



Learning Engagement; Definition, Aspects, Measurement and Intervention Strategies

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Abstract. This study aims to clarify the definition of learning engagement, explain the key aspects involved, explore relevant measurement tools, and investigate interventions that can increase students' engagement levels. An in-depth understanding of learning engagement is expected to positively contribute to the improvement of the education system and the development of students' potential more holistically. This research is a literature review that aims to identify relevant articles and literature sources that can contribute to answering the research questions regarding the concept of learning engagement. Learning engagement is part of student engagement, which includes aspects of student involvement in the learning process, both cognitively, behaviorally, and affective. Thus, student engagement is the foundation for the creation of student engagement, which includes students' commitment and active participation in the learning process. It is important to develop programs that are comprehensive and adaptable to the unique needs of students. While universal interventions are beneficial, targeted programs can be more effective for high-risk students. Therefore, it is necessary to implement interventions at various levels, including universal programs for general students and more selected services for at-risk students.

Keywords: learning; engagement; student; learning engagement.



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Introduction

Education is an integral part of the development of individuals and society. In the current era of information and technology, the learning process is not only about channeling information, but also about developing student engagement in the learning process. Learning engagement includes a number of cognitive, emotional, and behavioral elements that interact with each other to create a meaningful learning experience. Learning engagement is not just physical presence in the classroom, but involves students' attention, interest and active participation in the learning process. The definition and understanding of learning engagement is key to improving the effectiveness of the education system. Student engagement has become a major concern in the effort to improve their learning achievement.

Engagement is a positive, satisfying, work-related state of mind, characterized by passion, dedication, and involvement (Syah, 2016). Learning engagement is involvement or commitment in a learning process as well as active student participation such as enthusiasm, feelings of belonging, complying with existing rules, especially in learning and student behavior in the learning process. (Ramadhany, 2022).

Buelow et al. (2018) concluded that learning engagement involves both physical and mental aspects, depending on the specific situation, and includes quantitative and qualitative dimensions. concluded that learning engagement involves both physical and mental aspects, depends on the specific situation, and includes both quantitative and qualitative dimensions. This study shows that student engagement can be strengthened through involvement in academics, interaction with educators, and engagement with classmates. The findings support the view that learning engagement includes three main dimensions: action, feeling, and thought engagement. Action engagement is seen when students actively participate in activities such as lesson tasks, while feeling engagement involves students' attitudes towards the educator,

peers, or even the whole lesson. Additionally, thought engagement relates to students' assessment of the relevance and importance of the course content.

Meanwhile, Halverson & Graham (2019) have implemented blended learning engagement. They said that in examining blended learning engagement, researchers need to go beyond the physical attributes of face-to-face and online instruction, recognizing that psychosocial relationships are at the core of blended learning research and design; meanwhile, a deeper understanding of how engagement indicators are affected by human and machine interactions is essential, especially when technology can play an equally important role as human interaction in triggering brain responses and driving student engagement.

Thus, Halverson & Graham assert that in examining learning engagement in a blended context, researchers should pay attention to psychosocial aspects and understand the impact of human and machine interaction on engagement indicators. This deeper understanding is key, especially when technology plays a significant role in triggering brain responses and increasing student engagement, going beyond just the physical aspects of face-to-face and online instruction.

Many education and psychology experts have tried to define learning engagement from various perspectives. These definitions often involve aspects such as motivation, emotional involvement and active participation. These aspects are the subject of discussion because they have an important role in shaping students' learning attitudes and behaviors. This is in line with the opinion of Reeve & Jang (2006) that there are five aspects of student learning engagement, namely attention, effort, persistence, verbal participation, and positive emotions.

According to Syah (2016) increasing student engagement is crucial. Actively engaged students will enjoy the learning process at school, participate in group learning, and engage in independent learning at home. Feeling joy in learning is the first step that must be prioritized, because learning without the joy of doing the activity will not be efficient. In addition, a student also needs to show dedication to themselves, which includes a commitment to continuously improve themselves through the learning process. This dedication needs to be continuously improved in order to achieve optimal results.

Based on the various views described above, it can be concluded that it is important to explore the concept of learning engagement to improve the quality and involvement of students in the learning process. A deeper research and understanding of the factors that influence student engagement, both in terms of physical and psychosocial, can help design learning strategies that are more effective and suited to students' needs. Considering the various perspectives discussed, further research on learning engagement is an important step in creating meaningful learning experiences that support student development.

As such, this study aims to detail the definition of learning engagement, explain the key aspects involved, explore relevant measurement tools, and investigate interventions that can increase students' engagement levels. An in-depth understanding of learning engagement is expected to positively contribute to the improvement of the education system and the development of students' potential more holistically.

Method

This research is a literature review that aims to identify relevant articles and literature sources that can contribute to answering the research questions regarding the concept of learning engagement (Nortvig et al., 2018). The focus includes an understanding of what learning engagement is, its definition, the key aspects involved, an exploration of relevant measurement tools, and an investigation into interventions that can increase the level of student engagement. A systematic search of sources was conducted through SINTA, ProQuest, ScienceDirect, Scopus, and SpringerLink journal databases using keywords "learning" or "learning engagement" or "student engagement". To ensure the currency of the review, the search was limited to articles published between 2014 - 2023. Next, the researcher presents the results of the reading and analysis of the articles included in this study by initiating a discussion of the selected comparative studies on learning engagement.

Results and Discussions

Learning Engagement

Learning engagement is a concept that covers various aspects of student involvement in the learning process. Learning engagement includes efforts to produce changes and a good learning environment, in terms of students' motivation, behavior, emotional, and feelings of belonging related to task work and participation in learning activities (Reeve & Lee, 2014). Engagement is the intrinsic motivation of individuals to engage and be enthusiastic in every activity, which is reflected in real actions. Student

engagement is influenced by various emotional variables. Learning engagement is the willingness of students to be actively involved in school activities, both inside and outside the classroom, through the implementation of various effective learning processes, which involve aspects such as behavior, emotions, and cognition (Herikusuma et al., 2023).

Based on the above definition, on the other hand, according to Diastama & Dewi (2021) student engagement is a form of prosocial behavior that involves interaction between teachers and students, and involves active behavior in learning engagement. Learning engagement and student engagement are closely related in the context of learning. Student engagement refers to students' involvement in the learning process, which includes time and effort given to learning activities, as well as four dimensions of student engagement, namely agentic engagement, behavioral engagement, emotional engagement, and cognitive engagement. On the other hand, learning engagement includes students' efforts to produce changes and a good learning environment, in terms of motivation, behavior, emotional, and students' sense of belonging related to task work and participation in learning activities (Ramadhany, 2022).

Regarding student engagement, the results of research conducted by Raza et al. (2020) concluded that case study-based learning has a positive impact on student engagement. It was found that case-based learning increases student engagement, with significant and positive relationships seen in all four aspects of engagement, namely behavioral, emotional, cognitive, and agential engagement. This study shows that engaging students in case-based learning can stimulate their active participation and involvement in various dimensions of learning. In line with this opinion, Mukaromah et al. (2018) also said that student engagement is divided into three dimensions, namely emotional, cognitive, and behavioral engagement. Emotional engagement relates to students' positive and negative responses to school activities, teachers, and classmates. Cognitive engagement, on the other hand, reflects students' efforts to use all their abilities to understand complex ideas and master difficult skills. Students' behavioral engagement is explained as the desire to participate and engage in academic, social, and extracurricular activities that involve effort and behavior.

Student engagement is an iterative, dynamic process characterized by positive behavioral, cognitive, and affective elements demonstrated in an effort to achieve deep learning. This process is influenced by the wider socio-cultural environment which is bound by contextual preconditions of self-investment, motivation and appreciation of learning (Bernard, 2015). In addition, Zhong et al. based on their research findings that self-regulation, teaching presence, and social presence have a positive relationship with learning engagement. Self-regulation and learning engagement also have a positive relationship with learning perseverance. In addition, it was revealed that learning engagement serves as a mediator in the relationship between self-regulation, teaching presence, social presence, and learning perseverance.

Therefore, it can be concluded that learning engagement is part of student engagement, which includes aspects of student involvement in the learning process, both cognitively, behaviorally, and affective. Thus, student engagement is the foundation for the creation of student engagement, which includes students' commitment and active participation in the learning process.

From the definition and research findings related to learning engagement above, it can be concluded that learning engagement covers various aspects of student involvement in the learning process, including motivation, behavior, emotional, and students' sense of belonging related to task work and participation in learning activities. Student engagement is the foundation for the creation of learning engagement, covering aspects of student involvement in the learning process, both cognitively, behaviorally, and affective. Thus, learning engagement and student engagement are interrelated in the learning context, and both play an important role in influencing student engagement in the learning process.

Aspects of Learning Engagement and Student Engagement

Learning engagement involves several aspects, the first of which is meaningful processing, which refers to the cognitive processing of new information and attempts to relate new material to existing knowledge or determine its relevance. The second aspect is participation, which describes student learning through active involvement and contribution in class discussions. The last aspect is focused attention, which describes how students give cognitive attention during class. Given the importance of engagement in learning in education, there are certainly several benefits if students have engagement in learning (Schreiner & Louis, 2006).

In contrast to the opinion of Fredricks et al. (2004) they use 3 interrelated dimensions of engagement which they propose namely: (1) behavioral engagement defined in terms of participation, effort, attention, perseverance, positive behavior, and absence of disruptive behavior; (2) emotional engagement refers to the extent of positive and negative reactions to teachers and classmates, academics, and school, but also to a sense of belonging and identification with the school and subject domain; and cognitive engagement indicates the level of investment in learning, being thoughtful, strategic, and willing to make effort to understand complex ideas and master difficult tasks.

According to Bowden et al. (2021) there are four aspects of student engagement. Students can show all four aspects of engagement, namely behavioral, affective, social, and cognitive, either together or separately. The following is a discussion of each aspect of student engagement:

- a. **Behavioral Engagement.** The behavioral dimension refers to observable academic performance and participatory actions and activities. Positive behavioral engagement is measured through observable academic performance, including students' positive behaviors, attendance, efforts to stay on task, contributions, participation in class discussions, involvement in academic and extracurricular activities, time spent working, and perseverance and resilience when facing challenging tasks. Behaviorally engaged students demonstrate proactive participatory behaviors through their engagement and participation in campus life and extracurricular civic activities. The behavioral dimension is the most frequently measured dimension in national barometers of the student experience.
- b. **Affective Engagement.** The affective dimension addresses how students feel and how enthusiastic they are about the learning experience. Affective engagement is seen in the level of positive emotions during school and out of school activities, such as happiness, pride, joy, enthusiasm, openness, excitement and curiosity. Emotionally engaged students are able to see the purpose and meaning behind their academic tasks and social interactions. In online learning, achievement emotions vary depending on the learning task. These positive emotions are also associated with behavioral engagement. Despite the important role of emotions in engagement, research on the emotional component of the student experience is limited. However, emotions are closely related to students' learning, achievement, life satisfaction and health. Feelings of optimism, pride, excitement and enthusiasm can create sustained psychological engagement in the learning experience, beyond the school environment.
- c. **Social Engagement.** Social engagement refers to a student's bonding and togetherness with the college environment, peers, and academic staff. It creates inclusivity, togetherness, and purpose, strengthening students' sense of accomplishment. In and out of the classroom, social engagement is reflected in students' participatory behavior, forming bonds in community and study groups. Social engagement also plays a role in improving student well-being, whereas a lack of engagement can result in loneliness and isolation.
- d. **Cognitive Engagement.** Cognitive engagement involves a student's mental state towards the learning experience, including positive attention to academic communication and planning academic effort. Cognitively engaged students show a deeper understanding of academic value and are able to think at a higher level. With an awareness of the content and meaning of academic tasks, cognitive engagement contributes positively to student success factors.

From the above, it can be concluded that learning engagement involves important aspects such as meaningful processing, participation, and focused attention. Understanding new concepts and linking them to existing knowledge are key elements in meaningful processing. Active participation in class discussions reflects student engagement in learning. Some views on student engagement include three interrelated dimensions: behavioral, affective, and cognitive. Behavioral engagement involves participation, effort, attention, and perseverance, while affective engagement relates to positive and negative reactions to teachers, classmates, and the academic environment. Meanwhile, cognitive engagement indicates the level of investment in learning and students' ability to think at a higher level. In addition, there is one aspect of student engagement, which is social. Students can demonstrate these four aspects together or separately. Social engagement refers to a student's bond with the college environment and peers. Student engagement has a huge impact on their achievement and well-being, and the development of a comprehensive intervention program is essential to support better engagement at multiple levels.

Measurement and Intervention Strategy

a. Measurement

According to Boekaerts (2016) in Jang, Kim, and Reeve's research, they explored student engagement in the classroom, which they described as a positive attitude and the opposite of disengagement. This engagement is defined through positive student behaviors, such as effort, enthusiasm, learning well, and initiative. On the other hand, student disengagement includes easy quitting, boredom, shallow learning, and passivity. Their research looked at the relationship between teachers' motivating styles and student engagement/disengagement in three time waves. The results show that student disengagement can increase teachers' interpersonal control, while student engagement does not affect

teachers' motivating style. Teachers' motivating style, either directly or indirectly through meeting or frustrating students' needs, has an impact on students' engagement.

They used 8 scales to measure engagement/(disengagement) in class specifically in domains, namely behavioral (disengagement) (example items: In this class, I work as hard as I can/In this class, I just pretend as if I am working), emotional (disengagement) (When I am in this class, I feel good/I feel bored), cognitive (disengagement) (I try to explain key concepts in my own words/I have trouble figuring out what to do to understand the material), and agential (disengagement) (I tell the teacher what I need and want/I am quiet and unresponsive most of the time in this class). They found that early and mid-year student disengagement increased teacher interpersonal control, whereas early engagement and mid-year student change did not affect teacher motivating style. Teacher motivating style directly and indirectly (through need fulfillment or frustration) influenced student engagement/(disengagement).

In research Boekaerts (2016) explained that several researchers used semi-structured interviews to explore teachers' and students' understanding of engagement in math and science subjects. Indicators of engagement from teachers and students were identified and coded into three dimensions of engagement. Eight indicators of teacher engagement included student behavior, social interaction, emotional response, and cognitive engagement. This article raises questions about the limits of the concept of engagement, such as why extra work is considered an indicator of cognitive engagement, not behavioral engagement. Although getting good grades is not part of engagement, it is a consequence of engagement. Fredricks et al. concluded that few students referred to cognitive engagement. They were more likely to use behavioral and emotional indicators as signs of engagement. Interestingly, many students did not differentiate between engagement and success in class, in line with previous research reporting that students often misunderstand teachers' goals. In general, students, especially those struggling in math and science, associated engagement with feelings of support and togetherness in the classroom.

b. Intervention Strategy

Interventions to improve student engagement have proven successful in some cases, however, few theory- and evidence-based prevention programs have been implemented at scale. Examples of programs such as Check & Connect have been successful in reducing dropout and truancy rates, especially for high-risk students. While there are trials that show increased student engagement through school-wide positive behavior support programs, most programs are small and intensive, have not been implemented widely, and there are concerns about implementation fidelity and reduced effectiveness. It is important to develop programs that are comprehensive and can be tailored to the unique needs of students. While universal interventions are beneficial, targeted programs can be more effective for students at high risk. Therefore, it is necessary to implement interventions at multiple levels, including universal programs for general students and more selected services for at-risk students (Wang & Degol, 2014).

Conclusions

Education is an important part of individual and societal development. Nowadays, the learning process does not only focus on channeling information, but also on developing student engagement in the learning process. Learning engagement involves cognitive, emotional, and behavioral aspects of students that interact with each other to create a meaningful learning experience. Learning engagement is not only about physical presence in class, but also involves students' attention, interest, and active participation in the learning process. The definition and understanding of learning engagement is an important key in improving the effectiveness of the education system. Therefore, student engagement becomes the main focus in an effort to improve their learning achievement.

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