
Review of literature on the Concept, Methods and Efficiency of Students Engagement as an Effective Learning Process

Teena Singh*

Abstract

In the present era, the purpose of education is not only to build knowledge and moral dimension of the personality of the students but also to develop employable skills which has been changing continuously due to innovation of disruptive technology. Consequently, success of education is to inculcate learning spirit and creative aptitude among students. Therefore, there is renewed interests among researchers about students engagement at various stages of learning. In India, very few research has been done in this field. The purpose of the Western researches on student engagement has been to investigate how student engagement could create interests among students in learning, developing knowledge and to reduce dropout rates in schools as well as ensuring higher rate of entry into and completing university education. Indian researchers have mainly studied student engagement among MBA students. There are varied results of finding of researches in this field depending on their objectives. Yet findings have commonality with respect to constructs and predictors of student engagement. All research observed that while the student's individual affective attribute was an important construct, the faculty student relations, curriculum and entire environment of the academic institute including administration played a big role in developing students engagement in learning process. This paper through literature review brings out major findings of researches in this field.

Keywords : *student engagement, construct, predictor, affective attributes, learning environment*

Introduction

Thinkers are urging on experiential education rather than instructive teaching and learning especially in the segment of higher education. Statistics exhibit abysmal failure in developing students skills and consequent fall in the employability rate among students graduating from higher education systems which are based on passive participation of students. As rethinking has been developing about the environment of education in general and higher education in particular, the focus is shifting towards

the concept and models of students engagement in the process of learning. This idea has been receiving wider support as it is observed that students from

*** Prof. Teena Singh**

OB & HR

Assistant Professor, Academic

Registrar & Head Internation Relations

New Delhi Institute of Management

New Delhi

experiential education system through engagement, are more creative, independent thinkers, better decision makers and develop leadership quality. This paper attempts to review literature in order to focus on the efficacy of students engagement models and institutional factor that encourage student engagement. The paper is organized in following sections. (1) Firstly, literature on definition of the concept are discussed to understand dimension of the concept of student engagement in educational process. Secondly, (2) The paper summaries major findings of research works done for last one decade on salient features and usefulness of students engagement in the process of learning. Thirdly, (3) Here, attempts are made to critically analyse researches on predictors of student engagement, (4) this review also discusses findings of researches on this topic by Indian authors.

What is Student Engagement: Student Engagement as Defined in the Literature

Student engagement, according to Mosenthal (1999) is conceptualized as "a psychological process, specifically, the attention, interest, investment and effort students expend in the work of learning." Kuh (2001) defines student engagement in terms of the time and energy students invest in educationally purposeful activities. It is active involvement, commitment and sense of belonging that dictates the time and effort students devote to educationally purposeful activities (Cleary & Skaines 2005). Fullarton (2002) defined engagement in terms of extracurricular participation. It is student's involvement with activities and conditions likely to generate high quality learning. (Australian Council of educational Research, 2008). Shernoff (2002) calls student engagement optimal experience or "flow," which refers to a state of mind brought on by a combination of three common facets of "flow" experiences and optimal motivation to learn: concentration, interest and enjoyment. This conceptualization of student engagement depends on all three elements working in concert, as during a flow experience. It is students' willingness to participate in routine school activities, such as attending classes, submitting required work, and following teachers' directions in class. (Chapman, 2003). It has also been viewed as both student commitment and belongingness (Taylor and Wilding, 2009).

While early research works on students engagement emphasises extra curriculum activities as a method to learn additional skills as well as being good learner in the classroom, some literature emphasizes more innate and deep involvement of students in the process of education. Here, authors define engagement as the level of participation and intrinsic interest that a student shows in the process of learning in the academic institute. It involves both behaviors such as persistence, effort, attention and attitudes such as motivation, positive learning values, enthusiasm, interest, pride in success in the institutional process of learning. These research found that engaged students seek out activities, inside and outside the classroom which lead to developing creativity as well as success in learning immensely. They also display curiosity, a desire to know more, and positive emotional responses to learning (Akey, 2006). The Faculty stimulates engagement by providing students with active learning experiences, conveying excitement and enthusiasm for their subject, and providing opportunities for student-faculty interactions. Students show their engagement by participating in class discussions, doing research projects, and interacting with their professors and peers (Heller et al. 2010). defined student engagement as "participating in the activities offered as part of the curriculum of academic programme". Negative indicators of engagement in this study included unexcused absences from classes, cheating on tests, and damaging school property. The Student engagement is a two-party endeavor: The institution provides the opportunities, and the student then chooses how (or if) they will connect (Ludlum et al. 2008). Thus literature finds that both students and the academic institute are involved in creating infrastructure of education through engagement.

Drawing from Schaufeli et al. (2002) seminal research on Burnt out and engagement in university students, one can expect that student engagement will bring positive aspects in process of learning among antonyms of the three components such as :

- (a) **Energy** in place of **exhaustion**
- (b) **Dedication** in place of **cynicism**
- (c) **Absorption** in place of **withdrawal**

Dimensions of Student engagement

Some dimensions measure behavioural and affective component in the form of Students participation in academic activities (inside and outside) and identification and sense of belongingness to the academic institute. On the other hand, some measure student engagement as a four dimensional construct like Appleton et al. (2006) proposed a model of context for student engagement and its outcomes having four dimensions: Academic engagement elements include time on task, credit hours for graduation and homework completion. Behavioural dimensions are attendance, classroom participation (voluntary), Extra-curricular participation and extra credit options. The cognitive dimensions include self-regulation, relevance to future aspirations, value of learning (goal setting) and strategizing. The last dimension is psychological in terms of belonging, identification with school and school membership.

As mentioned earlier, Schaufeli et al. (2002) in their cross national study of university students from Spain identified three dimensions namely vigour which describes the energy that one invests in the activity at hand, dedication in terms of commitment and clarity towards the work and absorption which refers to the state of involvement or immersion in the task or work at hand. Flow is another term used for measuring student engagement which is a combination of three common facets of flow of experiences and optimal motivation to learn, concentration (e.g., on specific problems), interest (e.g., for new knowledge) and enjoyment (e.g., for the process of learning).

Other Researches find that Active and collaborative learning, Academic, behavioural, cognitive, affective/emotional, Student-faculty, supportive environment, participation, challenge, intellectual, online, beyond class, etc. are some of the important dimensions of student engagement (Handelsmann et al., 2005; Fredericks et al., 2004; Kuh, 2001; Carle et al. 2008; CCSSE, 2006, AUSSE, 2006; Krause & Coates, 2008; Leithwood & Jantzi, 1999).

In a longitudinal sample of 11,827 French-Canadian high school students - Behavioral, Affective, Cognitive indices of engagement were tested both separately and as a global construct. Findings confirm the robustness of the overall multidimensional construct

of engagement academic institutes reflecting both cognitive and psychosocial characteristics.

It is evident from table that there is no unanimity in the dimensions of student engagement and there are researchers who have taken different dimensions of the construct bringing forward the fact that it is a complex and multi-dimensional construct with elements of cognition, emotion and behavioural manifestations. Cognitive dimensions are essential to assess the psychological aspects of engagement. It is imperative to understand what students perceive as important in their learning process and what kind of knowledge do students expect from their field of education. The other important dimension that requires focus is the emotional component. A significant assessment of the level of student engagement can be generated from the affective / feelings that students have towards various components of their learning process. These feelings may be towards the course, teachers, institution, peers, etc. and their influence may create positive or negative feelings and hence impact the level of student engagement. Behavioural dimension is another important element in deciphering the construct of student engagement. Behaviour is the visible manifestation of what students think and feel about the learning and its related constituents. Without understanding and observing the behavior or the actions of students one may not get a complete picture of student engagement. It may be in the form of participation in academic activities, raising hands in class, submitting assignments in time, asking questions, etc. The proposed study will examine the level and predictors of student engagement from all three dimensions so as to generate a complete picture of the construct.

Review of Empirical constructs on Student Engagement

Student engagement has been studied as a multi-dimensional construct by many authors and they have generated their respective scales to measure the construct. Some of these measures are reviewed below:

a) National Survey of Student Engagement (NSSE), 2000: The NSSE assesses the extent to which

A Tabulated view of dimensions suggested by various authors

S.No.	Dimensions	Author/s
1.	1. i) Skill Engagement. ii) Emotional Engagement. iii) Participation/interaction engagement. iv) Performance engagement	Handelsmann et al. 2005
2.	2. i) Behavioural Engagement ii) Cognitive Engagement iii) Emotional Engagement	Fredericks et al. 2004
3.	3. i) Level of Academic Challenge ii) Active and Collaborative Learning iii) Student-Faculty Interaction iv) Enriching Educational Experiences v) Supportive Campus Environment	NSSE, Kuh, 2001
4.	4. i) Community Based Activities (CBA) ii) Transformational Learning Opportunities (TLO) iii) Student Faculty Engagement (SFE)	Carle et al. 2008
5.	5. i) Active and collaborative learning ii) Student effort iii) Academic challenge, iv) Student-staff interactions v) Support of learners.	Community Colleges Survey of Student Engagement (2006)
6.	6. i) Academic Challenge ii) Active Learning iii) Student and Staff Interactions iv) Enriching Educational Experiences v) Supportive Learning Environment vi) Work Integrated Learning at the undergraduate post graduate and staff level	Australasian Survey of Student Engagement (AUSSE, 2006)
7.	7. i) Transition engagement ii) Academic engagement iii) Peer engagement	Krause & Coates (2008)

A Tabulated view of dimensions suggested by various authors

S.No.	Dimensions	Author/s
	<ul style="list-style-type: none"> iv) Student-staff engagement v) Intellectual engagement vi) Online engagement vii) Beyond-class engagement 	
8.	<ul style="list-style-type: none"> 8. i) Behavioural Engagement ii) Affective Engagement 	Leithwood & Jantzi (1999)
9.	<ul style="list-style-type: none"> 9. i) Academic engagement ii) Behavioural dimensions iii) Cognitive dimensions iv) Psychological dimensions 	Appleton et al. (2006)
10.	<ul style="list-style-type: none"> 10. Engagement is measured as opposite of burnout with three dimensions as: <ul style="list-style-type: none"> i) Vigour ii) Dedication iii) Absorption 	Schaufeli et al. (2002)
11.	<ul style="list-style-type: none"> 11. Flow concept of engagement has 3 dimensions: <ul style="list-style-type: none"> i) Concentration ii) Interest iii) Enjoyment 	(Shernoff. 2002).

Prepared by the Author

students are engaged in good educational practices and what they gain from their college experiences. It is a widely used survey in the US for measurement of student engagement. However its sub-components and the items measuring them remain somewhat challenging. (Le Nasa et al.2009).

b) Krause & Coates (2008) study: Here authors studied student engagement in first year of the university education. They state that engagement scales the multifaceted nature and successful engagement needs to be recognised as both the behavioural and attitudinal dimensions of the student experience if universities are to understand and foster student engagement. Institutional support is

particularly important in the first year. Their transition into the university is a critical time. They need to develop a sense of belonging, interact with staff and other students and experience intellectual engagement if the transition is to be successful.

c) Student Engagement Questionnaire (SEQ), (2006) by Coates is a tool apt for multi-level analysis in terms of student, group and institution. The questionnaire has 16 scales to measure engagement. The SEQ contains around 150 items that operationalise the concept of student engagement. This concept is concerned with whether students participate in effective educational practices and whether institutions support such engagement.

The common parameters between NSSE, CCSE (USA) and SEQ (Australia) are Academic challenge, Student and staff interaction, Active learning, collaboration but they differ in terms of teacher approachability, online engagement and beyond classroom activities.

d) Australasian Survey of Student Engagement, 2006 : AUSSE is closely related to the American National Survey of Student Engagement (NSSE). The survey instrument is adapted from the American NSSE instrument. Items were adjusted to Australasian conditions with the scale on work integration added.

e) Student Course Engagement Questionnaire by Handelsman, Briggs, Sullivan, & Towler, 2005 : SCEQ measures four dimensions of engagement. There are 23 items in this questionnaire. This tool measures engagement as a multi-dimensional construct but is confined to measuring engagement towards course.

g) Motivation and Engagement Scale by Lifelong Achievement group, 2011: Motivation and Engagement scales are a range of instruments which measure motivation and engagement at Junior School, High School, University Colleges, Work, Sports and Music (Creative Arts) level. It assesses motivation through three adaptive cognitive dimensions (booster thoughts), three adaptive behavioural dimensions (booster behaviours), three impeding

h) The Teacher Questionnaire on Student Motivation to Read developed by Sweet, Guthrie, & Ng (1996) asks teachers to report on factors relating to student engagement rates, such as activities (e.g., enjoys reading about favorite activities), autonomy (e.g., knows how to choose a book he or she would want to read), and individual factors (e.g., is easily distracted while reading). (Chapman, 2003).

We can conclude that there are many measures of student engagement and lack of common dimensions may be the cause of not having a uniform model. Existing models measure variety of student experiences during and outside classes, relationship with faculty, discussion with faculty about career and course, Institutional emphasis in terms of spending,

availability of time, schedules, quality of assignments, peer support, linking education with employability, having fun in class, challenging work, asking and answering questions in class, perception of students towards studies, etc. The existing questionnaires include different manifestations to uncover the various dimensions of student engagement be it through participative or involvement items or through items that ascertain feelings towards certain aspects of the learning process and the actions which are reflective of student engagement. The proposed study will be using some parts of the existing scales and certain new items will be added to predict the level of student engagement and assessment of factors which influence it.

Predictors of Engagement: How can student engagement be ensured?

The various studies cited point towards the fact that student engagement can be influenced or predicted by many factors. Individual factors such as gender, personality type, perception, emotional intelligence, attitude, family background, family income, parents education, minority status etc. are shown to influence the level of student engagement. Other than these there are range of drivers that exist in the institution which create an impact over the level of student engagement like infrastructural facilities, supportive climate or environment, technology, institutional policy etc. Faculty's role in influencing student engagement has been studied by many authors in the form of student faculty interaction, teaching style, pedagogy, access to faculty etc. Supportive peer group, group work, active learning, use of social networks, extra-curricular activities are some of the other factors that have been found to impact student engagement. Review of literature finds that student engagement outcome varies among institutes, countries and curriculums develop environment for student engagement. Factors that influence student engagement can be categorized into Individual/ Personal attributes, Contextual factors which may include institutional and relationship factors and their impact on student engagement.

Fullarton (2002) examined the influence of school factors, teacher factors, student factors, contextual factors and attitude and achievement on high school student engagement. She found gender to be the

strongest predictor of engagement. School climate; Self-concept of ability and Intrinsic motivation were found to be significant predictors. Involvement in certain high school activities and a propensity to read newspapers are good predictors of first year college engagement (Ludlum et al.). In a sample of Spanish undergraduate students, Shernoff (2002) in his study of high school students found the following factors to be related to engagement: a) students pay more attention and concentrate harder when they are challenged; b) actively demonstrate their skills and perceive them to be high. c) group and individual work than while listening to a lecture d) non-academic courses than academic ones. School reform initiatives and classroom subject matter were found to be substantially influencing engagement in a study of 3, 669 students representing 143 social studies and mathematics classrooms in a nationally selected sample of 24 restructuring elementary, middle, and high schools assessing the effect of school reform initiatives and class subject matter (mathematics or social studies) on engagement (Marks, 2000). School assets were associated with student engagement for all groups, even accounting for individual resilience in a randomly selected sample study of 10,000 diverse 7th-, 9th-, and 11th-grade students to test a model of relations between school assets, individual resilience, and student engagement for students grouped by level of family assets. (Sharkey et al., 2008). Students who used common area in which to gather, relax, socialise and work together outside classes demonstrated higher levels of engagement compared to those students who did not use these spaces (Matthews et al. 2008).

The results of a study assessing gender differences at among African American Undergraduates at Historically Black Colleges and Universities counter previous research regarding gender gaps on HBCU campuses by illustrating that African American women enjoy an equally engaging experience as their same-race male counterparts (Harper et al. 2004).

Situational interest and self-regulation were found to be significantly correlated with three types of engagement (behavioural, emotional and cognitive), while computer self-efficacy did not appear to be associated with any of those engagement variables (Chih-Yuan Sun & Rueda, 2011). Thematic coherence, teaching within a context combined with a template

for teaching that uses the 5Es (Engage, Explore, Explain, Elaborate and Evaluate) can be introduced by individual instructors, who will be rewarded by students who are more engaged, more motivated and more likely to give a higher rating to the instructor and the course (Patterson et al. 2011). Students obtain a deeper understanding when an active learning route is adopted where they get to apply concepts in 'real-world' tasks (Hamer, 2002). It is suggested that experiential learning techniques can be used to increase the definitional knowledge acquired by students of low and moderate overall performances (Hamer, 2002). In a model proposed by Appleton et al. (2006) some of the context factors which influence student engagement are family, peers and school related factors. The family context include Academic and motivational support for learning, goals and expectations, monitoring/supervision and learning resources in the home. The peer related factors include educational expectations, shared common school value, attendance and peer's aspiration for learning. Finally the school factors which influence engagement are School climate, Instructional programming and learning activities, mental health support, clear and appropriate teacher expectations, Goal structure (task vs. ability) and Teacher student relationships.

Zhao & Kuh (2004) stated that institutions can influence range of behaviours such as student engagement with teaching practices and programming interventions such as first year seminars, service - learning outcomes and learning communities. On the other hand voluntary choice, clear and consistent goals, small size, student participation in school policy and management, opportunities for staff and students to be involved in cooperative endeavors, and academic work that allows for the development of products were found to increase students' involvement, engagement, and integration in school Newmann (1981). Disciplinary practices, Communal structures encourage shared responsibility and commitment to common goals, lateral decision making, and greater individual discretion. (Barker and Gump (1964). Positive conduct and absence of disruptive conduct, school attendance, academic progress, social membership, high expectations in students' ability to achieve, and emotional support are six qualities of Student engagement and Career and Technical Education teachers identify all six domains of student

engagement as represented within their course structure (Allen, 2010). Attendance, peer evaluated participation in small group work and completion of online work as a measure of participation were good overall predictors of student engagement (Caulfield, 2010). The single best predictor of student satisfaction is the degree to which students perceive the college environment to be supportive of their academic and social needs (Astin, 1993; Pascarella/Terenzini, 2005)

Kandiko (2009) compared college and university student engagement between the U.S. and Canada. Results suggest that students in Canada and the U.S. differed in term of the frequency with which they engage in active and collaborative learning and student-faculty interaction. It appears that the Canadian classroom experience involves less active participation by students and less individual contact with faculty members. The large size of most Canadian universities and higher student-faculty ratios makes collaborative learning experiences and faculty contact more challenging.

Technology enhanced classroom students demonstrated statistically significant increases in student engagement and improved academic achievement. (Carle et al. 2008). Online activities and tools such as multimedia and discussion boards may increase emotional engagement in online learning (Chih-Yuan Sun & Rueda, 2011). Online students reported higher levels of engagement than freshmen and senior in campus students (Robinson & Hullinger, 2008). Junco et al. (2011) examined the causal link between educationally relevant social media use and student engagement in a sample of American university students found that encouraging the use of Twitter for educationally relevant purposes had positive effect on grades. In addition to engendering motivation to engage students on the part of the faculty, the use of Twitter created a culture of engagement between students. In a study involving 174 low-income middle school students who participated in the Computers for Youth (CFY) program students with working home computers, family computing was the most sizeable and significant predictor of student engagement. Additionally, the number of different software programs used at least a few times a week significantly predicted engagement. (Tsikalas et al. 2007).

Duran et al. (2006) found Perceived Emotional Intelligence, Self efficacy and Perceived stress as significant predictors of engagement. Many studies demonstrate a link between behavioral engagement and achievement (Connell et al., 1994; Marks, 2000; Skinner et al., 1990). Perceived course value and perceived engagement have strong correlation. (Floyd et al. 2009).

Other than individual and institutional factors certain background factors also influence engagement. Family, community, culture, and educational context influence engagement (Connell & Wellborn, 1991; Mehan et al., 1996; Ogbu, 2003). There was no major statistically significant differences between first generation students and other student group (Asrat, 2007). Parents educational level was found to be a significant predictor of Student Engagement (Fullarton, 2002). Research study investigating student involvement/engagement based on educational origin in a sample of public university graduates in the southeastern United States in either 2006 or 2007 showed that students were involved/engaged at their university on statistically different levels based on their educational origin. Indigenous students were different from the transfer students but the transfer students were the same regardless from where they originated. The indigenous students were the most involved, followed by transfers from junior/community colleges. Transfer students from four-year colleges and universities were the least involved/engaged. (Roberts & Mc Neese, 2007-8).

Indian Case Study: Students Engagement in MBA Institutes

A study carried out in an Indian Business School offering two year full time MBA programme to assess the level of student engagement among the first-year students concluded that student engagement was a multidimensional construct (Sharma and Bhaumik 2013). The study identified five dimensions of student engagement out of which the two behavioural dimensions viz. diligent pursuit of studies and active academic participation were highly rated and emotional engagement while commitment to the institution and the affective dimensions of student engagement were moderately rated. Participation in co-curricular activities was the lowest rated dimension. The study also identified predictors of

student engagement and found that academic inputs, helpful administration were highly rated followed by syllabus of the course and computer facilities. All the other predictors received moderate to low ratings leading to the conclusion that other than quality of teaching and behavior of administration staff, students did not have a positive view of the institutional environment. Another study of MBA students in an All-Women University identified six dimensions of student engagement namely Diligent pursuit of studies, commitment to the institution, Emotional engagement, Active Academic participation, Absorption of studies and Interaction with faculty. Active academic participation was found to be very high in the sample whereas diligent pursuit of studies, emotional engagement and absorption is found to be modest and interaction with faculty both inside and outside the classroom and commitment to the institution were reported to be very low. A combination of two personality variables of LOC and Self Efficacy as well as academic inputs as the situational variable emerged as the best predictor for several dimensions of engagement (Sharma et. al. 2013). A study of a recently created Private University in NCR was based on the premise that deep learning of the students depend on the cognitive, emotional and physical engagement of the students in their studies. The results reported low level of commitment to the institution, moderate emotional engagement and a fairly high level of behavioural engagement. Faculty inputs, facilities for extracurricular activities, library collections and placement facilities were found to be potential predictors for one of the dimensions of student engagement. Since student engagement is a multi-dimensional construct, each dimension was influenced by a different predictor.

Conclusion

The review research finds that there have been interests in students engagement for a long time for developing interests and aptitude of learning though focus of research has been changing over time from creating interest among classroom teaching to developing capability of self-learning. The paper also draws conclusion that learning environment is an important determinant along with the role of faculty and curriculum and students attractive attribute. Nonetheless, it is through student engagement

interests in self-learning can successfully be developed for lifelong benefits of students.

We can conclude this section by reiterating that student engagement is a crucial phenomenon that exists in a learning institution and it results from presence and interaction of many factors, if balanced properly it may benefit all participants of the learning process.

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