Game- Based learning- A Solution for Current Issues in Higher Education?

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Game based learning can be considered as a pedagogical intervention to the most striking problems in higher education like lack of intrinsic motivation of students and actively disengaged students. Games have some unique features like flow, immersion, skill, challenge and competition which can create game experience. This game experience if be able to enhance engagement, intrinsic motivation and deep learning will definitely result in better student performance and learning outcome.

Keywords: Game Based Learning, Game Experience, Engagement, Intrinsic Motivation, Deep Learning

1. Introduction

In the middle of a lecture, we teachers often have a shocking realization that, out of fifty students, only two or three are listening to what is being taught. The other members present are using cellphones, talking, distracted or even sleeping. At the same time, many students in various colleges complain that it is boring to sit in classes, and in no way such classes are helping them to prepare for facing real work situations. If a student is asked months later what he/she has learned, many of them will answer they no longer remember. Many of the students even don't have an idea about what they will do after graduation. They are not in a position to apply what they have learned in real life situations. Why is it so? Have we ever thought of it? Why are our students so disengaged? Why they are not motivated to learn? Why is it not possible for students to apply learned concepts into practice? Why do employability skill gap exist? Problem is with pedagogy or curriculum? There are a large number of questions to be answered.

Four categories of skills are generally considered by the educators, recruiters, and policy makers as essential qualities to be developed as a result of your education. They are as shown: (a) Basic academic skills – basic listening and speaking skills; (b) Higher order thinking skills – reasoning, problem solving, creativity, decision making skills and the ability to learn; (c) Interpersonal and teamwork skills – negotiation and conflict resolution skills, leadership skills and the ability to work with others from diverse backgrounds; and (d) Personal characteristics and attitudes – self-esteem, motivation and taking responsibility for own actions and growth. Many of the studies have also proved all the above-mentioned skills are very essential for a student after his graduation or post-graduation to be successful in the job market.

According to Connie K. Chung, in the book "Teaching and Learning for the Twenty-First Century" ,"the 21st-century global citizen's cognitive skill set includes traditional, testable basics such as math and literacy, but extends beyond that to encompass a particularly strong emphasis on the world in which we live. In addition to rounding out kids' content to incorporate a nuanced understanding of world earth science and cultures, colleges should teach them the talents to use this knowledge as active and engaged citizens.

That means being able to

- Communicate effectively and listen actively
- Use evidence and assess information
- Speak at least one language beyond one's native tongue
- Think critically and analyze local and global issues, challenges, and opportunities
- Reason logically and interpret clearly.

But the question is how we can develop such skills in students when we have students who are actively disengaged and not intrinsically motivated? So if we can develop a pedagogical method which will engage and motivate students to learn, which will enable them to understand how to learn and relearn, then definitely we will be in a position to at least partially solve the problem of employability skill gap.

Before answering these questions we should genuinely think the reasons for this situation. Only if can sort out the reasons we will be able to find the solution. The most prominent reason for this is we have not developed the curricula or teaching methods for teaching all students how to reason, analyze, and write well, and so on. We have not made teaching all students how to think, but rather we concentrated too much on merely memorizing concepts and facts. We didn't include items either in our pedagogical method or in our curricula which will enable students to practice what they have learned. A serious facet impact of a curriculum based chiefly on memorization is student boredom. Boredom leads to disengagement and at times disengagement can turn to active disengagement. If we can either set a curriculum or a pedagogy which can help students to develop the so-called survival skills, there by intrinsically motivating them, definitely as educators we are going to sort things out. It's high time we reinvent teaching profession. We have to transform teaching from an "assembly line" job into a high status "knowledge worker" job. All teachers should teach students how to think and communicate effectively. They need to

assess these skills and benchmark it to what the world will require out of graduates. This should happen every day in every class and at all levels of education. If we do this in all colleges, definitely we will be able to stimulate curiosity and imagination, thereby making all students to develop skills they need to get and keep a good job and be a contributing citizen, which will create a workforce that can continually produce innovations.

So why can't we think about an innovative intervention in the pedagogy which can create changes in current system of education. We call this as Game-Based Learning. Why games? Why GBL? Kinzie and Joseph (2008) indicated that "a game is an immersive, voluntary and enjoyable activity in which a challenging goal is pursued according to agreed-upon rules." Any initiative that combines or mixes video games and education can be considered as game-based learning (GBL) (Moreno-Ger, Burgos, Martínez-Ortiz, Sierra & Fernández-Manjón, 2008). The pedagogical endeavor of using games for learning is termed as COGBLe—Constructivist Online Game-Based Learning (Jong, Lee & Shang, 2013). COGBLe initiatives can be divided into two main genres, namely, education in games (EIG) and games in education (GIE). On the one hand, EIG researchers (eg, Gee, 2007; Kemp & Livingstone, 2006; Keskitalo, Pyykkö & Ruokamo, 2011; Rankin & Shute, 2010) study the adoption of existing recreational games in the commercial market for educational use. On the other hand, GIE researchers (eg, Andrews, Joyce & Bowers, 2010; Arici & Barab, 2014; Aylett, Paiva, Woods, Hall & Zoll, 2008; Shaffer, 2007) develop their own "educational games" primarily based upon their pedagogical propositions and articulated with specific learning contents. There are many benefits for games that makes it useful for educational purposes. Playing games in the classroom increases overall motivation of students. By playing games as a part of studies, students become more motivated to learn, pay attention and participate in tasks. Games facilitate students to become a part of a team as well as take responsibility for their own learning. Games help to create controlled and healthy competition among students. Competition is everywhere in the world. So it always good to make students familiarize with a competitive environment. It will also train students to deal with competitive environments in a healthy manner. Most games require problem-solving strategies and planning. By playing games as a part of learning, students understand how to apply a range of strategies in a game, thereby making them able to use their working memory to solve problems, increasing their mental cognition. Playing content specific games will increase memory. As they play a game, students need to remember important details about a topic but also use their working memory to think and act quickly. Playing games create an atmosphere of friendly fun .When playing a game, endorphins are produced that stimulate the brain and gives students a feeling of excitement. This creates a great sense of happiness for students in the classroom, developing a positive learning environment. Mistakes are always costly. But to learn things at times we will have to make mistakes. Games give people to make a graceful failure. Students get a chance to fail and then learn from their failure while learning using games. Games give students lot many chances to fail then learn what went wrong and finally succeed we don't get such a chance in normal educational system, where failing in exams can be shameful as well as costly. Yet another specialty of games is that they give us instant feedback. We are dealing with a generation who are used of getting anything and everything within a fraction of second. Whether it be information or money or any other facility, the youngsters are able to get it with blink of an eye. So how can we expect such people to wait to get a feedback in their studies? But in case of games the moment you make a mistake, the game warns you about the mistake. Then you understand that your move was wrong and then you can formulate a strategy to make it correct. Thus you learn from your mistakes.

There are many issues in higher education, especially in relation with curriculum and pedagogy. Whether current education system is able to develop 21st Century Skills is a serious issue to be considered. In this article the author is trying to find out whether game-based learning can be used as an effective pedagogical intervention to develop 21st century skills.

2. Game Features and Game Experience

When we say game-based learning can be used as a pedagogical practice to develop 21st century skills among students, it's very essential to understand how games can do so. The answer is simple. Games has the ability to create Game Experience. Game experience has been defined as "an ensemble made up of the player's sensations, thoughts, feelings, actions, and meaning-making in a gameplay setting" (Ermi and Mäyrä 2005). The game experience is co-created (Huotari and Hamari 2017; Normann and Ramírez 1993; Vargo and Lusch 2004) in the interaction between the game and the gamer. This means that the gamer actively takes part in its construction (Ermi and Mäyrä 2005; Huotari and Hamari 2017).A game can be experienced during three different phases: (1) the pregame phase, which comprises everything that happens before using a game; (2) the game phase, which includes the actual time the game is used; and (3) the postgame phase, which includes both the time after a single gaming session and therefore the time that stretches on the far side of this single event—meaning that the consequences of repeated gaming are considered (Elson et al. 2014). Game experience has the following dimensions: playfulness, affect, enjoyment, flow, immersion, challenge, skill, competition, social experience, presence and sensory experience. Games create a game experience with help of these dimensions. Flow, Immersion, Challenge, Skill and Competition are the dimensions which are more related and relevant to learning.

Flow recurs in descriptions of the game experience (e.g., Poels et al. 2007; Brockmyer et al. 2009; Sweetser and Wyeth 2005; Cowley et al. 2008) and is characterized by intense concentration, altered sense of time, and a sense that action and awareness are merging (Csikszentmihalyi 2014a, b). A person within the state of flow is autotelic; that is, he or she does something for its own sake rather than for an external outcome (Csikszentmihalyi 2014). Flow occurs when activities are performed with a perceived balance between challenge and skill (Csikszentmihalyi 1975).

Flow is closely associated with the construct of immersion, which also is commonly found in the game experience literature (Brockmyer et al. 2009; Brown and Cairns 2004; Cairns et al. 2014; Calleja 2007; Poels et al. 2007; Jennett et al. 2008; Ijsselsteijn et al. 2007). Immersion has been characterized as moving into a cognitive state of being "in the game" (Cairns et

al. 2014), during which the gamer experiences being enclosed by another reality that consumes all of his or her attention (Murray 1997). The gamer might also feel isolated from the real world (Patrick et al. 2000). While flow is delineated as an optimal experience, immersion might include negative experiences, such as negative emotions and anxiety (Jennett et al. 2008).

Being challenged is important for flow to occur (Csikszentmihalyi 1975). Therefore, the experience of being challenged is indirectly associated with game experience, but it is also described as a dimension of the game experience in its own right (Ijsselsteijn et al. 2008; Malone 1981; Sherry et al. 2006). The feeling of being challenged is also related to achievement, which Yee (2006) found to be one of three overarching motives for playing games. As such, gamers opts games—or levels of challenge in games—that challenge their talents and allow them to strive for accomplishing results (Vorderer et al. 2004).

Skill is also indirectly connected to the game experience by its relationship to flow theory (Csikszentmihalyi 1975) and—just like challenge—skill has been used in its own right to conceptualize the game experience. Poels et al. (2007) described competence as an in-game experience of both pride and accomplishment. In addition, as part of self-determination theory (Ryan and Deci 2000), competence has been used to understand the game experience and its relationship to intrinsic motivation (Przybylski et al. 2010; Ryan et al. 2006; Rogers 2017).

Vorderer et al. (2003) noted that challenge is important for a game to be pleasurable. However, they described challenging tasks or hindrances as competitive elements, implying that the gamer is engaged in a competition with the game per se. Competition may also evoke the social situation of competing against an opponent, either real or computer-controlled (Vorderer et al. 2003). Others (e.g., Yee 2006; Sherry et al. 2006) have also acknowledged these competitive aspects of how games are experienced.

3. Game Experience and Student Engagement

Cognitive, emotional, and social forms of student engagement are important resources that students can draw on in order to perform well in university courses, including large lecture courses (Kuh et al., 2008; Svanum and Bigatti, 2009). student engagement is a multidimensional meta construct (Martin, 2007; Appleton et al., 2008; LaNasa et al., 2009; Fredricks, 2011; Goldin et al., 2011; Wang et al., 2011; Shernoff, 2013; Wang and Eccles, 2013; Hospel and Galand, 2016) and that its dimensions include behavioral, emotional, cognitive subtypes (Fredricks et al., 2004). This taxonomy was based mostly on the various ways that engagement has been measured within the field. For example, behavioral engagement is based on observational measures of how engrossed students are in school tasks, and the consistency of effort, participation, attendance, or good behavior typical of good students (Finn and Voelkl, 1993; Marks, 2000; Green et al., 2008). Cognitive engagement is measured as students' investment in learning, depth of processing, quality of thinking, or the mastering of concepts and skills (Blumenfeld, 1992; Newmann, 1992; Newmann and Wehlage, 1993); students' intrinsic motivation to learn (Brophy, 1987; Covington, 2000; Ryan and Deci, 2000; Sansone and Harackiewicz, 2000); and/or the use of self-regulated metacognitive strategies (Zimmerman, 1990). Emotional engagement refers to students' affect and emotions in schools, and includes measures of interest, boredom, happiness, sadness, and anxiety (Finn, 1989; Voelkl, 1997; Shernoff et al., 2003).

Flow theory (Csikszentmihalyi and Csikszentmihalyi, 1988; Csikszentmihalyi, 1990, 1997) may be significantly helpful and dynamic framework for characterizing the standard of engagement of an individual while engaged in an activity or task. Flow is conceptualized as a heightened state of engagement characterized by the following phenomenological aspects: (a) a merging of action and awareness (i.e., all attention is on relevant stimuli), (b) intense concentration and absorption, (c) the perception of being in control, d) loss of self-consciousness, and (e) transformation of your time, i.e., typically, time appears to fly (Csikszentmihalyi, 1990; Strati et al., 2012). The chief causative mechanism of flow experiences, according to the theory, is that the challenge of the activity and ability level of the individual engaged in it are comparatively high and balanced. Otherwise, the subsequent psychological states might arise: (a) apathy, resulting from low challenge and low skill; (b) relaxation, resulting from high skill but low challenge, (c) anxiety, resulting from high challenge but low skill. Other conditions oftentimes giving rise to flow embody (a) the activity is autotelic (i.e., a goal in and of itself), (b) goals are clear, and (c) feedback as to obtaining those goals are clear and immediate (Csikszentmihalyi, 1990; Strati et al., 2012). Flow theory has been tested and supported as a model of nascent motivation and engagement in classroom contexts (Shernoff et al., 2003), and has been found to be related to the demonstration of competencies, talent development, and performance (Nakamura, 1988; Csikszentmihalyi et al., 1993).

Engagement has been a canonical thought in game-based learning research. However, there are amazingly few studies that really measure psychological engagement within the game-based learning context. Engagement has been separated into 3 types of engagement: behavioral, cognitive and emotional (e.g. Fredricks, Blumenfeld, & Paris, 2004). Pellas (2014) found that these 3 dimensions of engagement were related in a game-based learning environment. Coller and Shernoff (2009).

Preposition 1: Game experience enhances student engagement through game features.

4. Game Experience and Deep Learning

Deeper learning is the method through which a individual becomes capable of taking what was learned in one scenario and applying it to new situations – in different words, learning for "transfer." Through deeper learning, students develop expertise in a specific discipline or subject area. Suppose a student learns about means, medians and modes in mathematics. Deeper learning would mean that the student would learn not only how to calculate these values, but also understand how and when each is best used. For example, if the scholar later worked at a store that tracked average daily sales each month, he or she

would recognize that a special sale on the first day of a specific month may skew the mean and that an alternative measure like the median can be more representative of daily sales for that month.

The concept of deeper learning continues to evolve, it has been used to describe both (a) a set of *outcome* competencies or goals for students and (b) the *process* of developing deeper learning competencies and the ability to apply those competencies to new and varying situations. The William and Flora Hewlett Foundation—a leader in the national initiative to promote deeper learning in schools—focuses on a set of competencies within six interconnected dimensions of deeper learning seen as prerequisites for success in college, career, and civic life: (a) mastery of core academic content, (b) critical thinking and complex problem-solving skills, (c) effective communication skills, (d) collaboration skills, (e) an understanding of how to learn, and (f) academic mind-sets (Chow, 2010; Trilling, 2010; William and Flora Hewlett Foundation, 2013). Taking a slightly broader view, the NRC (2012) defines deeper learning as the "process through which an individual becomes capable of taking what was learned in one situation and applying it to a brand new situation" and classified student skills into 3 domains of competence: the cognitive domain (e.g., mastery of content knowledge, critical thinking), the interpersonal domain (e.g., communication, collaboration), and the intrapersonal domain (e.g., academic mind-sets).

There is a notable body of research into college student learning, referred to as Student Approaches to Learning (SAL, Pintrich, 2004), which has identified important variables that explain why some students are more successful at university than others (Biggs, 1993, 1987, 2011; Entwistle and Ramsden, 1983; Prosser and Trigwell, 1999). SAL research has identified *deep and surface approaches to learning*, which, it is argued, have been shown to be logically and significantly related to qualitatively different outcomes (Biggs, 1978; Entwistle and Ramsden, 1983; Prosser and Trigwell, 1999). Broadly summarizing, deep approaches to learning, those which seek the underlying meaning and purpose of tasks in the context of course learning outcomes, are related to relatively high outcome measures such as academic grades. Surface approaches are fragmented in nature, involving formulaic and reproductive strategies with little or no intent to get to the underlying meaning of the learning tasks and are typically related to relatively lower outcomes.

The studies by Marton & Säljö led to the two categories *deep* (reading for meaning) and *surface* (memorizing individual words or facts) which were initially seen as *levels of processing* (Marton & Säljö, 1976). This terminology was subsequently changed to *approaches to learning* to indicate the involvement of both intention and process within the experimental context (Marton & Säljö, 1997). - reading for meaning and, conversely, concentrating only on the individual words or facts. Subsequently, the terms were have been broadened and used to describe everyday studying (Entwistle, 1997b). Deep approaches to studying generally, which lead from an intention to understand, to active conceptual analysis, and, if carried out thoroughly, generally result into a deep level of understanding. Surface approaches were describing a seen in terms of an intention to complete the task with little personal engagement, seeing the work as an unwelcome external imposition. This intention was typically related with routine and unthinking memorization and procedural problem solving, with limited conceptual understanding being an inevitable outcome. The deep/surface division has parallels in the literature on cognitive psychology, being equivalent to the two most fundamental memory processes (Entwistle, 1988), and to the contrast between rote and meaningful learning (Ausubel, 1968).

The intentions to learn in deep or surface ways are reciprocally exclusive, although the related learning processes may sometimes become mixed in everyday experience. The combination of deep and strategic approaches is commonly found in successful students, but a deep approach on its own may not be carried through with sufficient determination and effort to reach deep levels of understanding.

Preposition 2: Game experience enhances deep learning through game features.

5. Game Experience and Intrinsic Motivation

The construct of intrinsic motivation emerged from the work of Harlow (1953) and White (1959) in opposition to the behavioral theories that were dominant at the time. Intrinsically impelled behaviors were outlined as those who seem not to be energized by physiological drives or their derivatives and for which the reward is the satisfaction related with the activity itself. Intrinsic motivation thus represents engagement in an activity for its own sake (Deci, 1971, 1975).

The study of motivational processes and dynamics has received redoubled empirical attention inside the field of educational psychology over the past decade (Murphy & Alexander, 2000; Pintrich, 2000). One theory that has proved useful in explaining the variation in students' learning strategies, performance, and persistence is self-determination theory (SDT; Deci & Ryan, 2000; R. M. Ryan & Deci, 2000a). The study of motivational processes and dynamics has received increased empirical attention within the field of educational psychology over the past decade (Murphy & Alexander, 2000; Pintrich, 2000). One theory that has proven useful in explaining the variation in students' learning strategies, performance, and persistence is self-determination theory (SDT; Deci & Ryan, 2000; R. M. Ryan & Deci, 2000a). A first attempt to deal with types or quality of motivation that guide students' learning consisted of exploring whether or not the learning was intrinsically motivated (i.e., was undertaken for its inherent interest and enjoyment) or was extrinsically motivated (i.e., was done to attain an outcome that is separable from the learning itself; Deci, 1971, 1975).

Within SDT, intrinsic motivation is seen as the motivational instantiation of proactive, growth-oriented nature of human beings. Indeed, intrinsically motivated activity is the natural basis for learning and development. White (1959) steered that a desire for competence underlies intrinsic motivation, that people engage in many activities in order to experience a sense of effectance and competence. Later, deCharms (1968) projected that people have a primary motivational propensity to engage in activities that permit them to feel a sense of personal causation and that this is the basis of intrinsic motivation. Similarly, Nuttin (1973) argued that individuals experience 'causality pleasure' after they perceive themselves as the instigator of their

behavior. These authors together were thus proposing that the needs for competence and personal causation (which is closely related to the construct of autonomy) are the energizing bases for intrinsically motivated behavior.

Initial conceptualizations viewed intrinsic and extrinsic motivation as being invariantly antagonistic (e.g., de Charms, 1968; Lepper & Greene, 1978). Intrinsic motivation was considered self-determined, whereas extrinsic motivation was thought to reflect a lack of self-determination. However, later research Koestner, Ryan, Bernieri, & Holt, 1984; R. M. Ryan, 1982;R.M.Ryan,Mims,&Koestner, 1983) has indicated that extrinsic motivation does not necessarily undermine intrinsic motivation and that it may even enhance it (Luyten & Lens, 1981), implying that extrinsic motivation is not invariantly controlled.

Learning, everyone knows can be fun. From the dogged dedication of the infant learning to walk and the Voraciousness of the toddler first learning the names of objects to the insatiable curiosity of the preschooler wanting to know the "why" behind everything, astute observers from Plato to Piaget have remarked upon young children's intrinsic love for learning. There are, it appears, no preschool children with "motivational deficits." Yet only a few years later, after these same children have entered school, their motivation to learn has somehow become decidedly more problematic. Many of them appear to find the academic activities in colleges to be dull and uninteresting, and a substantial number will be quickly diagnosed as showing motivational deficits. Moreover, these motivational difficulties appear to increase steadily as kids progress through school. In a variety of different settings and using a variety of measures, investigators have found children reported intrinsic motivation in school to decrease steadily from at least third grade through high school (e.g., Anderman & Maehr, 1994; Harter, 1981; Lepper Sethi, Dialdin, & Drake).

Preposition 3: Game experience enhances intrinsic motivation through game features.

6. Game Experience and Learning Outcome

Today, with the constant introduction of fast and ever-changing educational technologies, instructors and learners alike are challenged with the need to master a wide range of competencies, collectively termed 21st-century (21-C) learning skills (Hwang, Lai, & Wang, 2015; Voogt & Roblin, 2012). Due to the frequent changes in learning technologies and learning environments, these skills are constantly being modified. This study examines how core 21-C learning skills are reflected in the educational academic research over the past 37 years (1980–2016). Specifically, it focuses on the following seven skills: Collaboration, Communication, Creativity, Critical thinking, Information literacy, Problem-solving and Socio-emotional skills.

Learning outcomes refer to observable and measurable skills, attitudes and knowledge. Spady, (1994), an academic researcher who spearheaded the development of outcomes-based education, suggests that the ability *demonstrate* learning is the key point. This demonstration of learning involves a performance of some kind in order to show *significant* learning or learning that matters. 21st-century skills" is one of the foremost ubiquitous terms in today's education debates. Proponents point to a brand new workforce reality that demands a next generation of college students and workers who are independent thinkers, problem solvers, and decision makers.

Traditionally, literacy was defined as the ability to read, understand and critically reflect on written text (Bormuth, 1973). However, the wide-spread use of digital technologies requires expanding the term literacy to include the ever-growing scope of competencies for effective performance with current technologies. Such competencies include, for example, the ability to think critically about information, to construct knowledge from diverse sources accessed in nonlinear ways, to communicate and collaborate with peers in order to propose creative solutions to complex authentic problems and to reflect on online exploration processes. Although these competencies are not necessarily new, dramatic changes in information and computer-mediated communication opportunities have complexified these competencies and increased their importance for learners and instructors.

Following skill set can be considered as an effective learning outcome. Critical thinking and problem solving: Students must be given daily opportunities to dig into problems that are open-ended and messy. It is good to see the power of students working on problems that haven't already been solved by someone else. Collaboration across networks and leading by influence: Students must have the chance to find authentic ways to work across differences and with diverse groups of individuals, organizations, and countries, building coalitions to solve truly complex challenges. Students must have the opportunity to collaborate in authentic ways around purposeful work. Classroom tasks must need students to coordinate, negotiate, influence, and collaborate in order to succeed. Agility and adaptability: Students/ must have the ability to recognize and adjust to changes in the environment. While predictability and consistency certainly have their place in school/college, too much of them can stifle growth. Intentional and thoroughly designed uncertainty and volatility in classroom tasks and procedures will provide powerful opportunities for students to develop agility and adaptability. Initiative and entrepreneurship: Students must know when to act first and how to successfully navigate uncharted territory, students must be encouraged to think of new and important ideas and to find support as they explore them. Students must acknowledge the distinction between productive failure and unproductive success, and teachers must design their classroom systems and structures to reinforce thoughtful exploration. Effective oral and written communication: Students should have adept communication skills to convey complicated and important concepts to a variety of stakeholders across a variety of mediums. Students should be given frequent opportunities to share their ideas and develop their communication skills across disciplines, formats, and media. Assessing and analyzing information: In a world where information and data can be used to make competing arguments, a president must have the skills and discipline to assess the veracity and relevance of information in order to make an informed and thoughtful decision. Students should deal with problems where information is both scarce and

plenteous. They must have opportunities to sift, analyze, evaluate, and deploy information to make consequential decisions. Curiosity and imagination: Students are valued for their ability to envision future possibilities, create solutions never before imagined, and ask truly essential questions. For students to gain those same skills, curiosity and imagination must be nurtured. Teachers must facilitate students realize connections between disciplines and pursue answers to their own essential questions.

Preposition 4: Game experience by enhancing student engagement, deep learning and intrinsic motivation through game features creates desired learning outcomes.

7. Conclusion

In a world where students are lacking intrinsic motivation and are actively disengaged, it's high time to think about solutions to overcome it. We should check whether problem is with pedagogy or is it with the curriculum. As a researcher who is doing research in field of game based leaning I wish to empirically test whether the game features like flow, immersion, challenge, skill and competition can generate game experience and can this game experience increase engagement, promote deep learning and enhance intrinsic motivation there by creating better learning outcome.

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