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THE MISSTERY OF MISS SMART

INSTRUCTIONAL GAME CONCEPT DOCUMENT

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Instructional Context and Pedagogical Foundations

Teachers' workloads continue to increase to unmanageable levels as budget cuts across the country hit public education. It has become next to impossible for many teachers to maintain a healthy work-life balance, while still priding themselves on the work that they do in the classroom. Increasing stress levels, resignations and reductions in teacher enrollment programs are a direct result of decreasing time for planning instruction, administrative tasks that are not in the classroom purview, providing timely feedback to students, communicating with parents daily and necessary professional development. Those that suffer the most from the consequences the overwhelming workload that teachers face in 2021 are those that are most important to teachers: the students.

Furthermore, providing engaging, effective and student-centered lessons in the times of Twitter, Facebook, Snapchat, and TikTok is an additional challenge today's teachers face. The generation of students currently sitting in our classrooms have never known a life without internet or cell phones. Teachers no longer can count on intrinsic motivation in students to learn. Teachers must use what little planning time they do have left in the day to develop engaging lessons for students, involving new methods of learning and incorporating technology effectively. The consequences of not implementing these new methods into the classroom can be dire for teachers—low test scores that directly correlate to a yearly evaluation—could cost a teacher their job and their livelihood.

For the reasons discussed above, it is essential that all teacher professional development follow Keller's ARCS Model of Motivation (Keller 2009). Teachers number one challenge in completing all of their professional duties is time and therefore, in order to participate in any sort of professional development, they must be motivated to do so.

Keller's ARCS Model is delineated in **Table 1** below and a brief overview of the applications of this model is used to assist in explanation of the re-design of professional development for game-based activities in Lumio™ tools.

Table 1

Examples of Keller's ARCS Model of Motivation in *The Misstery of Miss Smart*

Keller's ARCS Model of Motivation	***Description***	***Exemplification in PD***
Attention	How will the learners remain engaged? How is prior knowledge activated and used?	• All scenarios within the game will active prior knowledge of learner with basic teaching responsibilities. • Learners will be presented with a series of challenges, including a Lumio™ game-based activity. • Learners will complete PD as a series of microgames that are no longer than 15 minutes for each game-based activity.

Relevance	What are the benefits to this training? How will learning transfer occur?	• Learners will complete each microgame in module format. • Each microgame will simulate a real-life experience of a teacher in a school. • In order to move forward within each module (microgame), the learner will have to complete the challenge which will be the application of a game-based activity from Lumio™ tools. • Learners will have 90 days to implement the tool in the classroom with their students in order to earn *badges* toward SMART® products.
Confidence	How does the learner succeed? How can they be supported?	• Learners will be able to post into a forum for Lumio™ tools to discuss with other teacher's applications, best practices and troubleshooting methods for the Lumio™ tool. • Learners will be provided immediate feedback within the microgame regarding their progress or accuracy of using the Lumio™ tool.
Satisfaction	How can reinforcement be completed? How do learners feel good about their experience and want to return?	• Within the 90-day implementation requirement, teachers will need to provide photo/video/empirical evidence and a brief (paragraph) reflection on how the Lumio™ tool impacted student outcomes and engagement in their classrooms. • Learners will be able to earn badges for SMART® products that they will be able to use in the classroom. • Learners will be able to work at their own pace through each microgame to earn badges—there will be no time limit on completing the series of microgames in order to give the learners the freedom to complete when their schedule allows. • The practical applications of the Lumio™ tool while participating in the game, short duration of the game, and the ability to earn SMART® products to use in their classrooms will increase motivation to continue.

In conjunction with Keller's ARCS Model, the InterPLAY Theory of experiential learning (Hirumi & Stapleton 2011) will be used to create an interactive learning game for teachers applying the Lumio™ tools. **Figure 1** depicts the parts of the InterPLAY theory and its

conventions. The InterPLAY Theory integrates entertainment game design with instructional design by aligning entertainment design characteristics with instructional design processes.

InterPLAY Conventions:

Story:

- *Character*
- *Worlds*
- *Events*

Play:

- *Stimulus*
- *Response*
- *Results*

Game:

- *Goals*
- *Tools*
- *Rules*

Figure 1
InterPLAY Theory and its conventions

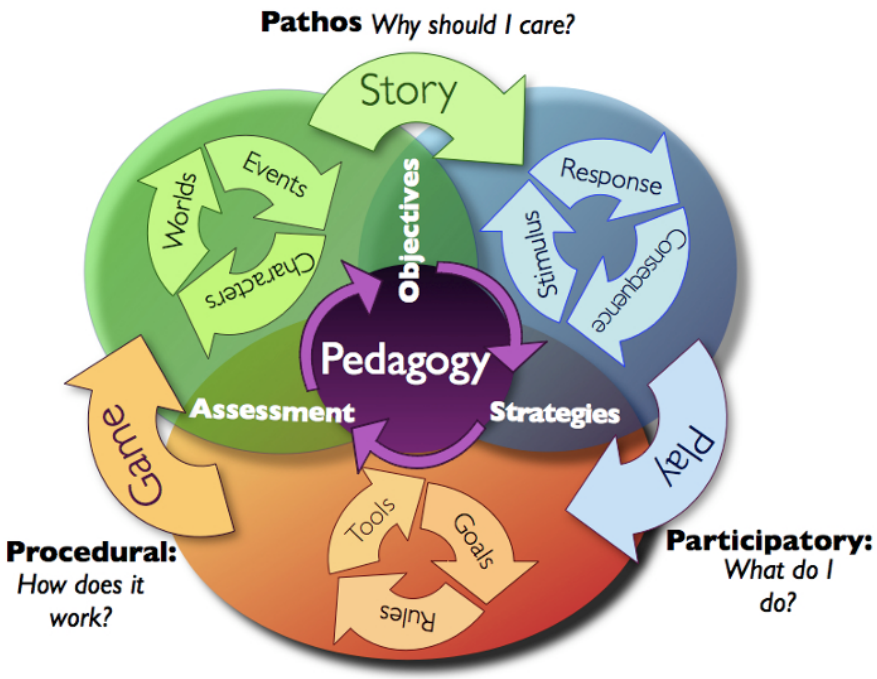


Figure 2 illustrates a breakdown of how each characteristic of game design aligns with the instructional design process. The second diagram above depicts InterPLAY's Experience Arc consisting of story details which will be further described later in this document.

Figure 2
Instructional Design elements aligned with Entertainment Game Design Elements

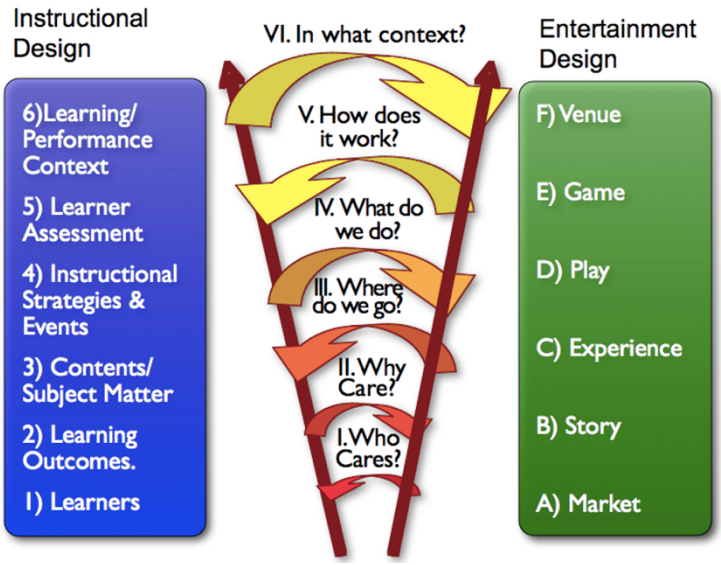
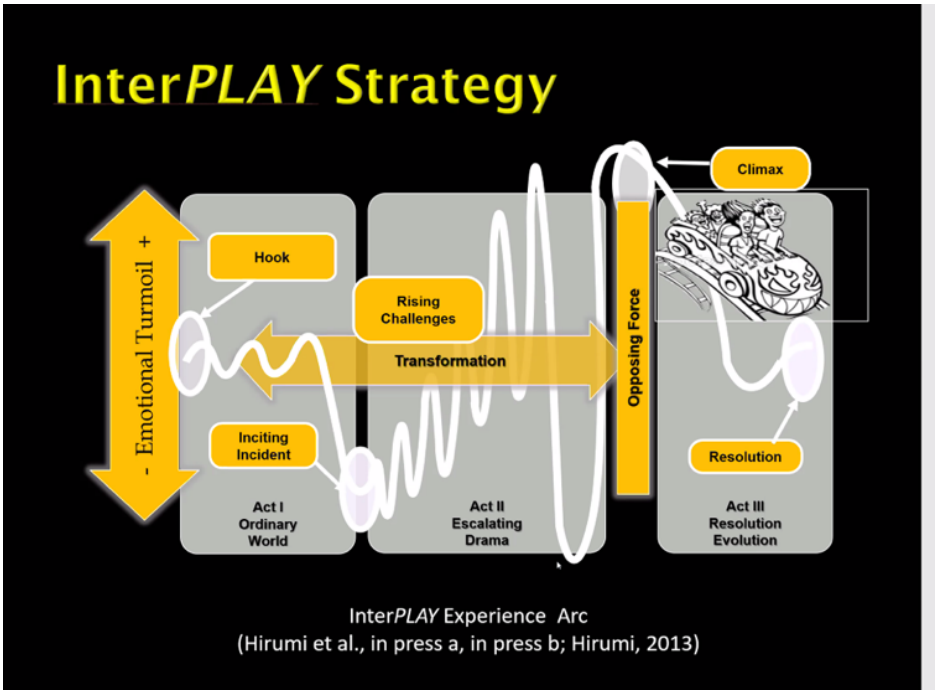


Figure 3 portrays the InterPLAY Experience Arc for story development for an educational and serious game design. This experience arc will be used to further develop the plotline for *The Misstery of Miss Smart.*



Learning Goals and Objectives

Characteristics of gaming that keep a user engaged can be applied to education and training by using the same theory of "flow". Flow is only possible as long as the "player" (in this instance, the user) avoids boredom and anxiety simultaneously. Flow cannot be obtained by being a passive learner and will occur when challenges are optimized, attention is absorbed by the activity and there are clear goals and consistent feedback (Rieber 1996). Flow will be maintained through the re-design of this project for the user by:

- Creating realistic storylines that do not require any additional training (users know what to do with the content)
- Self-regulating their learning by using the Lumio™ tool and optimizing challenges
- Setting clear goals at the beginning of each microgame for optimal outcomes

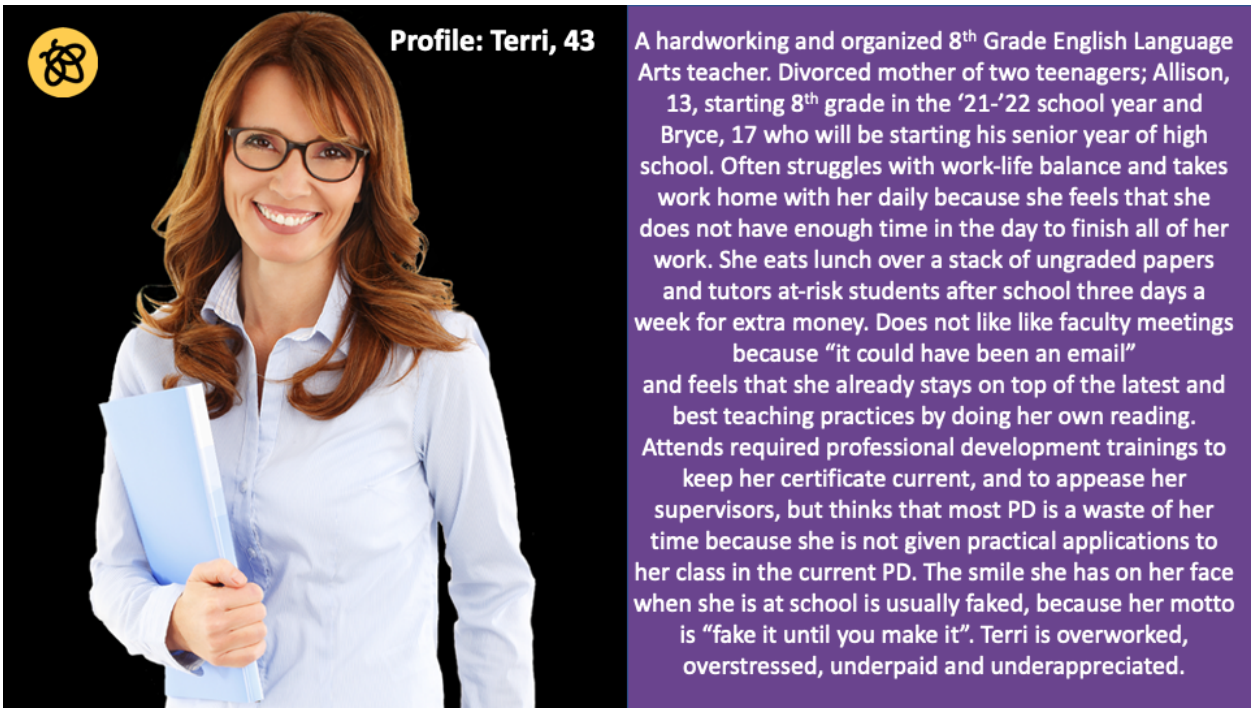
Learning Objectives:

1. Use the SMART® tool in a microgame in order to unlock a part of the story and continue the game.
2. Users will demonstrate the impact of the SMART® tool in the classroom by applying the game tool with their own students.
3. The user will return to finish the game with incentives.

Example User Persona

The user for the purposes of this analysis are teachers between the ages of 25-50 who have some knowledge of best practices and student-centered learning. The users also have working knowledge of technology. A deeper analysis would need to be completed to develop the necessary entry skills for this game, as well as further understand the needs of individual users. For the purpose of this game, a general analysis has been performed of the *typical* teacher in 2021 that represent the bulk of the teaching population. This analysis describes the learner in attitude, goals, work-ethic etc. based on psychological factors. This psychographic analysis does not apply to *ALL* users. Additional methods to gather data is necessary to ensure the game concept is engaging to the typical user. **Figure 4** is a graphic representation of the typical user who would be playing *The Misstery of Miss Smart* to develop their knowledge and application of Lumio™ tools.

Figure 4
Psychographic Profile of Targeted User Group, Terri



Theme

"A curious quest to unravel the mystery behind Miss Smart's disappearance…"

Major Game Components and Elements

Components	***Elements***
Story	**Characters (Zombie Teachers):** • **Protagonist (TBD)-** emotion of curiosity • **Antagonist (TBD)-** emotion of indifference • **The Side-Kick (TBD)**- teacher that always has your back when you need copies, class coverage and a sugar pick-me-up. • **The Enemy (TBD)-** district personnel who comes to your school once a month to check boxes off their "checklist". Only spends five minutes in your classroom but gives feedback to your immediate supervisors about what you are not implementing properly. • **The Threshold Guardian (TBD)-**the Assistant Principal who always comes to do an informal observation when you are at your desk grading papers, entering grades, or the students are doing silent independent work

	• **The Shape-Shifter (TBD)-**the teacher who always arrives a few minutes before students are expected to arrive and relies on you to develop lesson plans. Will always be the first one to throw you under the bus if a lesson plan fails for not "collaborating".
	Events: See plotline breakdown after this table
	Settings: Various locations across Teck High • Miss Smart's classroom • Media Center • Main Office • Teacher's Lounge • Faculty meeting
Game	**Goals:** 1. User will use game-based activities from Lumio™ to obtain clues to solving the mystery of why another colleague did not show up for work today. 2. User will earn badges for each microgame solved. 3. User will earn SMART® products/discounts based on level of implementation of SMART® tool.
	Rules: 1. Users will complete each microgame in succession to follow the story. a. Each game-based activity puzzle is categorized by higher level thinking questions (HOTs) and will get more difficult as the game progresses 2. Users will solve a game-based activity puzzle in each microgame, revealing a part of the mystery, in order to move on to the next microgame. 3. Users will implement the game-based activity within 90 days in their own classroom. 4. Users will reflect on student outcomes and submit data, photos or video evidence. a. Users will be able to post in a forum regarding best implementation practices and troubleshooting issues. 5. Users will earn badges for each implementation of the game-based strategy. 6. Badges will be earned based on the level of difficulty in each microgame. 7. Badges can be used for SMART® products ***Potential Game-Based Activity Levels for each challenge***: • Level 1-Word Search, Fill in the Blanks, Flip Out • Level 2-Match 'Em Up, Monster Quiz, Speed Up, Memory Match • Level 3-Game Show (depending on questions), Label Reveal • Level 4-Rank Order, Super Sort
	Tools: • Hot spots

	• Game-based activities from Lumio™ (label reveal, sort/rank order, super sort etc.) • Badges • Regional leaderboard • "Switchers" for teachers (coffee, words of affirmation, chocolate, donuts, classroom supplies) • "Switchers" for students (non-generic school supplies, cellphones, erasers that work, free time) • SMART® subscriptions • SMART® products
Play	**Stimulus:** Clicking hot spots within the scene to obtain clues to story
	Response: Solving challenge presented by effectively using Lumio™ tool
	Consequences: Repeating the challenge until tool is used effectively
Pedagogy	**Objectives:** • Users will apply tool to solve story challenges within the microgame • Users will implement tool in their classroom • Users will return for further professional development and adopt SMART® tool
	Instructional Strategy: InterPLAY (2013)
	Assessment: • Immediate feedback when using SMART® tool ineffectively • Forum for users to discuss implementation and troubleshooting strategies • Submitting evidence of use of SMART® tool in the classroom and describing impact on student outcomes • Greater number of users adopt the Lumio™

Plot Description for *The Misstery of Miss Smart*

Plot Point	***Description***
Hook	Miss Smart is the teacher that has perfect attendance. She is always organized, and always plans a month in advance. On a normal Tuesday, Miss Smart does not show up to work. She does not call out. She notifies no one of her absence. Every member of the school team is scrambling to find someone to fill her place, while trying to reach Miss Smart—who remains unreachable. What happened to Miss Smart?
Ordinary World	Teck High School
Inciting Incident	It is revealed that the faculty and staff at Teck High School "switch" to Zombie's when needs go unfulfilled—coffee, words of affirmation, classroom donations.
Increasing Challenges	**Antagonist Note for Increasing Challenges** - throughout the levels, a variety of factors will play a big part in how the game-based activity challenge is solved. Curiosity is what keeps the user moving through the storyline and the enemy of curiosity is indifference. Indifference can be reached when the user no longer feels that the game is interesting, relevant or lack time to successfully navigate the challenge. Increasing challenges will be game-based activity puzzles from Lumio™ that will reveal a key plot point to the whereabouts of Miss Smart.
Climax	Faculty and staff "switch" back to human when challenges are solved and all of pieces of Miss Smart's mystery have been revealed through completing each game-based activity through Lumio™.
Resolution	Miss Smart is found at home. She did not have her coffee in the morning and "switched" to a Zombie. She lost her knowledge and skills on how to drive a car because her brain has stopped functioning.

References

Keller, J. M. (2010). *Motivational Design for Learning and Performance: The ARCS Model Approach* (2010th ed.). Springer.

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