Game loops, Game design loops, Game Terakoya loops and Ludic Language Pedagogy loops

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📍 Item Details

🔑 Key points

- **What is this?** An exploration of well-designed games, game design "best practices," solid steps in my Game Terakoya teaching, and straightforward questions for other teachers using games. I'll loop back again and again ;) in this paper to the central concept of "loops:" sequences or systems that repeat and vary to different educational or entertaining effects.
- **Why did you make it?** I read and think a lot about games and game design. I also spend a lot of time designing and improving my teaching. I noticed the connections and wanted to create something that would help other teachers think about the loops in their teaching as well.
- **Who is it for?** It's for experienced teachers: you've been teaching for "forever" … step back a bit from your work and think about whether your teaching is overly complex and not "loopy" enough. Let's all aim for some elegant ludic language pedagogy!

Tweet synopsis

"Thinking about design is hard, but not thinking about it can be disastrous" - Ralph Caplan
🤔👏🤔 💪🤝💪 📈
The LLP Discord Crew can help you navigate your thinking, your designs, your attempts, your analyses and redesigns. 😀

View at the LLP Playground:

http://www.llpjournal.org/2022/01/17/dehaan-game-loops-design-loops-and-llp-loops.html

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Hi! This paper is a bit weird. I don't want you to get sick on this loopy ride. Here's what's ahead.

This paper is full of reflections and connections. It gets messy. It's not clear and straightforward. If you're reading this, I don't think you should just blast through and read the whole thing in one shot. Flip around. Skip bits. Read a sentence and then stop reading. Let it percolate. Go back to another section. See if it connects to something you've been thinking about in your teaching, research or design. I'm super happy to chat on Discord or Twitter or in email if you find something that connects to you.

I hope that you will encounter and find something in the following main points in this paper:
- Many games have "loops:" patterns of play that repeat and are really enjoyable when designed "right."
- Games are designed in loops, too: Designers prototype an idea, test it with players, refine it and re-test numerous times until the game is doing what they want it to do.
- Teaching and learning happens in loops sometimes: Teachers have an idea for an activity, lesson, workshop, unit, project or curriculum, and design, develop and test it by themselves, with a few students, with a whole class or a whole school. This process of designing, implementing, analyzing and redesigning and so on is sometimes called "action research" or "design based research." There are specific curriculums that are very loopy (the "spiral curriculum" for example). Repetition (playing a game again, repeating an activity again and again) is a very good thing for effective learning.
- My teaching method (The Pedagogy of Multiliteracies) is very loop based. We play games, discuss games, analyze games and society, and create game-related projects as many times as possible in a curriculum in order to build up students' knowledge and skills effectively.
- My teaching design process has gone through many iterations and loops -- from one student, to a class, to a research seminar, and into other classes.

I'll close each section with some questions to help you reflect on your teaching, research and design.

LLP's Open Peer Reviewers shared that they thought that this paper is geared much more towards experienced teachers than novice teachers. Have you been teaching for 20 years, and had a chance to think about how you have honed your practice and your research agenda? I wonder how my reflections line up with yours. Have you taken a different approach to trying and refining ideas in your teaching?

But a few Reviewers thought that this paper could work for novice teachers, too. Have you just started teaching with games and are completely lost? Well, there's a whole mountain range of ideas and possibilities and dangers in this paper and in your career. Want a TL;DR, "novice" teacher? ① **"Keep it super simple:"** Once you have an idea, try the most basic implementation you can, then see how it goes and make little changes and then test it again. Congratulations! You're now a designer, researcher and teacher! ② **Hang out on the LLP Discord** and tell us about what you are doing. We'll support you, ask you questions, show you materials we have tried and do our best to support you with what you are doing. We'll ride the loopy LLP life-ride with you. :)

1. The Game Terakoya Project

I have been designing, teaching and researching my use of games in language and literacy education for about 5 years in my "Game Terakoya" project. The Game Terakoya is conducted in a variety of teaching and learning spaces (seminar, classes, workshops, Slack communication) for exploring identities and roles related to language, education, games and society. We purposefully play, discuss, analyze and apply games; the project is based on the "pedagogy of multiliteracies" (New London Group, 1996) and its "learning by design" (Cope & Kalantzis, 2000) reframing. We ask and answer questions. We remember, understand, apply, analyze, evaluate and create. We plan and reflect on work. We learn from others. The goals of the project are to help students build strengths, pursue happiness, participate in personal, public, academic and professional areas of society, and transform ourselves and society.

In the 2020 winter break before my Game Terakoya seminar started with new students, I spent about three months revising my materials, methods and mediation (York & deHaan, 2021). I found myself thinking about the **loops** in my Game Terakoya implementations (see Figures 1 and 2). This paper will

unpack loops, first in games, then in the Game Terakoya project, and then I will share some suggestions for other Ludic Language Pedagogy loop-related project design and development. The Pedagogy of Multiliteracies uses stages of Experiencing, Conceptualizing, Analyzing and Applying in loops of known and new material. The Game Terakoya is based on this sequence and bookends the sequence (in as many loops as I have time for with students) with extensive reflections and planning.
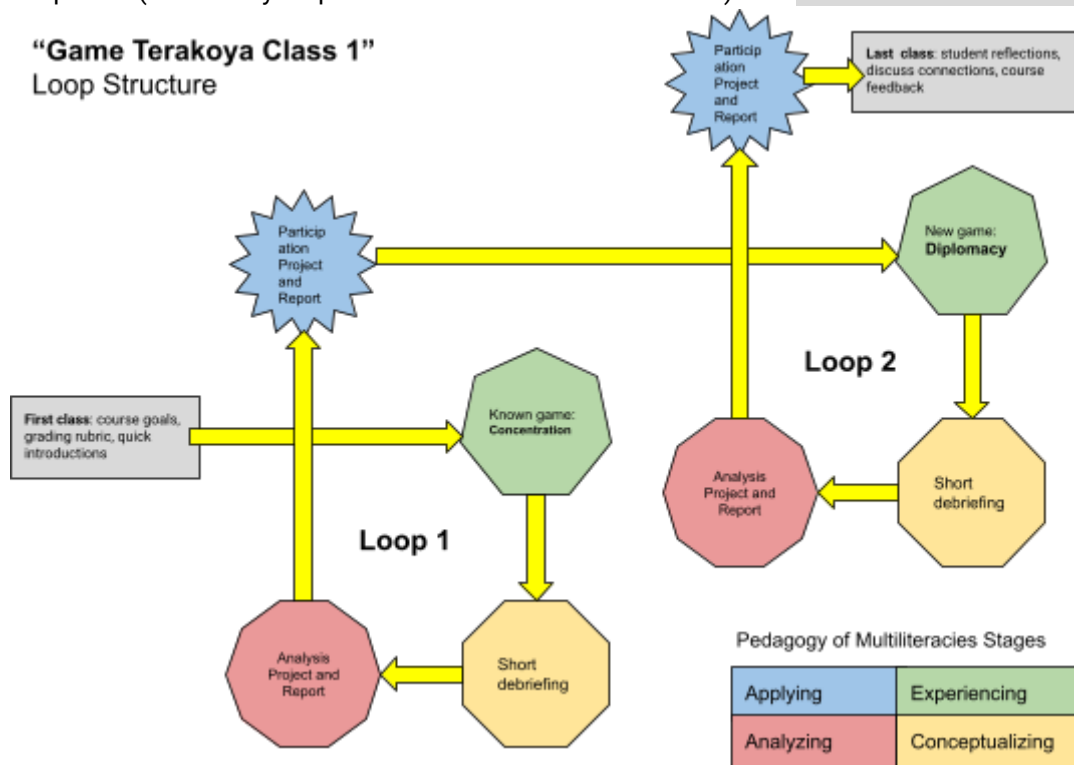

Figure 1: My first Game Terakoya class included two loops of the Pedagogy of Multiliteracies
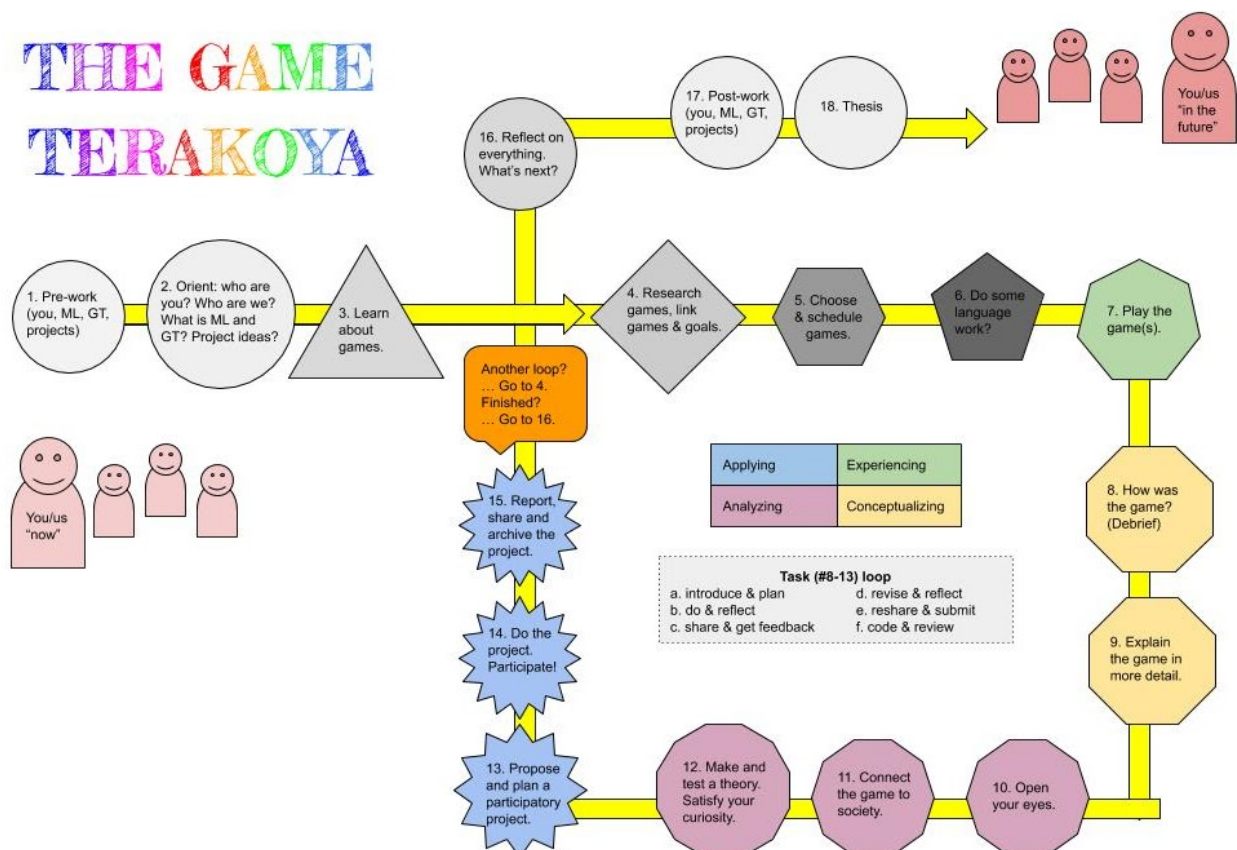

Figure 2: My two-year Game Terakoya seminar is one big loop, but some students repeat parts of it several times.

2. Games, core loops, and variance

Many games have "core loops:" patterns of play that repeat. Some people equate a game's loop to "mechanics" or "verbs" or "actions." If a player likes the main mechanics of a game, and the repeated loop of those actions, the player will be motivated to keep doing the core loop and will play more and more of the game. Designers often add variance to the loops to create novelty. This variance also imposes challenges for the player to react to and modify their behavior for, thus enabling the player to learn more about the game system and to develop more mastery in the game. See Table 1.

Table 1: Examples of core loops and variance in different games

Game	Core Loop actions	Variance[1]
Baseball	the pitcher pitches the ball, the hitter tries to hit the ball and the catcher throws the ball back to the pitcher … *and repeat*	different pitches, base running
Minecraft	exploring the map, mining for blocks, crafting using resources, and building up a base and tools … *and repeat*	mobs, hunger, XP, farming, breeding animals
Monopoly	rolling dice, moving one's token, and buying a property or paying money to the owner of a property … *and repeat*	"Chance" cards, adding houses or hotels, set collection
20 Questions	one person asking a question and another answering "yes" or "no" … *and repeat*	categorical constraints or information (e.g., "animal, plant or mineral")

I think not only gamers and game designers like loops, but students and teachers do as well. We like repetition and familiarity and growing competence and seeing things develop through the loops. There are many loops in education: the spiral curriculum[2], the experiential learning cycle, action research, the repeated sequence of activities in textbook chapters, and on and on and on.

⏸️ A map of the road ahead

In sections 3-6 of this paper, I will explore core game loops, variance, game design loops, teaching and researching loops, and loop-related player experiences. In each of these sections, I will first summarize some game design practices . Then, I will describe how the Game Terakoya project does (or does not) reflect game design "best practices" in its loops, design and learner experiences. Then, I will share some thoughts and future work I have in mind about the Game Terakoya project. Finally, in each section, I will pose some Ludic Language Pedagogy questions (D.M. Jones' writing style is rubbing off on me! (see Jones, 2020a; 2020b)) to help other Ludic Language Pedagogues reflect on loops and design in their methods, materials and mediation.

To help you skim to the parts you might be most interested in, I will use some symbols[3] and I will keep them in the footnotes to remind you as you explore and loop around the paper:

GT = how the Game Terakoya project reflects "best practices"

🤔 = thoughts about and future work I have in mind for the Game Terakoya project

LLP = questions for Ludic Language Pedagogues.

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[1] Comment from DM Jones: I feel like there is maybe loop-specific variance and then a broader context of variance for each loop (e.g., first batter vs. final at-batt). The loops in the second consideration appear similar in terms of a narrow focus but can be very different in the fuller context. I am not sure why I felt I wanted to type this, but as this is discussing loop variance and difference, I thought of it. (October 7, 2021, 13:30). **Me:** I'm still thinking about this.

[2] A curriculum that returns to a concept regularly with increasing depth and more and more reliance on students' knowing and skills. https://helpfulprofessor.com/spiral-curriculum/

[3] GT = how the Game Terakoya project reflects "best practices" 🤔 = thoughts about and future work I have in mind for the Game Terakoya project LLP = questions for Ludic Language Pedagogues.

3. Core game loops, Game Terakoya core loops, Game Terakoya core loop thoughts, questions to prompt Ludic Language Pedagogy core loop reflection

Core game loops are simple, easily understood and simply done (see Appendix). Core game loops focus on the moment to moment of gameplay. Core game loops are repeated. They are not just one system; different player actions need to be repeated. Core game loops are foundational. They are the heart of a game. They are essential. Core game loops consist of basic actions; everything else in a game is built on top of a core game loop. Core game loops are connected to bigger goals and also to other variation loops. Players and designers can refer to the core loop when they talk about the game to other people. If a game has a solid core loop, players will be challenged, motivated, gain skill immediately and repeatedly, and be satisfied. If a game has a solid core loop, players will keep coming back, will pick up the game again, and will invest more time in it and develop even more mastery.

GT[4] The Game Terakoya uses the "Pedagogy of Multiliteracies" (New London Group, 1996) and "learning by design" (Cope and Kalantzis, 2000) reframing. This pedagogy is explicit about the <u>what</u>, <u>why</u> and <u>how</u> of language and literacy teaching and learning, and I have also written about my reframing and application of the pedagogy in my own context (deHaan, 2019; deHaan, 2020a).

Briefly: the <u>how</u> of the teaching and learning combines both traditional and progressive activities:
- Stage 1: *Experiencing*: doing something (e.g., reading a book, playing a game, taking a walk)
- Stage 2: *Conceptualizing*: discussing what the group has done; language helps to make particular aspects of the experience understandable/important
- Stage 3: *Analyzing*: connecting their experiences and understandings to society (e.g., ideology)
- Stage 4: *Applying*: students use their experiences, concepts and analysis to create something (a new text, game, experience, etc) for themselves or others

The Game Terakoya's steps (again: based on the pedagogy of multiliteracies) in its core loop are:
- we choose a game,   - then *play*, *discuss* and *analyze* it,
- then students *participate* using their knowledge and skills   - and then reflect.

In Figure 3, you can see the Pedagogy of Multiliteracies stages of <mark style="background-color:#a8d08d">Experiencing</mark>, <mark style="background-color:#ffe599">Conceptualizing</mark>, <mark style="background-color:#e6a8a8">Analyzing</mark> and <mark style="background-color:#9fc5e8">Applying</mark> and the Game Terakoya loops of activities that use these stages with games.
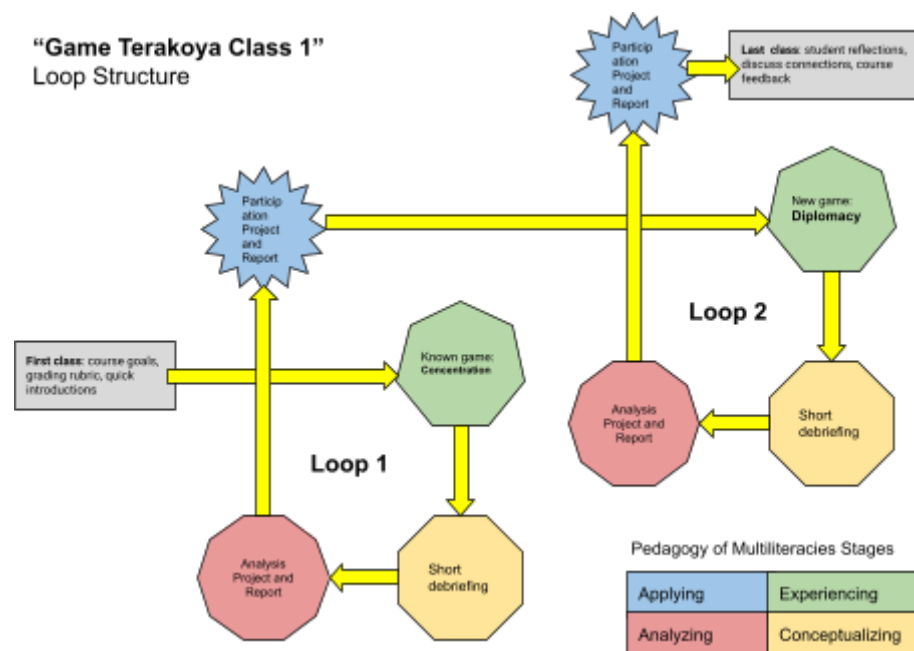

Figure 3: How the Game Terakoya stages align to the Pedagogy of Multiliteracies stages

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These actions are simple, though perhaps deceptively simple, since each action has sub-systems in the questions on each action's worksheet. Each action is done on its own. I observe students sinking into playing, discussing, doing research, participating and reflecting.

The core loop of choosing, playing, discussing, analyzing, participating and reflecting is **purposefully repeated**. Students do not do one task only once.

The heart of the Game Terakoya project is the actions connected to personal, academic and social lifeworlds. From these core actions, everything can be built up or out or down. These are essential for the Game Terakoya project, and for students and society. These core actions and the core loop are directly related to personal, public and professional goals; experience connects to articulation of ideas and to learning more about society and to participating in society. These core actions are also directly related to other tasks in the project such as digging into language, practicing metacognitive work and improving through iterations on taskwork.

I have found that talking about the Game Terakoya's core loop ("we choose games, play and discuss and analyze them, and then use all that to participate in society") helps me quickly explain what I am doing to students, other teachers and university administrators, and I have heard and read my students referring to their work in the same terms. The core loop is being used effectively in communication about the Game Terakoya.

Game Terakoya students seem interested and invested in the work. They are motivated and learn from the activities in the loop.

Ms. "M" (in deHaan, 2019) invested a few hours a week extracurricularly for a year in the project. She spent weeks reading and analyzing the rules of the game, watching and analyzing YouTube videos of actual plays or reviews of the game and brainstorming language that could be used during the game. In order to learn how to write an effective review of a game for an online forum, she found and read 35 online review texts and analyzed them in terms of content, purpose, register and style, organization, author identity and lifestyle, and creative techniques. Her efforts (deepened by the deliberate time and effort in the core loop of the sequence) resulted in deep analytical and participatory work.

Students also (deHaan, 2020) have said that they have "become enthusiastic about it" and "it was so much fun. I'd like to study further" and "I learned how to manage time and how important it is in [the first game] so it was easier to do our tasks in second time" and "this class is serious compared to other class but I enjoyed taking this class, because it was a challenging work" and "the class is meaningful" and "if we think deeply we can see something more deeply." As a teacher, I'm also motivated to see students recognizing how their efforts build stage by stage in the loop and lead to increased investment over the course of the entire course or workshop.

Ishikawa (2020) reflected that "assignments helped me to realize my participation project. In the assignments, I discussed which kind of games are good for my event with seminar students, read some articles to understand what a charity is and which kind of game charity events there are in the world, and made a proposal of my event" and "Through all assignments, the Game Terakoya seminar gives students some opportunities to think and know about themselves. I changed to be more active and feel an interest to collaborate with someone and to do something contributing to society. I think all activities (they are connected with each other) influenced my future job. I will continue to work for local society. The theme that I have in the seminar, "contributing to local society" will be my future theme, too." As a teacher, it's incredibly rewarding to see students working steadily through each task and loop that culminates in a huge project that applies everything that they have done before.

🤔 [5] The core loop was adopted from the pedagogy of multiliteracies. I wonder if there are other core loops that might be more elegant or effective in accomplishing our goals; a spiral curriculum or the experiential learning cycle literature might help me.

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[5] GT = how the Game Terakoya project reflects "best practices" 🤔 = thoughts about and future work I have in mind for the Game Terakoya project LLP = questions for Ludic Language Pedagogues.

🤔 I remind my students (often) how each step in the core loops connects to their final project; I should ask them if this is taking focus off the moment to moment.

🤔 Should my students go through the loop more times, fewer times, more quickly, or more slowly? My workshops, semester classes and thesis seminars range from 90 minutes to 2 years, so experimenting with different repetitions and lengths of loops is a **research project** I am beginning to frame.

🤔 What would looping more known games, or looping more new games do for students? What would be gained and what would be lost? I wonder what would happen if students only explored and gained competency with (more and varied) new games -- would not exploring known games help them deal with some useful adversity?

🤔 I am curious to find out if some of the variation loops (e.g., language) should/could be a core loop for certain contexts; see York's (2019) walkthrough of a TBLT curriculum focused on specific language skills.

🤔 I am considering adding a **third core loop** of removing the scaffolding materials and "just" asking students to engage with the core actions: "play," "discuss," "analyze," "participate" and "reflect" to see if the students can move from other and tool mediation to self mediation (see deHaan, 2019).

🤔 I am also considering whether I should continue to let students' focuses in their core actions evolve organically (so far so good: deHaan, 2019; 2020), or require tasks that might be more difficult and more academically or civically beneficial for them (e.g., "look at the language in the rulebook," or "let's all teach some games at the community center"). I will zoom in and look at my mediation of how students move from action to action in the core loop.

🤔 Most students engage with and learn a lot from the Game Terakoya activities, but there have been a few instances of students not engaging or learning.[6] A group (in deHaan, 2020) did not function well and their analysis and participation work suffered. I need to continue to think about how to structure and facilitate students who are not adept at project management or perhaps expected something different[7] from the Game Terakoya class.

LLP[8]: Ludic Language Pedagogues might ask these questions about the core loop of their teaching:
1. What is the simplest version of your LLP? Do your students seem to immediately understand your LLP core loop? Can your students (somewhat) easily complete your LLP core loop?
2. Does your LLP focus on the moment in each of its actions? Is your LLP slow enough to let students focus on each moment? Is your LLP "vaporwave" or "nightcore" (York, 2020), in the sense of how s l o w or *rushed!* you guide students through your lessons?
3. **Does your LLP core loop repeat?** Are there different tasks that loop? Do you give students a chance to enjoy the loop and grow through each of the subsequent loops? Is your LLP a one-time sprint? And if so, to what end? What would you gain or lose by repeating your LLP core loop?
4. How foundational is your loop core and its actions? Can the actions be broken down? How essential are your activities and the loop? Does everything else in your LLP build off your core loop? Is your core loop the heart of your class, workshop, semester or curriculum?
5. Do all the elements of your LLP core loop connect to your goals, and to other tasks?

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[6] Comment from DM Jones: Did you ask them why? I am not saying that will get to the hear[t] of the issues, but finding the root cause will perhaps suggest the necessary action. (October 7, 2021, 14:23). **My reply**: This was super rare. I didn't want to wreck what little progress they did make by accusing them of something beyond their control. I speculated in the 2020 paper that the issue might be related to group size, but I'm honestly not sure. I need to find a much better way of researching "failures" in the GT sequence, since I'm designing so many scaffolds to prevent it. Thank you for reminding me to put more pomodoros into this topic!

[7] Comment from DM Jones: A really interesting thread to tug at here. (October 7, 2021, 17:03). **My reply**: Agreed! I have now required that students watch a lecture I put on YouTube for homework the first week of class to make sure that they have a clearer idea about what they are getting themselves into, and if they want to hit eject. ;)

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6. Do you need your students to engage more and learn more in your LLP? You may want to continue re-evaluating the core loop (perhaps simplifying it) and focusing on how students enter and engage with the core actions.
7. Do your students immediately understand what your LLP is? Are they interested? Do you spend a lot of time explaining things?

> Is your LLP a one-time sprint? And if so, to what end?
> What would you gain or lose by repeating your LLP core loop?

3. Variance in game loops, Game Terakoya variance in loops, Game Terakoya variance in loops thoughts, questions to prompt Ludic Language Pedagogy variance in loops reflection

Variance in game loops can add difficulty to games, but can also add more engagement and enjoyment and mastery to games (see Appendix). Variance allows games to have different goals and different tasks and actions. Variance needs to be added carefully to avoid creating a "Frankenstein's monster" or a "kitchen sink" game rather than additional elegant variations to a game. There can be many more things in a game, but they should not impact the core game loop.

GT[9] Four variances in the Game Terakoya loop are shown in Tables 2-5). #2 focuses more on the language of games, texts and communities, #3 focuses more on metacognition (planning, monitoring and assessing one's own work) and both are varyingly done with each game or task. #4 asks students to get help from peers to improve their work and create the best version of their work and self and is done with the post work after each task, and repeats post task. #5 focuses on agency, and is done before and after longer GT classes and seminars (written about in deHaan, 2020b). These variance loops can sometimes add difficulty, especially if students are not familiar with these activities, such as the group in GTc1 that did not know how to do a linguistic analysis (deHaan, 2020a). These variance loops do often add engagement, enjoyment, and mastery. Ms. "M" in deHaan (2019) learned about the magic circle, sarcasm and facetiousness, and was able to understand, appropriate and apply numerous language/literacy tools in her review because of the language variance loop. Ininsu in deHaan (2020a) was incredibly engaged in her user demographic work. The language variance loop leads students to learn more language since they can experience the media and the game then go back and analyze their experiences and the texts in better detail (York, 2019; deHaan, 2019). The Game Terakoya's core loop focuses (somewhat broadly) on personal, academic and participatory goals, and the variant loops focus more specifically and explicitly on **linguistic, metacognitive, personal and agentive development that engagement in the core loop may not afford**. These variance loops are added mindfully based on instructional constraints and conveniences; I include more of these loops in semester-long courses than in short workshops, and I include more again in the two-year seminar than in courses. These additional loops allow students to complete tasks more deeply (especially with the iterative task loop) and to engage with different tasks to different extents (for example, students can notice different linguistic elements through repeated linguistic analysis). These additional **variant loops do add time and materials** to the Game Terakoya; the "Journey" workbook

Table 2: language

Pre	Watch/read texts (YouTube videos, forum posts, SNS media)
	Read the rules
	Brainstorm useful language
Play and record the game	
Post	Transcribe gameplay
	Analyze game rules
	Analyze texts (YouTube videos, forum posts, SNS media)

Table 3: metacognition

Pre	Task introduction (rationale, GT keywords)
	Examination of prior students' tasks (archived), give additional instructions and advice
	Students plan their role in the tasks, what strengths they will use, and how they will attempt the task
Do a task (e.g., discussion, analysis, participation project	
Post	Students reflect on their role in the tasks, what strengths they used, and how it connects to future

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Google Document for the two-year seminar is more than a hundred pages long.

🤔 I am wondering if the variant loops add unnecessary difficulty to the Game Terakoya classes and seminar, or if these extra loops are necessary and perhaps need to be scaffolded better and mediated in a different way (this could be a research project that provides useful mediation guidance to other teachers). I also wonder if the Game Terakoya project should remain as simple as possible by only focusing on the core loop. Should the teaching and learning **embrace the "vagueness"** of the participatory goals and simple pedagogy of multiliteracies actions, and should it be on me as the teacher to closely mediate when necessary? Should I develop the Game Terakoya sequence more through these variant loops to be more specific and to **be more designed for certain experiences and goals?** Agency is a core goal of the Game Terakoya project and I do not want specificity in the variant loops to impact students' liberation and transformation. Though, perhaps more specificity could develop students in specific ways; I should discuss this with students and perhaps develop this into a long-term research project. I also need to determine if variant loops are "impacting" the core loop in any way.[10] The "complete" Game Terakoya sequence in the two-year seminar version is lengthy and might be difficult to conceptualize or understand for a teacher or student. However, the sequence is never "revealed" to students all at once. I refer to the general steps we will go through (using Figure 1 or 2), and only require one task or sub-section of one task to be worked on at a time. **Students accomplish a lot by completing variance loops in addition to the core loop**, and are able to trace their learning through the work, but I should make a point of asking students to reflect on (in end of semester reflections, and end of seminar thesis work) and suggest improvements in terms of materials presentation and workload. The "full" Game Terakoya experience is a bit of a "kitchen sink" approach, but since all these core and variant activities connect to each other and to goals, is the "full" Game Terakoya **more than the sum of its parts?** Is there lightning in the Game Terakoya's "kitchen sink" somewhere that I need to find, bottle, understand and share with other teachers? What does the deliberate and extensive teaching and learning contribute to my and other teachers' understanding of "good teaching?"

tasks and their lives
Students code their work according to GT keywords

Table 4: iteration

Attempt a task
Present work
Get and record feedback
Improve work based on feedback
Present work
Get and record feedback
Repeat? (until the learners and the teacher are satisfied)

Table 5: Who and transformative actions

Pre	Reflect and share: Who are you? Who do you want to become?
	Act and play to improve yourself, with others (choose, play, discuss, analyze and participate using games, and reflect)
Post	Reflect and share: Who are you now? Who have you become?
	Repeat? (until the learners and the teacher are satisfied)

> Is there lightning in the Game Terakoya's "kitchen sink" somewhere that I need to find, bottle, understand and share with other teachers?

LLP[11]: Ludic Language Pedagogues might ask these questions about the variant loops of their teaching:

8. Have you figured out your core LLP loop and goals? If so, what additional tasks and goals connect to your core loop? What would you like your students to additionally, optionally, do in your LLP?
9. Will your students enjoy and master your core LLP more because of these variants? Or will they distract students or be too difficult for students?
10. What do you need to do to implement these variant loops successfully? What **methods, materials and mediation work** do you need to plan for?

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[10] The "vaporwave" (York, 2020), "slow and simple is best" approach, might turn out to be the answer all along.

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4. Game design loops, Design-Teach-Research-Revise loops, Game Terakoya game design loops, Game Terakoya game design loops thoughts, questions to prompt Ludic Language Pedagogy design loops reflection

Game design is done in **loops**, too (See Appendix). Game designers get an idea, create a simple prototype, try it (playtest it), evaluate it and refine it and try and evaluate it again and again until the game is produced and finished. Schreiber and Romero connect this cyclical process to the scientific method, and argue that "anything you can do that lets you iterate faster will usually lead to a better game in the end" and "in general, the more times you iterate, the better your final game will be." They also urge game designers to "rapid prototype" ideas as quickly, cheaply and simply as possible. Schreiber and Romero also discuss the idea of "risk" in game design, since time/teams are expensive, and state that "the greater the design risk, the more iteration is needed." Additionally, a designer's understanding of the core loop helps to keep design work focused on core loop experiences and also to keep playtest data and continued revisions goal oriented.

Pedagogical design happens in loops sometimes, too. A teacher might get an idea for an activity, lesson, workshop, unit, project or curriculum, and design, develop and test it by themselves, with a few students, with a whole class or a whole school. The teacher will reflect on what worked well and what didn't go well, make changes to their materials and mediation, and then revise and continue to test their pedagogy with other students. The same process that goes into game design also makes teaching and learning more effective as well. Some teachers approach researching instruction in the same fashion. Instead of designing an experiment or interviewing students about their learning, a teacher-researcher might track their design work and the effect on students loop after loop to see how each iteration affects learning. This process of designing, implementing, analyzing and redesigning and so on is sometimes called "action research" or "design based research." There are many different ways of conducting research in these domains (i.e., the variance in the loops); some focus more on problem-solving, others on students' perceptions and actions, some are more interested in transforming organizations, some build in different ways of collaborating, some rely more on theory, some think about the context in more detail. If you want to make changes in your teaching and in your context, action research or design based research is an excellent foundation for a long career of doing a lot of good where you are. You'll help others take similar actions, too.

GT[12] The Game Terakoya project has been developed in loops as well. I **got the idea for the project from reading** the "pedagogy of multiliteracies" (New London Group, 1996) and its "learning by design" (Cope & Kalantzis, 2000) reframing, made some materials and a sequence of activities and playtested it with one student and evaluated it (deHaan, 2019), then refined it and have been trying and testing and **evaluating it again and again** (deHaan, 2020a; 2020b; 2020c). Now that I have my core loop for the project, I am continuing to use loops to design, develop, test and refine the project (see Table 6). I **require students to give me feedback** at the end of Game Terakoya classes and seminar work (materials). The Game Terakoya project is not a one-shot project.

Table 6: GT design loop

pre	Reading academic books and articles
	Making refinements to the Game Terakoya based on my reading
	Developing materials and mediation tools
Testing - teaching and learning using the Game Terakoya project in seminars, classes and	

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[12] GT = how the Game Terakoya project reflects "best practices" 🤔 = thoughts about and future work I have in mind for the Game Terakoya project LLP = questions for Ludic Language Pedagogues.

To date, I have tried and revised it across in 3 seminars, 2 classes and 7 workshops.

🤔 In my iterative design and playtesting, I keep going back to the pedagogy of multiliteracies/learning by design core loop to make sure I am not letting the project balloon out of control. Continuing to go back to the source and core loop of the pedagogy has continued to keep me focused and grounded, I believe.

🤔 Looking back on a dozen playtests now, I can recognize that The Game Terakoya project, one the one hand, started very simply: one student and some materials. But, on the other hand, those materials were lengthy in order to research learning processes and outcomes. Successful, but not the simplest version I could have tested. I wonder if the Game Terakoya project could be made radically better by "rebooting" the project with much simpler materials, fewer activities, and a shorter time frame. Would rebooting and prototyping and iterating on something radically simpler make the Game Terakoya project remarkably more successful in the long-term?

🤔 I also wonder what the "best version" or "end game" of the Game Terakoya project is. On one hand, I need to react in each iteration to who my students are, and I continue to learn new teaching techniques, which changes the core and variant loops and mediation in the project; in a way it's impossible for the project to remain "static." However, games and textbooks and media do have "finished" versions and it would be nice to have a "finished" / "distributable" version of the Game Terakoya project (unless the "living/evolving" pages of Google Documents are what the Game Terakoya project should be). Should I be trying to iterate and test more quickly than I am already doing? I have a seminar, a class, and a workshop or two each year. I take the summer and winter vacations to refine my methodology, materials and mediation, and make changes mid-seminar/class if necessary. Are 3 "playtests" a year really enough to "make it" to the best version of my teaching?

workshops. - I take notes.		
post	Students share their reflections of the Game Terakoya	
	I use their feedback to note areas for improvement	
	I use my notes to set up reading and design work that needs to happen before the next playtest	

LLP[13]: Ludic Language Pedagogues might ask these questions about the design loops of their teaching:

11. Do you intend to continue to explore games in your language and literacy teaching? If you are in this game for the long haul, you might want to slow things down, make sure you have started with a simple prototype that you can playtest again and again in order to refine your work and ultimately have better "finished" teaching and learning experiences (see Jones, 2019). Keep things super simple when you start so that you don't burn out. Share your playtests in the LLP Slack channel if you want feedback from other teachers.
12. How detailed is your prototype? Your prototype doesn't have to be extensive. A one-page napkin sketch and a few willing students might be all that you need to see some great directions for your LLP.
13. How risky is it for you to try some LLP in your context? Try to evaluate how much risk you have in your context. Do you have a lot of freedom, or will administrators and budgets and long-term goals impact what you want to do? If you have a lot of risk, start smaller and iterate more.
14. What are you focused on in your playtests? When you playtest your LLP, be sure to focus on the elements of your core loop. Make sure those are working in your playtests. Don't get caught up in your variant elements and don't get distracted from a solid core LLP.

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[13] GT = how the Game Terakoya project reflects "best practices" 🤔 = thoughts about and future work I have in mind for the Game Terakoya project LLP = questions for Ludic Language Pedagogues.

15. How are you collecting feedback? If you adopt an iterative design approach (not a one-shot!), consider building in students' evaluation of their own work and their connection of the learning in the LLP.[14] If they share their learning and then give you feedback, this will create a teaching and learning engine that can show you and students what they have learned, and give you data to write and present on your LLP. Work smarter, not harder. Let the group on the LLP Discord know if you need help building your engine or tools.

> The Game Terakoya project is not a one-shot project.
> To date, I have tried it and revised it across in 3 seminars, 2 classes and 7 workshops.

5. What can loops "do" at different levels of design, teaching and research?

We (teachers/designers) need to think about the micro-level loops -- the actions that students take and the materials that students use need to be simple, work well, and feel good to use. We can build in slight variances to keep things fresh and keep students learning.

But we need to cultivate our knowledge and literacy of games and language and pedagogy in order to find and iterate on what other teachers/designers have done before us. We must "stand on the shoulders of giants" and remix things for our students.

And we should take a macro-level approach to design -- start as simple as possible, test and refine materials and mediation as much as possible, and share our efforts with others in order to reflect and to get feedback. We'll keep developing through our efforts to create better loops for our students.

6. Do you need a playtest group?

I've played around with the concept of game loops in this paper, in order to help me reflect on what I have done and what I want to continue to improve in my Game Terakoya LLP project. Are you working on some LLP as well? I'd be happy to help you design, develop, playtest or publish your ideas as well. Shall we form an LLP playtesting group? You can find me on Twitter, the Ludic Language Pedagogy journal, the LLP Discord or reach out via email. I'd love to connect and iterate on some LLP loops together.

Acknowledgements

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[14] Comment from DM Jones: This seems like a super important point. They are 'in' the loop and can be a great source of feedback. (October 7, 2021, 14:51).

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Appendix

Game design guidance
- https://gamedesignconcepts.wordpress.com/2009/07/02/level-2-game-design-iteration-and-rapid-prototyping
- http://www.gamesdesignandplay.com/

Game loop articles
- https://gameanalytics.com/blog/how-to-perfect-your-games-core-loop.html
- https://www.gamasutra.com/blogs/JoshBycer/20190425/341208/Why_the_Core_Gameplay_Loop_is_Critical_For_Game_Design.php
- https://www.gamedeveloper.com/business/why-the-core-gameplay-loop-is-critical-for-game-design
- https://www.gamasutra.com/blogs/JoshBycer/20200306/359140/The_Importance_of_a_Well_Defined_Core_Gameplay_Loop.php
- https://risinghighacademy.com/what-is-a-core-loop-in-a-mobile-game/
- http://jerrymomoda.com/the-core-loop-key-to-an-engaging-game/