown through the pattern of TTGs implementation, which would yield fewer experiences, and also limitations on types of implementation or scope of implementation. It was previously theorized that many of the teachers in the general teacher group use infrequent single-class approaches based on either the ‘associativist/behaviourist perspective’ or ‘cognitivist/constructivist perspective and problem-based learning.’ The high frequency of teacher-made games, perhaps emphasizing ‘drilling’, seems to support this. As was noted

before, the many teachers in the general teacher group do seem to have experience-based knowledge with TTG use in language learning classrooms, but it seems that the extent and scope of this experience is generally more limited than the specialist teachers.

These limitations on TTG implementation suggest that many teachers use TTGs, but not in an integrated fashion that connects to greater learning and learning opportunities. In this sense, some teachers in the general teacher group may have compartmentalized knowledge related to TTG use and implementations and this limits their ability to envisage learning potential related to TTG use in instructional contexts. More cognition research is required to clarify to what extent teachers without specialist TTG experience explore and implement TTG-mediated L2LP. However, demonstrated limitations on game literacy, game use, game media awareness, and access to peripheral communities of TTG participation suggest more compartmentalized approaches are the likely *modus operandi* for the vast majority of the respondents. This in turn potentially reinforces the compartmentalization of the teacher's TTG-related cognition.

Connecting to the previously inferred TTG usage trends among teachers in the general teacher group, it seems likely that this compartmentalization related to classroom TTG use may limit and/or reinforce the instructional repertoires of some teachers. Certainly, other constraints may limit TTG usage, but it also appears likely that some limitations may be the result of unfathomed or untested implementation possibilities. A simple example of this may be that some teachers never experiment or explore TTG approaches beyond what they are used to because they have not considered the possibility. General teacher group responses to unplanned opportunities also seem likely to be limited given the previously established limitations. Teachers with lower levels of TTG literacy, lower TTG-affordance awareness, and pedagogical frameworks that do not fit/leverage principled TTG-mediated L2LP will be

less adept at picking up on unplanned opportunities and capitalizing on them. For example, a teacher may overlook learning potential in explaining the rules or overcoming a breakdown in gameplay, or perhaps not taking advantage of a student's interest in sharing an opinion about a game or desire to teach others. Finally, difficulties seeing the learner's perspective related to classroom TTG use is another issue connected to compartmentalization, an example of which is a preference for educational games among teacher with reduced/limited game knowledge (Chik, 2011b). This may be further supported by the frequent teacher game creation habits, with many of these games being quite likely educational games.

In summary, many of the teachers in the general teacher group possess some formal knowledge about TTGs and TTG language learning implementation and some experiential knowledge relating to TTGs and TTG language learning implementation. However, because this knowledge is limited and compartmentalized, it: a) hinders their ability to envisage fuller learning potential related to TTG use in instructional contexts, b) limits instructional repertoire and responses to unplanned opportunities, and c) increases difficulties in seeing the learner's perspective related to classroom TTG use.

The specialist teacher findings paint a different picture. As was shown in the previous pedagogical connections/classroom implementation section, the specialist teachers made explicit/implicit pedagogical connections, mentioned language learning/teaching, often showed evidence of knowledge regarding TTG implementation frameworks (both multi-class [e.g. interviewees #1, #2, and #5] and single-class [e.g. interviewees #4 and #6]), and knowledge about a wide range of learning affordances based on/around the materials and supported by language learning principles. It seems likely that formal knowledge about the range of pedagogical affordances are extensive in classrooms with lower frequency of implementation and reduced scope of implantation. Further supporting evidence of this may

be related to the findings that a broader scope and robustness of implementation approach among the interviewees seemed to correlate with increased explicit pedagogical term use and framework development (e.g. interviewees #1, #2, and #5).

The specialist TTG users also gave lengthy accounts of TTG use and investment in their classrooms. The accounts were marked by reflective comments indicating context awareness, consideration of learning outcomes, and personal experience related to both learning and teaching. The value of reflective practice in teacher development can have a tremendous impact on teacher cognition, classroom practice, and personal/professional development (Watanabe, 2017), and the interviews show significant evidence of reflective practice markers. Interviewee #1 has 27+ years of teaching experience in language learning classrooms. It is unclear how long exactly he has been using broad TTG implementations in the classroom, but it would appear to be something in the range of eight-nine years at the university level and perhaps significantly more if less broad implementation at non-university levels is considered (based on interview description, BoardGameGeek account creation, and reflection documents sent to the researcher by the interviewee). Interviewee #2 has 13+ years of experience in EFL. Again, it is unclear how many years of experience he has with broad TTG materials implementations, however, it is estimated by the researcher to be between four-eight years of experience (based on interview description, blog postings, and BoardGameGeek account creation). Additional evidence of other types of game-mediated language teaching was also noted. Interviewee #3 has four years of EFL teaching experience and two years of experience working with EAL students. It is estimated by the researcher that she has been implementing TTGs in her classrooms for one-two years (based on her time in the EAL classroom and description of TTG use). Interviewee #4 has 14 years of language teaching experience and six months of experience teaching in language learning materials publishing. The researcher estimates her classroom TTG use experience to be in the range of

four-seven years (based on BGG account creation, though the true number is unclear).

Interviewee #5 has six years of experience teaching in language learning classrooms and the researcher estimates that he has three-four years of teaching experience using TTGs in his classrooms and perhaps two of those involve the multi-class approach (based on blog postings and interview descriptions). Interviewee #6's classroom experience was described as being sporadic but seems to be distributed over a broad period of time. Thus, it is difficult to estimate his years of classroom experience other than to say it is likely to be significant and total as years of experience (based on interviewee descriptions and governmental awards given in 1999). The experiential knowledge the interviewees gained through TTG implementation feedback, documented throughout the interviews, strongly suggests advanced and varying degrees of experiential knowledge among the specialists. This relates to both pedagogical and classroom implementation-based experiential knowledge. Personal experiential knowledge and personal influence factors were also evident. For example, interviewee #4 noted how her personal experience learning English through gameplay informed her decision to use TTG materials and interviewee #2 notes how a general dissatisfaction with his original course book and related structure contributed to his exploration of TTG materials and game-mediated frameworks as an alternative.

Through an 'integrated and whole' joining of the formal knowledge and experiential knowledge, the specialist teachers are able to envisage learning potential related to TTG use in instructional contexts. Some examples of this are as follows. Interviewee #1 perceived value in the TTG materials for his students in terms of an 'atypical material.' He also saw its classroom materials potential related to active learning, task-based learning, and cooperative learning. Finally, he noted motivational and WTC benefits for students. Interviewee #2 first envisaged the latent potential within his teacher context for TTG use, noted specific materials advantages for TTG materials over digital technologies, and also engaged in implementing a

variety of pedagogical elements that might improve language learning outcomes (e.g. peripheral communities of participation/games as artefacts, transcriptions, flipped classes, student tasks, etc.). Interviewee #3 perceived a linguistic and socio-cultural benefit linked with TTG task-motivation for her EAL students. She notes a number of benefits for both individual students and the class as a whole. Interviewee #4 perceived great materials flexibility in terms of implementation/context and motivational learning affordances. Interviewee #5 perceived TTG use as a means of implementing Vygotskian and Communities of Participation principles and providing learners an opportunity to move from the periphery towards a global community. His usage emphasizes the communities of peripheral participation understanding of the TTG as a social/cultural artefact. Interviewee #6 notes his insight into the motivational benefits of TTG use for pedagogical purposes, especially with low-motivation and low-confidence learners. This connects with observations made by interviewees #4 and #1, and, to some extent, interviewee #3. Moreover, interview #6's responses highlight a high level of awareness related to implementation constraints and challenges (both materials and classroom-based).

Through an 'integrated and whole' joining of the formal knowledge and experiential knowledge, skilful prediction and reaction to problems related to classroom TTG use is described by the specialist teachers. Examples related to each interviewee are as follows. Interviewee #1 keeps a set of detailed reflection notes related his classroom TTG implementations. It shows iterative adjustments and changes to his framework and implementation. One specific 'reaction' change related to a problem was described by the interviewee where he used cooperative games without providing scaffolded cooperative activities. In addition, he had not accounted for socio-cultural differences between the student groups within the class that impacted game play. Future implementations were then structured to avoid these pitfalls. Interviewee #1 also provided the very insightful comment

about the considering the TTG material from the perspective of the learners and not a TTG enthusiast. This is predictive of a potential specialist teacher pitfall which may lurk during teacher materials selection/curation efforts. For interviewee #2, he describes a reflection-based adjustment to a problem surrounding a flipped-classroom implementation he used previously. His response and adjustment show both an awareness of the how the problem impacted learning and skilful solutions to the problem (more sophisticated framework development).

Another example of a reflection-based response is his acknowledgement that a single playthrough of a game was not sufficient for student enjoyment or mastery. Finally, the interviewee's framework shows examples of skilful prediction on numerous fronts. For example, in the first semester he carefully selects the TTGs students will use for classroom management and language teaching considerations. In the second semester, he selects one game and also has the student groups select one game from a teacher-curated list (including game information, difficulty ratings, and other information). Overall, this shows predictive-awareness of contextual classroom needs, learner affective/cognitive needs, and language learning-specific needs. Interviewee #3 noted reflective reaction related to game use in classes with a single L1 and having to 'police' language use (also mentioned by several other interviewees). Moreover, the interviewee #3 described the importance and value of 'demonstrating' gameplay to her students and also providing them with significant choice regarding what they play. Interviewee #4 shows skilful prediction and reaction with regard to her comments about avoiding games with overly complex rules. She notes how complex rules explanations can consume too much class time and reduce the time students have actually playing the game. Interviewee #5 showed skilful prediction in noting that some students may be resistant or sceptical regarding broad TTG game use in the classroom. He further presents adroit handling of this problem by attempting to 'win over' the sceptical by

establishing and modelling the ‘seriousness’ of the learning approach, providing clear objectives/outcomes, and even associating TTG materials and components with established classroom terms (e.g. the ‘game reference sheet’ is called the ‘vocabulary sheet’).

Interviewee #6 showed skilful reflection-based reaction by noting that he believes many students, teachers, and administrators may be dismissive of TTG use as not being ‘real learning’ or ‘proper studying’, but he seems to frame their perceptions as a derivative consideration and frames actual language learning effectiveness as the primary consideration. This again fits with Borg (2015) on how teachers integrate various strands of cognitive information. In this sense the skilful handling may be akin to winning these stakeholders over through experiential means and demonstrated effectiveness.

Overall, the specialist TTG-using teachers show evidence of teacher TTG ‘expertness.’ This fits with Borg’s (2015) characterization and that their respective ‘expertness’ levels vary between them and that these levels exist in a dynamic state of flux. Understanding language teacher cognition related to TTG use may help us to understand these patterns of flux and provide supports for nurturing/fostering ‘expertness.’

Table #21: Cognition related to TTG teacher ‘expertness’ among the general teacher group and specialists

Teacher TTG ‘Expertness’*	
General Teacher Group (indeterminate level of TTG specialization)	Specialist TTG-using Teachers
Limited Formal Knowledge Related to TTG Use and Related-Pedagogy (Formal knowledge can be inferred to be limited from both the game literacy findings and the patterns of classroom use. The expansion of formal knowledge may be limited by lack of interest, perceived barriers to implementation making time investment less attractive, and lack of opportunity or support.)	Significant Formal Knowledge Related to TTG Use and Related-Pedagogy (Teacher training, professional development, research/support, expertise related to design affordances.)

Limited Experiential Knowledge Related to TTG Use and Related-Pedagogy (Inferred patterns game use [e.g. drilling through teacher-made games] and low frequency of use suggest limitations on experiential knowledge for both TTGs and TTG-related classroom pedagogy. Robust multi-class implementation markers were not prominent in the response data.)	Significant Experiential Knowledge Related to TTG Use and Related Pedagogy (Implementation accounts, reflections about what worked, reflections about what didn't work, context-specific insights.)
Compartmentalized knowledge Limits Teacher Abilities to Envisage Learning Potential Related to TTG Use in Instructional Contexts (Responses suggest patterns of limited use, which may further suggest compartmentalized knowledge is limiting teacher ability to envisage learning potential related to TTG use in instructional contexts [e.g. limitations stemming from game literacy, game use, game media awareness, and access to peripheral communities of TTG participation].)	Integrated Whole Allows Teachers to Envisage Learning Potential Related to TTG Use in Instructional Contexts (Suggested by patterns of use and also interview comments showing combinational understanding [primary and derivative factors].)

Compartmentalization Limits Instructional Repertoire, Responses to Unplanned Opportunities, and Difficulties Seeing Learner's Perspective Related to Classroom TTG Use (Responses suggest limited approach repertoires, inferred reduced ability to capitalize on unplanned TTG learning opportunities, and increased difficulties in seeing learner's perspective [e.g. teacher preference for educational games based in reduced/limited game awareness and high frequency of game creation]).	Integrated Whole Allows for Skilful Prediction and Reaction to Problems Related to Classroom TTG Use (Suggested by patterns of use and also interview comments showing combinational understanding [primary and derivative factors].)

*Based on Borg (2015)

Understanding teacher expertness with TTG-mediated L2LP classrooms helps us to see the need for preparing teachers in terms of their formal knowledge awareness and contributions, supporting resource implementation opportunities and reflection, advocating for long-term view of professional development with respect to TTG classroom use, and helping teachers to predict and navigate classroom, context, and professional challenges. The amount and type of support required by specific individuals will vary greatly. As such, support ought to be provided in rich and engaging environments/communities which can help teachers become empowered, informed, reflective, and active participants in their professional development. Platforms and communities aimed at supporting new TTG-using

teachers need to prioritise ease of access, building broad profession-wise promotion, and provide a pool of diverse materials/resources that can be selected from to scale/fit teacher need. Teacher accounts of classroom implementation (multi-class and single class) would also be helpful in terms showing how theory and implementation intersect in the classroom and how reflection/feedback on said experience can be leveraged to build/cultivate expertise.

How Teacher Expertise Related to TTG-mediated L2LP can be Supported

A driving theme behind this research into teacher cognition related to TTG use in language learning classrooms is that teacher cognition plays a crucial and fundamental role in principled use of TTG resources. The research findings suggest that TTG usage is fairly widespread, yet researchers and TTG experts may lack the common ground necessary to promote broad and informed principled implementation that reaches beyond specialized academic or specialist discussion channels. Based on the research findings related to expertise among the specialist TTG-using teachers and TTG-cognition differences among the general teacher group, it is possible to highlight some practical ways in which teacher TTG-expertise can be promoted and cultivated among both specialist TTG-using teachers and new/potential TTG-using teachers. Moreover, these suggestions are aimed squarely at including non-specialist TTG-using teachers and potential TTG-using teachers in the conversation. The following recommendations ought to be considered for implementation and optimization.

It may be useful for some expert TTG-using teachers and experts to create an organization for the purpose of advocating for principled TTG-mediated L2LP. In order to provide a common ground and fair platform to supporters of different approaches, the administration of this organization ought to be neutral (aside from advocating for promoting principled TTG-mediated L2LP implementation, awareness, and discussion). In other words,

the organization aims to support, inform, and empower teachers to shape their own professional development with TTG resources. Special effort should be given to creating an organization that can serve a centralizing function which brings the field together and nurtures localized grassroots advocacy based on specific need (country, context, class, etc.). Creating a centralized organization with localized satellite groups will improve TTG-mediated L2LP visibility and outreach support potential.

An online network of TTG-mediated L2LP resources should be created to collect, highlight, and leverage existing contributions and create a platform for new resources as well as interactions around these resources/ideas. Resources should include research, blogs about implementation, videos, podcasts, file uploads, and other relevant materials for supporting classroom implementation and the exploration of TTG-mediated L2LP. The network administration should attempt to be neutral in terms of approach and/or participation. Diverse opinions should be welcomed to the organization/platform, participants should have their ideas/preconceptions tested and stretched, and civil discourse should be cultivated in an effort to advance the field. In this way, the network potentially provides common ground to teachers/researchers interested in this field and also centralizes access to disparate resources/viewpoints in a way that increased their visibility and accountability. Additional benefits to this include allowing less frequently used approaches to be considered and a more accurate picture of trends within the field can be mapped. Special attention should be given to providing for the resource/support needs of both new and experienced TTG-using teachers. As much as possible, participant content creation, contributions and engagement should be encouraged. Expert TTG-using teachers and researchers can play a prominent role in content creation and platform spotlight pieces. Resources for new TTG-using teachers could include suggested frameworks and related media, videos/podcasts discussing key implementation topics, lists of suggested games with comments, and practical advice/how-to information.

Access to this network/platform and the attendant resources needs to be simple so that teachers can use it both passively and actively. Forums and user profiles would potentially encourage participation and engagement, personal bonds/connections, and provide a ‘history’ of individual posting and topic development.

Collaborative projects between expert TTG-using teachers, researchers, game designers, publishers, and other stakeholders are another way in which teachers can be supported. Collaboration outcomes could include game development, improved bridging materials for classroom implementation, and collaborative analysis/commentary from designers and expert teachers. Findings related to these projects should be broadly accessible and should be conveyed to both the general teaching public and academic circles.

Pre-service teacher training on TTG-mediated L2LP should be advocated for and supported. In particular, attention should be focused on helping pre-service teachers to make connections between pedagogical approaches/frameworks and the materials. Pre-service teachers should be guided and given the opportunity to plan a variety of approaches, lessons, and games. Guided reflection and teacher self-efficacy should be supported both during pre-service training and through providing pre-service teachers with access to online resources. The aforementioned organization advocating for principled TTG-mediated L2LP implementation might play a role here in providing teacher training schools and organizations with guidance and free access to resources/contacts.

In-service teacher training and professional development related to TTG-mediated L2LP should be promoted, supported, and provided in a variety of ways. This should include workshops/online artefacts supporting principled TTG use, efforts to increase/promote teacher game literacy, access to resources which support principled TTG use, professional networking opportunities, specific pedagogically informed and guided professional

development opportunities, access to ongoing peer feedback and discussion opportunities. Again, attention should be given to scaling the support options according to the needs of the teacher. A spirit of professional exploration, reflection, and autonomy must be cultivated. Attention should also be given to building relationships in specific peer groups (schools, communities, etc.) and maintaining connections with these groups by providing ongoing support and encouraging ongoing engagement (e.g. school reports or updates which can be shared with peers in the general TTG-using community). Leadership within these contexts will often have a huge impact on teacher TTG-use, implementations, and practices. As such, cultivating supportive leadership, both directly within the field and with potential allies, is of paramount importance.

These suggestions are perhaps ambitious and may assume a level of general support below that which currently exists. Indeed, more research is needed to uncover broader non-specialist TTG-mediated L2LP patterns. However, if the general questionnaire data remotely reflects general patterns, it seems fair to say that TTG resource implementation is already substantial in terms of frequency. Given this, expert TTG-using teachers and researchers advocating for principled implementation should not be waiting for the non-specialists to develop expertise and come to them, they should be meeting the non-specialists where they are and expanding access to TTG-mediated L2LP focused communities, resources, and professional development. Moreover, in addition to supporting bottom-up change and transformation, top-down supports and reforms would also do much to improve TTG-mediated teaching and learning outcomes. This includes institutional and societal support of educational reforms that can leverage TTG-mediated pedagogies. Examples of top-down support include providing opportunity (either within the existing educational establishment or by embracing the affordances of new pedagogical approaches and educational goals), training and support, and guidance (conceptual and at an implementation level). Both top-down and

bottom-up supports are required to effectively bridge the principled implementation gap and unleash the rich teaching and learning potential of learning through, around and with games. This sea change in pedagogy utilizing TTGs may take time and sustained effort to achieve.

Final Thoughts

Further research.

Further research is needed to better explore TTG-mediated L2LP teacher cognition. Possible areas of focus being: specialist teacher practices, non-specialist teacher practices, general game-use practices, framework implementation outcomes, non-specialist game literacy and TTG-mediated L2LP practices, case studies related to cognition changes over time, the impact of teacher training, and student perceptions of both expert and non-expert TTG-mediated L2LP. In particular, a more rigorous and long-term exploration of how game literacy support and pedagogical support affects teacher cognition and classroom practices is called for. Two particularly promising lines of inquiry with non-specialist TTG teachers and specialist TTG teachers may involve reflective practice interventions (Watanabe, 2017) focused on supporting TTG-mediated L2LP professional development and pedagogically-focused and guided professional development for teachers (Hébert & Jenson, 2019). Additionally, TTG-mediated L2LP research findings, guidance, and discussion need to be more broadly accessible to teachers. This includes making the findings practical and useful for both specialist and general teacher implementations of TTG-mediated L2LP. The previously mentioned focused CoP effort may be one way to distribute research, encourage principled implementation, generate discussion, and cultivate broad TTG-mediated L2LP-teacher growth and development.

Research limitations.

The primary limitation relates to the evolution of the researcher's own cognition in the research area of TTG-mediated L2LP. At the point when the research instruments and initial research approach was being developed, the researcher had a game-focused view of TTG-mediated L2LP. This resulted in a research instrument focus on this area. Thus, research results related to pedagogy are comparatively limited. This limitation can be seen in the introduction's primary focus on game affordances and qualities, research instrument spotlight on game literacy, and less clear emphasis on pedagogical cognition and implications. A thorough examination of game usage and cognition, for both specialist and non-specialist TTG-using teachers, is useful, however, an equally thorough examination of teacher pedagogy is necessary to properly understand and support the fullest conceptualization of teacher TTG-mediated L2LP. Unfortunately, adjustments to the research instruments could not be made in a timely fashion in this research project. It is hoped that the findings will be considered in this light. Future research ought to prioritize teacher pedagogical cognition. This should include in-depth exploration of documented specialist TTG-using teacher pedagogical approaches, approaches on the cutting edge of transformative and education reform, and approaches employed by non-specialist TTG-using teachers.

A secondary limitation regarding this research is that most of the data is self-reported by respondents and interviewees. Self-reported data may not accurately reflect actual classroom behaviours and does not afford cognition findings related to self-reported responses and behaviour gaps (Borg, 2015). For this reason, observational data collection and further detailed analysis of classroom practices is recommended. This applies to both

TTG-mediated L2LP experts and especially casual users of TTGs in the language learning classroom.

A third limitation is that though the general questionnaire data is useful, it is perhaps not the best point of comparison for the specialist teacher qualitative interviews. As a result, the researcher relied upon inference, inductive reasoning, and general response trends to arrive at some of the general teacher group conclusion summaries. As such, additional qualitative interviews with teachers in the general teaching population, especially with non-specialist TTG-using teachers, would help explore the accuracy of the research conclusions.

An additional limitation is that selection bias may affect both the general questionnaire and the expert TTG user teacher interviews. In the first case, this may be due to self-selection bias on the part of people electing to participate in the questionnaire (possessing some particular interest in TTG use in the classroom). In the second case, the ‘expert teacher’ selection process is also vulnerable to researcher-bias.

Another limitation worth noting is that the bulk of the quantitative questionnaire respondents had North American experience and/or connections. For this reason, the findings may reflect specific cognition related to the respondent demographics. An effort was made by the researcher to gather responses from a wide range of countries and teaching contexts, but analysis showed this effort to have limited success. Further research into local communities and global approaches may yield different results. Moreover, the qualitative interviewees may represent a narrow demographic and specific TTG-mediated L2LP approaches/materials. Teachers using other specialized TTG-mediated L2LP frameworks, approaches, and contexts should be researched and analysed for cognition factors.

Finally, as this research is focused on teacher cognition, it does not primarily consider TTG-mediated L2LP learning outcomes, school perceptions, materials developers, or student perceptions. These areas need to be explored further as they have potential impact on teacher cognition, classroom implementation, learning, and other distinct areas. Finding and exploring ways to achieve increased synergy between these areas and supporting both maximized and optimized language learning should be a goal of all stakeholders connected to this endeavour.

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Appendices

Appendix A

BGG Ratings

Retrieved from <https://boardgamegeek.com/wiki/page/ratings>

User rating

Every registered user can rate any game in the BGG database. Although these ratings are entirely subjective, here are the suggested guidelines:

10 - Outstanding - will always enjoy playing and expect this will never change.

9 - Excellent - always enjoy playing it

8 - Very good - enjoy playing and would suggest it.

7 - Good - usually willing to play.

6 - Ok - will play if in the mood.

5 - Average - Slightly boring, take it or leave it.

4 - Not so good - but could play again.

3 - Bad - likely won't play this again.

2 - Very bad - won't play ever again.

1 - Awful - defies game description.

How to do it?

To do this, find the game and go to that game's Main Page; this is most easily done using the Search option near the top of every page. In the topmost section is a series of stars labeled "My Rating", which you can click on to set your rating on a scale from 1 to 10 (once set, you

can click on edit to use decimals). You can alternatively go to your In collection drop-down arrow, click on Edit and fill your rating there.

Precisions

All recorded User Ratings are averaged to produce a single Average Rating shown in a game's "Statistics" section.

If a user has and rates several copies of a game in their collection, then only their highest rating for the game is used.

BGG does not allow people to give multiple ratings to a game through the use of separate accounts.

Sometime around 2017 it was decided not to display on a game's main page its average User Rating if the game has fewer than 30 ratings (since a small number of user ratings can be so extremely variable).

It was later decided to nonetheless show the average rating if the game had been in the database for over a year and was still struggling to get 30 ratings.

Ranks

The User Ratings are also used to determine the Rank of a game (*not expansion*) in the BGG database. Only games that have at least 30 User Ratings are eligible for Ranking and to the User Ratings are added a number of "dummy" ratings, which are then used to produce a new average Rating. (E.g. see this thread.) This is the rating that shows up in BGG searches and the number can, and does, vary from the Average Rating. In effect the "dummy" ratings move a game's average towards the norm of all games on the database - making games with few votes but very high ratings lower ranked than games with many more ratings but a lower Average Rating. (If you want to know more about this process, search on "Bayesian" within

BGG.) Additionally, secret undocumented stuff is done to try to filter out obviously bogus "skill" or "hate" ratings. (There are many threads from people asking about or trying to figure out the details, but they are intentionally undocumented.)

Note that the number of "dummy" ratings apparently depends on the total number of ratings. This explains the apparent "paradox" (often asked in the forums, e.g. [here](#)) of why game X is higher ranked than game Y overall, but game Y is higher ranked than game X in subdomain Z.

Another rating: weight

A further rating you can give to a game is the Game Play Weight. This is another personal opinion expressing how difficult the game is to play - either because it has long and/or complex rules, requires deep thought to play well or some other factor. "Weight" is not actually defined at BGG so different people have different ideas of what it means. The choices for Game Play Weight Are:

Light

Medium Light

Medium

Medium Heavy

Heavy

How to do it?

Click on the Weight or the 'Complexity' rating. It will display the current *results*. Press *Go to Poll* button, select your option and press *Vote*. It is done and the system remember your vote (you can change it).

LANGUAGE TEACHER COGNITION AND TABLETOP GAME USE

All recorded Game Play Weights are then averaged to produce a single Game Play Weight that is shown in the "Statistics" section for each game as Avg. Game Weight.

Appendix B

ELTMAC Report

**Developing English Language Teaching Metaphorical Associative Cards (ELTMAC):
Complete Report**

Author:

Richard J. Stockton, Indonesia

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Figure 1. Sample of ELTMAC cards.

Introduction

Teaching English language, I became familiar with a number of narrative card games for ELT, but felt there was something wrong with many of them. These games tended to form Markov chains, just streams of random events without any plot or meaning. So I began to work on my own set of story cards, which I chose to base on fairytale. During these trials, I sometimes had an eerie sense that the game cards were bringing up thoughts and feelings from deep in the psyche. This led to an action research question: Would it be possible to design a narrative story card game for ELT based on the archetypes and journey? And an empirical research question: Could an archetype and journey based ELT card game significantly benefit English language learning?

Jung and archetypes

Carl Jung is one of the most influential psychologists. Once a follower of Sigmund Freud, he split on bad terms with his mentor, and developed analytical psychology, coining the terms “archetypes” and “collective unconscious”. It should be cleared upfront, Jung has been criticized for his association with the Nazis. He was indeed a central figure in the *Völkisch* movement, which significantly informed Nazi ideology (Lutzhöft, 1971), and pro-Nazi notifications ran in the psychotherapy journal he edited (Samuels, 1997). However, it is also the case that Jung later vigorously renounced Nazism.

Jung’s arrival at the idea of the archetypes is connected to long standing debates in metaphysics and epistemology. While Plato had placed the forms, *eidola*, in a numinous beyond, for Jung (1927) the archetypes are encoded in our genes and “brain structure” (p.158). Jung was aware Augustine used the term archetypes in his *De deversis quaestionibus*

(396/2002), and that alchemist and astrologer Paracelsus had advanced a similar idea too (Mills, 2013, p.30). The most important influence however, was Immanuel Kant's categories of understanding in *Critique of pure reason* (1781/1998), in which our ideas are "pre-configured" and "structured by modes of perception and thinking that are universal and collective" (Gill, 2003, p.68). In addition, from the Romantic period critique of Johann Gottlieb Fichte's philosophical idealism by Novalis or Friedrich Hölderlin, that mind is not ultimately knowable to itself, Jung takes his tenant that the archetypes are fundamentally unknowable (Jung, 1947).

Of these archetypes, "like the instincts, the collective thought patterns of the human mind are innate and inherited" (Jung, 1964/1988, p.75). They are universal, "operative within all human beings regardless of history, gender, race, geography, or time" (Mills, 2013, p.21). Jung (1936) came to discover that the archetypes are particularly clear in "the delusions of paranoiacs, the fantasies observed in trance-states, and the dreams of early childhood" (p.103). Though the archetypes cannot be directly known, a common set are often discussed: Kovačev (2009) gives the self which is the center of personality, persona which is the mask or role, the shadow which is our disowned character, the anima and animus syzygy which are the feminine and masculine, the great mother, and the wise old man.... Others include, the hero(ine), the princess in distress, the animal friend, the mentor, the trickster, the underworld, the maze, the tower, fog, and the quest or journey.

Neurology

Knox (2001) is among the first to connect hard scientific evidence to Jungian archetypes being "innate structures of the mind" which are "pre-experiential", "hard-wired" and "a direct expression of genetic codes" by drawing a comparison with Mark Johnson's (1987)

pioneering work on facial recognition image schemata in infants, arguing those are kinds of archetypes that “antedate conscious experience” (p.628-629). Further corroborating Jung, researchers using fMRI with English, Mandarin, and Farsi speakers suggest the Default Mode Network (DMN), an area of the brain active in daydreaming, “seems to be involved in representing the global meaning of passages” (Dehghani *et al.* 2017, p.6103); “encoding is systematic across both individuals and languages” (p.6098).

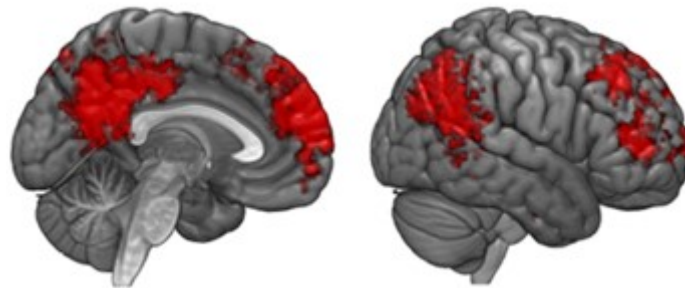


Figure 2. “Interlanguage...maps”, Dehghani, *et al.*, 2017, p.6128.

Narratology

Bruner (1986/2009) distinguishes between purely objective facts and narrative. But, Sarbine (1986) insists narrative thought informs even scientific paradigms. So, narrative is the sequenced telling of “motivations, goals, actions, events, and outcomes”, and, narratives “structure our understanding of the world and of ourselves” (Lakoff, 2010, p.21).

Elements of fiction

“Children can begin to tell stories themselves in about the third or fourth year of life”, but it is from “between the ages of five and eleven years children proceed from plots” (Sutton-Smith, 1986, p.68-69). That there is some sort of structure and sequence to narrative has been understood since the time of the ancients. For Aristotle (4th Century/2000), in *Poetics*, a plot follows a rule of three, it has a beginning, middle, and end (1450b). Georges Polti

(1895/1924) attempted to define all possible dramatic situations: he arrived at 36. W.H.

Auden's (1968) work on what he called hero quests convinced him that all genres contain the same six stages. More recently, Booker (2004) has analyzed stories into seven basic plots.

The ATU

In the early 20th Century folklorist Antti Aarne undertook the design of a catalogue that could index all tale types, from myths and creation stories, to fables and fairytales, and even bawdy stories and jokes. His system was organized around motif. Motifs are specific actions of agents in a story, they are the smallest narrative units; for example, a ring changing into a sword is coded as D454.8.2.1 (Thompson, 1958). The current final format, the Aarne-Thompson-Uther classification system (ATU) indexes over 40,000 motifs (Uther, 2009, p.20). For Uther (2009), the index has now reached the end of its potential, "advocates of narrative classification envisioned an exact system like that of the natural sciences.... Such hope for scientific exactness must be seen as a product of...wishful thinking" (p.19).

Propp & Campbell

A very different approach however was being taken by Soviet era folklorist Vladimir Propp. His *Morphology of the folktale* (1928/1968) revolutionized the field. While the ATU indexes motifs from stories all over the world, Propp discovered functions. "All fairytales are of one type in regard to their structure" (Propp, 1928/1968, p.23); there is no possible variation in sequence of the 31 functions, only abbreviation. Thus, Propp is able to describe a fairytale by the sequence of functions underlying the motifs.

$$\gamma^1\beta^1\delta^1A^1C^1\uparrow\left\{\begin{array}{l} [DE^1 \text{ neg. } F \text{ neg.}] \\ d^1E^1F^1 \end{array}\right\}G^1K^1\downarrow [Pr^1D^1E^1F^1=Rs^1]^1$$

Figure 3. “The Swan-geese”, Propp, 1928/1968, p.99.

Aguirre (2011, p.5) explains,

A wedding may be a reward (W) only if it occurs at the end of a sequence;... it may amount to a test if it occurs at E; while if it takes place in the preliminary sequence it may signal the entrance of the Villain (e.g., as stepmother; function ϵ).

While Propp’s work was suppressed by the Communists, many continue to develop the essential insight. Joseph Campbell’s influential work shows myth worldwide underlied by the same tri-part “monomyth” consisting of departure from the familiar world, trial and initiation, and finally return (Campbell, 1949/2004).

(Post-) Structuralism

“The development...of the postmodern critical approaches, particularly poststructuralism and cultural materialism, has brought about a marked devaluation of the theories of Eliade, Jung and Campbell” (Gill, 2003, p.12).

Claude Lévi-Strauss (1984) was highly impressed by the work of Propp. Propp on the other hand took considerable slight as Lévi-Strauss reduced his syntagmatic formalist functions into an atemporal table of structuralist paradigmatic binaries. Lévi-Strauss (1984) explained, “we could treat the “violation” as the reverse of the “prohibition” and the latter as a negative... “injunction.” The “departure” of the hero and his “return” would appear as the negative and positive expressions of the same disjunctive function” (p.183).

w	$-x$	$\frac{1}{y}$	$1-z$	
$-w$	$\frac{1}{x}$	$1-y$	z	
$\frac{1}{w}$	$1-x$	y	$-z$	
$1-w$	x	$-y$	$\frac{1}{z}$	

Figure 4. “Structural model”, Lévi-Strauss, 1984, p.183.

What Lévi-Strauss (1984) though actually shares with Propp, is that the words of a story create another level of “supermeaning” (p.188). Lévi-Strauss (1984) calls this the level of mytheme. But the nature of this higher level metalanguage differs between Lévi-Strauss and Propp. Lévi-Strauss gives the example of a story where a Plum tree has the meaning of “fecundity”, but in Native American stories this meaning would be signified by the Crabapple tree (p.182), so the meaning of a story changes with cultural context. But for Propp, all stories have only one eternally fixed meaning.

Barthes (1975) too sees narrative as “another “language”, functioning at a higher level than the language of linguistics” (p.240); and that level of mytheme is “international, transhistorical, transcultural” (p.237).

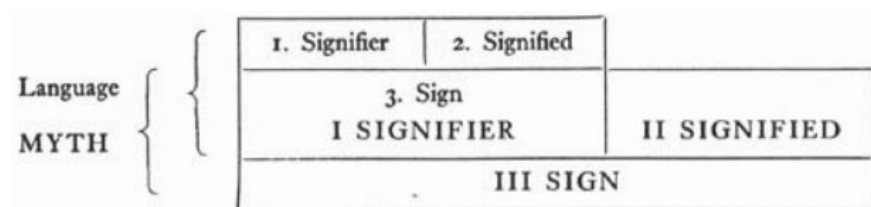


Figure 5. “Two semiological systems”, Barthes, 1957/1991, p.113.

Barthes uniquely however describes narrative as moving along, “limping” (p.270), in a running interpretation as each new element continuously changes the meaning of the total from which the elements contextually derive and develop meaning.

Fairytale

“The term “fairy tale” resists a universally accepted or universally satisfying definition” (Haase, 2008, p.322). It sits as part of a group of closely associated genres including world folklore, myth, epic, saga, and legend. Campbell (1949/2004) sees the difference between fairytale and myth as scale, or “microcosm...macrocosm” (p.35). For J.R.R. Tolkien (1947), fairytales are defined by their setting and stock characters. Max Lüthi (1962/1970) enumerates essential characteristics, including minimal character development, black and white contrasts, timeless objects, symbolism, repetition, often in threes, and climactic dramas resolving last-minute. Fascist and Traditionalist Mircea Eliade (1963) sees fairytales as the remnants of ancient mystery religions. This was roughly also Propp’s (1946/2000) view. What differentiates fairytale from folklore is that fairytale is specifically European folklore. da Silva and Tehrani (2016) identify tales like Jack and the beanstalk as exceedingly ancient, putting their origin in the Proto-Indo-European Bronze Age. Etymologically, the English word fairytale comes from the French *contes de fées*; coined by *Ancien Régime* countess Marie-Catherine d’Aulnoy. It was the trend in Europe at her time for ladies of class to take part in “storytelling, riddles, and other parlor and salon games” (Zipes, 2011, p.223). The sources which these aristocratic ladies drew on for their fairytales, “the supernatural powers of fairies, sorcerers, and other “pagan” figures obviously run counter to a Christian world view” (Seifert & Stanton, 2010, p.8). These literary fairytales were a kind of social criticism; d’Aulnoy ended up spending three years in the Bastille before being exiled from France. From the early 19th Century, the likes of Charles Perrault and the brothers Grimm were

collecting fairytales, fairytales began to be produced for children, and progressives like George MacDonald and Oscar Wilde took to the medium too (Zipes,1995). Meanwhile, another group also began to take an interest in fairytale; for the Nazis, European folktales were “considered to be holy or sacred Aryan relics” (Zipes, 2012, p.141).

Psychology

Eric Bern (1972) is among the first to bring fairytale into psychology, carrying out life-script analysis with the stories. Steven Karpman (1968) also looks at connections, analyzing the dramatic structure of the Pied Piper, Little Red Riding Hood, and Cinderella into three basic positions: victim, rescuer and persecutor; drama happens in the switch-up between positions.

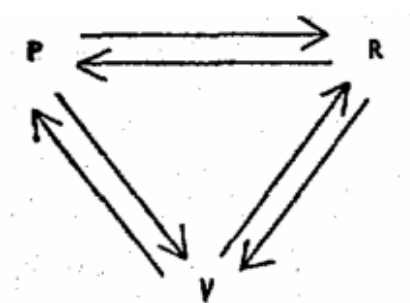


Figure 6. “Drama Triangle”, Karpman, 1968, p.50.

Le Guernic (2004) applies Berne and Karpman’s work in education, renaming Karpman’s drama positions to archetypal roles that accentuate the positive: “the Helper or the Donator”, “the Guide or the Mandator”, and “the Beneficiary” (p.220).

MAC

Popova and Miloradova (2014) have written at some length on the psychological basis of metaphorical associative cards (MAC) like Tarot. They explain that, “the psychological mechanisms of the cards’ action is connected with such phenomena as “projection,”

“identification,” “metaphor,” “association,” ...“archetypes,”... and some others” (p.208). In psychology, the Rorschach inkblot test is probably the most well-known application of MAC. Another MAC deck, OH cards, was developed by artist Ely Raman during the 1970s. “OH cards grew out of his involvement with the New York avant-garde art scene, pop art, his study of psychology, ...and the Tarot” (Moore, 1999). Raman also created the *Saga* (n.d.) deck of 55 cards, which is based on fairytale.



Figure 7. “Saga-55 story-telling cards”, Egetmeyer, n.d.

The Asian Storytelling Network (n.d.) has developed a series of OH card lessons and teacher training in services, their workshops offered include “Art and creative story games with OH cards” and “Creative story telling with OH cards”. Richard Martin (n.d.) writes on the use of OH cards in English language teaching specifically. Martin suggests that a great deal of learning arises from the skills activated by storytelling, especially active listening (Personal communication, 2018); learners are able to predict story elements and meanings due to intuitive understanding of narrative (Martin, n.d.). He reminds us, while there may be a tendency to associate storytelling in ELT with children, it is for all ages (Martin, n.d.).

Storytelling in ELT

Lucarevski (2016) reviews the literature on the effectiveness of storytelling for English acquisition, finding that storytelling is overall more effective across receptive and productive skills, grammar, vocabulary and pronunciation than traditional methods like textbook based lessons. This successfulness has been attributed to storytelling lessons being “fun, engaging, and highly memorable” (Lucarevski, 2016, p.23), and “because they provide learners with comprehensible input” (p.33). The details are, Wajnryb (2003) claims storytelling benefits memory of vocabulary, grammatical structures and pronunciation. Maldarez (2010) and Abrashid (2012) find vocabulary learning aided by storytelling too, perhaps due to its engagingness. Huang (2006) used fairytales specifically in her research, finding improved memory of vocabulary, and speculating the illustrations and contextualization are why. Elkkiliç and Akça (2008) report that most learners see storytelling based lessons as enjoyable and meaningful; fairytales in particular are generally well received by young people (vom Orde, 2013). Quite a few researchers conclude comprehensible input may be what is behind the efficacy of storytelling for learning English, i.e., Hendrickson (1992), Wajnryb, (2003), and Brewster, Ellis and Girard (2004). Hsu’s (2010) research led her to speculate that not just listening, but retelling as well, is part of what makes storytelling effective in ELT. Atta-Alla (2012) found the same. Broome (2003) presents the case of a high school English program built around fairytales, explaining, “no longer are students protesting that fairy tales do not have hidden themes.... The point arrives finally when one student complains,...“Now I can’t read a fairy tale without seeing all this stuff”” (p.24-25).

Seven presumed benefits of ELTMAC

i. Memory — Memory has long been a concern in language instruction (Kelly, 1969, p.45), and it has long been established that English memory ability correlates with proficiency

(Harris, 1970, p.206). Rosen, Smith, Huston & Gonzalez (1991) have demonstrated, with native speakers of English, significantly improved memory recall using 40 flashcards based on the Archetypal Symbol Inventory (ASI). The ASI was designed with Lehner (1956), Cirlot (1962/2001), and Jung's (1964/1988) dictionaries of symbols, and the 14,000 images of the Archive for Research in Archetypal Symbolism (ARAS).

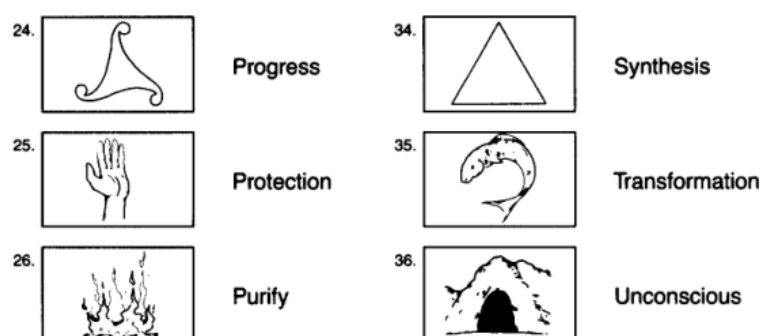


Figure 8. “Archetypal Symbol Inventory”, Rosen, et al., 1991, p.227.

Bradshaw and Storm (2013) get similar results with a set of 30 cards, removing any which might have known allusion, and using a mixed multicultural Australian group; the gain being about 10% (Personal Communication, Lance Storm, 2018). Brown and Hannigan (2006) replicate the results with bilingual English-Spanish speakers, running the ASI test in both languages. Sotirova-Kohli *et al.* (2013) corroborate the results with a Swiss German speaking group. And Sotirova-Kohli, Rosen, Smith, Henderson, and Taki-Reece (2011) found an “8%” memory advantage using traditional *Tensho* style Chinese characters (p.125), which evolved from ancient pictographs which the researchers argue therefore retain archetypal imagery.



Figure 9. Evolution of character for “float”, Sotirova-Kohli et al., 2011, p.111.

Soleimani and Akbari (2013) speculate that it is because students are typically familiar with “lots of archetypes, plot structures, different types of characters and themes... which they inherited from their ancestors” that storytelling in ELT supports vocabulary learning (p.105).

ii. L2 identity — Some philosophers, Owen Flanagan (1992) for instance, go as far as to see the emergence of self-consciousness in narrative capacity. Narrative “plays the role of giving organization, meaning, and structure to a life” (Flanagan, 1992, p.189). For Jung (1917), this process of “coming to selfhood” happens through the archetypes (p.173); key to the journey of individuation are the self, persona, ego, shadow, anima/animus, the wise old man, and the great mother (Stein, 2005). Storytelling would help language learners create their L2 identity too. “Codes, signs and myths exist everywhere in every culture, and until we can successfully read and understand them, we cannot truly understand ourselves. Unlike other narratives, fairy tales...force readers to delve into the mythic level of interpretation” (Goh, 1986, p.22). Pushkov (2011), who uses OH cards in his counseling practice, says the games facilitate changes in character for his clients. “Associations that arise...while looking at the pictures serve as a mechanism of identification”, so from the story and discussion, effects permeate into “the level of real life” (Popova & Miloradova, 2014, p.211).

iii. Trans-cultural — The archetypes of the collective unconscious are the same “in any part of the world” (Jung, 1964/1988, p.69). For Gattineau (2012), OH cards, derived as they are from universal archetypes, are “cross-cultural”; they are currently being used in at least 21 countries.

iv. Cultural competence — Using fairytale with language learners is “preparing them to read cultural codes and interpret mythical language from a context that is simple and easy to understand” (Gho, 1986, p.3). The fairytale develops in its listeners and readers what Barthes (1957/1991) calls a mythology, i.e., assumed background customs and norms. While all cultures have folklore, fairytale genre is specifically European. Fairytales promote English discourse via a Whorfian synergy with the culture and values embedded in European fairytale language. Each culture/civilization has a defining narrative at its nucleus; for the West, according to Oswald Spengler (1937), that is Faust. In ELT, Goh (1986) explains, “introducing... fairy tales in the classroom will help introduce learners to Western society’s style of thinking” (p.62).

v. Category and corpus linguistics — Rosch (1978/1998) collected research that problematized Aristotle’s (4th Century/2002) conception of categorization with its 10 categories, and proposed instead that categories do not have clear-cut criteria and boundaries. Rather, she has it that contextualizing “events” are the basic units from which objects derive meaning as props (Rosch, 1978/1998, p.19), and taking from Brown’s (1958) *How shall a thing be called?*, categories have a “basic level”, the most frequent English words, and also meanings on “subordinate” and “superordinate” word levels (p.7). Likewise in MAC decks, “there are no “correct” interpretations of the pictures”, narratives develop out of “our own

perceptions and interpretations” suggested by the cards (OH Cards quick start, 2003, p.1).

ELTMAC accommodates how language categorizes.

vi. Meaningfulness — “Disneyfication refers to a process in which...the original is simplified, ...adaptations are often one-dimensional and require little critical thinking” (de Graaf, 2013, p.8). Among the first to critique Disney in this vein was children’s author Frances Clarke Sayers who wrote Walt Disney in 1965, telling him that his retellings were a “debasement of the traditional literature of childhood”, adding that his “treatment of folklore is without regard for its anthropological, spiritual, or psychological truths” (de Graaf, 2013, p.4-5). Teachers may feel awkward about discussion of the actual truths of life (Purpel, 2008), hence the reality that telling fairytales can relate is valuable (Bettelheim, 1976), if, as in TESOL, commercial interests, politico-religious forces, and political correctness have been censoring meaningful content because it might offend (Smith, 2003).

vii. Broad use — Wright (1995) has published no less than 94 tasks based on storytelling. His narrative story card games can be used to teach vocabulary, time sequencing, elements of fiction, tense, adjectives to describe appearance or personality, opposites, transitions, reported speech, writing and reading fiction, newspaper articles, retelling, research skills, inferencing, and more.

Action Research

The storytelling game that first inspired me to start developing ELTMAC was a medieval fantasy set of 36 cards (source unknown). One of the great things about that game is its curious drawings, due to their ambiguity, one card might be seen as a storehouse, or a secret code, or maybe a town map. Its failure however, is too many, mostly male, bad guy

characters, the result being there are insufficient literary devices to guide development of plot.

The ELTMAC deck drawings follow analytical psychologist Lance Storm's suggestion that, as in the ASI set, the cards have "artistic simplicity,...and students should find them pleasing to look at" (Personal Communication, 2018). As well as ambiguous cards, I include two which are purely abstract, and I aimed for gender balance in characters. While an ELTMAC deck ought to be archetypal, it oughtn't to be sexist. Women have been an important part of fairytale since at least French salon, but fantasy games tend to be male biased (Miller, 2013). Erich Neumann (1955/1972) carried out an iconic structural analysis of female archetypes; as well as coming to the conclusion that "the symbol-forming process of the unconscious is the source of...language", (p.17), his investigation of the great mother archetype found her to have six facets, Mary, Sophia, Kali, the witches, Lilith and Isis. These archetypes are worked into ELTMAC's female characters, including a pregnant Venus of Brassempouy.

Another narrative card game with some flaws is snakes and ladders with "place", "actions", and "character" distributed along the route, and ending with "they lived happily ever after" (*High flyers, Book J*, 2016, p.71). The game limits mood to happy endings; but the bigger problem is nothing structures plot, and depending on the role of the dice, there is possibly even no characters for the story. To support plot, the ELTMAC deck has cards suggestive of sequence such as a key and a door, and implying elements of fiction like reversal, dialogue bubbles, or a diverging path. In ELTMAC, there are ample characters, like the king, an ogre, dragon, or townfolk; and in play, props, for instance the sword, as well as animal cards like the bird or horse, can become characters too, because in fairytale, the Aristotelian (4th Century/1984) distinction between agent and object, is not clear-cut, take Disney's *Beauty*

and the beast (1991), the candlestick Lumière or the clock Cogsworth are both characters and props.

A narrative ELT game, but with a winning formula, is one in which learners throw dice to choose settings like “a forest” or “the sea”, then from the characters list which includes “a spy” or “a teacher”, and finally a plot from “looking for treasure”, “having a toothache”, or “cooking some soup”; the students write the narrative into stages, “At the beginning”, “after that”, and “finally” (*Trailblazers, Book 7*, 2016, p.60). To scaffold emergence of meaningful plot, I made a three-by-five tile game board to help structure the

52,170,410,224,819,317,150,720,000 possible permutations, i.e., sequences, of 15 cards from the deck of 59.

Once upon a time...

Setting & Characters					
Conflict & Climax					
Resolution					

 **The end.**

Figure 10. ELTMAC game board.

ELTMAC cards need to represent the mythic archetypes. My deck contains the wise old man, the great mother, twins, the ouroboros, fog, the trickster, the shadow, the mask of persona, of course a fairy, and so on. I used *Ring of the Nibelungs* (2004), *Snow White and the huntsman* (2012), and *Game of thrones* (2011-2017) to guide and check what cards are required to produce these mythopoeic narratives, like a mirror, a vial, gold, and a tower. In class, learners were able to reconstruct many other fairytales, and local folklore too.

And, the needs of language learning had to be represented. I used, to me, evident basic level names for the cards, for example “jewel”, and then used online thesauruses to compile synonyms, such as “crystal” or “gem”, and subordinate and superordinate category names like “diamond” and “rock” respectively. I then profiled the list against a corpus linguistics database to ensure all cards would be namable with the 2,000 most frequently occurring English words (Cobb, 2018), hence the game is scalable to beginners, or learners with larger vocabularies.

Current profile (token %)			
K-1 (44.40)	44.40	K-8 (2.32)	91.89
K-2 (21.24)	65.64	K-9 (0.77)	92.66
K-3 (6.56)	72.20	K-10 (1.54)	94.20
K-4 (6.18)	78.38	K-11 (0.39)	94.59
K-5 (6.56)	84.94	K-12 (1.93)	96.52
K-6 (3.09)	88.03	K-13 (0.39)	96.91
K-7 (1.54)	89.57	K-21 (0.39)	97.30
		OFF (2.70)	≈100%

Figure 11. Compleat Lexical Tutor, Cobb, 2018.

In classroom play, students in fact used a far richer pallet of vocabulary than profiling might have suggested would have been available to them for their levels. “Knowing these topic-related words is a phenomenon” likely due to familiarity with the fairytale genre (Personal communication, Paul Nation, 2018). It is interesting that students often liked to lay out all the cards and group them according to type, the king and queen together, character and animal cards, all the objects in a column, settings, and so on.

While personally, Propp or Campbell’s spiritual kind of approach was the greater inspiration, the (post-) structuralist perspective, i.e., binaries, figures large too. The ELTMAC deck

contains the pairings day/night, male/female, fruit/flower, fire/water, domesticated/wild, dog/cat and cat/mouse, and the levels tree/forest, and commoner/noble, among others.

The rules of game play I adapted from *OH Cards quick start guide* (2003). Players start by taking three cards each from the facedown deck. The player with a card closest to letter “A”, for example “apple” or “cat”, goes first. The first player lays a card on the “Setting & Characters” row of the game board and begins to tell the fairytale, “Once upon a time...”, supplying back story, initial situation, and character development. At the end of the players’ turns they take a card from the deck, so always holding three cards. The next player then lays down a card, continuing to tell the story. The game proceeds until the tiles of the plot game board are filled, and the players have finished telling the story; winning is having created the three-part story. Raman advises players may pass, may reveal their hand, or not, that players shouldn’t interrupt the storyteller while speaking, reinterpret played cards, or argue about their meaning (OH cards NA, 2018). In class, students were generally easy going about the rules and flow of play.

Empirical Research

My research design follows that suggested by psychoanalyst Milena Sotirova-Kohli (Personal communication, 2018),

A research Idea that can support your claims about the utility of cards with archetypal themes used in English acquisition [*sic*] could be the following. Create two groups of English learners.... Control for all factors that could influence English learning... Use the cards only in one of the groups and...compare the results.

The research was carried out at one of the largest private English institutes in Indonesia. All subjects were 8 to 11 year-old young learners, with upper-intermediate English, CEFR A2 by the institute's level placement test. I collected control group data from 16 classes, totaling 117 students, taught fairytale vocabulary and elements of fiction using the *High Flyers, Book J* (2016) textbook, and supporting PowerPoint. The test group consisted of five classes, totaling 28 learners, taught to the same aims, but using ELTMAC decks to play a story creation game with oral retelling. All classes were finally assessed with a fairytale writing task, starting with the prompt, "Once upon a time there was a young, brave princess...", and graded against the institute's writing rubric that includes "lexical command" and "communicative competence".

Time	Task	Description
0:00 – 0:05	Opening	Write "fairytale" on the board, illicit from students what this means.
0:05 – 0:10	List	In pairs, Ss list ten fairytales. Accept all reasonable answers, discuss what a fairytale is: princesses, dragon, magic, etc...
0:10 – 0:15	3 parts	Write "beginning", "middle" and "end" on the board. Give an example of Cinderella and elicit responses from the group: beginning starts with "Once upon a time..." introduces initial scene, characters and setting; middle is the climax conflict; ending is the resolution, typically "happily ever after" and marriage, or sad endings.
0:15 – 0:20	Draft	S pairs attempt to note or draw the 3 parts of one of the fairytales they listed.
0:20 – 0:25	Explore	Form small groups of 3 to 5 Ss. Seated in a circle on the floor. Distribute one deck of ELTMAC cards to each group. Encourage the Ss to look over the cards and identify what they might represent. Discuss; cards have no right or wrong meaning.
0:25 – 0:35	Develop story	Distribute the game board. Direct students to develop their own fairytale, or storyboard one they already know. T circulates, discuss elements of fiction to help scaffold the story development.
0:35 – 0:40	Retell	Once the storyboard is filled, Ss retell their complete story to T. Discuss.
0:40 – 0:60	Write	Ss return to their desks. Distribute writing template. Quiet writing. Ss may write the story they just developed, a familiar tale, or imagine their own fairytale.
0:60	Close	Collect Ss's writing. Assess.

Figure 12. ELTMAC lesson plan.

Findings

The average writing task score of the control group came to 84.42%. The average score for the test group classes who played ELTMAC games instead was 89.57%, a difference of

5.15%. The p value for a two-tailed t test is 0.037. If the level of statistical significance is assumed to be 0.05, as common in social science, the null hypothesis would be rejected and the results are statistically significant. Learners who played narrative story card games based on Jungian archetypes used wider vocabulary to write more communicatively competent fairytales.

Conclusions, Caveats, and Suggestions

To the action research question, the answer is that it is possible to develop a narrative story card game for ELT based on Jungian archetypes and journey. The ELTMAC deck is the result. To the empirical research question, the result is that ELTMAC games significantly improved learner's English narrative writing. Although this had not specifically been done before, its possibility was presaged by Jungians researching memory with the ASI, teachers who had already brought fairytale and analytical psychology into their classrooms, educators who have been promoting OH cards, and Martin (n.d.) who documented his use of MAC in ELT.

Jordan Peterson (2017) has said that as fairytales are “up to ten thousand years old”, and based on deep archetypes, they are not easily modified without losing something, therefore Disney's *Frozen* (2013) is a deranged tale. On the other side, analytical psychologist John Betts disagrees with Peterson, saying, “I don't believe you can get an “ill” fairytale” (Personal communication, 2018). As ELTMAC games rearrange fairytale elements, Peterson's (2017) view ought to be reckoned with, lest the games sicken the very thought level they seem to depend on for their benefit to ELT. Notwithstanding that the evil Snow Queen has indeed been transformed into the protagonist by Disney, the life-force in narrative cannot easily be extinguished. So Elsa would be read as a mythic heroine who sacrifices

herself so her sister Anna can return Arendelle to fertility through the authentic masculinity of the ice-cutter Kristoff.

About two-thirds of Raman's (n.d.) *Saga* cards are roughly the same as my ELTMAC: the wise old man, a joker, a mirror, a dog, an apple, a king and queen, a sword, and so on. The *Saga* deck however is not appropriate for all young learners, or more conservative cultures, as some cards portray nudity, and there are also some disturbing cards, including a bloody beheading. But, the ELTMAC deck, which omits nudity and graphic violence, doesn't therefore subvert the journey or censor meaningfulness. Stockbridge (2012) reports she removed triggering or inappropriate OH cards for games with women recently released from prison, without impairing deck usage.

Going into the future, Semetsky and Delpech-Ramey (2012) implore educators to further "explore the role of the unconscious in learning" (p.69). Unfortunately, very few publications on analytical psychology are appearing in the field of TESOL, hopefully this research might inspire others to bring Jung and archetypes into ELT.

References (removed for this appendix item)

Appendix C

Interviewee #1 Reflection Notes

H21 Autumn/Winter term

(warm up)

Bohnanza x1	x2 Learn together in group then play
Monopoly x2	Students were given simplified rules which they read
Payday x2	One class was spent to learn how to play
Risk x2	Group discussion was used to answer any questions
Ratrace x2	Second class was a complete game
Settlers of Catan x2	Reports had a short quiz and general feedback on each game
Learn patience x1	Quiz questions were about general game play
Teach patience x1	Feedback was about their general impression of the game

Students learnt a different kind of patience which they taught the next week

H22 Spring/Summer term

(warm up)

Cribbage x1	
Scotland Yard x1	learn and play in one class – no report
Incan gold x1	learn and play in one class – no report
Alhambra x2	Students were given simplified rules which they read

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RTW80 x2	One class was spent to learn how to play
Payday x2	Group discussion was used to answer any questions
Monopoly x3	Second (and third) class was a complete game
Agricola x3	Quiz questions were about general game play
Settlers of Catan x3	Feedback was about their general impression of the game

Students played two from Monopoly, Agricola, Settlers

H22 Autumn/Winter term

Warm-up x1	
Risk x3	Simplified rules that were learnt in one week
Careers x3	Game was played for the next two weeks
Cluedo x3	No quiz but a more in-depth report also touching on theme
Ticket to ride x3	Winning strategies were also talked about

H23 Spring/Summer term

Contract whist x1	Warm up	
Learn own game x1	each student had their own game to learn	
Modern Art x2	Manhattan x2	Two separate groups
Monopoly x2	Great game of Britain x2	
Hare and tortoise x2	Marrakech x2	
Careers x2	Cluedo x2	
Ra x2	Pay day x2	

Ratrace x2	Round the world in 80 days x2

H23 Autumn/Winter term

Kingsburg x2	Just learn and play in group
Medici x2	Just learn and play in group

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Lord of the Ring x3 Ss finally ‘beat’ the game on the final week (with help)

Reports were written for each game. Reports dealt with many issues.

H24 Autumn/Winter term – Teach / play

Board game history talk

Each group learnt how to play their game and then decided how to teach it x2

One member of group taught game, other members learnt/played other games x4

1st set of games: Manhattan, Alhambra, Ticket to ride, Modern art

2nd set of games: Arcadia, Finca, Hanging Gardens, Acquire

In-depth report on taught game, general feedback on new games.

H25 Spring/Summer term – Teach / play

Showed students how to describe a card game (Betsy Rose). Students described a basic game.

Each group learnt how to play their game and then decided how to teach it x2

One member of group taught game, other members learnt/played other games x4

1st set of games: Kingdoms, Dominion, St. Petersburg, King of Tokyo

2nd set of games: Las Vegas, Niagara, Kingdom Builder, Takenoko

In-depth report on taught game, general feedback on new games.

H25 Autumn/Winter term – Teach / play

Showed students how to play a game through instruction (Contract Whist).

Each group learnt how to play a new game every three weeks.

Learn / play / play then report. Changed groups after two games.

4 games chosen: 7 Wonders, Augustus, Really nasty, Elfenland

In-depth report plus original sheet on each theme game offered (4 pages each)

H26 Autumn/Winter term – Teach / play

Showed students how to play a game through instruction (Betty Rose). Students described a basic game and each group learnt how to play these games giving feedback and questions on rules / explanations not understood. The next week I introduced Dixit and gave 9 cards to each group. They brainstormed and wrote down several words for each card that could easily describe it. The cards were then rotated and words were written down for each new set of cards. The next week saw 3 easy games (Divinare, Love Letter, Raj ハゲタカのえじき) which were first learnt and then taught to others mirroring the rest of the course. Short feedback was written on the game learnt and the new games played.

(New) Groups were then given a ‘proper’ board game and had a class to learn how to play it – the rules were given out a week earlier for them to read. The next week the group then decided how to teach it excluding some of the games features to make it easier to play.

One member of group taught game, other members learnt/played other games x3

1st set of games: Modern Art, Manhattan, Finca (45-minute duration games)

2nd set of games: Splendor, Oregon, Guildhall (probable)

In depth report on taught game, general feedback on new games.

H27 Autumn/Winter term – Teach / play

Showed students how to play a game through instruction (Contract Whist). Students described a basic game and each group learnt how to play these games giving feedback and questions on rules / explanations not understood. The next 2 weeks saw 6 easy games (Love

Letter, Raj ハゲタカのえじき, Battle Sheep, Parade, Bucket King, Coloretto) which were first learnt and then taught to others mirroring the rest of the course. Short feedback was written on the game learnt and the new games played.

(New) Groups were then given a ‘proper’ board game and had a class to learn how to play it – the rules were given out a week earlier for them to read. The next week the group then decided how to teach it excluding some of the games features to make it easier to play.

One member of group taught game, other members learnt/played other games x3

1st set of games: Rattus, King of Tokyo, Finca

2nd set of games: Oregon, Thebes, CV

In-depth report on taught game, general feedback on new games.

H28 Autumn/Winter term – Teach / play

Showed students how to play a game through instruction (Contract Whist). Students described a basic game and each group learnt how to play these games giving feedback and questions on rules / explanations not understood. The next week saw some easy games (Love Letter, Raj ハゲタカのえじき, Battle Sheep, Abandon ship, Bucket King, Sushi Go) which were just played to get students used to gaming. Short feedback was written on the game learnt and the new games played as well as feedback on the card games they tried to explain in only words.

(New) Groups were then given a ‘proper’ board game and had a class to learn how to play it – the rules were given out a week earlier for them to read. They also thought about how to teach it excluding some of the games features to make it easier to play.

One member of group taught game, other members learnt/played other games x3

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1st set of games: Niagara, Ratrace, Manhattan, RTW80

2nd set of games: Elfenland, Explorers of the North Sea, Imhotep, Finca

In-depth report on taught game, general feedback on new games.

H29 Autumn/Winter term – Teach / play

Showed students how to play a game through instruction (Contract Whist). Students described a basic game and each group learnt how to play these games giving feedback and questions on rules / explanations not understood. The next week saw some easy games (Cockroach poker, Raj ハゲタカのえじき, The hare and the tortoise, Incan gold, Und Tschuss, Telestrations, Cash 'n guns) which were just played to get students used to gaming. Short feedback was written on the game learnt and the new games played as well as feedback on the card games they tried to explain in only words. (New) Groups were then given a 'proper' board game and had a class to learn how to play it – the rules were given out a week earlier for them to read. They also thought about how to teach it excluding some of the games features to make it easier to play.

One member of group taught game, other members learnt/played other games

Set of games: Niagara, Spice road, Isle of Skye, Alhambra, Ticket to ride

In-depth report on taught game, general feedback on new games.

H29 Autumn/Winter term – 1st year students

5-week 'course'. Students had to understand and explain game focusing on these points:

1) Brief overview 2) What was interesting 3) Winning strategy 4) English used

Spice Road, Niagara, Antike, Ghost Stories, Ticket to Ride, Las Vegas, Scotland Yard,

Rattus, Takenoko, Alien Frontiers, Stone Age

H30 Spring/Summer term – 1st year students

5-week ‘course’. Students had to understand and explain game focusing on these points:

- 2) Brief overview 2) What was interesting 3) Winning strategy 4) English used
Spice Road, Machi Koro, Niagara, Antike, Celestia, Ghost Stories, Ticket to Ride, Las
Vegas, Azul

Appendix D

Interviewee #2 Curated Game List

Name	Key Mechanics	Players	Weight	Play time	York recommends	Rulebook
Above and Below	Storytelling, exploring, item collection	2-5	4	90-120 mins		
<u>Arcadia Quest</u>	Dungeon Crawl, Fighting, Fantasy, Adventure, family	2-4	4	60 mins		
Betrayal at the House on the Hill	Coop, traitor, ghosts, dice-rolling, exploration	3-6	5	60-90 mins		
<u>Bohnanza</u>	Card game, family, trading, negotiation	3-7	2	45 mins		
<u>Broom Service</u>	Item-collection, competition, witches	2-5	3	30-75 mins		
<u>Burgle Bros.</u>	Coop, Dice Rolling, Grid Movement, Modular Board	2-5	3	45 mins	★	
<u>Captain Sonar</u>	Deduction, Fighting, submarines, Real-time, Wargame	4-8	3	20-40 mins	★	<u>Rules</u>
<u>Castle Panic</u>	Coop, tower defence	1-6	3	60 mins		

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<u>Codenames</u>	word game, Coop	4 - 8	2	45 mins	★	<u>Rules</u>
<u>Concept</u>	Coop, hints, visual	4-12	3	40 mins		
<u>Covert</u>	Card Game, Dice, Spies/Secret Agents, Fighting,	2-4	3	45-90 mins		
Dead Last	Fight, Coop, fast	6 - 12	2	45 - 60 mins		
Dead of Winter	Coop, zombies, survival, negotiation	2-5	5	60 - 180 mins		
<u>Deception:</u> <u>Murder in Hong</u> <u>Kong</u>	Bluffing, Deduction, Murder/Mystery, Party Game, Spies/Secret Agents	4-12	2	20-30 mins	★	
<u>Decrypto</u>	coop, teams, spy, guess, words, code-breaking	3-8	3	30 - 45 mins	★	
<u>Dragon's Gold</u>	Card Game, Fantasy, Fighting, Negotiation	3-6	3	45 mins	★	
Flash Point	Coop	3-6	3	45 mins		
<u>Flick 'em Up</u>	Fight, Dexterity	2-10	2	45 mins		
Forbidden Desert	Coop	2-5	3	45 mins	★	

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Forbidden Island	Coop	2-4	30 - 45 3 mins		
<u>Funemployed</u>	Card Game, Word Game, Party Game	3-20	20- 1 20mins		<u>Rules</u>
<u>Ghost Stories</u>	Coop, Dice Rolling	1-4	4 60 mins		
<u>Grizzled (The)</u>	Card Game, World War I, coop, hand- management	2-5	1.5 30 mins		
<u>Insider</u>	Bluffing, Deduction, Party Game, Simple, card game	4-8	1 20 mins	★	
<u>Mafia de Cuba</u>	Bluffing, Deduction, Mafia, Party Game	6 - 12	10 - 20 3 mins	★	<u>Rulebook</u>
<u>Mascarade</u>	Fight, Hidden Roles	2-13	2 45 mins		
<u>Millions of Dollars</u>	Fight, Bluffing, Card Game, Party Game,	3-8	2 30 mins		
<u>Monikers</u>	Card Game, Comedy, Party Game	4-20	45-60 1 mins	★	
<u>Munchkin</u>	Fight!	3-6	3 60 mins		
<u>Mysterium</u>	Abstract, Coop, asymmetrical	2-7	3 45 mins	★	<u>Rules</u>

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<u>One Night</u>						
<u>Ultimate</u>	Bluffing, Card Game,					
<u>Vampire</u>	Deduction, Party Game	4-10	3	10 mins		
<u>One Night</u>						
<u>Ultimate</u>	Bluffing, Card Game,					
<u>Werewolf</u>	Deduction, Party Game	4-10	2	15 mins		
<u>One Night</u>						
<u>Ultimate</u>						
<u>Werewolf:</u>	Bluffing, Card Game,					
<u>Daybreak</u>	Deduction, Party Game	3-7	2	10 mins		
Pandemic	Coop	2-4	3	60 mins		
	Card Game, Word					
	Game, Card Drafting,					
<u>Paperback</u>	Coop, Deck Building	2-5	2	45 mins	★	<u>Rulebook</u>
Question Quest	Word game Fight	2-6	2	30 mins	★	
Resistance						
Avalon	Coop (Teams)	5-10	2.5	45 mins	★	<u>Rules</u>
				115		
Scythe	War, explore, fighting	2-5	5	mins		
	Hidden Role, Guessing,					
Secret Hitler	team-based	5-10	3	45 mins	★	<u>Rules</u>
Sheriff of						
Nottingham	Fight, bluff, lie	3-5	2	60 mins	★	

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Snake Oil	Creative, party	3-10	3	30 mins	★	
Spyfall	hidden role	4 - 8	3	10 mins	★	
Tales of Arabian Nights	Storytelling, adventure	1-6		120 5 mins		
Two Rooms and a Boom	Coop (Teams), Hidden Roles	8+	3	15 mins		
Vast: The Crystal Cavern	Dungeon crawl, asymmetric, conflict	2-5	5	60 mins		
<u>Werewords</u>	Deduction, Party Game, Word Game	4-10	1	10 mins	★	
<u>Witch Hunt</u>	teams, Coop, betrayal, bluffing	7-22		30 - 90 3 mins		

Hyperlinks to underlined items in this appendix item have been removed by the researcher.

Appendix E

Interviewee #2 Blog Post (September 8th, 2018)

Kotoba Rollers 2018: A reflection of the first term



? Two Rooms reflection

Two rooms and a boom is the first game we play. Here are some small tweaks to the general model I've made, why I made those changes and reflections on what the changes brought about.

Model updates

Grammar presentations

During the first analysis session, students find errors in their transcriptions, discuss how it could be corrected and make notes on grammar, phrases or vocabulary that they will be able to use in the next play session. The presentations went well but have been lacking a 'test' element. The "test" element may be considered a quiz where each group introduces the

grammar/phrases/vocabulary that they researched as well as four or five questions to check other groups' comprehension.

I wanted to do this activity so that there is a *need* for students to listen to each others' presentations. Additionally, as they are all playing the same game, the lexical items or grammar that each group researches will have relevance to all other groups. Finally, by grading themselves and giving themselves a score I am able to use it towards their final grade which *hopefully* inspires them to be responsible for what they do in the classroom.

Here is a sample worksheet for the grammar presentation and quiz

I only did this activity with one class. It went well, but they are still only focusing on super low-level grammar. "Let's..." "Do you want to..." etc. Where is the deeper dive?

Let's play video → SUSD video

I didn't show my Minecraft-based let's play video, instead opting for SU&SD's play through. As a part of this, I made students answer six questions based on the video such as:

How does Quinns ask the leader what colour he is?

What do players say when giving information to their teammates?

As a result of watching the YouTube video, I saw those expressions come out in the subsequent play session, but only in limited, isolated instances. Not all classes or students seemed to internalise the expressions they had been exposed to. In fact, it was the vast majority of students that used what they had seen/heard the previous week. This calls for additional viewings before the following play session to refresh their memories.

Playfulness

I witnessed a fantastic episode of playfulness from one student who was given the demon character card. The card states that the player must lie. As a result, the player didn't just lie about things related to the game but 'meta-lied' about non-game related topics. One example of this is in his utterance: "I have a girlfriend," poking fun at himself.

Such episodes were again isolated though. I feel that for my context the 'leader' character really is a paramount, essential, locus of attention role which prevents or inhibits other players from 'going about their business' of gathering information individually. However, whether it's the games fault that students aren't more creative is difficult to say.

(Some, no... Most) students are very passive during Two Rooms play

For instance, the Gambler is an easy character to win with. They just need to know who the president and bomber are before the end of the game. If they have this information, they can accurately guess which team has one. However, without making this point explicit, and promoting the gambler mid-game, the person who gets the gambler role just tends to stand around and wait for information to come to them. Why is that? It has to be a mixture of these elements:

Lack of understanding

Lack of language skills and confidence

Lack of interest

Or, as mentioned above, the leader character is such an alpha role, it demands attention from all other players.

I can't figure out how to teach these students to work as an individual during the game. Could this also relate to cultural differences? Maybe... A tough question to solve.

Post-play character research observations

After playing Two Rooms in the first play session, all students are given the homework of researching a few of the (oodles of) extra characters in the official Character Guide. The task in the following class is to introduce those characters to other students and choose some of the characters to add to our game. However, some students just copied down the text that was written next to characters without trying to understand the meaning!

Perfect! /s

If they did not go to the effort of understanding the unique features of new characters, they were not able to explain this to other classmates. In other words, they were not interpreting the text in a way that either they could understand or their interlocutor. They were just reading the text verbatim and hoping their interlocutor could understand.

This is one of the best examples of how to structure “homework” in my opinion.

The work that students have to do at home is an essential part of the following class and essential for progressing through the model (i.e. play → analysis, debriefing, and learn some more about the game → replay). If they do not do the homework, they cannot participate in the following class. In contrast, in a previous teaching position homework was generally comprised of completing reading activities. These reading activities typically appear at the end of textbook chapters as a way to “check understanding” of the chapter’s content. But there is no following activity... No necessity to complete it other than “you’ll get an F if you don’t...” No connection to the wider curricular aims. That, to me, is an example of ineffectual, boring, generic homework.

So, to backtrack a little, I have students talking amongst each other about characters they have researched. And, among those students are those that haven’t done the homework and have no idea what the “Angel” does or how the “Hot Potato” works. I need to improve this part of the model to be able to identify and punish those that did not do the homework

properly. Yes, they already get a sort of punishment by looking foolish in front of peers, but it should have an effect on their final grade, which, at the moment, it doesn't. This activity should be assessed more aggressively though. Maybe get each student to explain their character to me, and then I grill them on the meaning of the new rules. However, they respond to my questioning determines their score for that particular class.

Post-play reanalysis and discussion observations

At the end of the play, analyze and replay cycle I have asked students to discuss the results of their second play session. In other words, asking them to consider the following question — “Did you use the grammar points or expressions that you researched between play sessions?”

This is a valuable activity as they will be doing the same cycle three more times this year, and so it can inform them on how to conduct the “analysis” session with more focus, more accurately identify errors, or improve efficiency for in future cycles (i.e. so that they research grammar or expressions that they will *actually* use in subsequent play sessions, or at least think about how to prepare for subsequent play sessions in future cycles).

However, the overwhelming result is that, no, they didn't use any of the phrases that they looked up during the first analysis session...

One thing they didn't pick up on was the lack of deep analysis they did between play sessions. For example, some groups looking at how to translate a single, isolated, very specific sentence or word into English. However, just because it came up in the first session, doesn't mean that it will appear in the second session.

For example, one group looked up:

言ったらスパイにバレる → translated to → The spy will find out if I say.

Then, in the second play session, we didn't use the spy character, and so they didn't use that phrase.

They need to look more broadly at their output and find structures or patterns that can be utilized in the next play session instead. Situations change. They need to do deeper analysis.

Reasons that were found or put forth for the lack of usage of the words they researched during the analysis stage:

Game time limit too short

Not enough time to think

Too many characters causing cognitive overload

No practice of language before class

The situation changed so didn't need certain items. (as described above)

That they were lazy

They can make themselves understood without using long sentences. Words are enough.

Another new addition to the post play reanalysis class was for students to use a modification of the "5 whys" method of exploration (I just asked students to ask "Why?" three times instead). In other words, I told students to ask "why" three times for each reason:

"We didn't say 'Do you wanna ... ' very much.

Why? → Because we didn't remember it.

Why? → Because we didn't study before class.

Why? → Because we aren't interested in English.

Yes, this reveals some hard truths...! Be careful.

?? Spyfall

Much like the 2R1B post-play character research above, when students were asked to look for interesting questions online, they did the activity (searching on Google for “spyfall questions”) but they just wrote down the questions verbatim without considering the meaning. Maybe... One question, in particular, tripped students up:

“What brings you here today?” which they thought meant “what did you bring here?” That was a teachable moment!

Students are not engaging in “reproductive literacy” or #TransformedPractice (a term coined by Freebody and Luke, 1990). They are not remixing the questions or thinking about the underlying structures of the questions that they find in order to generate similar questions or even how to use those questions during gameplay....!

Shadowing (or lack thereof)

I noticed that the vaaaaast majority of groups do no shadowing during gameplay at all. It is definitely something that needs to be brought up. When a particular student in a particular group *was* shadowing, it was so very very natural for me to hear, and it really helped show his comprehension of questions. I think I need to push this technique more.

Analysis: YouTube video watching

We took a full hour to do this activity. In groups.

By taking each question individually and really drilling down, they produced some surprisingly good results.

Of course, I went around the room and helped them out, as they are not really proficient enough to pull out example sentences from the YouTube videos on their own (in most cases).

Some things we picked up on:

“I guess” as an ambiguous answer

One student in the group that found this phrase used it in subsequent sessions also which was amazing for me. Even into the “Spyfall Tournament” phase of the semester.

“I don’t buy it”

“Would you...” as an introduction to conditionals

“Where we are” as a way to talk about the location (instead of just “here”)

An interesting ‘difference’ between students and natives was that the natives spoke very fast and had no empty time. Students in my class didn’t think about the fact that the video might be edited...

The learner is not building towards an ideal version of the language which exists in abstract. Rather, the learner is building on and out of his perception of the usage of the language heard in the mouths of other language users and this construction process in the life of every language user is the only meaningful definition of what the language is. (Sokkett, 2014, p. 29).

This line made me think of the work I’m doing in the post-play analysis lessons. We are looking at authentic resources to try and supplement their interlanguage.

Grammar instruction

I’ve been experimenting with how I give the grammar instruction between play sessions. Last year, I gave them the worksheet and told them to work through it. Before that, I have asked students to look up particular grammar points on the internet. This time I stood at the front of the room and got them to walk me through the process of making questions in English (in

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some classes) or got groups to work together on generating a pattern of English sentence formation (in other, more advanced classes). We looked at two particular types of question formation:

yes/no questions

QUASM questions

question word

auxiliary verb

subject

main verb

predicate

As an example, writing the first line on the board with separators between the words and getting them to think about the underlying structure of yes/no questions.

Do	You	Like	natto?
Be (are, is)	he		
	she		
	it		
	they		
	your mother		

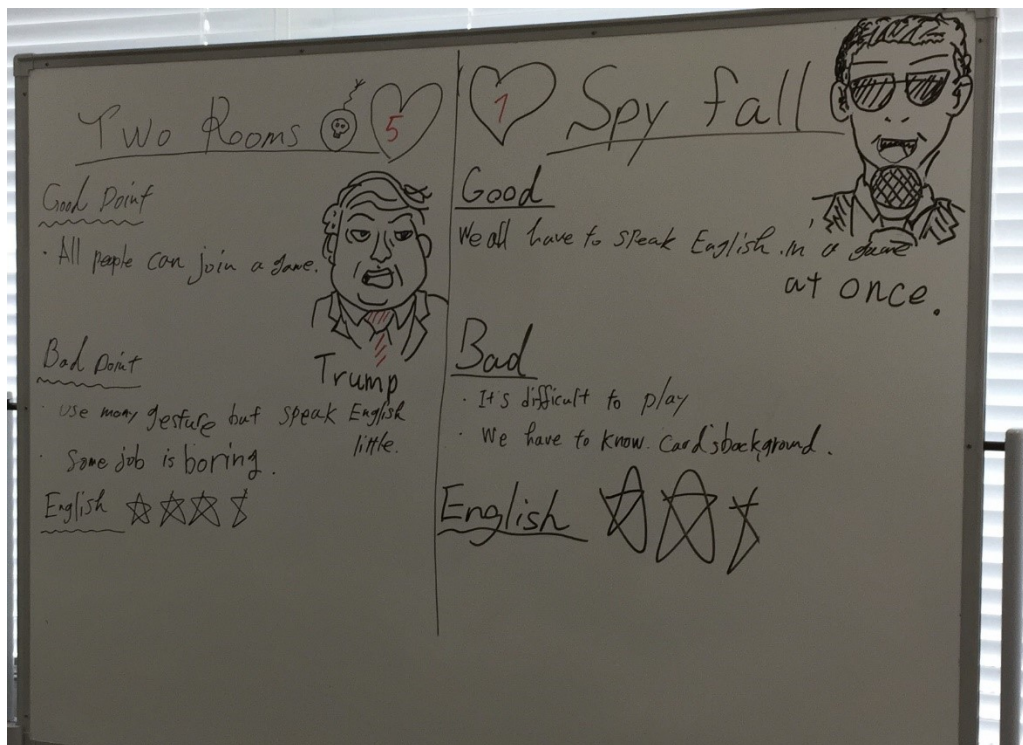
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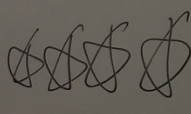
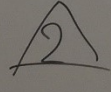
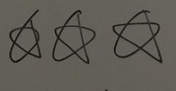
So, instead of me just giving them a “grammar guide” we talk through it or they talk through it in an expert-novice setting, within the ZPD, and from a socially-informed approach to SLA (am I missing any keywords?)

Report phase

I’ve introduced a more formal presentation activity for the final report class. It still needs a rubric created for it though. Some examples:

18RT responses



Two rooms  <u>Good</u> - There are many chance that people talk with other one. <u>Bad</u> - This game is too long <u>English</u> 	spyfall.  <u>Good</u> - People can play this game with a few one. <u>Bad</u> - It is so difficult for spy to answer location. <u>English</u> 
<u>Next</u> Two rooms is used English more than spyfall, and talk with other people well. We want to able to speak English more confident and fluently.	

Two Rooms   <u>Good</u>: you can talk to everyone. you use your brain. <u>Bad</u>: someone don't have to speak <u>English</u> ★★ you can play only/gesture.	4 Spyfall   <u>Good</u>: No one don't speak English. we can study English word what we don't know. <u>Bad</u>: Our reaction is not English. <u>English</u> ★★★★★ we have to speak English in this game.
<u>Next semester</u>: we play game without Japanese. bule red	

17RD responses

2R1B ♡₂

GP

- It is important to talk and action.
- You have to be active. (Bad point too).
- Can not sleep.
- grammar is not important.

BP

- No more color and other some roles don't have to talk.
- Difficult roles use brains more than talking Eh.

☆☆

Spy fall ♡₃

GP

- We can study many questions to use.
- We have to talk ..
- We need to think to make questions and answer.
- You have to listen to others talking to correct information.

BP

- You need not to speak in English but also make your face.
- Need talking ability in English

☆☆☆☆☆

Two rooms and the boom. ♡₃

G: All people have powerful job.
→ Can speak more English.

B: There are Bad job.
Ex. Can't speaking etc...

Anyone can no speaking English.

We use same words.

English: ☆☆☆☆ 3.25
Why: Depend on player's possibility.

Spy fall ♡₃

G: Everyone have chance to speak
More questions have Scalability.
We need Bigger Vocabulary. (拡張性)

B: One person is focused.

Not Bad?

GOAL OF NEXT SEMESTAR
BE MORE CONFIDENT.

English: ☆☆☆☆ 3.42
Why: Every player should speak.

What is the goal of the class?

This is something that will (probably) need to be fleshed out in a future post. It's one of the major things on my mind right now and something that I've been avoiding. The elephant in the room ? for sure. However, I'll sketch out the current, basic idea here.

For the most part, the students in my classes have never used English for authentic communicative purposes. By this, I mean that the only oral (and probably written) output they have ever produced has been scripted ? . E.g. "Chapter 2: Planning a party" where students see a model conversation, change a few words and practice using that form as part of a "task." Such language use is incredibly useless. Useless in that it has no effect on developing their interlanguage. Maybe they get some knowledge of English, briefly, but it has no impact on them as a student, or young Japanese person. What are they to do with a canned conversation about ordering a pizza? No, the tasks given to students in textbooks are not helping to develop students' interlanguage, or in other words: the L2 version of those students.

From my own experiences as an L2 learner, I used to practice developing my L2 and L2 identity before sleeping. I would lie in bed and try to carry out a conversation in Japanese in my head... Now, not all of the students in my class, in fact, probably none of the students in my classes are prepared to go to that level in terms of their language development, but whilst they are taking my class and participating in oral activities in my class, I'd like them to exercise their communicative competence and practice speaking "without training wheels."

So that's the main part: Learning about themselves *as an L2 speaker*, and fostering an improvement in their ability based on structured noticing activities, repeated gameplay sessions, and exposure to native speakers.

But is this “authentic” enough? I’ve been in talks with my friend and colleague Jonathan deHaan over the last few weeks and as always he is keeping me on my toes and pointing at the elephant ??? ?? ?. In Jonathan’s context, he has students work towards contributing something to or participating in wider society. As an explicit example, he is currently teaching a class that is specifically about connected learning. I.e., each student will choose something they are interested in, research it, and participate or engage in conversation with people in the wider community around that topic.

The participatory nature of KR is (mostly) missing. It’s a bubble of English practice that exists within the classroom for 100mins a week. This has somecomplexcomplications in terms of the methodological underpinnings of the class. For example, is it really TBLT if it has no “real world” component?

Anyway, focusing on how I can extend their language use outside of the classroom, I am currently trying to do this with the final project, where learners have to produce something of value to be used by the next generation of students. However, I give them an “out” allowing them to decline from making their materials available (via a consent form in the KR textbook). Things students could do as final projects and to increase participation (after seeking ethical approval from TDU of course):

Post groups’ videos as public on YouTube

BGG review posts or Amazon reviews instead of word documents handed into me

Teach and play games with other TDU students outside of the classroom (in an all-encompassing York Game Lab “end of term” gaming event

Playing devil’s advocate

Let’s put it out there:

The activities that students do as part of my course are equally as unimportant as those that they would do with a random textbook, with a random, uninterested, uninformed language teacher.

I don't want to agree to this, as I have explored how KR can help motivate, re-engage and create a student-centred, productive class (see York & deHaan, 2018). However, I have not measured any learning goals for the course yet. I have nothing to prove the "effectiveness" of the course in helping learners to develop their interlanguage and proficiency in English. So I can't cling doggedly to the idea that KR is better in some way to the textbook-based class that I taught in the past.

Quite a depressing thought.

How to evaluate students with the KR model...

There have been some problems this semester, and I'm glad they came up because it has given me a lot to think about regarding the next iteration of the model.

The major problem was that I found a group of students during the Spyfall replay class quite unashamedly playing the game in Japanese. All Japanese. They were quick to tell me that they had finished playing in English and were now "killing time" by playing in Japanese. During class time. When the (my) aim of the class was to get the students to a level of proficiency so that they could play in English. My initial reaction was "OK, whatever. Please do what you want," but as I was walking to the next group which happened to be in the same room, I heard some of the questions that they were asking each other in Japanese. These questions were *very* basic. They were almost exactly the same as the ones that we had been studying in the first Spyfall class... It was this point that made me react:

Why not just play in English?

What a waste of a good opportunity!

Why would they throw away all of the hard work that they had been doing?

What do they not understand about the aim of the class?

A multitude of thoughts flew through my brain which ended with me in a rage.

The biggest shock of the class was discovering how little my goals are being adhered to by students. Like, completely ignored. Or thought of as frivolous? My aim for the class is to gradually build up their speaking skills so that they can use English authentically, without the training wheels (as mentioned above). Now, in this class, the domain prescribed for “authentic” usage just so happens to be gameplay. Is that the problem? By situating the domain for language use inside and around gaming—something that *is* often thought of as frivolous—maybe that causes students to not take the class seriously. In sum:

It's all fun and games when using games.

Ba dum tiss!

I provide tools for learners to do serious analysis of their language ability, learn new grammar, teach others, reflect on their learning, improve as an L2 speaker... but they do the bare minimum. What is the problem? By not putting any whips or hurdles (tests/formative assessments) in front of them, do they have no fear of failure and thus no willingness to even try? This is another serious concern.

I threw the whole group out of the class that day and I ended up in the dumps for the whole week. But, with the help of my Japan Game Lab colleagues and a long chat with a former student at TDU, I feel like I am getting somewhere with the “why” and “how to prevent” such behaviour in the future, and it all leads to assessment. Assessment is not an aspect of SLA or education that has really piqued my interest before, and thus I have very little

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knowledge of how best to design rubrics or evaluate different skills. This is going to be a new area for me, but something that is important to consider for the future of KR.

The framework *has* a very rudimentary assessment criterion built in as it stands. I take in all worksheets from students and assess them based on how much work they did. A simple “has done” // “has not done” and then plus or minus a few points based on the level in which I feel the work has been completed. However, this assessment criteria is not told to the students so they have no idea. Additionally, I do not assess students in this way until the end of the semester after collecting their work in so they cannot see a “running total.” I think there are a number of areas where assessment could be built into the course, improving the transparency of grading. For example:

Learn

Explicitly state how many verbs/nouns/adjectives to find.

How many questions did they write?

Play

Total number of transcribed lines.

Analyze

How many questions did they get correct on the grammar quiz?

Replay

Total number of transcribed lines.

Reanalyze

Report

Complete a test which focuses on:

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Game rules

Game vocab

Typical phrases used in the game

Transferability: such as demonstrating how they can use specific grammar points outside of the game context.

Write a written review of the games that they played.

Going forward into the second semester

In conclusion, then, the biggest thing I would like to change is the final “participatory” goals of KR. It could be a proverbial stick, threatening students into taking responsibility for their learning and progression of the class if they know that they have to produce a public artefact at the end of the course. But we’ll see... I have touched on some ideas for wider participatory projects, and will continue to work at this over the next few months. Whether I will have time to implement them this semester, I’m not sure, but I will try!

If you read this far and have any comments, please let me know. I’m very eager to hear opinions on what I am (trying) to do in my teaching context. Also, if you have tried to implement anything that you have read here on the JGL blog, please let us know. Yes, we are named the *Japan* Game Lab, but we are interested in English teaching as a global phenomenon and practice.

Thanks as always, James

References (removed for this appendix item)

Appendix F

Interviewee #5 Blog Post (February 1st, 2017)

Using A Game-Design Enhanced Approach to TBLT: The Example of The Social Deception

Tabletop Game “Coups”:



FEBRUARY 1, 2017 ~ MARK

This essay attempts to both describe and motivate the Bridging Activities Cycle for game-design enhanced TBLT. For further foundational reading into the philosophical and theoretical motivations for using games and taking a game-design approach to TBLT, [see here](#).

Introduction

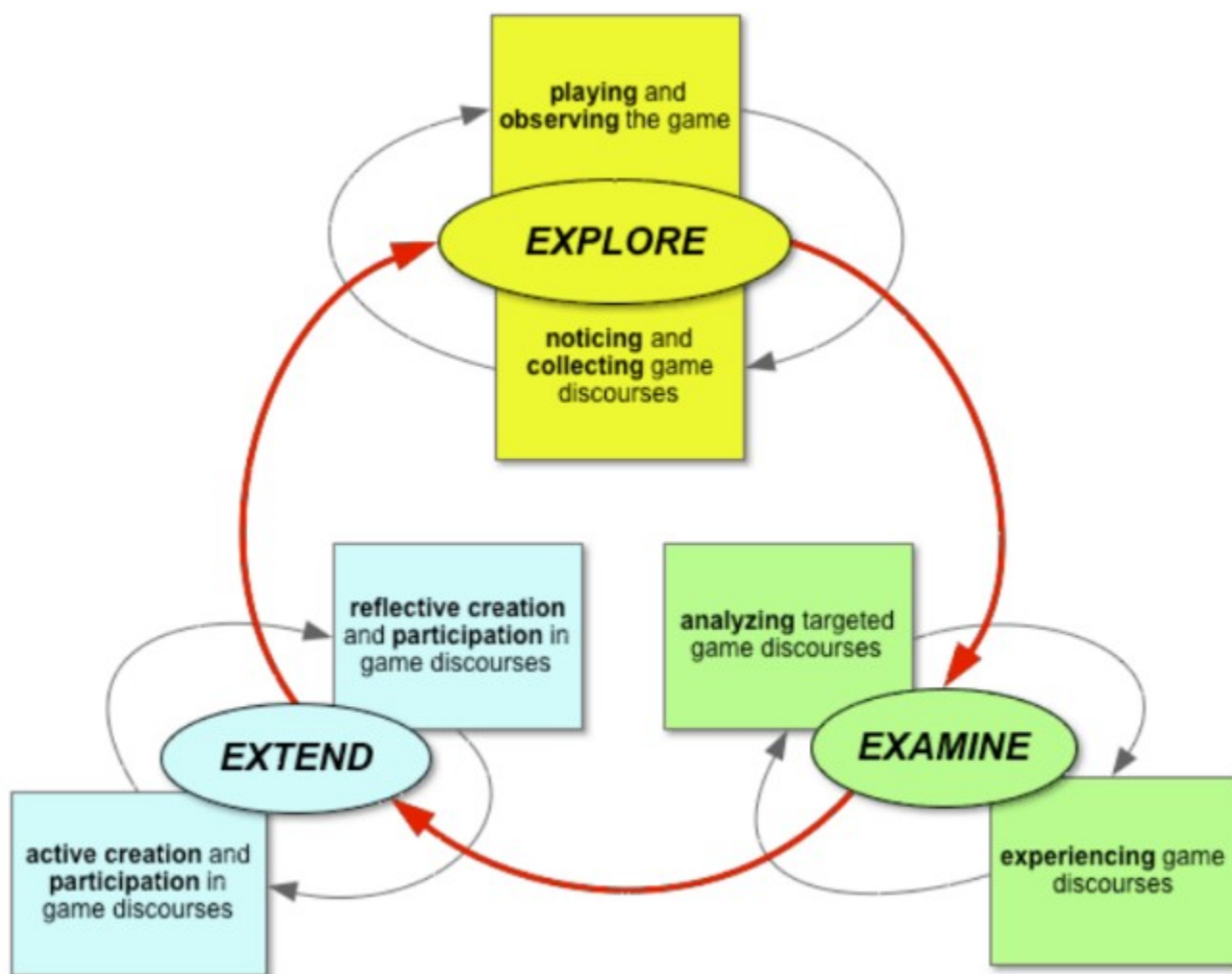
Vernacular video games, or commercial video games, have in the last decade begun to be examined for their usefulness for learning. From a fundamental level, [Gee \(2007\)](#) claims that video games demonstrate excellent learning principles inherent in their design. To operationalize and capture the learning potential in games, [Thorne and Reinhardt's](#)

(2008) Bridging Activities (BA) provide an approach to language learning and teaching that utilizes playing games with principles of language awareness (LA) (Bolitho et al., 2003).

In particular for BA, language learning is never seen as something decontextualized or simply about language in some general sense. Instead, BA aims to build in learners an awareness of how multimodal forms are utilized by a community to make sense, achieve specific goals and perform situated functions. In this way, LA is an awareness both *of* and *about* language (Reinhardt & Sykes, 2011). Awareness *of* language is related to experiences that users have in specific situations, such as saying “hello” in a marketplace. Awareness *about* language then is the analytic side that users of language use in order to know that saying “hello” to the clerk at the supermarket is different than the “hey” they say to their best friend at home. BA then, attempts to use the situated experience and natural learning potential of video games and the attendant communities (e.g. websites and forums) around specific video games to build LA in learners in this way.

In comparison, traditional language teaching approaches often attempt to decontextualize language, asking students to memorize words, translations and rules. This type of learning is premised on the assumption that learning, and in particular schools, should teach content in general and that students can then apply it in their specific situations. For many researchers like Gee (2007) who reject this view, language learning is always the learning of something in some context. From this view, the fundamental flaw of traditional grammar-translation or even communicative-based instruction is that they ignore at best and deny at worst the *context* of learning, the classroom. Students who only learn language and only have reason to use language in the language classroom are learning *classroom language*. The ability to transfer those skills to broader contexts is not clear, and as many learners note, the difference between classroom language learning and real language use can be overwhelming. Even more modern teaching practices, such as task-based learning and

teaching (TBLT) (for a review of TBLT see, [Skehan, 1998](#)) have been critiqued from a game-design perspective as not contextualizing, or situated language learning enough (Sykes & Reinhardt, 2013; [see also this foundational post](#)) by focusing the attention of learning on the content instead of being driven by the learner. Game-designed methods like BA approaches address the need for learner-driven and situated learning.



Visualization of a complete BA Cycle

BA tasks operationalize these ideas into a sequence of three phases: *Explore*, *Examine* and *Extend*. In each phase, students both experience the language through some discourse, whether it be in a game, between players or in the attendant community spaces and analyze that discourse. In the *explore* phase, learners play (experience) a game and notice and

collect (analyze) the rules or important mechanics that are needed to progress in the game. *Examine* asks students to think more carefully about the discourses they are collecting while playing the game by contrasting them across various contexts or situations in order to raise learner awareness of how specific forms are used differently in different situations. Finally, the *extend* phase asks students to synthesize the skills and information they have gathered and analyzed through their experiences with the game and create or participate in the attendant discourses surrounding the game. Using their knowledge of the game, learners might make a game review, or discuss strategy in an online forum or create fan fiction narratives involving the characters and places in the game.

A Game-Focused BA cycle

Coup and its community



Game pieces for *Coup*

As a tabletop game, *Coup* (Boardgamegeek, 2016) is played as a turn-based, deception card game. Its digital version, which maintains the primary features, can be described as a free-to-play, handheld, multi-player, role-playing strategy card game. In the tabletop game, *Coup* is played between 2 to 6 players who are given two cards face down. Each player's goal is to eliminate the cards of the other players primarily through collecting coins by deception and launching "coups" against opponents.

Unlike many digital games, the online community for *Coup* is not specifically focused on just *Coup*. They think about, comment on and produce content for a wide range of games, without focusing too heavily on one specific game. Forums like *boardgamegeek* offer a wide range of community activities to assist tabletop players in playing games in their own in-person groups. As such, a primary feature of the community is the creation of gameplay/review videos. These videos demonstrate the rules, show the game in action and generally highlight specific strategies for playing the game. An important feature of tabletop games is that individual, in-person play groups are the primary community for players. The online community is an important additional resource.

Prior to this activity, students will have completed various tasks and gained skills that will help them perform this BA cycle. First, students will have read various informational texts from their traditional reading-oriented textbook and from various teacher-curated internet sources on similar topics. Additionally, language awareness principles of noticing and analyzing differences of and about different genres (e.g. narratives vs informative texts) and modes (video and writing) have been used to build up to this cycle. Students, then, should spend less time learning to do *the tasks* and more time on the language goals.

Explore: observe, notice and play

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To begin, students need to be exposed to and learn the rules and mechanics of *Coup*. To do so, students will view a more professionally produced community gameplay video from *Geek & Sundry* (Anderson, 2015). Before viewing, A deck of *Coup* cards will be shuffled and each student will be given one. They will take a moment to examine it for information. Each student will focus on how their card is used in the game specifically. A separate worksheet will guide the students to categorize their noticing into *rules*, *important actions* and *how actions are performed*.

play				Important Rules	
Take one Action (if 10+ coins must choose to launch Coup)					
Character	Action	How to do that action	Counteraction		
—	Income	"I <u>will take</u> one income!"	×		
—	Foreign Aid		×		
—	Coup		×		
 Duke	Tax		Blocks Foreign Aid		
 Assassin	Assassinate		×		
 Ambassador	Exchange		Blocks stealing		
 Captain	Steal		Blocks stealing		
 Contessa	×		Blocks assassination		

Students create their own game-card by watching and noticing others play the game

The goal of this activity is to allow the students to explore *Coup* both by playing and experiencing the community from the very beginning. As Reinhardt and Sykes (2011) emphasize, students are directed to notice the in-game discourses (or the information presented by the rules and the cards) and the emergent discourses, or how the players enact the rules and strategy, by noticing and collecting the *actions* performed and also *how* those actions were performed. And because individual games of *Coup* are between 10 to 15 minutes, they can also begin experiencing those rules and performing the actions

immediately. This is important because by watching *real* people *really* play the game, the students are exposed to *real* language. And while this may be overwhelming, by asking the students to focus on very specific tasks (e.g. listen to *one* player during a *specific moment* in the game), the overall listening task becomes much easier. Paired with other strategies (such as a think, pair, share), and suddenly the overwhelming language of the video isn't so tough to tackle, even for some lower level students.

In pairs, students will share the information they discovered about the card they were assigned and any important actions that they observed. As a class, students will share items they felt were particularly important and students will see if they can identify *how* the actions were performed by the players. Specific parts of the video will be played again and the students will note the ways (i.e. linguistic forms) the players performed their actions. At this stage, students will be guided through a special, full-class version of the game, with the teacher as guide. The teacher will explain all possible and relevant actions that can be taken as each student takes a turn. The teacher may emphasize that later games will be played in smaller groups, with a faster pace.

Examine: Experience and analyze

For the second class, the students will be given a blank version of *Coup*'s reference chart and asked to fill as much information as they know. After discussing in pairs and in class briefly, students will set it aside until they play the game later. Students will then rewatch a short clip of the video they saw the previous day. Each student will be given a specific player in the video to examine carefully and note all the various things they do when they perform actions and counteractions. A partner with a different observed player will share any similar or different information they noticed.

When and how can I speak?



	Who speaks first? When Do they speak? What do they say to begin their "turn"?	Who speaks next ? How do they begin their turn?	Does anyone else besides the first two players speak? When do they begin speaking? What do they say?
EX	Who?: Will When?: When it becomes his turn What?: "umm.. I kind of like the cut of your jib and I'll just take a single coin."	Who: Felicia How: Immediately says "wow!"	Who: Benny When: Immediately after Felicia What: "Nothing wrong with that".
1			

Collecting **real speech** that players use to play Coup

In their pairs, students will be asked to consider the following questions as they compare information: How did the players use their background knowledge of each other to lie and discover other people's lies? What kind of words did they use? What kind of body language did they use? How is lying to strangers different than lying to friends? How is lying in a game different than lying at home? or with your friends?

After a discussion of the various things the students noticed, students will be dealt two cards.

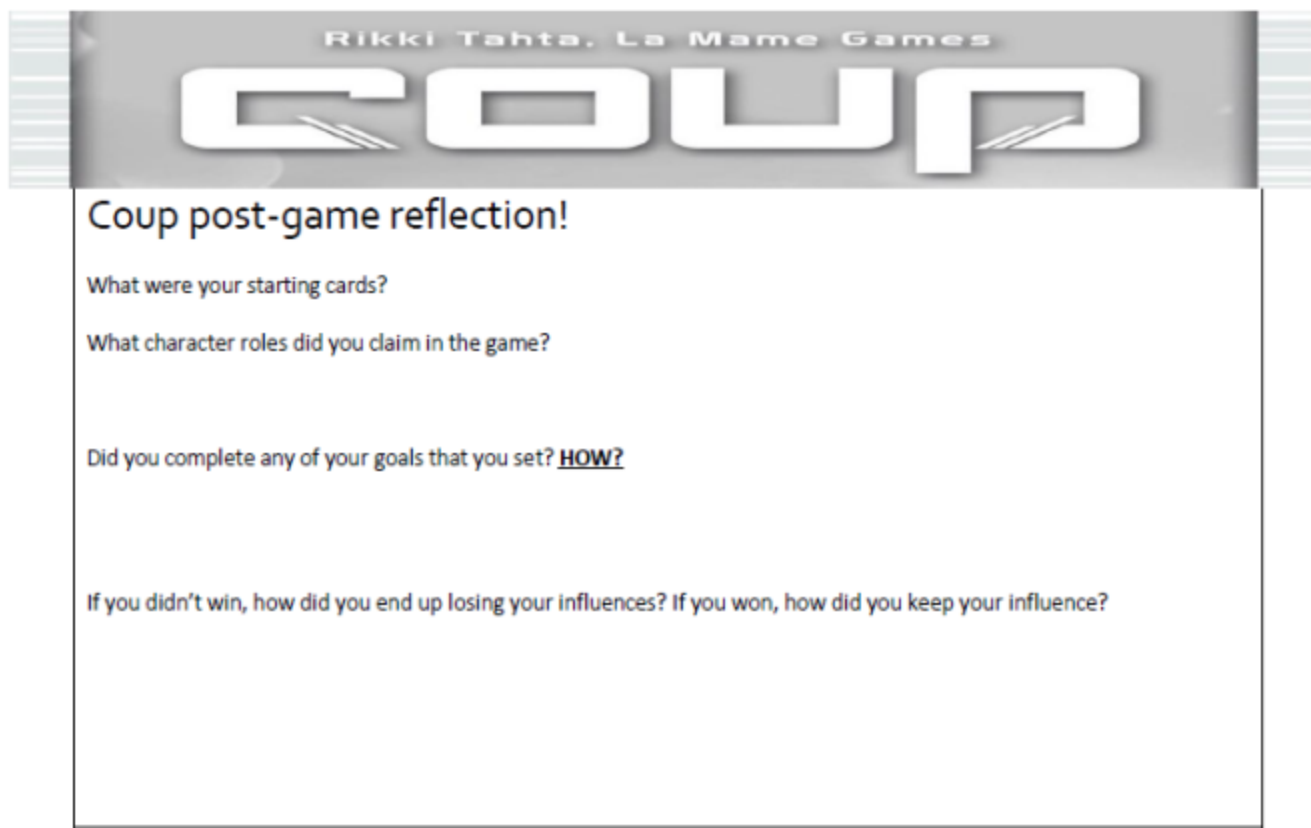
With a partner, the students will try to play the first two rounds of the game. Based on the strategies they examined and how their partner performed the game actions, students will try to guess which cards their partner has. Students can do this activity several times before playing a real game with four players.

This game-focused *examine* stage focuses the students, as Reinhardt and Sykes (2011) emphasize, critically on the game discourses. For this activity, student attention is drawn

explicitly to the linguistic and paralinguistic forms of deception which is a necessary means players need in order to achieve victory, or the ends, of *Coup*. The students are able to compare the actions of multiple players in the video and compare them. In addition, The students are given a controlled activity to practice their analysis with a partner and in a full-game.

Extend: Reflect and Participate

Building off the previous game the class played, in the extend phase, students will first reflect critically on how their strategy went. First, they will outline basically what they tried to do and then use one or two reflection questions to guide and focus their attention on how their strategy for deception helped or hindered them. After writing down their reflection, students will trade their writing in a small group and get feedback from their classmates.



Rikki Tahta, La Mame Games

COUP

Coups post-game reflection!

What were your starting cards?

What character roles did you claim in the game?

Did you complete any of your goals that you set? HOW?

If you didn't win, how did you end up losing your influences? If you won, how did you keep your influence?

After playing, analyzing and discussing. Students reflect on their practice and set achievable goals for their next game.

Students will be asked to give feedback particular to how the strategy of their classmate might be improved. After reading and commenting on two or three different reflections.

Students will consider the different strategies they read and the new advice they have in order to devise a new and better strategy. This phase will end with students again playing another game, testing their new strategy.

While the students are not yet participating in the attendant gaming communities, they are practicing key functions that occur often in the discourses around *Coup*, namely developing and commenting on strategies. As Reinhardt and Sykes (2011) impress, the extend phase moves beyond collecting and analyze the game and moves the students to actively use the knowledge they have collected and analyzed. In this extend phase, students must *practice* presenting strategies as well as commenting on other's creations and actively

reflecting on their practice. This will prepare the students to engage in a *new* BA cycle, that will allow them to both understand communication in the *Coup* community, and give them a *contentful* foundation to eventually participate in those communities authentically.

Confused? Skeptical?

That's ok. If you are new to this approach or to TBLT, this may not have drawn the clear picture I am hoping for. Don't worry though. I've actually implemented these cycles (and more) in my classrooms and, better still, I have lots and lots of data! I'm still in the process of going through it all, but don't worry! future posts will certainly include data-driven examples and proposals of game-design Enhanced L2TL and BA cycles! In the meantime, look through these examples from the creators of the approach.

References (removed for this appendix item)