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Game-based language teaching is vaporware (Part 1 of 2): Examination of research reports

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ABSTRACT

These papers explore the idea of academic research as an "industry" that can create useful knowledge and "products" for teachers. This paper (Part 1) begins by explaining my motivation for examining research reports of game-based language teaching and my consideration of what different readers might appreciate. I then differentiate game-based language teaching from game-based language learning and gamification, and from theoretical and experimental publications. I introduce and describe my 14 theoretical, practical and research-focused questions and criteria for examining reports of GBLT. I then use these questions to examine 28 reports of GBLT; each is explored in a section that describes its importance to GBLT, how GBLT reports have (and have not) prioritized that criteria, and why including that criteria in research could improve game-based language teaching. Academic reports of game-based language teaching over the last 20 years, with a few exceptions, demonstrate a lack of interest in teachers and teaching practices. In my opinion, GBLT as a research field is vaporware. Like a game that has been announced but never shipped, GBLT has been hyped but never fully reported. I end this paper by inviting readers to participate in a contest.

KEY POINTS

Background: I use and research games in language education, and have struggled to integrate technology and teaching.

Aim: I wanted to understand what other teachers and researchers were reporting in publications of games in language education.

Methods: I drafted 14 criteria related to theory, teaching and research, then tallied the prevalence of these criteria in reports of game-based language teaching.

Results: None of the papers reported all GBLT criteria. The papers reported details about theory, learning outcomes and material design more than details about teacher roles or interaction.

Conclusion: It's time to prioritize teaching in playtests and iterations and reports. Let's make our field a cooperative game.

TWEET

Half Life 2: Episode 3!
Starcraft: Ghost!

Game-Based Language Teaching!

They're all amazing, aren't they!?

Well …

They're GOING to be amazing!
… Just wait a little bit longer!
… Please?

#vaporware #techhype

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Designer notes, flavor text, setting up the board

Figure 1 Is the sun rising or setting?

When you think about language teaching and games, how do you feel? Are you **excited** about trying something new with students? Are you **curious** about the potential of games to improve language learning? For you, is the sun in Figure 1 rising on your work with games? Is it rising on the field? Or … are you **tired** of hearing about games and tech? Are you **exhausted** from trying to connect games and your teaching/research interests? For you, is the sun setting on your work with games, and the field?

I expect different teachers, researchers, game designers, students, policy makers and other stakeholders to answer in different ways. People at different stages of their careers, and people with different interests and abilities will answer in different ways as well. I don't want to waste anyone's time. I've imagined what different people might get from these papers. So … imagine a "game over" screen is flashing. You need to decide whether or not to continue reading.

- Are you a **teacher**? You might realize how shallowly many teachers (and researchers) use games. You might realize that researchers don't have much practical advice about teaching with games. You might be motivated to join the LLP Journal Slack group and work with us to figure out how we all can teach better with games. There are researchers and other teachers there who want to collaborate with you.
- Are you a **researcher**? These papers are primarily aimed at you. You might gain a different (somewhat bleaker) perspective on the "field" of games and language education. You might realize that your research really isn't filtering down to the practical classroom level. You might decide that it's time to shut down. Or, you might decide that it's time to dig in and really figure out a more practical and integrated approach to teaching and researching games and language education. You might be motivated to join the LLP Journal Slack group to work with other researchers struggling with the field.
- Are you a **game designer**? Are you a **student**? Are you a **policy maker**? Are you a **parent**? Someone **else**? In those cases, there unfortunately isn't much for you here. The research and ideas I present here probably won't be enough to help you make the decisions you need to make. I'd be happy to chat with you in a different way (cheat code: join the LLP Journal Slack Group to share what you are doing). I also recommend that you check out the long list of resources in the Appendices in DM Jones' LLP paper.

Spoiler alert: On the next page, I'll explain what I mean by "vaporware."

Vaporware: "a product, typically computer hardware or software, that is announced to the general public but is never actually manufactured nor officially cancelled." ("Vaporware," n.d.)[1]

What do I mean by "vaporware" in these papers?

Am I claiming that there aren't any good language teaching **games**? Nope. There are lots of commercial and free-to-play PC games, tabletop games, smartphone apps, and classroom games for language learning.

Am I claiming that there aren't any good **ways** (i.e., pedagogical frameworks) to teach language with games? No way. I think researchers have all the tools that we need. We have the PPP framework, the TBLT framework, the little-known EEE framework[2], the pedagogy of multiliteracies, and many more if researchers look at the learning sciences and other educational approaches and tools. I think that we know how to teach well. Researchers just haven't done it yet (or reported it yet) with games.

I think that the products that researchers, myself included, have announced and hyped, but never made or delivered, are **reports** of carefully considered, described and sustainable implementations of language teaching with games in real classrooms. Unfortunately, too many of those reports do not thoroughly apply and test the breadth and depth of available pedagogical frameworks. The **research field** is vaporware.

Hopefully that makes sense. I know. It's a bit weird. I'm going to play a bit in these papers.
So … think carefully. The "game over" screen is still flashing. You can still walk away. **You hit "continue?"** You're still interested in this? Great! Me, too! I'm in it for the long haul. So, let me contextualize things a bit.

I am a language teacher, and I've been using various games in my teaching for almost 25 years. I've used conversation games, vocabulary games, listening games, TPR games, storytelling games, tabletop roleplaying games, board and card games, internet browser games, console games and more. In my TEFL and M.A. TESOL certification programs, some teachers and trainers and colleagues shared neat little language games, such as *2 truths and 1 lie*, but games or how to use games effectively in the classroom were never a focus. Because of my personal interests, and the positive response from my students about using games, I've continued to cobble together games and projects and lesson plans from many different sources, such as teaching activity books, games I enjoy or games that people have recommended ("let's see what students can learn from this!"), research articles investigating what students can learn from games, teaching approaches from CLT to experiential learning to multiliteracies pedagogy, and ideas from game-based teaching and learning in other fields like history or math. I've learned a lot from many of the papers I cite in this paper.

If you would like to learn more about me and my teaching approach and efforts before you read these papers, please take a look at my current teaching project: the "Game Terakoya[3]." For the past five years, I've adopted, adapted and explored a very "heavy-handed" teaching approach, using the pedagogy of multiliteracies (New London Group, 1996) and its "learning by design" (Cope & Kalantzis, 2000) reframing, to try to transform students and society by carefully (with students) choosing, playing, analyzing, researching and participating in society around games. The project is not just about language learning, but intellectual and personal and civic and professional development. I think it's important to stress that the project is not just about a particular game, or just about what the students do on their own, but about the students, games, society, and me all working together.

I am also a researcher. I'm very curious about games, about teaching, and about learning. When I started this research, I asked questions like "Can students learn language *from* games?" (e.g., deHaan, 2005a) or "What *games* are best for language learning?" Twenty years later, I ask "What can *I* do to

[1] The references for both Part One and Part Two can be found at the end of Part 2.
[2] Please, please, please look at "Technology — 'Just' Playing Games? A Look at the Use of Digital Games for Language Learning" and "Using A Game-Design Enhanced Approach to TBLT: The Example of The Social Deception Tabletop Game 'Coup.'"
[3] University of Shizuoka Game Lab -- Game Terakoya sequence and materials: https://sites.google.com/site/gamelabshizuoka/home/game-terakoya-seminar-2020

help students learn and do more *around* games?" (e.g., deHaan, 2019). My research has shifted to be much more teaching-focused, and much more about me personally trying to lead students' development than about seeing what technology alone can do.

The more teaching-focused my game research has become, the more frustrated I have grown with information and publications in the field. The academic research I read often shares experiments or case studies of language learners using games on their own outside of classes and away from teachers; it doesn't help my day-to-day or year-to-year teaching. The information from teachers that I have found tends to provide a shallow rationale for using games (e.g., games are fun and will get students speaking) and often shares examples of games without descriptions of how the games actually worked in the classroom. Personally, I have felt that neither the research literature nor the teaching tips have prepared me enough to craft and research my game-based teaching. I feel like I keep searching for useful connections of research and practice, and keep coming up empty handed. And I worry that other teachers are frustrated and not being helped either.

I realized that it was important for me to step back and look back at the "field" of game-based language teaching (GBLT) -- what other teachers (and researchers of teaching) report about language teaching with games. I articulated the theoretical, practical and empirical questions that I have used to evaluate research literature (listed in a later section) and re-read well-cited papers in the field and searched for literature I may have missed.

This paper[4] is an overview, and a critique, and (spoiler) serious concern about what the field has (not) created and what the field may become. There is some GBLT literature from as early as the 1970's (e.g., Davis & Hollowell, 1977), and there are excellent overviews of early computer game use in language teaching and learning (see Peterson, 2013), but I have focused on the literature published in the last 25 years, since that seemed like an appropriate snapshot of what is reported in recent literature, and also parallels my own journey in GBLT. I focused on well-cited papers, but I also tried to include some lesser-cited examples, either because they seem to be overlooked or because they came out recently.

GBLT, not GBLL (or Gamification)

Academic research constantly creates new language to describe ideas and phenomena, and some have recognized that this can actually prevent ideas from transferring from research to practice (Prensky, 2003). Games and education is an evolving field, and researchers and teachers are using some terms interchangeably. This has confused and frustrated me, and I don't want to confuse any readers. So, I will be explicit here about how I am using a few key terms throughout this paper.

Game-based language learning (GBLL): learning language from games without a teacher's assistance (the learning happen can happen incidentally or intentionally)

> Examples: *a person picking up some new vocabulary by playing a game in a foreign language or by playing with a speaker of a foreign language, a learner playing an educational smartphone game at home, a researcher comparing students' vocabulary learning from different game genres in a laboratory*

Game-based language teaching (GBLT): learning language from games and a teacher (the learning results from an explicit pedagogical intervention)

> Examples: *a teacher presenting grammar to students before they use the grammar in a speaking game, a teacher using games extracurricularly to help children learn a foreign language, a teacher making and assigning worksheets for students to use while playing a game at home or in class.*

[4] Some of the ideas in these papers were originally explored in a short chapter in Peterson, Yamazaki and Thomas's book (deHaan, in press). The current papers, almost triple the length of that initial conceptualization and exploration, gives much more detail in the criteria and the literature review sections, shares a teaching model, and explores implications for both new and experienced teachers.

Some colleagues and the reviewers of these papers have raised legitimate and helpful concerns about the separation of language learning with games (GBLL) and language teaching with games (GBLT). Is this academic hair-splitting? Is this typical academic siloing behavior? The focus in education is typically and justifiably on what students learn, so is GBLL the better term? Is GBLL the "umbrella" term?

DGBLL (digital game-based language learning) *is* what many authors refer to as the field of games and language learning and teaching. GBLL and DGBLL studies can be done in classrooms, research labs, homes, and online spaces, but more and more of these studies are either laboratory studies or descriptions of learning "in the wild;" contexts where teachers are not present or involved in the learning. Learning can and certainly does happen without teachers, but because games (whether single player or massively multiplayer) are an interactive media and can offer instructional content and feedback on actions that players take and language that players use (Sykes & Reinhardt, 2013), there seems to be a trend in the literature to explore language learning in contexts where teachers are not present. Cornillie et al.'s (2012) tentpole meta-analysis of 1984-2010 revealed an increasing focus on theoretical, technological and design topics over pedagogical explorations. This research trend could be for the purposes of making language learning accessible and equitable and relevant, or it could be related to "techno-utopian" ideas (Thomas, 2012) about the possibility of designing media that can replace teachers.

Ideally, language and teaching and learning with games should be one field. But because teachers and practical classroom implementation seems to be less and less of a research focus, these papers focus on game-based language teaching -- GBLT. I encourage other authors to critique this division and to explore other ways of assessing the health and future of the field. I dove into the game and language education literature and established some initial criteria to identify papers on GBLT (and to sort GBLT reports from papers on GBLL or gamification): *Did the project report actual practice of teaching with games? Was a teacher involved? Was a game used?*

Dozens of papers offer theory and conjecture the possibilities of games in language teaching, but as a teacher, I (and I believe other teachers) benefit more from reports of practical implementation of ideas, and verified learning outcomes. I looked for papers that described actions that teachers took with games, e.g., "I did X" rather than hypothetical affordances or actions around games, e.g., "X can be done." I looked for lessons and projects that were done in actual classes, not experiments in labs that purposefully limited students' interactions with games. Projects conducted in actual classrooms can offer the field of GBLT practical examples of how teachers use the benefits and overcome the constraints of physical spaces, many and varied students, institutional requirements, and technologies. These projects give other language teachers concrete implications for their own context, even if they have to modify and adapt what was done.

I looked for papers that described actions that teachers took with games, e.g., "I did X" rather than hypothetical affordances or actions around games, e.g., "X can be done."

I stressed game-based language *teaching* over game-based language *learning* (GBLL: student-gamers studying or using language independently). Some papers describe non-native and native speakers conversing (sometimes in a class setting, and sometimes explicitly assisting each other) through a game; these are closer to GBLL and are tangential to GBLT which takes advantage of what a trained professional can offer learners. The fact that learners are benefiting from other learners with a game makes determining what teachers can do in GBLT even more important. I treated GBLT as ideologically and practically distinct from GBLL.[5] Thanyawatpokin and York (in press) explore this in depth.

The lines between games, roleplays, simulations, interactive media, virtual worlds, activities, and flash card systems can be blurry. Definitions of "game," for example "a system in which players engage in an artificial conflict, defined by rules, that results in a quantifiable outcome" (Salen & Zimmerman, 2003,

[5] Other examinations might focus on the distinction between formal and informal GBLL (see Godwin-Jones, 2019).

p.96) can be applied to many of those systems and technologies. That definition even seems to fit what schools are to many teachers and students. Using or researching games is further complicated by students' perceptions of technologies; a non-game might be thought of or played as a game (e.g., Dalton & Devitt, 2016). I wrestled with whether or not it is possible to link or group the technologies of, and teaching practices around systems as seemingly dissimilar such as spelling drills and MMORPGs.

I will refer to games in some (very) broad terms:

- By origin / purpose:
    - **Traditional games**: games usually played by children and families, often based on language or physical play, passing on and evolving from generation to generation. Examples: *Telephone, I spy, 20 Questions, Simon Says*
    - **Educational games**: games designed explicitly to teach something. Examples: *Minecraft Education, Math Blaster, Dragon Box, Pox, Gutsy*
    - **Commercial games**: games designed as mainstream consumer entertainment products. Examples: *Assassin's Creed, World of Warcraft, Pandemic, UNO.*
- By medium of interaction
    - **Digital games**: games played on an electronic device, for example, on a smartphone, video game console, or personal computer. Examples: *The Legend of Zelda, Mini Metro, Tetris, The Sims*
    - **Tabletop games**: games played using non-digital components, for example dice, maps, tokens, or cards. Examples: *Catan, Dungeons & Dragons, Monopoly, Bridge, Chess, Bingo*
    - **Speaking games**: games played through verbal interactions. Examples: *Truth or dare?, Mafia, I went camping and I …, 2 truths and 1 lie*

For this paper, in order to look at *game*-based language teaching as a field, I focused on games with "endogenous" connections between form and content, not game-like systems with "exogenous" form and content disconnections (Squire, 2006). I encourage scholars to share other ways of identifying the "game" aspect of GBLT and evaluating the GBLT literature landscape. I hope readers will recognize that in these papers I am ultimately more concerned about the teaching and learning practices and research literature around games than the games themselves.

I have not included papers on gamification -- teachers adding game-like elements (e.g., levels, achievements, points) to their classes. I treated GBLT as ideologically and practically distinct from gamification[6]. Thanyawatpokin and York (in press) explore this distinction in depth.

As the rest of the paper will show, the field of GBLT research reports is quite undeveloped, and can benefit from game-based teaching practices in other literacy and content areas. Buckingham and Burns (2007) were some of the first to explore the concept of "game literacy" and did so in an L1 context. Lacasa et al. (2008), even though it is a study of L1 development around games, is often cited in the L2 GBLT literature. Darvasi (2016) is a recent example of an extremely detailed description of teaching and learning in the L1. In order to focus on GBLT for L2 development, those papers, though fascinating, were not included in the current paper.

The initial criteria (*Did the project report actual practice of teaching with games? Was a teacher involved? Was a game used?*) helped me sort out many papers (i.e., those that were GBLL studies, gamified classrooms, theoretical pieces, lesson plans, and design studies)[7]. Approximately one-third of the papers that I read were theoretical and did not include teaching practice or learning outcomes. The majority of the remainder were GBLL-focused (i.e., did not involve a school or class or teacher) or concerned gamification. I estimate that less than 10% of all games and language education literature concerns GBLT; I have included as many GBLT papers as possible in this paper.

[6] Though, in some cases, the teacher is an integral part of a gamified approach to teaching. Ben Thanyawatpokin and James York have discussed this in personal communication, and should be explored more.

[7] I think that a systematic follow-up to Cornillie et al.'s (2012) tentpole meta-analysis of the game and language literature in terms of theoretical, technological, design and pedagogical topics is overdue.

Criteria for reports of Game-Based Language Teaching

When I read new publications on game-based language teaching, I have simple questions in mind:

- Where is the author "coming from?" What do they hold to be true about language and education? Is their framework similar to or different from mine? (**theory**)
- Is their context similar to mine? What did they do? How did they interact with students? Can I do what they did with my students? (**practice**)
- What happened? Did the teaching or project help the learners? In what way? (**research** results)

I turned my approach and questions into 14 criteria for evaluating the GBLT field. I want to be clear that I am trying to critique the field, not individual studies. Each of these reports offers something to GBLL or GBLT in terms of theoretical, practical or research implications. These questions helped me examine and then show what has and what has not been done in the GBLT academic research field. I think that these are questions other teachers might ask, and that the answers to these questions in research reports help teachers implement GBLT in their classrooms. These questions certainly aren't the only ones that can be asked, but I hope that by sharing how I think about the body of research on teaching with games, other teachers and researchers will see what elements do (and don't) help me, and what might help other teachers trying to implement effective game-based instruction in their own contexts.

I used the following fourteen questions (dealing with theory, practice and research) to examine the literature that met initial criteria for being GBLT papers (*Did the project report actual practice of teaching with games? Was a teacher involved? Was a game used?*[8]).

In terms of theory ...

1. Was a specific **language teaching and learning theory** used to create or discuss the project?

Teachers and researchers can pick from many theories of and approaches to teaching and learning, for example, behaviorist, interactionist, or sociocultural. How did the authors frame language learning? This was important, not only to understand what underlaid the project, but if the project made an attempt to align or distance itself from other theories that influenced practice and research outcomes.

2. Were **other ideologies or purposes** identified as a rationale or base or discussion of the project?

I looked to see if other reasons for conducting the project were identified. Was language learning the sole purpose, or did the author consider other reasons? Was language connected to culture in a meaningful way? And, why, or why not? Did the project address ideas and purposes such as basic educational rights, student agency, social equality, social capital, liberation, workplace skills, or other issues on ideological and practical spectrums? And, why, or why not?

In terms of practice ...

3. What was the **context**?

Where did the project take place? Was the context clearly identified and fully described? Was it, for example, a classroom, an online space, a computer lab or a community space? Did the paper detail and explore contextual constraints to give teachers practical advice in terms of those attributes?

4. What was the **structure**?

Was the structure identified or described? Was it, for example, the teacher's actual class, a comparison of a traditional class to a special game-based class, or a project completely separate from a formal academic structure? Was a class used for a short term research study? Was a class that uses games regularly put under a microscope? Was there a research design, and if so, what was it?

[8] This paper focuses on the theory, practice and research in GBLT reports. Appendix 1 tallies the different types of games used in the reports.

5. Was the game **integrated**?

I wondered how games were integrated, if at all, into the classroom or curriculum. Did researchers combine the affordances of games (e.g., text, representation of real-world systems, affinity spaces) with other elements of the curriculum? Were the games cordoned off from other elements of teaching for the purposes of research, or was the research focused on consciously integrating games into established language teaching and learning practices? Did games change teaching practices in any way? What was the scope of the impact of games on teaching? Was the gameplay and related work graded? Were games integrated with theoretical goals, with the textbook or with the curriculum?

6-10. What did the **teacher** do?

The teacher, in my opinion, is what makes GBLT distinct from GBLL, and though many reports stress that "the role of the instructor is crucial and computer simulation games in no way provide a substitute for ESL practitioners" (Miller & Hegelheimer, 2006, p.323), the problem remains that "what [instruction] should look like … is still unclear and will require a great deal more research and practice" (Filsecker & Bündgens-Kosten, 2012, p.64). I believe that GBLT (both research and teaching) can benefit from explorations of teacher "roles" in game-based teaching in other fields (e.g., Molin, 2017).

In the GBLT projects I read for this paper, I wondered what roles or activities were reported. Did the teacher work to lead students' development? Was the teaching described thoroughly enough to guide others? I looked to see if pedagogy was given priority and thoroughly described in the papers. I looked for an intervention or an intent to lead development with actions and objects other than just a game. I examined what the teacher did, and what materials and activities were used and if they were described in detail so that other teachers could, realistically, understand and apply the activities and actions of the project for their own students. This was one of the most difficult aspects of the literature review.

I looked for an intervention or an intent to lead development with actions and objects other than just a game.

I played around with different categorizations of game-based teaching: "passive-to-active" and "traditional-to-progressive" and "irrelevant-to-crucial." I finally decided to categorize teaching by reports of activity or roles (in a mostly binary way of whether something was reported or not) in the various *stages* of GBLT (i.e., choices, design, before, during and after the game). Criteria six to ten focus on these.

6. Did the paper report any **choices** that the teacher made before the lesson?

Did a teacher decide anything in the project? Did the teacher choose goals for the lesson, choose a game, or choose to connect the lesson to students' needs? Did the paper report the teacher wanting to make a difference herself? Did a teacher intend to interact with students in any particular ways?

7. Did the paper report any **design work** that the teacher did before the lesson?

Teachers are very busy, and if numerous materials are available, teachers need only choose (criteria 6) materials and activities that meet the learning goals. However, if materials are not available, then teachers must create these materials.[9] Material and lesson creation can mean that teachers are working to make things that better meet students' learning goals. However, material creation takes time and effort, and possibly detracts from other aspects of teaching (e.g., those in criteria 8-10). In the GBLT reports I read, I looked to see what the teachers created. Did the teacher make a game,

[9] As an example, when I started my "Game Terakoya" project, which is based on the Pedagogy of Multiliteracies, I had hoped that literacy-based materials such as discussion questions, analysis worksheets, and project planning documents would be readily available for me to use. They were not, so I had to spend dozens of hours creating worksheets and teacher mediation materials.

make a website or instructions, create an instructional lecture, a worksheet that was then used in the lesson or anything else that was not available?

8. Did the paper report any teacher roles or interactions **before gameplay**?

Did the teacher pre-teach language, give a lecture to give students background information about the game, or orient the student to a specific aspect of work in the lesson?

9. Did the paper report any teacher roles or interactions **during gameplay**?

Did the paper report teachers being a facilitator, participating in the learning, making adjustments to the lesson on the fly, reacting to students' actions, asking students questions, giving advice, helping students, inspiring students, administrating games or technologies, organizing groups, observing students, correcting students, giving feedback, giving "just in time" instruction, discussing work with students, drawing students' attention to aspects of the game, drawing students' attention to connections between the game and society, evaluating students, or modelling work for students? Did the paper report something the teacher did that affected students' learning trajectories in any way?

10. Did the paper report any teacher roles or interactions **after gameplay**?

In addition to the above, did the teacher facilitate a discussion or debriefing (and was the debriefing a deep discussion of the game and learning and a plan for future actions)? Did the paper report teachers asking students questions, giving feedback, discussing work with students, having students' repeat work, drawing students' attention to aspects of the game, drawing students' attention to connections between the game and society, or evaluating students?

11. Were **teaching materials** shared (to help other teachers)?

I was not interested in the sharing of research instruments (e.g., survey items or vocabulary lists that were used to gather data from learners) but the generous sharing of teaching materials such as lesson plans, teaching instructions or scripts, worksheets and evaluative or assessment materials. I realize that word counts and publishing constraints do prevent many teachers and researchers from sharing these materials, but there are workarounds, for example, some journals do host additional materials on their websites, and authors can add links to project or personal websites with teaching materials.

12. Did the paper offer **practical advice** to teachers?

I looked for papers that specifically addressed the practice of GBLT, and used the results of the project to help other teachers in practical ways. Research can certainly guide practice, but I am concerned with the gulf between what is done in a controlled study and what is habitually done in regular classrooms. I looked for evidence in the literature of researchers focusing on how their research might have practical applications in the classroom, and writing with teachers in mind, and working to "translate" their work for other contexts and individuals. I looked for papers that gave teachers specific and practical advice about classroom instruction. Did the authors try to bridge theory-research-data and practice and advise teachers on classroom implementation?

13. Was the project **continued** (not a one-off)?

Does the paper mention continued projects or explorations based on the results of the project? Do the authors continue to explore GBLT in subsequent teaching and research? I first used citations of the research papers, then examined the authors' CVs, faculty profiles, and personal websites and social media to help answer this question. I wondered if successful projects were continued in classrooms (as part of continued research or as continued teaching), or if the project was exploratory and, regardless of the outcome, moved on from.

In terms of research ...

14. What **learning outcomes** are shown?

I examined the reports for evidence of student change. I focused on papers that, by any means, demonstrated a teacher influencing students' development. I especially looked for data that communicated students transferring learned language to other educational or social contexts. I also looked at how learning was assessed.[10]

A caveat (take this, it's dangerous...)

I reviewed the game and language education literature (journal articles) with these fourteen criteria in mind. I realize that these elements might be found across a variety of papers in the field, i.e., one paper might focus on theory, one on a lesson plan, another on teacher reflections, another on learning outcomes. However, in trying to assess the state of the field of GBLT, what I was hoping to find was a trend in the recent literature for papers to acknowledge and include and work to normalize all of these various elements. Looking for papers that include and projects that integrate all these elements was only one way to measure the health of the field. I encourage scholars to look in other places and to share other ways of identifying important GBLT elements and evaluating the literature.

I believe that teachers and researchers in GBLT will be helped by papers that include all of these elements; papers like these will progress the field. A paper with all of these elements can serve as a useful model for others in how to frame and present GBLT research. I am aware, however, that pushing for papers to include the theory, research and practice can, in one light, sound like pushing for responsible science in the field, but in a slightly different light, sound like looking for a "magic bullet" paper that "proves" that GBLT is effective and practical. I'm not trying to hype GBLT or trying to prove that GBLT is "better" than other ways of teaching language. Ultimately, different contexts, students, teacher preferences and abilities and many other constraints will require different tools and media (games being only one option) and pedagogical approaches.

Ultimately, different contexts, students, teacher preferences and abilities and many other constraints will require different games and pedagogical implementations.

I also acknowledge that my literature review focused primarily on academic publications which are weighted in terms of the theoretical and empirical aspects of game-based language teaching. There are many teacher-oriented publications with game-related resources, for example, JALT, TESOL, EFL Magazine and ITESLJ, as well as researcher blogs, for example those of Mark Rassmussen, Jonathon Reinhardt and Jeff Kuhn. Many of the teacher-facing publications suffer from a different problem: of cheerleading the use of games, and sharing numerous game examples, but (again) not including detailed instructions for using games, nor of the results of using games in the classroom. Again and again, there seems to be a gulf between research and practice. An appropriate followup paper to this one would be a collection (Jones, 2020 has begun this magnificently) and critique and continued bridge-making of the game-related information in teacher trade publications.

Again and again, there seems to be a gulf between research and practice.

Have I missed "the" model GBLT paper in recent years? Or, somewhere between our field's start and the literature in this paper, was there a landmark GBLT paper that has been lost (like a relic in a box in a

[10] Appendix 2 tallies what learning outcomes were prioritized in the reports and how learning was assessed (i.e., vocabulary tests, speaking tests, 4-skills tests, pragmatics tests, field notes, vocabulary and grammar quizzes, delayed tests, using language in other tasks, and comparison of classes or groups).

warehouse of boxes) or has been ignored? Please let me know, so that I can (1) apologize, (2) learn from it and (3) highlight it in future writing.

GBLT: A game of (many) X's and (not as many) ◯'s

I evaluated 28 reports in terms of the 14 criteria I presented earlier. The results are shown in Table 1.[11] ◯ indicates that the element featured clearly in the report, △ indicates that the element was somewhat present, and X indicates that the element was not present.

To help the reader, I will present my numbered criteria here again (I use these numbers as headings in the table on the next page).

1. Was a specific language teaching and learning **theory** used to create or discuss the project?
2. Were **other** ideologies or purposes identified as a rationale or base or discussion of the project?
3. What was the **context**?
4. What was the **structure**?
5. Was the game **integrated**?
6. Did the paper report any **choices** that the teacher made before the lesson?
7. Did the paper report any **design** work that the teacher did before the lesson?
8. Did the paper report any teacher roles or interactions **before** gameplay?
9. Did the paper report any teacher roles or interactions **during** gameplay?
10. Did the paper report any teacher roles or interactions **after** gameplay?
11. Were teaching **materials** shared (to help other teachers)?
12. Did the paper offer practical **advice** to teachers?
13. Was the project **continued** (not a one-off)?
14. What learning **outcomes** are shown?

[11] This table is also available as a Google Spreadsheet.

Table 1: Theory, teaching and research criteria featured in GBLT reports

GBLT Paper	1	2	3	4	5	6	7	8	9	10	11	12	13	14
Uberman (1998)	○	○	○	△	○	○	○	○	X	X	X	△	X	○
Coleman (2002)	X	X	○	○	○	○	○	○	△	○	○	X	X	X
Nguyen and Khuat (2003)	○	X	○	○	X	△	△	○	X	X	X	△	X	X
Miller & Hegelheimer (2006)	○	X	△	△	X	○	○	△	X	X	X	△	X	○
Yip and Kwan (2006)	X	X	△	△	X	X	○	△	△	X	X	△	X	○
Bryant (2007)	○	X	○	○	○	○	○	○	○	X	X	○	X	X
Rama et al. (2007)	○	○	○	△	○	○	X	X	X	X	X	○	X	○
Ranalli (2008)	○	X	△	△	X	○	○	X	X	X	X	X	X	○
Neville, Shelton and McInnis (2009)	○	X	○	△	X	○	○	○	X	○	X	○	△	△
Sykes (2009)	○	X	○	○	○	○	○	○	X	X	○	X	△	○
Suh, Kim and Kim (2010)	X	X	○	△	X	△	○	X	X	X	X	X	X	○
Holden and Sykes (2011)	○	○	○	○	○	○	○	○	X	X	X	X	X	△
Reinhardt and Zander (2011)	○	○	○	○	○	○	○	○	○	X	X	△	○	△
Tuan (2012)	○	○	○	△	X	○	X	X	X	X	X	X	X	○
Chou (2014)	○	X	○	○	○	○	○	○	○	X	X	X	X	○
Hitosugi et al. (2014)	○	△	○	○	○	○	○	○	X	X	X	X	X	○
York (2014)	X	○	○	○	○	○	○	X	X	X	○	○	X	X
Butler (2015)	○	X	○	○	○	X	○	○	△	X	○	X	○	X
Reinders and Wattana (2015)	△	X	○	○	○	○	○	X	X	X	X	X	X	X
Shintaku (2016)	○	△	△	△	○	○	○	△	△	X	○	○	△	○
Shirazi, Ahmadi & Mehrdad (2016)	○	X	○	△	X	X	X	○	X	○	X	X	X	○
Zhou (2016)	X	○	○	○	○	X	X	○	X	X	X	△	X	○
Bregni (2017)	X	○	○	○	○	○	○	○	○	△	△	○	○	△
Franciosi (2017)	○	○	○	○	△	○	○	○	X	△	X	X	X	○
Rasmussen (2017)	○	X	○	○	○	○	○	△	○	△	○	○	X	X
Vasileiadou & Makrina (2017)	X	○	○	○	△	○	X	○	X	X	X	X	X	○
Janebi Enayat and Haghighatpasand (2019)	X	X	△	△	X	X	○	○	X	X	X	X	X	○
Warner, Richardson & Lange (2019)	○	○	○	○	○	○	○	X	○	△	△	X	○	△
Featured the criteria (○)	19	11	23	17	17	21	22	17	6	3	6	7	4	16

Because I excluded hypothetical, game-based language learning (GBLL) and gamification papers, the literature identified in Table 1 do report actual practices of teachers (and teacher-researchers) using games to teach language. None of the papers reported all of the GBLT criteria. Table 2 ranks aspects (teaching, theory or research) in terms of prevalence in the reports.

None of the papers reported all of the GBLT criteria.

Table 2: Criteria in GBLT reports ordered by prevalence

Criteria	Aspect	Reports featuring the criteria
3. What was the **context**?	Teaching	23
7. Did the paper report any **design** work that the teacher did before the lesson?	Teaching	22
6. Did the paper report any **choices** that the teacher made before the lesson?	Teaching	21
1. Was a specific language teaching and learning **theory** used to create or discuss the project?	Theory	19
4. What was the **structure**?	Teaching	17
5. Was the game **integrated**?	Teaching	17
8. Did the paper report any teacher roles or interactions **before** gameplay?	Teaching	17
14. What learning **outcomes** are shown?	Research	16
2. Were **other** ideologies or purposes identified as a rationale or base or discussion of the project?	Theory	11
12. Did the paper offer practical **advice** to teachers?	Teaching	7
9. Did the paper report any teacher roles or interactions **during** gameplay?	Teaching	6
11. Were teaching **materials** shared (to help other teachers)?	Teaching	6
13. Was the project **continued** (not a one-off)?	Teaching	4
10. Did the paper report any teacher roles or interactions **after** gameplay?	Teaching	3

The papers reported details about the projects' context (23/28), material design (22/28), choices (21/28), integration (17/28), instruction before gameplay (17/28), and learning outcomes (16/28). I interpret the prevalence of these criteria as researchers' curiosity of game-based language teaching and learning and the experimental and exploratory nature of the projects in which these criteria were found. These criteria do help teachers, but they are also important details about the research designs.

Practical advice (7/28), teacher interactions during gameplay (6/28), teaching materials (6/28), project continuations (4/28) and teacher interactions after gameplay (3/28) were the least prevalent criteria. Teaching hasn't been prioritized in GBLT reports.

Teaching hasn't been prioritized in GBLT reports.

In the next sections, I will present details on each of the GBLT criteria in the literature. I will end each section with thoughts on how explorations and inclusion of these criteria could improve GBLT teaching and research.

Language teaching and learning theory (criteria 1)

Language teaching and learning theories are built from conceptual frameworks or empirical investigations. Including these foundations in project reports helps teachers and researchers understand an author's perspective on GBLT, helps connect classroom practices to larger ideas and specific learning outcomes, and helps situate a specific paper in the literature landscape. 19 papers (68%) referenced specific theories and related approaches.

Research reports referenced and used communicative theories and approaches in GBLT. Reinders and Wattana (2015) refer to interaction and communicative competence (p.39), Sykes (2009) focused on communicative and sociolinguistic competence, and Rama et al. (2007) adopted a "social interaction" (Conclusion and Recommendations section) approach.

Reports referenced and used literacy and sociocultural theories and approaches. Reinhardt and Zander (2011) describe the implementation of a sociocognitive, L2 socialization, literacy-building approach. Rasmussen's (2017) teaching is grounded in literacy, functional language usage, and the sociocultural zone of proximal development (ZPD), among other theories. Holden and Sykes (2011) worked to assist with students' "language socialization" (p.2). Warner, Richardson and Lange (2019) take a sociocultural approach (i.e., the pedagogy of multiliteracies) to raising students' awareness of various texts and practices and culture through free browser games (for their affordances and ease of implementation).

If future GBLT reports link their teaching and goals to specific language teaching and learning theories, it would better connect GBLT to other (more mature) fields, it would help teachers adopt practices that align with their understandings about language and learning, and it would seed innovative ideas and approaches into a (spoiler) lagging field.

Other ideologies or purposes (criteria 2)

Ideology addresses the "why" of teaching and learning. A teacher or researcher's ideology can be language learning for its own sake (e.g., vocabulary memorization, speaking fluency), or an ideology can situate language learning in a broader context of teaching, learning, school and society, as well as problems and possibilities for improving the lives of students and others. 11 (39%) were clear about ideology.

Research reports mentioned games being used to motivate students to learn words and to meet immediate language needs. Tuan (2012) used games to motivate students to learn vocabulary. Coleman (2002) articulated students' academic language needs (i.e., mastering register in university writing). York (2014) connected in-game tasks to language proficiency examinations.

Research reports mentioned social issues. Hitosugi et al. (2014) used a game to focus students on hunger issue awareness, Franciosi (2017) used a game dealing with environmental, economic and social issues. Miller and Hegelheimer (2006) and Ranalli (2008) seemed to treat culture in the game (i.e., zodiac signs, careers, consumer culture) as informational content in these projects' cultural notes, and do not report on if there were any discussions with students about how they viewed the games' "imposing" (Miller and Hegelheimer, 2006, p.322) of "stereotypes" (Miller and Hegelheimer, 2006, p.322).

Research reports addressed problematic aspects of the literature landscape. Zhou (2016) critiques the field of GBLT, with statements such as "laboratory SLA research is particularly evident in game-based language learning research" (Zhou, 2016, p.4), "game-based, exploratory vocabulary learning research supports game design, not classroom instruction" (p.4) and "it is hard for teachers to adopt or to implement it in a real language curriculum" (p.4). Franciosi (2017) specifically addresses the importance of testing GBLT in actual classes, and the necessity of seeing the transfer of learned vocabulary to other tasks. Uberman (1998) remarked that she had trouble finding "empirical evidence" (Conclusions section) for GBLT. Hitosugi et al. (2014) also commented on the scarcity of "empirical evidence of the effects of videogame use in *classrooms* [italics in original]" (p.20).

Research reports mentioned broader educational ideals. Hitosugi et al. (2014) stressed the importance of "transformational" (p.34) uses of games in schools, and admitted that their usage may

have instead been an "insertion" (p.34) of technology rather than a transformational use; they substituted one media for another in their L2 classroom, and the game neither changed their classroom practices nor did it "fully realize the potential of the technology" (p.34). Holden and Sykes (2011) aimed to foster students' "broader type of participation" (p.3) with transformational educational practice (p.2). Vasileiadou and Makrina (2017) argued that "students should be given the liberty to choose the process they consider most beneficial for their learning progress" (p.136).

If GBLT reports are clear about ideology, they can help teachers with the same ideologies apply research findings to their teaching contexts. The inclusion of ideologies other than language acquisition can also encourage teachers and researchers to use games to help address fundamental educational and social issues and initiatives.

Context (criteria 3)

Game-based language teaching can take place in various contexts, for example, a classroom, an online environment, or a community space such as a library or children's center. Context helps researchers map the literature landscape and see gaps in terms of where game-based language teaching has (and has not) occurred. Context helps teachers determine how much work they will need to do to attempt or apply the game-based teaching in their own teaching environment. 23 reports (82%) were clear about context.

Research reports identified classroom contexts. Rasmussen (2017), Tuan (2012), Vasileiadou and Makrina (2017) and Butler (2015) conducted projects in elementary classrooms. Miller and Hegelheimer (2006), Ranalli (2008), Neville, Shelton and McInnis (2009), Reinhardt and Zander (2011), Sykes (2009), Coleman (2002) and Franciosi (2017) reported projects with university classes.

Research reports identified school computer labs, such as Reinders and Wattana (2015) who worked with university students in a computer lab and Suh, Kim and Kim (2010) who worked with elementary students in a computer lab.

Six reports identified extracurricular contexts. Bryant (2007) played games extracurricularly with his university-level German 101 students. Chou's (2014) project seemed to be extramural. York (2014) taught Japanese online via a *Minecraft* server. Holden and Sykes (2011) had their university students explore their local community. Yip and Kwan's (2006) project was "not part of the curriculum" (p.235). Shintaku (2016) recruited students from classes to participate in an extramural project.

If GBLT reports are clear about context, this can help teachers with the same environmental constraints and capabilities apply research findings to their teaching contexts. Contextual descriptions can also help researchers identify contexts where game-based language teaching has not yet been attempted or fully investigated (for example, high schools and community centers).

Structure (criteria 4)

Structure describes the way in which teaching with games was situated and investigated. GBLT research can be conducted in structures such as actual classes, comparisons of manipulated classes, or laboratory-like conditions. 17 reports (61%) were clear about structure.

Research reports identified projects conducted in regular classes. Coleman (2002), Bryant (2007), Sykes (2009), Holden and Sykes (2011), Reinhardt and Zander (2011), Butler (2015), Zhou (2016) and Hitosugi et al. (2014) reported on teaching and learning done in one or more sections of actual classes. Reinders and Wattana (2015) asked 30 students to complete a quest in an online game at the end of each of six class units "during normal lesson time" (p.43).

Research reports also identified explorations of different mediation conditions regarding material mediation. Miller and Hegelheimer (2006) and Ranalli (2008) reported in-class explorations of this sort. Shintaku (2016) reports a similar configuration done outside of a class.

Ten research reports identified comparisons of groups or classes that received either some sort of "traditional" education and some sort of "game-based" education. Janebi Enayat and Haghighatpasand (2019) compared vocabulary acquisition by 30 undergraduates who either played a

digital adventure game and used supplementary materials for about 10 hours or who were taught vocabulary by a teacher for about six hours. Shirazi, Ahmadi and Mehrdad (2016) compared two groups that learned either through a video game or textbook-based instruction and exercises. Yip and Kwan (2006) compared the performance of students who, for several weeks, either learned vocabulary from an online website "essentially by themselves" (p.240) or who learned in a "teacher facilitated and primarily activity based" (p.241) way. Suh, Kim and Kim (2010) compared learning English with an MMORPG to traditional communicative elementary school English classes. Tuan's (2012) was a "highly controlled" (p.261) study that compared two groups. Uberman (1998), Neville et al. (2009), Franciosi (2017), Rama et al. (2007), and Vasileiadou and Makrina (2017) also compared different teaching and learning approaches.

If GBLT reports are clear about structure, this may help the GBLT field better understand how to transfer pedagogies used in laboratory conditions to contexts with more constraints. Teachers may be more inclined to try GBLT if they can see that it has been investigated in contexts similar to their own. If researchers understand the extent to which GBLT has not been investigated in classroom contexts, this may encourage some to tackle the challenge of doing more GBLT research in classrooms (especially over a longer time period), and may encourage some researchers to collaborate more with teachers to implement and report on connected theory, research and practice.

Integration (criteria 5)

Games (or any tools or technologies) can be introduced into classrooms and curriculum in various ways. The reported "level"[12] of integration of a game into a teaching context is one way of determining the GBLT field's maturation. Have games changed the way that teaching and learning occurs? Are teachers and researchers struggling to use games? Are researchers keeping games at arm's length from actual classroom settings? Games, if not understood, might be put under a lab microscope with as few complicating classroom factors as possible. Can games fundamentally change education if carefully considered and connected to alternate ways of teaching and learning? 17 reports (61%) were clear about if and how games were integrated into teaching.

Research reports did specify clear considerations of the necessity of games in specific classrooms and curricula. Coleman (2002) discusses his integration of game affordances, student needs, pedagogical tasks, the learning context and his mediation. Chou (2014) clearly tried to integrate games (modified versions of *Monopoly*, *Twister* and a crossword game) and other activities to help young learners develop positive feelings and take beginning steps towards learning a foreign language; "games, songs and stories can be beneficial to young pupils' learning of English vocabulary when those activities are integrated with clear teaching and learning objectives" (p.296).

Research reports mentioned using games to reinforce existing curriculum and textbooks. Hitosugi et al. (2014) describes two projects that "integrated" (p.23) a game with a Japanese language curriculum; the game supplemented specific textbook units on global issues and one of their projects was "part of the students' course grade" (p.25). Reinders and Wattana (2015) used online computer game quests as review sessions for course textbook work. Vasileiadou and Makrina (2017) describe free online games that were chosen by the teachers "based on their relevance with the vocabulary presented in the preceding lesson" (p.139). Shintaku (2016) aligned a game's vocabulary and structures to her Japanese curriculum.

Warner, Richardson and Lange (2019) describe a unit on games in a curriculum dealing with various genres, and mention connecting tasks in the unit to this curriculum. Bregni has been developing a video game-infused course for teaching Italian. He uses games such as *Assassin's Creed* as "supplements to more traditional teaching techniques" (2018, n.p.) in order to "reinforce vocabulary and grammatical forms, present authentic cultural data, and challenge students to solve problems in their target language" (2018, n.p.). Bregni deliberately writes about his work, not as "another theoretical contribution" (2017, p.44) but rather as a "*practicum*" (2017, p.44, italics in original) of real teaching and learning with video games. He argues that games "should not replace "regular" teaching, but could be used to reinforce" (2017, p.46) what he teaches. Bregni's reports are clear about his focus on combining games, activities, and recently covered language items and culture. He describes how

[12] There are numerous categorizations of technology and pedagogy integration. The SAMR model (Puentedura, 2006) outlines Substitution, Augmentation, Modification and Redefinition.

his curriculum addresses multiple skills (*YouTube* listening exercises, vocabulary and grammar exercises, reading summaries and questions, speaking in discussions, written creative exercises) and also development of cultural knowledge (e.g., architecture, habits, infrastructure, health, society, city spaces, gender).

Bregni's reports are clear about his focus on combining games, activities, and recently covered language items and culture.

Though Neville et al. (2009) scaffolded their German course's students' gameplay with additional tasks and a debriefing, they do not describe the connection of their game or instruction to the course. Miller and Hegelheimer (2006) and Ranalli (2008), research projects that have shown the importance of material mediation on language learning with games, do not describe how the game and materials were connected to their classes, and the students' work was not graded.

If GBLT reports are clear about integration, teachers can learn how to connect games with specific pedagogies and contexts they share with the teachers in the reports. Teachers might also be introduced to new pedagogies that were part of a more radical integration of games into teaching and learning. The inclusion of integration into GBLT reports can also shine a clear light on how researchers are treating games in GBLT; it is a clear indication of the overall state of the field, and what transformation, if any, is possible or taking place.

Teacher choices (criteria 6)

Teachers, in certain contexts, can choose goals, games, materials and ways of mediating learning. Choices that a teacher makes are an indication of wanting to intervene in the learning process; it is an important feature that separates GBLT from GBLL. 21 reports (75%) were clear about teacher choices.

Research reports mentioned teachers choosing to act on student needs. Nguyen and Khuat (2003) and Uberman (1998) chose to use a game in response to students asking them how to learn vocabulary. Sykes (2009) chose to connect a game to students' linguistic needs.

Research reports mentioned teachers choosing games based on instructional goals. Franciosi (2017) chose a game connected to the Fukushima disaster. Hitosugi et al. (2014) chose a game connected to a textbook unit on global environmental issues. Vasileiadou and Makrina (2017) describe free online games that were chosen by the teachers "based on their relevance with the vocabulary presented in the preceding lesson" (p.139).

Research reports mentioned teachers choosing specific pedagogical materials and activities to use with a game. Neville, Shelton and McInnis (2009) stated the importance of including briefing and debriefing in their teaching. Rasmussen (2017) chose to situate learning in and around online texts and communities. Miller and Hegelheimer (2006) and Ranalli (2008) and Shintaku (2016) chose to include materials alongside the game. Reinhardt and Zander (2011) planned to guide learners towards language awareness with activities. Coleman (2002) chose to modify how the game was played.

Though some research reports mentioned the importance of teachers, many did not report the choice to include teachers. Hitosugi et al. (2014) references the ZPD and the important educational influence from mentors and peers, but the study did not seem to involve instructor mediation. The studies by Miller and Hegelheimer (2006) and Ranalli (2008) did not include teacher mediation other than game-choosing and material inclusion. Even though Zhou (2016) critiques the field of GBLT, with statements such as "laboratory SLA research is particularly evident in game-based language learning research" (p.4), and "game-based, exploratory vocabulary learning research supports game design, not classroom instruction" (p.4), the study ignores the role of the teacher (the "mini lectures" are not described) and focuses on class-wide daily Quizlet game vocabulary competition. It was surprising, especially for the papers with sociocultural learning theory foundations, how little teacher mediation was reported as a choice, or priority, or described in any detail.

It was surprising, especially for the papers with sociocultural learning theory foundations, how little teacher mediation was reported as a choice, or priority, or described in any detail.

Bregni emphasizes the role of the teacher in his curriculum. His papers contain multiple uses of the word "guide" (2017, p.61) throughout the descriptions. He, interpersonally and through worksheets, works to lead student development.

If GBLT reports are clear about teacher choices, it will help continue to establish GBLT as a field and work to promote the importance of teachers' roles alongside games. Specificity about teacher choices will help researchers investigate specific elements of teaching in controlled learning environments. Reports that include choices will also give teachers guidance and examples to help them learn and adopt GBLT practices in their own contexts.

Design work (criteria 7)

Design work indicates that teaching materials or methods were not available (i.e., could not be chosen, see criteria 6) and had to be created. Design implies that teachers intended to intervene in some way. 22 reports (79%) indicated design work.

Research reports mentioned teachers creating or modifying a game. Games were designed in the reports of Uberman (1998), Sykes (2009) and Suh, Kim and Kim (2010). Games and materials were designed by Holden and Sykes (2011) and Neville, Shelton and McInnis (2009). Chou (2014) reported modifying a game. Coleman (2002) modified how the students played the game through supplemental materials.

Papers reported the design and implementation of materials that were used along with games. Coleman (2002) prepared in-game tasks and various materials related to giving and receiving directions. Shintaku (2016) developed before, during and after play vocabulary, grammar, and writing worksheets and a creativity exercise to "relat[e] their own experiences to the game situations" (p.41). Miller and Hegelheimer (2006) and Ranalli (2008) made websites (for instructions) and made supplemental lists and exercises regarding vocabulary, grammar and culture. York (2014) reports creating numerous games and activities inside his *Minecraft* server; he estimates "over 100 hours" of preparation time (p.182). Yip and Kwan (2006) made a website that had instruction about vocabulary and also had some drill and practice games. Reinhardt and Zander (2011) planned listening and discussion activities. Janebi Enayat and Haghighatpasand (2019) made a vocabulary list and information and exercises. Hitosugi et al. (2014) created materials and tasks. Franciosi (2017) created a *Quizlet* group of target vocabulary. Rasmussen (2017) designed many tasks and curated various materials. Bryant (2007) describes researching in-game quests and the difficulty of creating "structured activities that would focus on specific grammar or vocabulary" (Introduction section). Bregni emphasizes the combination of games and various additional materials and activities; "solid preliminary work done involving the creation of vocabulary worksheets, listening and reading comprehension exercises, and follow-up activities that should take place before each video game-based class activity" (2017, p.58). He describes various purposefully designed activities, such as repetition, roleplays, and one particular task in which one student gives directions in the L2 to another student holding a controller. Warner, Richardson and Lange (2019) created tasks and materials, and made a list of speech acts.

If GBLT reports are clear about teachers' creative work, this will help continue to show the importance of teachers' roles alongside games. Specificity about teacher design work will help researchers investigate under-represented mediation in GBLT, for example, worksheet design, debriefing structures, or innovative educational game designs. Specificity in this criteria can develop and spread effective teaching practices; teachers can replicate the described materials and methods, or reach out to authors to request that the created work be shared to help other teachers.

Teacher roles or interactions before gameplay (criteria 8)

After teachers make decisions, and make materials that are not already available, the actions they take and instructions they give before gameplay are the next important element of game-based language teaching. These interactions can set students on a specific trajectory, can prepare students with language or information or ideas, and can put students in a different mindset as they approach and play a game. 17 reports (61%) were clear about teachers' pre-gameplay roles and interactions.

Research reports showed teachers doing more than just asking students to play a game; they prepared and oriented them to the game. Nguyen and Khuat (2003) explained the games and rules before playing, gave some examples to students, and gave roles to students. Bryant (2007) pointed students at certain in-game quests. Franciosi (2017) demonstrated the game for his students.

Research reports showed teachers assigning students tasks in addition to playing the game. Butler (2015) introduced words via flash cards and then gave students tasks to complete. Coleman (2002) grouped students and then explained the tasks.

Research reports specified teachers' additional instructional work before the game. Sykes (2009) assigned articles, taught students about pragmatics, introduced supplementary materials and assigned a presentation project. Reinhardt and Zander (2011) assigned listening and discussion activities, introduced *Facebook*, had students brainstorm ideas and split the class into groups. Hitosugi et al. (2014) reported four days of scaffolding work (e.g., self-reflection, web research, task sheets) that were completed prior to gameplay on the fifth day.

Research reports specified the teacher's language instruction before gameplay. Uberman (1998) pre-taught vocabulary. Chou (2014) presented vocabulary and model sentences. Shirazi, Ahmadi and Mehrdad (2016) explained and gave examples of speech acts. Vasileiadou and Makrina (2017) asked students how they liked to learn vocabulary, and then taught them vocabulary. Bregni (2017; 2018) models target language and grammar.

If GBLT reports are clear about teachers' pre-game interactions with students, this will help researchers investigate the effects of different instructional strategies on subsequent gameplay and language use. Specificity in this area can also guide teachers to include more and different instructional techniques depending on the game, the students and the instructional goals.

Teacher roles or interactions during gameplay (criteria 9)

Teachers can orient students to a learning activity (criteria 8), but not all students will be able to accomplish the task on their own. Teachers can intervene to help students perform an activity to a greater degree. Teachers can react, offer help and give feedback, focus attention, change activities as they are being attempted and give just-in-time instruction. 6 reports (21%) were clear about teachers' roles and interactions during a game.

Research reports identified teachers encouraging or giving students instructions and feedback during games. Bryant (2007) describes the "correcting" and "clarifying" (Implementation section) work he did while his students played. Chou (2014) gave "encouragement" (p.289) and requested that they read and spell during the gameplay. Reinhardt and Zander (2011) told students to speak in the L2, encouraged socialization, and told a student to change his Facebook name into the L2. The teacher in Butler's (2015) report asked students questions, wrote down the students' ideas, and made some comments. Coleman (2002) describes making notes on drafts of work, and giving feedback (p.227). Bregni (2017; 2018) pauses games to ask students questions about the game and language. Warner, Richardson and Lange (2019) directed students' attention to speech acts in the games, prompted students to keep a shared vocabulary list, and encouraged students to interact with other gamers online. Warner, Richardson and Lange (2019) mention teacher mediation such as "receiving and providing formative feedback" (p.14), "directed their attention" (p.14), and "focus[ed] their attention on … forms of representation" (p.16).

Some research reports mentioned during-game teacher interaction, but little information is given. Reinders and Wattana (2015) do not describe the "support" (p.51) they offered students. Tuan (2012)

states the “teacher plays an important role” (p.258) but that report does not include descriptions of the practical implementation. In Yip and Kwan (2006) the “facilitat[ion]” (p.246) of student-centered activities with the words are not described; no information is given about the “provided guidance” (p.240).

Some research reports were explicit about the teacher not interacting with students during gameplay. There was “no direct instruction from teachers” (p.373) in the study by Suh, Kim and Kim (2010). Sykes (2009) mentions a “limited” researcher presence (p.210).

If GBLT reports are clear about teachers’ during-game interactions with students, this will also help researchers investigate the effects of different instructional strategies on gameplay and language use. This will also continue to solidify GBLT (i.e., the importance of teaching in game-based education) as a research field and educational approach. If research reports clearly identify and describe teacher roles during a game, this can also encourage teachers to adopt additional and different roles to assist their students accomplish instructional tasks.

Teacher roles or interactions after gameplay (criteria 10)

Teachers can continue to guide students after a game is played. The importance and potential of a teacher discussing a game with students, giving feedback about gameplay and language use, and connecting the game to other learning tasks should be obvious. However, only 3 reports (11%) were clear about teachers’ roles and interactions after a game.

Research reports identified post-game actions and activities, but did not describe them thoroughly. Coleman (2002) writes about a post-task debriefing including academic writing applications but does not describe it in detail. He writes about requiring students to repeat some tasks in his lesson. Neville, Shelton and McInnis (2009) stress the importance of debriefing to “prompt the students to reflect on their game experiences more deeply and with a critical focus on cultural differences and context-based language performance” (p.415), but do not describe it in any detail. Shirazi, Ahmadi and Mehrdad (2016) took questions from students after the game. Bregni’s students use worksheets, play games, then discuss and reflect in writing, and “apply what they’ve learned to their own life experience” (2018, n.p.). Warner, Richardson and Lange (2019) prompted their students to focus on social issues with discussion questions on post-game articles. Warner, Richardson and Lange (2019) mention student tasks (e.g., game logs, group projects, class discussions, examinations of language and games).

Debriefing of a game or activity, when used at all, tended to be described as a questionnaire given to students, rather than a discussion that connected reflecting on prior activities to planning for continued learning. Teacher input or data from the debriefing phase is rarely shown. Researchers seem to be using debriefings to collect data, not to continue to support students’ learning. It was surprising that authors are aware of and cite the theoretical importance of debriefing, but did not report on their post-game continued mediation.

It was surprising that authors described the theoretical importance of debriefing, but did not report on their post-game continued mediation.

GBLT may never be a field if reports do not include teachers’ post-game interactions with students. Crookall (2010), more than a decade ago in *Simulation & Gaming*, lamented the lack of other game-based learning circles’ focus on debriefing in their journals and activities: “debriefing is vital both for learning and for establishing simulation/gaming as a discipline” (p. 898). Debriefing research and teaching advice in GBLT publications would give projects more credibility in line with experiential learning theory and the idea that the learning does not happen in a game, but after the game. And debriefing is only one way that teachers can continue to support students after a game. Other teaching approaches and activities (e.g., post-game projects) should be explored in GBLT research and teaching. Additional post-game activities can also suggest to teachers that teaching sequences such as PPP (present, practice, produce language during a game) are not the only way to teach language with a game.

GBLT may never be a field if reports do not include teachers' post-game interactions with students.

Teaching materials (criteria 11)

Teaching materials include lesson plans, task materials and anything that supports the instruction and interaction of a teacher with students to achieve learning goals. These materials function to assist a teacher's work. 6 reports (21%) shared teaching materials.

Research reports included lesson plans and materials. Coleman (2002) shared the role sheets he created for the game activity he created. Shintaku (2016) shared her materials as appendices. Butler (2015) shared her lesson plan in supplementary materials on the publisher's website. Rasmussen's (2017) lesson plans (involving *YouTube* video analyses, gameplay, and collection and analysis and use of language) are detailed enough that other teachers could potentially implement them in their contexts. Research reports also referred readers to additional pedagogically-relevant information. Sykes (2009), for example, directed readers to a university center website with additional instructional materials, but though she stresses that "successful implementation and use [of SIEs] in the classroom requires instructor support" (p.223), the readings, introduction, practice and group project and presentation are not described in much detail.

Bregni (2017; 2018) shares example discussion questions and taught language, though I have not been able to find example worksheets from his course (perhaps because he may be developing a textbook using these). Warner, Richardson and Lange (2019) share some task questions.

If GBLT reports share teacher materials (in the article, in the appendices, or on supplemental websites), this will continue to stress the important role that materials and mediation have on the learning process and solidify GBLT as a field. Researchers will be encouraged to include and investigate the effect that different materials have on learning outcomes. Teachers will be able to choose (criteria 6) empirically-tested teaching materials for their classes, and also be guided to consider alternate ways of teaching through different types of materials, for example, game text analysis worksheets or gameplay transcription mini-projects.

Practical advice (criteria 12)

Teachers can use reports to give practical advice to other teachers; they can help fellow practitioners. Researchers can publish advice to bridge the gulf between controlled research investigations (often found in GBLL and GBLT) and the often messy environments where actual teaching and learning take place. Practical advice based either on actual teaching or on how research might be translated to broader classroom implementation helps to make GBLT more widely adopted and also more effective. 7 reports (25%) shared practical advice.

Research reports concluded with suggestions that teachers consider using games and that teachers should choose appropriate games. Uberman (1998), for example, suggests that games are "effective" (Summing Up section) for vocabulary learning. Nguyen and Khuat (2003) and Tuan (2012) stressed that the teacher needs to choose appropriate games. Rama et al. (2007) write about the necessity of matching the "objective(s) of each game" (Conclusion and Recommendations section) to the goal, and to consider time, costs, language level and game relevance.

Research reports mentioned the potential difficulty of using games in language education. Rasmussen (2017) admits that "doing this kind of lesson is difficult and I've assumed maybe the most unlikely classroom possible. I don't know how many teachers could perform such a lesson, and that certainly is a big limitation" (Limitations section). Shintaku (2016) reflects that "using an authentic game also poses a technical challenge to the L2 instructor" (p.49). Yip and Kwan (2006) report that one teacher in their project mentioned "'it is easy to use ready-made materials, but to find and integrate them is a headache'" (p.246). Uberman (1998) notes that "not everyone feels comfortable with games" (Summing Up section).

"'it is easy to use ready-made materials, but to find and integrate them is a headache'"

Research reports suggested that teachers act as facilitators or monitors around games. Nguyen and Khuat (2003) suggest that the teacher needs to explain the game and related tasks. Zhou (2016) sees the role of the teacher as motivating and stimulating students through competitive games (p.17-18). Rama et al. (2007) write about the need for the teacher to control but not interfere with gameplay. They also focus on the instructor's role to debrief students, writing "the teacher has to comment on the pupils' performance" (Conclusion and Recommendations section), and emphasized that "this may be a difficult task if there are too many groups in a class" (Conclusion and Recommendations section). Yip and Kwan (2006) write about the teacher being a facilitator and monitor. Bryant (2007) advises teachers to observe students and to play games with students. Reinders and Wattana (2015) write that the teacher should contribut[e] (p.51) and "mak[e] time for learners to prepare for in-game communication (p.52), but this is not explained in detail. Shintaku (2016) stresses that "supplemental materials or activities have to be added to guide the L2 learners to a certain learning target" (p.49). Bregni gives teachers technical advice regarding how to obtain software and set up hardware, and also general pedagogical advice: "one can quickly come across as "flaky" and ill-prepared if one does not have a clearly-defined lesson plan that connects the game to the specific language acquisition goals" (2017, p.56).

Warner, Richardson and Lange (2019) mention many potential benefits of using games, e.g., "one can speak with a large audience" (p.20) but their data showing that "many students seemed reluctant and even resistant to step outside of the comfort of the classroom community" underscores the need for the GBLT field to determine and share the "potential implications for scholars and teachers who are considering integrating gaming into an instructed L2 classroom as a required activity" (p.24). The paper draws attention to the need to explore more and different teacher mediation, such as different forms of encouragement and perhaps reversing positions on things being "not required" (p.19).

For GBLT to develop, research reports should include advice that address the practical criteria that have been articulated in this paper. Advice related to the teacher's role before, during and after games, as well as advice related to material-based mediation must be shared based on hi-resolution accounts of teaching and also on carefully designed research on teaching. Advice will function to bridge the gulf between research and practice and can establish GBLT as a praxis-based field.

Project continuation (criteria 13)

GBLT research themes can continue to be explored in subsequent projects by the same author, or taken up by other authors. Some continued explorations might be shared in academic journals, while other explorations might continue, un-shared, in classrooms. Continued work can be hard to locate, so I looked not only at what authors wrote in their papers, but also what appeared on their CVs, in citations of their research, on author websites, and on social media. I looked for the intent to continue, and whether that intent led to actual continued work. 4 reports (14%) mentioned intentions to continue exploring GBLT.

Reinhardt and Zander (2011) stressed that their project is "ongoing" (p.326); Reinhardt has continued to publish books and papers on games and language teaching and learning. Holden and Sykes (2011) referenced the iterative work of creating their game-classroom system, but the project ultimately "failed" (Holden, Sykes & Thorne, 2017, p.375) and was stopped. Sykes has continued to publish books and papers on games and language teaching and learning. Hitosugi et al. (2014) framed their study as "preliminary" (p.33), and "hop[ed] that the small steps we collectively take will bring about transformational learning experiences for students and all stakeholders involved in education" (p.34), but the authors do not seem to have continued reporting on uses of games in existing curricula. Butler (2015) and Shintaku (2016) seem to have continued their explorations. York (2014) has not continued exploring GBLT via *Minecraft* because his "research direction changed and managing this project on top of [his] life, work and research demands became unfeasible" (https://www.kotobaminers.org/), but he has continued game-based language research and teaching through other games and technologies and contexts (see the "GBLT in alpha" section later in this paper). Rasmussen's (2017) GBLT

explorations are “indefinitely halted” (personal communication) to pursue an advanced degree in another area.

Bregni’s project seems on-going. He writes that he “hope[s] to produce” a textbook (2017, p.59), and he describes a “work-in-progress” to create a L2 class for games connecting the curriculum to the NSFLE principles of Communication, Cultures, Connections, Comparisons and Communities (2017, p.60) by combining “traditional language instruction” (2017, p.61) and noticing/decoding using language through gaming, YouTube videos, game magazines and game creation. Bregni’s course is a rare ongoing work-in-development to integrate digital games with CLT pedagogy.

Warner, Richardson and Lange’s (2019) project seems to be a continuing research agenda for the authors; they have published on the pilot and two prior full semesters (p.13; Reinhardt, Warner & Lange, 2014; Warner, Lange & Richardson, 2016; Warner & Richardson, 2017) that also report struggles with descriptions of mediation and also students’ varied experiences with the gaming unit. This project has the potential to add an important sociocultural dimension to the field of GBLT if the authors can explicitly describe the teacher’s mediation and its clear influence on successful learning.

Research agendas focused on teaching and actual classroom implementation of GBLT need to be constructed and pursued and continued. Teaching practices and research results need to be shared and built upon. Otherwise, GBLT may remain a fetish instead of developing into a field. I will discuss the possible reasons for the lack of project continuation, and some strategies to help researchers and teachers share continued work in Part 2 of this paper.

GBLT may remain a fetish instead of developing into a field.

Learning outcomes (criteria 14)

Games are interactive media, and it can sometimes be easy to assume that because students are doing something in the classroom with games that learning is taking place (deHaan, 2019). Learning needs to be carefully investigated[13] in order to demonstrate that students’ knowledge or abilities have changed because of a game (GBLL) or have changed because of a teacher’s intervention with a game and other activities (GBLT). 16 reports (57%) included learning outcomes.

Publications reported improvements of vocabulary or speaking skills. Vocabulary improvement, often significantly greater in game-based treatments pitted against non-game-based treatments, was reported in the papers of Chou (2014), Janebi Enayat and Haghighatpasand (2019), Franciosi (2017), Hitosugi et al. (2014), Shintaku (2016), Vasileiadou and Makrina (2017), Yip and Kwan (2006), Uberman (1998), Tuan (2012), Miller and Hegelheimer (2006) and Ranalli (2008). Neville, Shelton and McInnis (2009) found non-significant differences in scores on vocabulary retention and transfer. Bregni shares some very initial learning outcomes. Students could quickly learn to “give commands … and express success or disappointment” (2018, n.p.). Students also, on average, showed a 9 percentage point increase on a written test on “previously covered in class through traditional methods and reinforced by the gaming activity” (2017, p.52).

Many of Warner, Richardson and Lange’s (2019) student explorations of text and culture are disappointing, but I applaud the inclusion of these results to focus the GBLT field on addressing these experiences that other students may share. Students were “sceptical of the idea of chatting with relative strangers" (p.20), “did not communicate with players who were not also classmates” (p.19), “did not seem to experience the kinds of language socialization noted in other studies” (p.21), “did not seem to make the connection to the fact that … they were learning about culture” (p.23), “felt disoriented and disengaged” (p.24), “more comfortable” with “academic practices” than gaming (p.24), and “most seemed to prefer the insularity of the classroom” (p.24).

[13] Appendix 2 tallies what learning outcomes were prioritized in the reports and how learning was assessed (i.e., vocabulary tests, speaking tests, 4-skills tests, pragmatics tests, field notes, vocabulary and grammar quizzes, delayed tests, using language in other tasks, and comparison of classes or groups).

Other reported learning outcomes included improved speech acts, multiple skills and project work. Rama et al. (2007) reported that conversation ability scores for the game group increased and scores for their other group decreased. Sykes (2009) reported that her students used more requests in the post-test than in the pre-test. Shirazi, Ahmadi and Mehrdad (2016) reported that their game group performed better on a multiple choice test on the targeted speech acts. Suh, Kim and Kim (2010) reported that children who played a MMORPG achieved higher listening, speaking, reading and writing scores than children in the traditional class group. Nguyen and Khuat (2003) shared that "students got eleven correct answers out of twelve job cards which were passed out" (p.11) and that students "produced quite nice, funny posters with short sentences using vocabulary of tourism and advertising" (p.11).

Only a few papers reported other aspects of language, literacy, learning or life outside the classroom. Holden and Sykes (2011) share that their learners did engage in the L2 in the community, but specific learning outcomes are not described. Other projects had some negative aspects and outcomes of learning. Bryant (2007) hoped his students would "interact with other students in the game … this interaction did not happen as much as [he] would have liked" (Lessons Learned section). Nguyen and Khuat (2003) describe some students being reluctant, uncooperative, and using their L1. Reinhardt and Zander (2011) describe "resistance from some students;" (p.337) some students found it "boring" (p.337) and some students were more focused on a TOEFL test.

Including learning outcomes can work to broaden the scope of what is evaluated in GBLT; vocabulary learning has been studied more than other aspects and this imbalance should be addressed by researchers. Sharing evaluation tools in future reports would also give researchers useful materials to help evaluate the efficacy of GBLT. Learning outcomes may also encourage (or convince) teachers, administrators and other stakeholders to consider, allow or attempt GBLT in actual classrooms.

GBLT is vaporware

> Vaporware: "a product, typically computer hardware or software, that is announced to the general public but is never actually manufactured nor officially cancelled." ("Vaporware," n.d.)

Am I claiming that there aren't any good language teaching **games**? Nope. There are lots of commercial and free-to-play PC games, tabletop games, smartphone apps, and classroom games for language learning. Am I claiming that there aren't any good **ways** (i.e., pedagogical frameworks) to teach language with games? Nope. Again, I think researchers have all the tools that we need. We have the PPP framework, the TBLT framework, the little-known EEE framework[14], the pedagogy of multiliteracies, and many more if researchers look at the learning sciences and other educational approaches and tools. There isn't one way to teach language, or to implement GBLT. The reports (see the pedagogical criteria 6-10) included a variety of behaviorist, cognitivist and constructivist approaches and implementations. What I think is vaporware is **the research field**. Researchers (myself included) have announced and hyped the idea of game-based language teaching, but we have not delivered **reports** of carefully considered, described and sustainable implementations of language teaching with games in real classrooms.

To be continued

My exploration and discussion of GBLT as vaporware continues in Part 2 of this paper. In the next paper, I will discuss GBLT in the context of educational technology "hype cycles," and I will suggest that GBLT needs to run classroom playtests of theory-based practice (praxis) as soon as possible. I suggest that vaporware is a problem for both novice and expert teachers. I will suggest numerous reasons why GBLT has been vaporware for so long, including some of the contextual constraints on researching and publishing teaching reports. I will suggest several practical ways that researchers and teachers can collaborate to make GBLT a healthy and dynamic field. I suggest several ideological and

[14] Please, please, please look at "Technology — 'Just' Playing Games? A Look at the Use of Digital Games for Language Learning" and "Using A Game-Design Enhanced Approach to TBLT: The Example of The Social Deception Tabletop Game 'Coup.'"

practical questions to wrestle with, offer a few ideas as to what normalized GBLT might look like, and a model to help teachers consider how games fit into their teaching context. I will argue that GBLT needs people with many different roles to play well together. I will be blunt in stating that even though I can see a few ways forward for the field, GBLT is very much in danger of needing to be shut down.

This paper is interactive!

Dear reader, I have a little "game" for you. Recently I started the "Ludic Language Pedagogy" journal with James York. We each published a GBLT paper in the launch. I "challenge" you to read these reports and determine, for yourself, if and how these papers feature the 14 criteria. (Are you stuck and need a hint?[15]) Submit your answer using the form here to https://twitter.com/llpjournal. Be sure to indicate what type of prize will motivate you the most!

Contest Entry Form
Name of the paper: _____
Is the paper vaporware? Yes ☐ No ☐ Criteria not featured: _____
Comments: _____
Prize desired: Continued discussion ☐ Badge/leaderboard/achievement/point[16] ☐

If your motivation regarding this interactive, artificial, rule-based system with a measurable outcome persists, I encourage you to submit entries on other and future GBLT and LLP publications! You can only "win" if you "play."

Declaration of conflicting interests | Acknowledgements | References

Please refer to the end of Paper Two.

Appendix 1: Types of Games in GBLT Reports

This data can be seen in this Spreadsheet.

Appendix 2: How learning was assessed in GBLT Reports

This data can be seen in this Spreadsheet. Students' opinions or self-evaluations are not included.

[15] . . . / . . . . / . . . . . .

[16] DML2014: Ignite Talk - Scott Nicholson: https://www.youtube.com/watch?v=VmgXjuWculk