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Research Article

Factors Influencing Student Engagement for Online Courses: A Confirmatory Factor Analysis

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Abstract

The purpose of the study is to develop and validate the scale for measuring the extent of student engagement for online courses. The study draws a battery of variables from literature on student engagement. The study proposes a 6 construct based scale with 26 items. A total of 1602 university students completed the responses for the scale. All participants had a minimum of two months of experience for online courses for inclusion in survey. Firstly, exploratory factor analysis on the initial scale has been carried out and then confirmatory factor analysis has been carried out for testing the validity and reliability of the scale. After establishing the validity of the scale, a scale with six main constructs has been confirmed. The results indicated that skills, emotional, participation and performance engagement along with value to students are the main drivers of student engagement for online courses. The scale can provide an insight to educators about the main factors that can lead to enhanced levels of engagement while delivering courses online and improve the learning experience for students.

Keywords: online courses, student engagement, confirmatory factor analysis, skills, participation

INTRODUCTION

During the recent times, universities and educational institutions across the globe have started giving importance to online platform for delivering courses. Though providing education through online mode comes with a number of benefits, yet engaging students for online courses can be challenging. Engaging students online is attracting a lot of attention. Student engagement, as an indicator of the quality of learning, is an important metric for assessing the success of any educational course. This places student engagement at the centre-stage of any online course. Online courses present a unique set of challenges when it comes to engaging students.

Tinto (2014) points the relevance of engagement by quoting 'engagement matters' (p.20). Nystrand and Gamoran (1991, p. 284) point that student engagement "*depends on what teachers and students do together…neither can do it alone".* Australasian Survey of Student Engagement Survey (2011) refers student engagement as "*generating conditions that stimulate student involvement*". Also, Burch et al. (2015) point that educator has both the desire and requirement to facilitate student learning.

Several researchers have attempted to examine the concept of student engagement. Student engagement has been treated as a proxy of quality teaching (Chalmers, 2008; Leach, 2016); predictor of learning (Burch et al., 2015); psychological investment towards learning and mastering the skills (Newmann et al., 1992); time and energy devoted to activities (Kuh, 2003); investment in terms of amount, type and intensity by students (Jennings & Angelo, 2006); activity leading to critical thinking, grading and persistence (Kuh et al., 2007); involvement in educationally purposeful activities (Radloff & Coates, 2010); incremental to critical

thinking, reasoning, inquiry and intercultural effectiveness (Pascarella et al., 2010); byproduct of learning environment, time devoted towards work and effect on learning (Axelson & Flick, 2011); and reduce student departure intentions (Jackling & Natoli, 2011). It assists in connecting the students with learning (Kehrwald, 2008). Subsequently, Student engagement measures the efforts put in a course, the feelings involved in learning, connections made through the content, peer interaction, and gaining of skills related to participation, performance and emotions.

Student engagement is complex, multidimensional and contested construct, which has a number of supporting theories and plethora of reviews (Trowler & Trowler, 2010). Several studies have identified student engagement across multiple dimensions: behavioral, psychological, socio-cultural and holistic perspective (Kahu, 2013); or behavioral, emotional and cognitive (Blumenfeld & Paris, 2004).

Considering student engagement as a multidimensional phenomenon and construct, it is suggested as a black box (Hatch, 2012). Additionally, the complexity and incomplete discovery of the properties of construct can be highlighted (Astin, 1984; Bryson, 2014). Further, Bryson et al. (2010) suggest student engagement as actions taken by institution in 'engaging students' and the actions carried by students while learning in 'students engaging'. 'Engaging student' and 'students engaging' are indicated as process and outcome, respectively. Kahu and Nelson (2018) suggest the exploration of student engagement in different contexts.

The majority of prior studies have attempted to investigate student's satisfaction, or desire to use online learning while fewer studies have explored the factors leading to student engagement. The present study attempts to provide an insight on what engages students on online courses for Indian students who belong to urban and semi-urban areas. The study develops a scale for measuring the student engagement on online courses.

The rest of the study is structured as follows. Section *Literature Review* discusses the related literature. Section *Methodology* presents the data and methodology. Section *Results* provides the results and analysis, with discussion in Section *Implications*. Finally, Section *Limitations and Scope for Future* indicates the implications of the study.

LITERATURE REVIEW

The concept of student engagement can be traced back to 1930s where Student engagement is presented as time spent on work and effect on learning by Ralph Tyler (Axelson & Flick, 2011). Earlier studies focused on 'Student Departure Theory' (Tinto, 1975), 'Quality of Student's efforts' (Pace, 1980), 'Student Involvement Theory' (Astin, 1984). These studies observe student engagement from the lens of student involvement, which in turn is considered as function of investment in physical and psychological energy, along with personal development. Student involvement theory underpins the theoretical foundation in management theory. Further, focusing on the employee engagement, Kahn (1990) argues that engaged employees devote more emotional, physical and cognitive resources while performing their roles in the organization. Handelsmann et al. (2005) identify engagement at the levels of skills, emotions, participation and performance as four major factors contributing toward student engagement. Further, Kahu (2013) stretches the dimensions of student engagement to behavioral, psychological and socio-cultural axis, by extending transition theory and cultural studies.

Transition theory brings in focus the challenge faced by students while transitioning from school environment to higher education institutes. Thus, transition flips the perspective presented in Student involvement theory. Kahu (2013) suggests student engagement happens at the interface provided at the intersection point of student factors and institutional factors. He ropes in the behavioral, psychological and socio-cultural approach to student engagement via cultural dimensions. Educational researchers attempt to merge management theory with theoretical approach to merge management theory with theoretical approach to present dimensions to student engagement. Burch et al. (2015) modify the Rich et al.'s (2010) employee engagement scale and present four main components of student engagement to "*emotional engagement, physical engagement, cognitive engagement in class and cognitive engagement out of class"*. Dixson (2015)

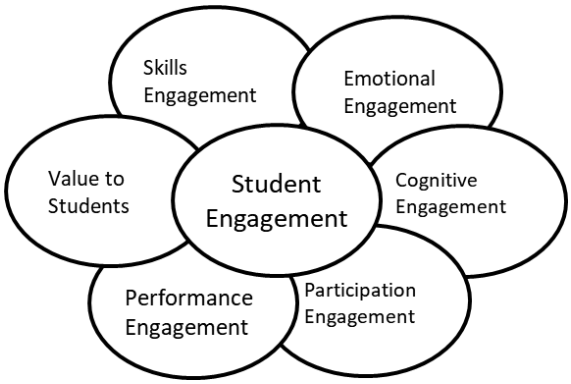

Figure 1. Theoretical dimensions for student engagement

expands Handelsmann et al's work (2005) with an 'Online Student Engagement' Scale. He distributes items across four broad factors, i.e., skills, emotion, participation and performance. Further, Kahu and Nelson (2018) contribute by emphasizing the importance of educational interface facilities in bringing the interaction of institutional factors and student factors to influence student's engagement. Subsequently, they add educational interface to Kahu's (2013) framework. Drawing from the work of Handelsmann et al. (2005), Rich, LePine and Crawford (2010), Burch et al. (2015), Dixson (2015) and literature, we discuss the student engagement across the six different dimensions of skills, emotional, cognitive, participation, performance and value.

Skills Engagement (SE)

Skills engagement as a construct for student engagement focuses on the efforts put in by student during the course. Astin (1984) points that student engagement must lead to efforts that contribute in achieving the course objectives. Skills engagement refer to making efforts regularly to study, reading the course material, making class notes, organizing the content of course, listening and reading carefully, taking notes, making presentations and attending video sessions (Dixson, 2015). Handelsman et al. (2005) suggest skills engagement as what students "do", and include reading course material, and making efforts to learn. It gets reflected in questions raised in class, receiving of tutor lectures and attendance in supplemental review sessions.

Subsequently, students prefer to earn their degree and thus, engagement tends to hold positive association with time taken to complete the degree. Greater the efforts put in by student in the course, greater would be retention and achievement.

Emotional Engagement

Emotional engagement refers to the learners' emotions about learning (Marks, 2000). It elaborates with the emotions, interest in class activities and towards peer, course, instructor and learning experience (Fredricks et al., 2004). When students find course interesting and gain the ability to apply it to their own lives (Handelsmann et al., 2005; Dixson, 2015), then they feel more emotionally engaged with the course. Engaging students emotionally brings in more effort, makes the courses more interesting to students and increase the desire to learn (Dixson, 2015). Moreover, the assignment appears to be more engaging and unique to students (Purinton & Burke, 2019). Positive emotions stimulate learning and enhance cognition, attention and lead to action (Williams et al., 2013); and, instructors can cultivate emotional engagement among students (Black & Allen, 2018).

Cognitive Engagement

Cognitive Engagement considers how students approach learning and how their experiences lead to learning (Biggs 1987). It refers to how student interpret their environment and their own selves (Corno & Mandinach, 1983); integration of student motivation and strategies towards learning course objectives (Richardson & Newby, 2006). Cognitive engagement indicate behavioral perspective which refer to student's response to

self-regulation and effective use of deep learning strategies (Fredricks et al., 2004; Park & Yun, 2017). Further, taking more responsibility for learning (Richardson & Newby, 2006), extending investment in learning and active participation require cognitive interpretations (Meyer, 2014). Therefore, Cognitive engagement may encourage greater student engagement across all dimensions of learning process.

Participation Engagement

Students learn when they interact with peers and instructors, i.e., social interaction. According to Handelsman et al. (2005), participation engagement deals with interaction with peers and enjoying the content of the course. Social interaction cultivates social engagement which leads to social construction of knowledge and positively influences the satisfaction level of student (Drouin, 2008). Further, with multi-level interactions, resource sharing and activities involving higher order thinking abilities, student can develop competencies on online learning environments (Oliveira et al., 2011). Dixson (2015) suggests having fun on online chats & conversations, participating in online forums, helping fellow students, posting regularly in online forums increase the participation engagement. Online courses must develop an environment which encourages building social circle, community and fruitful interactions (Bigatel et al., 2012). Whereas Ragusa and Crampton (2018) point that providing exercises like tick box etc., only distract and detract the students from their academic success rather than engaging them.

Performance Engagement

Performance engagement points towards the student's efforts in getting good grades and performing well on assignments. Student's desire and goal to achieve success in the course reflects the participation engagement (Dixson, 2015; Handelsman et al., 2005). Participation involves all the suspense, excitement, opportunity of earning grades and being successful in course. Higher levels of participation engagement motivate students to earn good grades (Dixson, 2015; Hofer, 2004; Rocca, 2010). Subsequently, it indicates towards the student's desire to perform well and achieve successful completion of course.

Value to Students

Purinton and Burke (2019) suggest measurement of perceived value of assignments to students as a dimension of student engagement. Perceived value to students assesses whether the students find the assignments to be unique, unusual and creative enough to bring value to the course. Also, the curriculum design must align the learning outcomes, activities and assessment with Providing value beyond the textbook increases student engagement (Graeff, 2010), as it provides active learning and higher thinking opportunities to students. The student derives value from the engagement in an online course when the course acts as a bridge between the student and study material (Dixson, 2015), engages in higher order thinking skills to apply the concepts in real world problems (Handelsman et al, 2005, Koohang et al, 2016).

METHODOLOGY

There is lack of consistency among the existing student engagement studies for online learning. Student engagement for online courses has become critical element for universities delivering online education. The study aims to develop a scale for assessing the level of student engagement for online courses for university students.

Questionnaire Design and Measurements

The study develops a questionnaire which focuses on six constructs collected from literature addressing student engagement (See **Table 1**). The proposed instrument was reviewed by three experts in the field of education. Six experts in the field of education are requested to review the questionnaire. All experts hold more than ten years of experience in teaching at university level and are suitably qualified (with Ph.D) to review the content of items included questionnaire. For establishing the content validity of the instrument, we calculated content validity indices, i.e., item level content validity index (I-CVI), scale-level content validity index based on average method (S-CVI/Ave) and scale-level content validity index based on universal

Table 1. Main constructs on which online student engagement is based

Main constructs	Source
Skills Engagement	Astin (1984), Handelsman et al. (2005); Dixson (2015)
Efforts Engagement	Marks (2000), Fredricks et al. (2004), Handelsman et al. (2005), Dixson (2015), Black and Allen (2018), Purinton and Burke (2019)
Cognitive Engagement	Corno and Mandinach (1983), Fredricks et al. (2004), Richardson and Newby (2006), Meyer (2014), Park and Yun (2017)
Participation Engagement	Handelsman et al. (2005), Drouin (2008), Oliveria et al. (2011), Bigatel et al. (2012), Dixson (2015)
Performance Engagement	Handelsman et al. (2005), Rocca (2010), Dixson (2015)
Value to Students	Handelsman et al. (2005), Graeff (2010), Dixson (2015), Koohang et al. (2016), Purinton and Burke (2019)

(Source: author's compilation)

Table 2. Content validity indices

Items	I-CVI
λ11	1
λ12	1
λ13	1
λ14	1
λ15	1
λ21	1
λ22	1
λ23	1
λ24	1
λ25	1
λ26	1
λ27	0.833
λ31	1
λ32	1
λ33	1
λ34	1
λ41	1
λ42	1
λ43	1
λ51	1
λ52	1
λ53	1
λ54	0.8333
λ61	1
λ62	1
λ63	0.8333
λ64	1
S-CVI/Ave	0.9815
S-CVI/UA	0.8889

agreement method (S-CVI/UA) (Polit and Beck, 2006). CVI is a measure to assess the inter-expert agreement and assess the scale The calculated values for the indices are above the threshold value of 0.80 for six experts (Lynn, 1986, Polit & Beck, 2006; Polit et al., 2007; Yusoff, 2019) (See **Table 2**). The responses for each item have been collected on 5-point Likert scale (with 1(strongly disagree) to 5(strongly agree)). A pilot survey with 364 respondents was examined. On the basis of the results of the pilot survey, items with a loading of less than 0.50 are removed from the questionnaire and the revised average variance explained is calculated. Random sampling has been used for the purposes of current study. The participation in the survey is voluntary and the survey was conducted over the period of three months from Jan 2021 to March 2021. A total number of 1800 questionnaires are circulated. We obtained total 1602 questionnaires valid to be used for further analysis. The inclusion criteria for respondent were that the respondent should have minimum

Table 3. Participants' information

Age	N (%)
18-20	944(58.9%)
20-24	658 (41.1%)
Previous experience on online courses	N (%)
2 months	529 (33.0%)
2 -6 months	833 (51.9%)
6-12 months	175 (10.9%)
More than 12 months	65 (4.0%)

Gender	N (%)
Male	848 (52.9%)
Female	754 (47%)

(Source: author's compilation)

Table 4. Descriptive information of the constructs used in the research model

Construct	Mean	Standard Deviation
Skills Engagement (SE)	3.285	0.215
Emotional Engagement (EE)	2.692	0.304
Cognitive Engagement (CE)	3.586	0.194
Participation Engagement (PE)	3.181	0.246
Performance Engagement (PeE)	3.511	0.147
Value to Students (VS)	2.378	0.207
Complete Questionnaire	3.059	0.522

(Source: author's compilation)

Table 5. Results of parallel anaylsis

Component	Adjusted Eigenvalue	Unadjusted Eigenvalue	Estimated Bias
1	4.543	4.952	0.408
2	3.261	3.610	0.349
3	2.651	2.955	0.304
4	2.274	2.540	0.265
5	1.854	2.085	0.231
6	1.595	1.795	0.199

(Source: author's compilation)

two months of experience with online courses. **Table 3** presents the demographic information for the survey respondents.

RESULTS

Descriptive Analysis

Descriptive statistics of the constructs employed in the research model are summarized and presented in **Table 4**. The mean values for the constructs obtained through exploratory factor analysis range from 2.378 to 3.586.

Exploratory Factor Analysis

To support the factorability on the basis of correlation matrix, the Kaiser-Meyer-Olkin value is found to be 0.834. The value obtained is well above the acceptable threshold level of 0.60 (Kaiser, 1974). Also, the results for Bartlett's test of sphericity are found satisfactory (Bartlett, 1954) (See **Table 6**). The results from the Exploratory factor analysis are shown in **Table 5**. Parallel analysis was employed to discover the number of factors to be retained (Williams et al., 2010). The results obtained from Horn's parallel analysis for component retention are shown in **Table 5** and **Figure 2**. With adjusted eigenvalues >1 (Dinno, 2009) suggests 6 factors to be retained for further analysis Further, the results obtained by applying 'Maximum Likelihood' estimation through 'varimax' rotation, the factor structure explained 57.4% of the variance. The

Table 6. KMO test and Bartlett's test results

Particular	Value
Kaiser-Meyer-Olkin Test	0.834
Bartlett's test of sphericity	
χ^2	7496.244
df	351.000
p-value	0.0001

(Source: author's compilation)

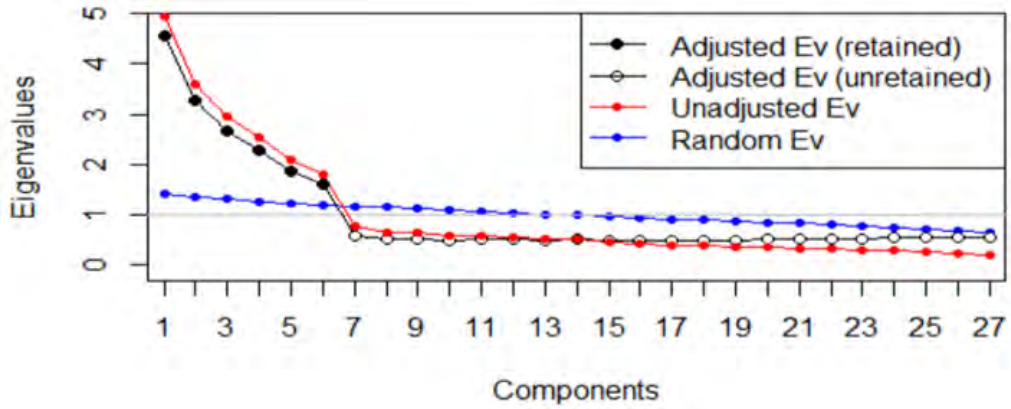

Figure 2. Parallel Analysis
(Source: author's compilation)

communalities for the items in the solution were found to be satisfactory which indicated enough variance captured by components.

Factor loadings for the items range from 0.538 to 0.909 and we found no evidence of cross loadings (See **Table 7**). So, the initial solution obtained from the exploratory factor analysis show a total of six constructs: Social Engagement (SE) (contains 5 items); Emotional Engagement (EE) (contains 7 items); Cognitive Engagement (CE) (contains 4 items); Performance Engagement (PE) (contains 3 items); Participation Engagement (PeE) (contains 4 items) and Value to Students (VS) (contains 4 items) with 27 error terms (e1 to e27). All the factors suggest satisfactory loadings on the constructs.

Table 7. Results for exploratory factor analysis

Construct	Item label	Item detail	Factor Loading	Communalities
Skills Engagement (SE)	λ11	Feel intensity in working	0.758	0.419
	λ12	Put in my full efforts	0.68	0.521
	λ13	Devote efforts and energy	0.842	0.279
	λ14	Give my all to perform	0.728	0.452
	λ15	Work hard to complete the tasks	0.71	0.466
Emotional Engagement (EE)	λ21	Enthusiasm toward class/ course	0.657	0.53
	λ22	Feel interested in learning	0.749	0.419
	λ23	Feel proud on completing tasks, assignments	0.751	0.433
	λ24	Feel excited in attending all session/ Feel energetic during class	0.775	0.395
	λ25	Find assignments and tasks engaging	0.782	0.377
	λ26	Find the course relevant to my life	0.737	0.437
	λ27	The way to draw students into the class is effective	0.716	0.472
Cognitive Engagement (CE)	λ31	Feels focused during class	0.621	0.591
	λ32	Absorbed during class discussion	0.909	0.172
	λ33	Concentrate well during class	0.863	0.251
	λ34	Devote attention to discussion and activities	0.717	0.478

(Source: author's compilation)

Table 7 (continued). Results for exploratory factor analysis

Construct	Item label	Item detail	Factor Loading	Communalities
Participation Engagement (PE)	λ41	Get to know my peer	0.538	0.538
	λ42	Find online chat, discussion with instructor interesting	0.747	0.747
	λ43	Find online chat, discussion with peers interesting	0.812	0.812
Performance Engagement (PeE)	λ51	Doing well on the tests/quizzes	0.696	0.696
	λ52	Feel interactions with instructor to be more engaging	0.791	0.791
	λ53	Find participation in class activities is satisfactory	0.629	0.629
	λ54	Clarity about the core concepts has been attained	0.707	0.707
Value to Students (VS)	λ61	Exercises given in the class hold value to me	0.815	0.815
	λ62	The process of delivery added value to my course	0.872	0.872
	λ63	The class starts with excitement and interest	0.652	0.652
	λ64	The course had value	0.756	0.756

(Source: author's compilation)

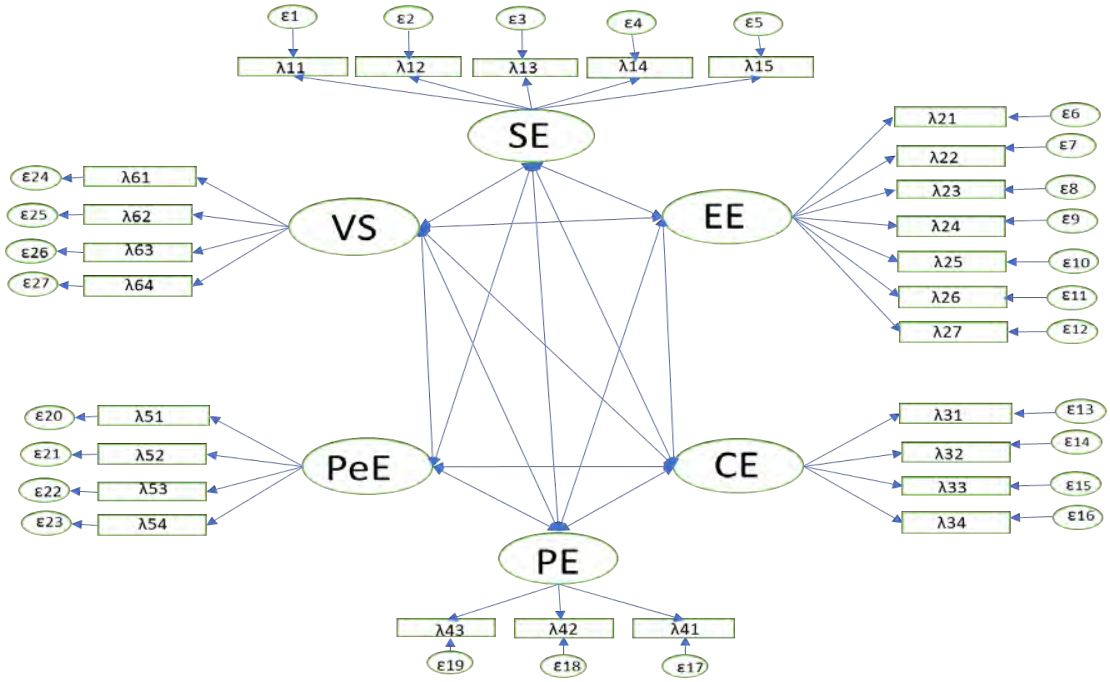

Figure 3. Proposed research model

Table 8. Fit indices

Indices	Measurement Model	Recommendation
χ^2 $(p\ value)$	709.012(0.000)	
Comparative Fit Index (CFI)	0.947	>0.900
Tucker-Lewis Index (TLI)	0.943	>0.900
Goodness of Fit Index (GFI)	0.917	>0.900
Root mean square error of approximation (RMSEA)	0.044	<0.080

(Source: author's compilation)

Construct Validity

Confirmatory factor analysis has been employed to explore the proposed research model (See **Figure 3**) and confirm the scale developed. The fit indices of the research and measurement model were computed. The goodness of fit indices indicates an acceptable fit for the overall model (see **Table 8**). The values for CFI= 0.947, TLI= 0.943, RFI=0.899, GFI=0.917, and RMSEA=0.044. Since measurement model shows adequate fit, then psychometric properties of the model in terms of reliability, convergent validity and discriminant validity are assessed.

Table 9. Results of discriminant reliability

Construct	SE	EE	CE	PE	PeE	VS
SE	0.745					
EE	0.000	0.739				
CE	0.000	0.000	0.785			
PE	0.000	0.000	0.000	0.708		
PeE	0.000	0.000	0.000	0.000	0.708	
VS	0.000	0.001	0.000	0.000	0.000	0.778

(Source: author's compilation) (where SE=Skills Engagement, EE=Emotional Engagement, CE= Cognitive Engagement, PE= Participation Engagement, PeE= Performance Engagement, VS= Value to Students)

Table 10. Results of internal and convergent reliabilities

Factors	Items	Item detail	Cronbach's alpha	Factor loadings	Composite reliability	Average variance extracted
SE	λ11	Feel intensity in working	0.865	0.812	0.861	0.556
	λ12	Put in my full efforts		0.756		
	λ13	Devote efforts and energy		0.969		
	λ14	Give my all to perform		0.848		
	λ15	Work hard to complete the tasks		0.791		
EE	λ21	Enthusiasm toward class/ course	0.897	0.834	0.893	0.546
	λ22	Feel interested in learning		0.941		
	λ23	Feel proud on completing tasks, assignments		0.949		
	λ24	Feel excited in attending all session/ Feel energetic during class		0.951		
	λ25	Find assignments and tasks engaging		0.965		
	λ26	Find the course relevant to my life		0.944		
	λ27	The way to draw students into the class is effective		0.924		
CE	λ31	Feels focused during class	0.854	0.66	0.863	0.617
	λ32	Absorbed during class discussion		0.957		
	λ33	Concentrate well during class		0.939		
	λ34	Devote attention to discussion and activities		0.932		
PE	λ41	Get to know my peer	0.796	0.585	0.746	0.502
	λ42	Find online chat, discussion with instructor interesting		0.776		
	λ43	Find online chat, discussion with peers interesting		0.821		
PeE	λ51	Doing well on the tests/quizzes	0.811	0.766	0.799	0.501
	λ52	Feel interactions with instructor to be more engaging		0.856		
	λ53	Find participation in class activities is satisfactory		0.784		
	λ54	Clarity about the core concepts has been attained		0.827		
VS	λ61	Exercises given in the class hold value to me	0.856	0.69	0.858	0.605
	λ62	The process of delivery added value to my course		0.835		
	λ63	The class starts with excitement and interest		0.85		
	λ64	The course had value		0.855		

(Source: author's compilation) (where SE=Skills Engagement, EE=Emotional Engagement, CE= Cognitive Engagement, PE= Participation Engagement, PeE= Performance Engagement, VS= Value to Students)

To successfully obtain results, reliability of the constructs is tested. For reliability, the values for Cronbach's alpha for each construct and the complete questionnaire were calculated. The values for Cronbach's alpha range from 0.796 to 0.897 with a value of cronbach's alpha for overall questionnaire of 0.818. Referring to Brown (2015); Brown and Moore (2012), we have considered value of more than 0.70 for factor loading to confirm a factor, and 0.50 value for average variance extracted value required. Moreover, each square root degree of the average variance extracted values in one of the specific constructs must be higher than the correlation values between the construct and other constructs for discriminant validity. This indicates sufficient convergent validity supporting the representations of observed variables in the intended latent variable. Referring to **Tables 9** and **10** the current study passes a set of reliability tests.

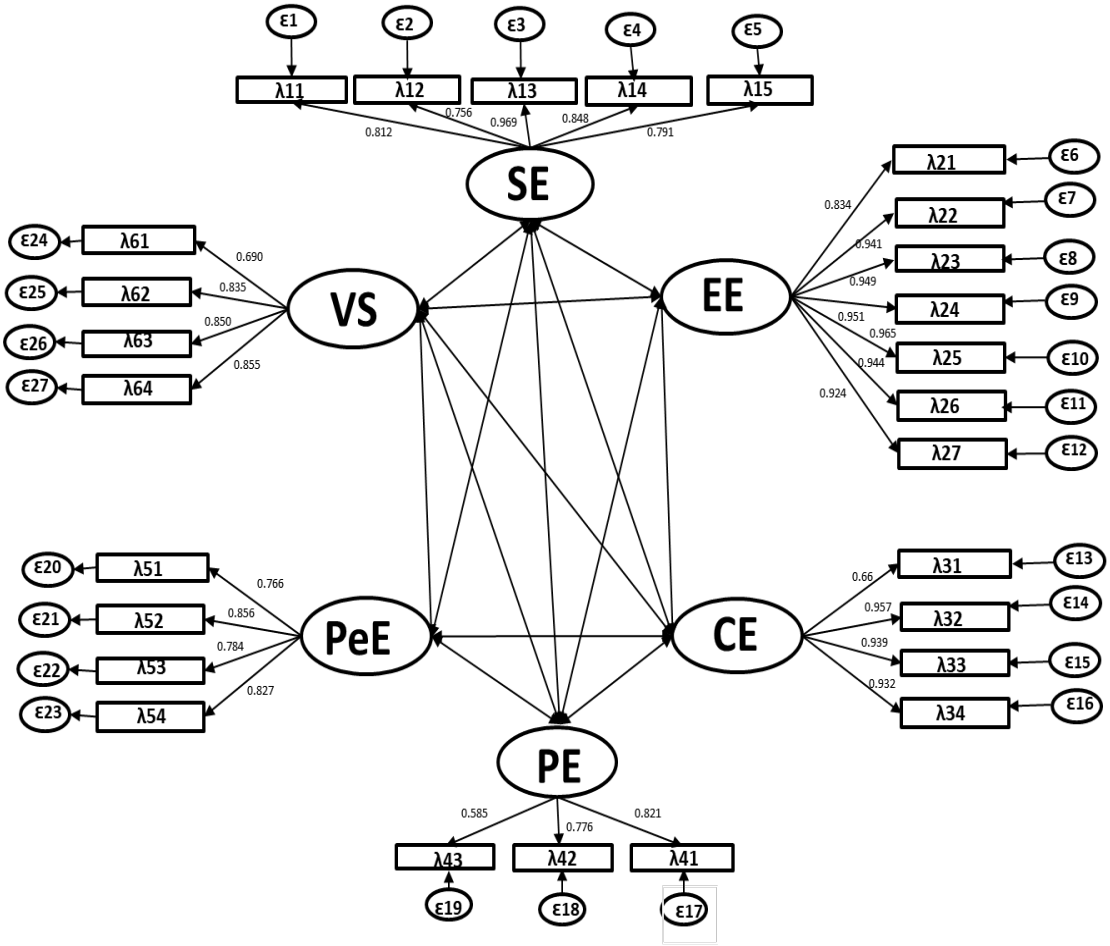

Figure 4. Proposed research model confirmed via confirmatory factor analysis
(Source: author's compilation)

DISCUSSION AND ANALYSIS

The current study aims to develop a scale for measurement of student engagement for online courses. The results indicate that there are six main constructs that play a significant role which influence student engagement on online courses. The results of the study are consistent with existing literature in student engagement in online platforms (Dixson, 2015; Fredrick et al, 2004; Park & Yun, 2017, Purinton & Burke, 2019).

Furthermore, this study finds the skills engagement, emotional engagement, cognitive engagement, performance engagement but found participation engagement and value to students to be challenging.

Skills engagement marks on the constructivist assumption of how students are willing to make best use of their personal resources like time and efforts to complete the study material (Dixson, 2015; Handelsman et al., 2005; Purinton & Burke, 2019) acquire the high-quality learning.

Emotional engagement, as a significant construct for student engagement for online courses, focuses on to cultivate connect with learning experience via class activities, peer group connections (Black & Allen, 2018; Purinton & Burke, 2019). If a student feels emotionally connected with the learning experience, then he would attempt to put his best foot forward to achieve best possible results and complete all the assignments as per the time line of the courses. It enhances the application aspect of the learning acquired during the course. Getting students emotionally engaged during online courses can become challenging, yet it has been given sufficient importance for engaging students on online courses.

In line with Park and Yun (2017), and Fredrick et al. (2004), cognitive engagement reflects on the capacity of the student response towards learning activities. For example, online discussion boards help weak students to build in cognitive capacity by discussion with strong ones and by applying peer questions. It can be improved by adopting wide range of strategies for learning so that students relate with the subject easily. Participation engagement becomes more challenging on online student engagement as interactions between peers and instructors gets limited. Yet, including collaborative exercises in the course structure can help instructors to make course more participative and improve the overall student engagement (Kurucay & Innan, 2017).

Performance engagement, as a construct, diverts the attention of students towards the achievement of goals of the learning experience (Dixson, 2015; Hofer, 2004). Bringing in the lens on graduate students, students attempt to perform better on their quizzes, assignments. Performing and acquiring good grades marks the engagement of students in the learning and knowledge acquisition process. Strong relationship between communication with instructors improves satisfaction from online courses and engages students as well (Cole, 2016). Additionally, value to students, as a construct, brings the attention of students towards the achievement of learning outcomes and feeling more engaged via value driven from achievement (Graeff, 2010). Bringing in value to students provide ample grounds for students to carry out future research in order to develop supplementary knowledge on this (Hayes, 2018).

The results of the study are consistent with existing literature in student engagement in online platforms (Dixson, 2015; Fredrick et al, 2004; Park & Yun, 2017; Purinton & Burke, 2019).

IMPLICATIONS

The present study tries to make following implications to the existing literature on student engagement. Considering an academic perspective, the study affirms the effectiveness and efficiency for online courses in engaging students. The study decomposes student engagement into six constructs indicating different dimensions of student engagement. Applying an academic and contextual lens, the study suggests how meaningful learning experiences can be achieved for online courses. The theoretical overlapping of different dimensions of student engagement influences the engagement level of student in an online class.

From an institution's perspective, the findings suggest that the research model can be extended to allow higher education institutions to institute their own set of guidelines and embedded the dimensions of student engagement in the design, structure, and delivery of the online courses. Measuring on the student engagement would help the institutions in development and transformation of knowledge that help in building and sustaining a better community.

LIMITATIONS AND SCOPE FOR FUTURE

The study has few limitations. First, the study has been carried out to university students who are either pursuing their graduation or post-graduation. Second, the research model can be extended to include set of demographics. Thus, future research should utilize the results and implications of the research model presented in the current study for addressing the student engagement under different cultural conditions and different disciplines.

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Data availability: Data generated or analysed during this study are available from the author on request.

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