

# A Review of Factors Influencing the Student Motivation for Learning in Virtual Environments

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## Abstract

The Coronavirus situation has escorted to the closure of scholastic institutes all around the world. To not interrupt their students' learning, educational stakeholders had retorted excellently to this challenge by switching to virtual learning and by improving their virtual learning environments (VLEs). Hence, the VLEs have particular characteristics that should be met to accommodate the students' learning in a trustworthy and successful way. This study aimed to critically review the influential factors of learning in VLEs via a descriptive study. Findings revealed that teacher personality, student autonomy, ICT, and course design are factors related to motivation for learning in a VLE. These findings are considered valuable contributions for educational stakeholders to meet the students' educational, psychological, social, and technological needs in VLEs which have replaced, in part or whole, the traditional educational systems in most of the educational institutions around the world.

**Keywords:** Online Learning; Virtual Learning Environment; Student motivation.

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## I. INTRODUCTION

The Coronavirus (COVID-19) situation has escorted to the closure of scholastic institutes all around the world as an emergency measure to avoid the infection spread. Hence, this pandemic has placed unprecedented and exceptional pressure on schools on their way and capability to proceed with the delivery of their curricula. To not interrupt their students' learning, educational stakeholders and communities had retorted excellently to this challenge via their switch to virtual learning by improving their virtual learning environments (VLEs). Schools and universities around the world had moved their teaching online and accordingly, all the teachers and professors have been joining online training on successful and efficient online delivery (HBMSU 2020b) to be able to continue to involve students in interactive dialogues whether synchronous via web meeting tools like Zoom and Microsoft teams or asynchronous via discussion boards (Crawford et al. 2020). Thus, virtual learning has particular characteristics that educational stakeholders have to take into consideration in a way to

accommodate the students' learning and experiences and to meet their educational needs with trustworthy and successful learning. For instance, engagement and anatomy are considered the utmost significant factors for online students' successful academic achievement. In fact, these factors are directly related to motivation for learning (Filcher & Miller 2000). Reis (2009) asserted that learning in a virtual environment necessitates a superior level of student motivation than does education undertaken on-site due to the sensation of loneliness sanctioned to the geographical distance between the teachers and the students and to the struggles found in handling the learning itself due to the elasticity of schedules and to the access to numerous sources of information. Harknett and Hartnett (2011) added that motivation construct is a key element for students' improvement whether on-site scholastic contexts or in virtual settings. Yet, little is acknowledged about the factors which affect, promote, develop and foster student motivation in their VLEs (Turley & Graham 2019).

## II. PROBLEM STATEMENT

Motivation has not obtained adequate attentiveness in online learning despite its significant and evident effects on learning consequences (Jones & Issroff 2005). A reason why teachers are not taking motivation seriously in online learning might be their focus on the students' cognition while overlooking the affective and the socio-emotional processes (Kreijins, Kirschner & Jochems 2003). Therefore, the students' attrition rates on online learning increased which elucidated a negative pointer of online motivation which turned out to be a pressing issue of online learning and the main concern of online teachers (Clark 2003). Thus, the factors of motivation on online learning became a main topic for the researchers to investigate and to analyze including its qualifications and consequences to enhance the teaching-learning practice in the online course and to reduce the attrition rates of the student. In fact, the greater the online motivation level is, the greater the attentiveness, commitment, and learning levels are (Selvia 2010).

## III. PURPOSE OF THE STUDY

The relentless spread of the COVID-19 virus around the world poses a solid danger to our well-being, safety, and lives. Accordingly, the educational organizations, schools, and universities were urged to move to online learning via VLEs and communication platforms to minimize the education disturbance worldwide. Therefore, the researcher found it significant and mandatory to critically review the factors influencing the student motivation for learning in virtual environments to be able to meet their online educational needs and to enhance their educational experiences in this critical situation.

The researcher main objective was to pursue a descriptive study by critically reviewing selected existing literature of factors influencing student motivation of learning in VLEs, from year 2004 to date, published in reliable journals or peer-reviewed professional journals to be able to answer the main question of this study which is: what are the factors that influence the student motivation for learning in VLEs? by defining, critically examining, and clarifying the major factors that influence the student motivation for learning in VLEs.

## IV. RATIONALE OF THE STUDY

Significant attention was given to the role of motivation in VLEs in the last few years as the rate of students' attrition was very elevated in online learning courses. Chen and Jang (2010) claimed that this elevated rate of attrition is a negative indicator of motivation. Miltiadou and Savenye (2003) posited that to decrease the students' rate of attrition and to guarantee the students' attainment, additional empirical studies are in need to evaluate motivation theories and constructs in VLEs. Hence, by investigating the factors influencing the student motivation for learning in VLEs,

the researcher will acquire a finer understanding of factors that influence the students' motivation in VLEs and therefore their academic achievement. Moreover, the findings of this paper will notify the educational stakeholders, policymakers, and curriculum developers, as well as, the educators about the critical factors that need to be taken into consideration in online learning or VLEs to be able to motivate the students to pursue their online learning journey and therefore to help them achieving a better experience along with an enhanced educational understanding.

## V. THEORETICAL FRAMEWORK

### A- Self-Determination Theory

Researchers asserted that motivation theories founded in face-to-face classrooms cannot be directly transferred to the online learning setting with no authentication as the features of the learning setting and the scholar motivation such as flexibility, accessibility, and CMC differ between the two settings (Mullen & Tallent- Runnels 2006). Yet, among the motivation theories, the self-determination theory (SDT) is the utmost comprehensive and empirically supported one. It had been portrayed by Pintrich and Schunk (2002) and effectively applied to an array of online settings such as health care (William *et al.* 2006) and general education (Niemiec *et al.* 2006). Moreover, it had been recognized and applied in online learning to observe online discussions (Xie *et al.* 2006) and the e-learning endurance intention in workstations (Rocca & Gagne 2008).

Chen and Jang (2010) claimed that SDT theory functions as a proper framework to tackle learner motivation in online learning setting as it is a broad theory of motivation that purposes to methodically elucidate the dynamics of human needs like motivation and well-being within the direct social setting. Self-determination term was well-defined by Deci and Ryan (1985), the founders of the SDT theory, as a feature of human performance that comprises the experience of choice, in other words, to be capable to choose between different options and be determinant of one's action.

SDT suggests that human beings have three common basic needs which are (1) autonomy, defined as the sense of control; (2) competency, defined as being capable to accomplish chores and activities; and (3) relatedness which is defined as being able to be involved and allied with others. A human deprived or unable to meet his/her three basic needs will suffer from isolation and will be extremely broken and over-sensitive. Whereas, being able to satisfy the three basic needs, an individual will experience an expanded sense of self and attain superior psychological well-being (Chen & Jang 2010). Moreover, SDT hypothesizes and categorizes human motivation into three key categories in opposite to Bandura's social cognitive theory which considers human motivation as a single colossal construct. The SDT's three main categories as per Ryan

and Deci (2000) are the (1) intrinsic (complete a chore as it is enjoyable, challenging, and pleasing), the (2) extrinsic (achieve a chore as it leads to a discrete result), and the (3) amotivation (being aimless and senseless to act) which all are encumbered on a gamut of self-determination where the intrinsic motivation denotes the utmost self-determined type of motivation while the amotivation denotes the slightest self-determined type of motivation. Accordingly, the two researchers assert that intrinsic motivation or the self-determined type of motivation leads to positive outcomes while non-self-determined motivation or amotivation results in negative outcomes. Further, they added that contextual sustenance and encouragement are key concepts in SDT where people engross nutrients from social interaction which offers support for the three human basic needs (autonomy, competence, and relatedness). Therefore, along with the contextual support, students will be able to satisfy their basic needs, develop confidence, and become self-determined. Consequently, they will be able to realize greater psychological well-being.

#### ***B- The Interaction Equivalency Theorem***

Within the same framework, the social interaction can be reconsidered through the interaction equivalency theorem which was suggested by Anderson (2003) and built on Moore's (1989) three-part model of interaction. In this theorem, Anderson (2003) proposed learning effectiveness is attained once the instructional designer plans the educational unit with at least one of the three types of interaction which are student-teacher, student-student, and student-content interaction at a high level. In case the educational unit offers numerous types of interaction, all at high levels, it will augment the student motivation and therefore the student satisfaction of learning. Miyazoe and Anderson (2010) proposed a model of an online course with high levels of student-content and student-teacher interactions. Results showed that although this design increased the workload and time commitment for the students and the teacher, though it generated higher students' motivation and satisfaction towards their learning compared to an online model which focused on student-content interaction at a high level.

## **VI. METHODOLOGY**

In this study, the researcher pursued a descriptive study by following Elo and Kingas (2008) design which consists in preparing (deciding on data), organizing (generating categories under headings), and reporting high-quality data which are related to factors that influence the student motivation to learn in VLEs by reading a sample of articles published in peer-reviewed professional journals to meet the purpose of the study. The ERIC, PsycINFO, OECD, WorldCat, BUiD electronic library, and Google Scholar along with other managers' databases compiled between the year 2004 to date were used to search for keywords such as "student motivation", "motivation factors", and

"online/virtual/ distance learning". Once selected, the related article was read carefully and to be included in the study, it had to be relevant to the factors that influence the student motivation to learn in VLEs. If not, the document was expelled as it did not encounter the selection criteria. The final chosen data was presented and arranged in a concise, classified, and analytical way to be analyzed. More, the data was judged by the researcher who obtained the sense of the whole by reading and rereading the data. Lastly, the researcher was able to generate significant meanings which was the final product of the analysis (Polit & Beck 2003). The quality of findings was judged by whether or not new comprehensions were provided to the reviewed phenomenon and if so, the knowledge of the researcher and the intended audience of this particular phenomenon would be increased (Krippendorff 2004, Loeb *et al.* 2017).

A descriptive study is generally classified as a category of narrative analysis. It is valued in the knowledge that can generate. It is considered a way that displays and handles research methods as living entities that go beyond simple categorization to generate meanings and concrete findings (Sandelowski 2010). The descriptive study is defined as a methodical coding and classifying approach used to explore numerous textual information in an inconspicuous way to delineate trends and patterns of the recurrent utilized words as well as how they are related and structured (Gbrich 2007). The purpose of a descriptive study is to define the characteristics of content in a document by investigating what is said, by whom it is said, and what is the effect of what was said (Bloor & Wood 2006). A descriptive analysis aims to describe a phenomenon of interest or a narrative material in a clear, detailed, accurate, sensible, and comprehensible way (Loeb *et al.* 2017) and to study it in an analytical method by dividing a full text into separated and smaller content entities to be able to submit them to descriptive treatment (Sparker 2005).

Purposeful sampling technique had been valuable and practical in descriptive analysis to attain wide-ranging insights and rich information (Neergaard *et al.* 2009). For instance, PubMed, Google Scholar, The ERIC, PsycINFO, OECD, and WorldCat along with other managers' databases were used to search good quality data published in peer-reviewed professional journals, with specific publication years, to meet the purpose of the descriptive analysis study. Once reviewed, the explored data of the main articles had to be related to the specific terms or themes of the descriptive study to be selected and in order to be beneficial, credible, and able to be included in the analysis (Sundqvist & Carlsson 2014). In case it did not match the selection criteria, the selected article or data was expelled from the analysis report (Vaismoradi, Turunen & Bondas 2013). In this study, The ERIC, WorldCat, BUiD electronic library, and Google Scholar

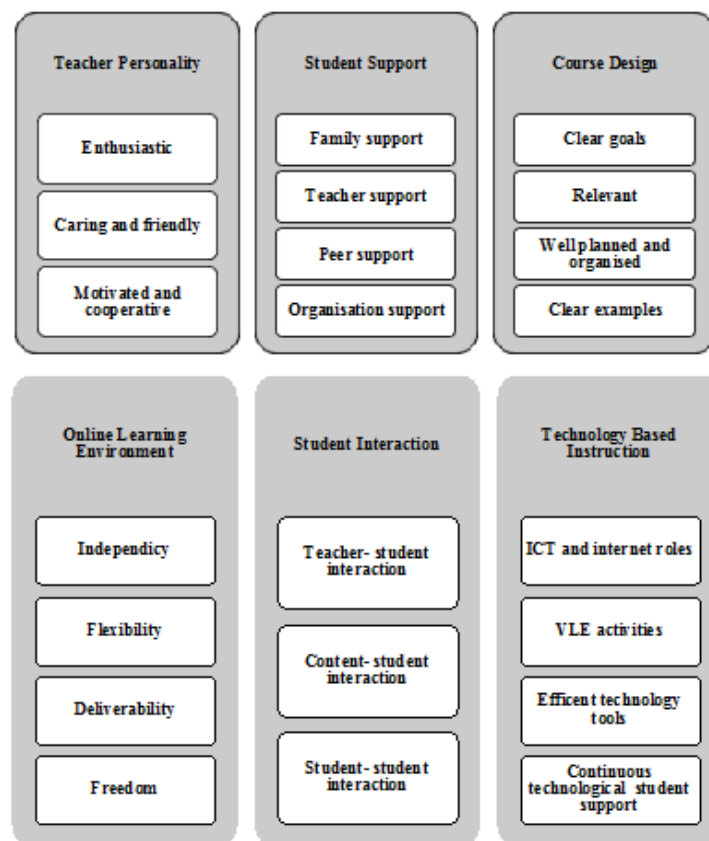
compiled between the year 2004 to date were used to search related articles to the factors influencing the student motivation on online learning by using keywords such as “student motivation”, “motivation factors” and “online/virtual/ distance learning”.

## VII. SYNTHESIS OF FACTORS AFFECTING THE STUDENT LEARNING ON VLES

In a descriptive analysis design, planning and data collection sections postulate a significant guarantee of the quality of the research. However, the critical test lies in the analysis part. The analysis of the data collected throughout the research is a central part as it frequently derives from a great quantum and in a multiplicity of formats that any significant understanding and analysis cannot be attained promptly. Thus, categorizing, classifying, and summarizing are

means to a meaningful analysis as they aid to lessen the massive data into interpretable and comprehensible forms. More, they help to answer the research question or to elucidate a phenomenon and to envisage occurrences (Rabha 2016).

Graphic methods had been always used in data analysis as they have attention-getting power by being able to catch the eye and grasp the attentiveness and seeks to decipher the wordy descriptions or facts often abstract and hard to interpret into more concrete and comprehensible form. In the present study, the outcomes of the descriptive study had been graphically represented where the researcher used a graphical representation in the form of a smart art diagram to represent a synthesis of the factors influencing the student motivation in a VLE (Fig. 1).



**Fig-1: Factors influencing the student motivation in a virtual learning environment**

## VIII. DISCUSSION OF THE MAIN FINDINGS

While investigating the factors influencing student motivation in a VLE, the narrator found a satisfactory number of electronic studies and articles associated with the topic. No descriptive study can assemble all that was issued, reviewed, considered, and discussed. However, from the latest and chosen articles published in peer-reviewed journals, the year 2004 to date, the researcher concluded that many factors can affect student motivation in a VLE. For instance, most of the studies revealed that the teacher plays the most

significant role in motivating the students in a VLE. Therefore, an enthusiastic, motivated, friendly, and cooperative teacher with collaborative conduct and a positive attitude is highly mandatory to deliver an online course in a VLE. Further, the teacher, family, peer, and the institution support are found to be significant in influencing the student motivation in a VLE, especially if they are aligned with regular feedbacks and followed with positive reinforcement and praises. Besides, the studies point out that flexibility, deliverability, freedom, and independence are main

motivators for an online student in an online learning environment. Additionally, a well-planned online course that is relevant to students' experiences and lives, delivered with numerous instructional techniques, along with real, concrete examples, and clear objectives and goals can involve the students in an online classroom and therefore enhance their motivation to proceed in their learning. Additionally, the student's behavior, responsibility, capability of self-regulation/self-efficacy, and interaction with teachers, peers, and content seem to be noteworthy in motivating them, especially the student-teacher interaction and the student-student interaction which require more communication and collaboration in a VLE. Lastly, the online technical infrastructure along with the practice and the progression of an online course/activity, besides its measurement, evaluation, enhancement, and re-evaluation are pointed out to be beneficial motivators in a VLE, together with the continuous technological student support and the usage of the proficient technological tools.

## IX. CONCLUSION

Online learning appears to be more motivating to the student than the traditional education approach does as it shows better positive effects on students' learning outcomes if all motivation factors are met in the VLE (Lin, Chen & Liu 2017). Therefore, in such a critical situation caused by the COVID-19 pandemic that affected the whole world educational system where the online learning through VLEs replaced the traditional educational system due to the shutting of all the educational institutions around the world, educational stakeholders, ICT engineers, teachers, and psychologists are required to cooperate and collaborate to design online courses that motivate the students in their VLEs, based on the factors influencing their motivation in a VLE to meet their psychological, educational, sociological, and technological needs. In this way, students will be perceiving the online learning experience as just right for them and they will be motivated to pursue their online courses especially in this critical period.

## X. RECOMMENDATIONS

By narrating the above descriptive analysis, the author realized that online teachers and VLE designers need to elucidate the factors influencing the student motivation in a VLE as motivation is a vital feature in online learning-teaching practice and the sturdier the motivation is in a VLE, the higher the student attention and engagement are. Therefore, the researcher found it significant and beneficial to give some valuable recommendations based on the latest studies and literature to be followed by the teachers, the ICT engineers, and the students in the aim to increase the student motivation level in a VLE and consequently encourage the student to pursue his/her online learning and so to diminish the attrition rate in VLEs.

1. Enhance the student motivation with regular feedbacks, positive reinforcements, and praises.
2. Make sure to deliver relevant and useful course content with different instructional techniques along with multiple activities that stimulate and engage the students.
3. Motivate the students to work in collaboration and ask parents to monitor and help their kids in their VLEs
4. Motivate the student to be involved, independent, and self-regulator in a VLE by providing him/her the flexibility and the capability to be free and responsible for his/her learning.
5. Design an attractive, organized, and qualified stress-free online classroom with clear objectives and goals for the students to navigate in.
6. Measure, evaluate, enhance, and re-evaluate the online environment infrastructure, regularly.
7. Support and motivate teachers to be friendly, collaborative, and cooperative with the students.
8. Provide the teachers and the students with workshops centered on technology skills to ease the teacher chore and the student learning in a VLE.

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