Conceptual Framework to Elicit Behavioral Engagement via Project Based Experiential Learning

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Abstract. Contextualized constructivist learning environments and approaches have shown a significant impact on enhancing student engagement in higher education (HE) classrooms. Nevertheless, in many HE institutions teachers are still using passive instructional methods which have limited effect on students learning and tends to make them disengaged. Disengagement among learners leads to poor academic performance as learners do not actively participate or interact in classroom. Behavioral engagement is one of the vital elements in multifaceted student engagement construct. The main indicators for behavioral engagement include interaction and active participation in classroom activities. This paper represents a conceptual framework of project based experiential learning with an aim to enhance behavioral engagement among undergraduate students through providing opportunities for active participation and interactions with others during project development. By incorporating this framework, teachers would potentially enhance learners' behavioral engagement in classroom to collaborate, think creatively, innovate and develop Industrial Revolution 4.0 skill-set for future careers.

Keywords: Experiential learning · Behavioral engagement · Project-based learning

1 Introduction

Owing to the limited effectiveness of passive teaching approaches, many students show signs of disengagement and lack of interaction and participation in higher education classrooms [1]. In an effort to curb dropout rates, to engage learners actively in their learning process and to empower them with a 21st century skill set, higher education institutions are trying to opt for constructivist teaching and learning methods [2]. Use of constructive, active teaching and learning approaches have shown a significant impact upon the way learners learn through active participation and interaction, within and outside the classroom environment [3]. A recent study conducted by [4], shows that project based experiential learning environment has a significant impact upon enhancing student engagement.

Student Engagement is elucidated as a degree of the learner's motivation, passion and self-involvement in the learning process. According to [5], the significant impact

of student engagement on learners' abilities to attain 21st Century skill set, to think critically, to act responsibly, engage meaningfully in deeper learning practices and to achieve higher academic success [6] cannot be denied.

Student engagement is considered as a multi-dimensional construct which comprises of cognitive, behavioral and emotional engagement [7]. Each of these engagements has an impact on one another, however this study focuses on the behavioral engagement dimension as it plays a pivotal role in student engagement through learners' active participation and interaction in the learning activities [8]. In a recent study conducted by [9], further research has been recommended on aggrandizing behavioral engagement in a constructivist learning environment to increase learners' participation and interaction in the classroom. Therefore, this study's purpose is to propose a conceptual framework of the project based experiential learning environment's impact on enhancing behavioral engagement.

2 Literature Review

2.1 Experiential Learning

David Kolb's Experiential Learning Theory roots from constructivist learning theory of Vygotsky which projects that knowledge is constructed through social interaction and collaboration during which learners reflect and share their personal experiences, gain new experiences and actively immerse themselves in the process of learning through observation, conceptualization and active experimentation [10]. It positions four main stages through which learner directly interacts with the problem or experience in the first stage of concrete experience, reflectively observes upon the experience in the second stage, conceptualizes a solution in the third stage of abstract conceptualization and then applies those concepts in the fourth stage of abstract experimentation [10]. This four-stage cycle engages learners creatively, emotionally, socially, cognitively, intellectually and physically in the learning process [11].

2.2 Behavioral Engagement

Also referred as agency engagement, skill engagement, learning presence, non-verbal and verbal attentiveness and academic engagement, behavioral engagement is readily defined as the conspicuous act of students' involvement in the learning process [12].

Previously, behavior engagement in a traditional classroom was measured by the time and effort students spent looking at the front of the classroom and having higher attendance [13]. However, in the recent years, in non-conventional classroom environments, behavioral engagement is recognizable as an act of active participation in classroom activities and interaction with peers, teachers and the content [14].

Learners who are engaged in the learning respond faster to new information, are more enthusiastic to learn and develop new skills and go an extra mile by working harder and trying to reach new goals [15]. Whereas, those with low behavioral engagement levels, opt for surface learning techniques, show little effort and barely involve in classroom activities or deeper learning practices [16].

According to [17], active participation and interaction in the learning activities are known to be two of the major indicators of behavioral engagement. Active participation in classroom determines positive behaviors in terms of learners showing interest and being inquisitive in class, getting involved in learning activities, participating actively in class discussions, abiding by the rules and regulations and focusing on the given task [18]. Meanwhile, interaction in the learning process is shown by learners interacting with their peers, with their teachers and with the learning material [19].

2.2.1 Participation

Active student participation in the classroom is determined by the degree of learners' involvement in the learning process. Through discussions, students learn to express their point of views and ideas and learn to accept and tolerate alternative views of others. During discussions, students elicit their background knowledge and exchange their personal experiences [20]. Students behave in a productive way and enhance their critical thinking and problem-solving skills through classroom collaborations [21].

Similarly, by asking questions, they are able to understand and develop new concepts which can enhance their knowledge. Careful consideration, planning and structure are required to facilitate or elicit class participation which is effective in nature. Student participation is influenced by pedagogical factors such as lecturers, course, topics and methodology and style of teaching [22].

Student participation within classroom involves diverse activities and can be of different types. [23] states that, passive participation in the classroom involves learners using non-verbal communication such as writing, silent observation and listening. Whereas Active participation involves verbal communication, physical movement and showing energy and motivation. They further asserted that both active and passive participation varies from person to person.

Lack of teacher's support, encouragement, understanding and their non-approachable behavior often leads to students' lack of participation in the classroom. Furthermore, lack of support from peers, non-verbal disapproval signs and mocking also results in discouragement of students to participate in the classroom as these negative behaviors of others contribute towards rising the affective filter of the learners [24].

2.2.2 Interaction

In an educational context, interaction is expounded as an effective exchange of information and actions between students and students, students and teachers and students and content [25]. These three active interactions result in the successful learning process.

According to [26], with aims to develop the learner's knowledge intellectually, student-content interaction results in the learner's deeper understanding of the content, has an impact on learner's perspectives and provides a sense of confidence. It helps to assimilate and accommodate new knowledge while improving skills such as research skills, content curation and content analysis.

The interaction between students and teachers primarily focuses on dialogues which are classroom based and tend to stimulate the learner's motivation and interest. As a means to increase students' behavioral engagement, student- teachers interaction plays

a critical role. Students who feel seen and supported in the classroom by teachers tend to have higher engagement levels. It lowers their affective filter and allows them to make mistakes, attain more confidence and improve their learning [27]. Through dialogic instruction, thought provoking questions and promotion of discussion and extended conversations learners' engagement levels rise and they feel motivated to participate more in the classroom.

Interaction between individual learners or in groups is referred as student to student interaction which focuses on knowledge construction through social constructivism synchronously and asynchronously [28]. It is seemingly effective as it motivates learners to exchange meaningful ideas, share personal experiences, provide constructive feedback to another and succor each other throughout the learning cycle.

2.3 Project Based Learning (PjBL)

A student-centered pedagogy which dynamically transforms instructivist classroom settings to constructivist classroom settings, PjBL enables learners to acquire knowledge and develop skills through sustained inquiry of problems embedded in real world context. The seven elements of PjBL by [29], include Challenging problem/question, sustained inquiry, authenticity, student voice and choice, reflection, critique and revision and public product creation.

The implication of PjBL on behavioral engagement shows that the elements of challenging problem, authenticity and sustained inquiry engages learners to participate in discussions [30], interact with content, peers and teachers with aim to come up with new ideas and create new knowledge for problem solving [30]. Apart from that PjBL elements of students' voice and choice, reflection, critique and revision and development of public product allows learners to participate actively and physically and interact with the facilitators, peers and experts in the field, as well with public audience in community and society while presenting the completed product [30].

3 Conceptual Framework

The following conceptual framework (Fig. 1) shows an interactive student-centered learning environment is developed through integration of project based experiential learning environment to stimulate behavioral engagement among undergraduate students. Behavioral engagement has two indicators, namely interaction with others and participation in learning activities [17]. Throughout the cycle of meaningful learning experience elicited by project based experiential learning, students interact with the content, facilitators and peers [31] as well as participate both actively and passively through sustained inquiry, voice and choice, collaborative discussions [32], physical participation in creating and curating the product and through reflective observations [33] respectively.

During the stages of concrete experience and reflective observation learner goes through the process of sustained inquiry and interacts not only with content, but with peers or team and facilitators as well to acquire new knowledge and ideas for solving the real-world problem [34]. This multi-dimensional interaction and participation through
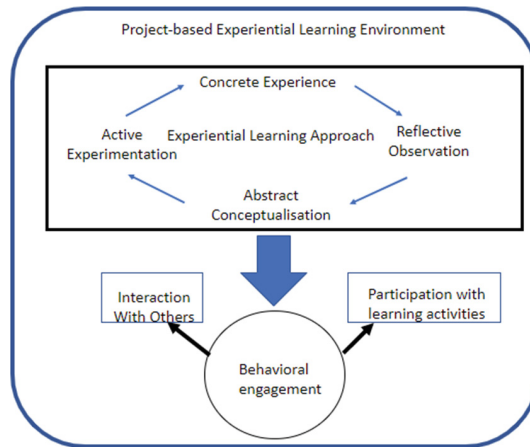
Fig. 1. Conceptual Framework of Project Based Experiential Learning to enhance student engagement.

active discussions, research and curation of content enhances the learner's behavioral engagement [35]. The elements of PjBL namely challenging question/problem, sustained inquiry, authenticity, student voice and choice and reflection all play a vital role during these stages of experiential learning to enhance behavioral engagement [36]. Similarly, during the phases of abstract conceptualization and active experimentation learner cognitively and physically participates in the process of active experimentation and critique and revision and creation of the public product which are two of the elements of PjBL [37]. The impactful increase in participation and interaction hence results in a positive influence upon enhancing behavioral engagement.

4 Conclusion

This paper illustrates the critical role of student-centered learning environment, namely, project based experiential learning environment in enhancing behavioral engagement among higher education students. Even though the literature influences the potential of the project based experiential learning on behavioral engagement, but there is a gap in theoretical prospects and pragmatic application which creates a need for further research.

Authors' Contributions. Ms. Khadija Hamidani contributed to writing the paper, Literature Review, theoretical models and Conceptual Framework.

Prof. Dr. Tse-Kian Neo contributed to the Introduction, Pedagpgy, Conceptual Framework and Supervised the overall direction of the paper.

Dr. Vimala Perumal contributed to the Conceptual Framework, Conclusion, reviewed the paper and Co-supervised the overall direction of the paper.

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