

The Potential of Universal Design for Learning to Enhance Academic Engagement of Students with Disabilities

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Abstrak

Siswa difabel yang belajar di kelas reguler umumnya mengalami kesulitan dalam mengakses kurikulum umum. Akibatnya, mereka harus berjuang untuk terlibat dalam kegiatan pembelajaran. Keterlibatan akademik siswa penyandang disabilitas terdiri dari keterlibatan kognitif, keterlibatan perilaku, dan keterlibatan emosional. Keterlibatan akademik yang rendah akan berdampak pada prestasi akademik siswa. Oleh karena itu, academic engagement menjadi salah satu indikator keberhasilan siswa berkebutuhan khusus di kelas reguler. UDL adalah kerangka desain pengajaran yang menekankan keberhasilan belajar untuk semua siswa dengan atau tanpa kebutuhan khusus. Salah satu prinsip utama UDL adalah mengembangkan berbagai cara agar siswa dapat mengakses pembelajaran. Berdasarkan konsep tersebut, penulis melakukan penelitian dengan menggunakan metode literature review. Tujuannya untuk mengetahui potensi UDL dalam meningkatkan keterlibatan siswa berkebutuhan khusus di kelas reguler, kemudian mencoba mengembangkan ilustrasi desain pengajaran sederhana berbasis UDL.

Kata Kunci : “Universal Design for Learning”, “Academic Engagement”, “Siswa Penyandang Disabilitas”

Abstract

Students with disabilities studying in regular classes generally have difficulty in accessing the general curriculum. Consequently, they have to struggle to get involved in learning activities. Academic engagement of students with disabilities consists of cognitive engagement, behavioral engagement, and emotional engagement. Low academic engagement will have an impact on student academic achievement. Therefore, academic engagement is an indicator of the success of students with special needs in regular classes. UDL is a teaching design framework that emphasizes learning success for all students with or without special needs. One of the main principles of UDL is developing various ways so that students can access learning. Based on this concept, the authors conducted research using the literature review method. The aim is to find out the potential of UDL in increasing the engagement of students with special needs in regular classes, then to try to develop a simple UDL-based teaching design illustration.

Keywords : “Universal Design for Learning”, “Academic Engagement”, “Students with Disabilities”

INTRODUCTION

In the 21st century, the teacher's role is essential in designing humanistic learning. Teachers are facing the challenge of developing flexible learning towards students with a variety of characteristics. The effectiveness of teaching is also highlighted so that the learning objectives are adjusted to the students' needs . Thus, all students are expected to achieve success in learning.

One indicator of academic achievement is the high engagement of students in school activities . Engagement is interpreted as an occurring interactive activity and a combination of

school academic targets and student learning needs [3]. Various characteristics and student learning needs encourage teachers to develop teaching instructions being able to engage all students in academic activities. There are many factors in the learning component that can improve the quality of teaching in the classroom [4]. Other factors are related to student's internal conditions, such as feelings, beliefs, and motivation to learn. Preventive action that the teacher can take on the factors that arise within students is to design teaching instructions that interest students.

Engagement consists of three domains, namely behavioral, cognitive, and emotional/psychological. Behavioral engagement in academics is related to persistence behavior in doing homework, the effort, attention span, contribution in a discussion [5]. Cognitive engagement is related to self-discipline, investment of time given in learning and its objective [6]. Emotional engagement is the affective reaction of students in the class including interests, boredom, happiness, sadness, and anxiety [7]. Therefore, engagement is a multi-dimensional concept that is mutually sustainable between external and internal factors of students. External factors can increase student motivation in academic activities through designed learning that encourages active student participation.

One design of teaching that is considerate and adaptable to the characteristics of all students is universal design for learning. The universal design for learning (UDL) curriculum approach can facilitate various learning needs of students with various alternative learning options. The followings are three main principles in developing a UDL-based learning design. First, the revelation that the approach (UDL) provides the broadest opportunity for students with or without special needs to engage learning in various ways. Second, the learning presentation variability from various aspects depends on the preference and interest. UDL directs the teacher to develop alternatives in learning presentations. Third, alternatives to assess students. Therefore, UDL minimizes failures arising in the learning process. The concept of UDL can improve students' engagement and achievement [10]. Research conducted by [11] showed that learning design with UDL could improve the efficiency of teachers' instruction in fulfilling students' learning needs. The result of the research conducted by [12] also indicated the improvement of special needs students' academic achievement utilizing UDL learning design with STEM (Science, Technology, Engineering, and Math) materials. The improvement of students' perceptions in learning activities also transpired in research conducted by [13]. The engagement in reading comprehension activities was also authenticated by research conducted by [14] applying story mapping as an aid in improving reading comprehension skill of students having reading difficulties.

One of the improvements of engagement was showed through students' independent responses in the regular class [15]. The special needs students who were able to independently access the general curriculum were the realization of academic engagement [16].

In accordance with the revelation of UDL potential in improving students' engagement, the researcher attempted to analyze a variety of literatures and to develop the illustrations of UDL-based teaching design. The motivation of the improvement this learning design was based on the lack engagement of special needs students in classroom learning activities applying traditional teaching method. The design which will be improved in one of science fields of study in the 4th grade of elementary school with butterfly metamorphosis material. The selection of material was based on the subject which studied by students nowadays.

METHOD

This research applied literature review approach in collecting data related to the objective of the research. Through literature review, scientific theory and information related to the universal design potential for learning in improving academic engagement of special needs students will be acquired. Then, the researcher attempted to improve the illustration of teaching design based on universal design for learning for 4th grade students of elementary schools having special needs students.

The first step was collecting literature related to UDL and the academic engagement of

special needs students. The data were obtained through Google Scholar using the keywords “universal design for learning for academic engagement disabilities students”. Based on this search, the result obtained was 89,000. The second step was reducing the available data, because not all articles discussed universal design for learning and academic engagement of special needs students specifically. Therefore, only 10 articles were discussed in detail. The third step, after analyzing the effect of learning design based on universal design for learning on the engagement of special needs students, the researcher attempted to improve a simple design illustration of learning design for 4th grade elementary school. Based on this learning design, it was illustrated that UDL has the potential in improving the engagement of special needs students in the cognitive, emotion, and behavior domains.

RESULT AND DISCUSSION

Universal Design for Learning

Universal design for learning is an approach in learning which focused on the access of variability in learning for all students with various background characteristics. Based on the results of the literature review, UDL has seven basic learning design concepts [17] namely (1) the media design can be accessed by all students, (2) the utilization of media is flexible and can be accommodated by all students, (3) the packaging of learning must be understandable and intuitive operational, (4) the information related to media or learning resource must be communicated, (5) the consideration of tolerance for mistakes in the using of learning resource must be minimized, (6) the products must be designed in such way, so the students will not get easily tired using it, (7) the size and space of products are ascertained easily accessible regardless of students’ physical obstructions and students’ physical capabilities.

Based on the principle and concept plan, the potential of UDL in improving the academic engagement of special needs students is highly possible.

The main principles in developing UDL-based learning design [18] are: (1) meaningful learning through the active engagement of students, (2) representation of learning source by presenting learning through several ways, (3) action and expression in the strategy by directing the students’ goals, providing students alternative in expressing what they understand.

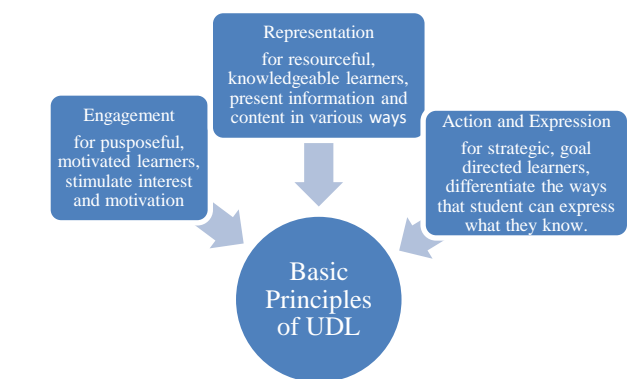


Figure 1: Basic Principles of UDL

Academic Engagement

Academic engagement is emphasized with [19] the focus on the students’ goals and targets in attaining academic achievement, the efforts carried out through the collaboration of various domains in their own selves in completing academic tasks. One of the examples is the cognitive strategy implemented in completing academic tasks (cognitive domain), self-directed attitude of the students on tasks (emotional domain), and time investment given to the students in completing tasks.

Academic engagement consists of multi domain [20]. The first domain is related with cognitive engagement. For instance, self-regulation, the relevance of school to future aspirations and learning goals. Second, behavioral domain, for instance, completing tasks on

time, attending schools, and not skipping classes. The third one is emotional domain [21], for instance, the reaction to teachers, lessons, and classmates.

3.3 Why UDL can Enhance Academic Engagement Students with Disabilities

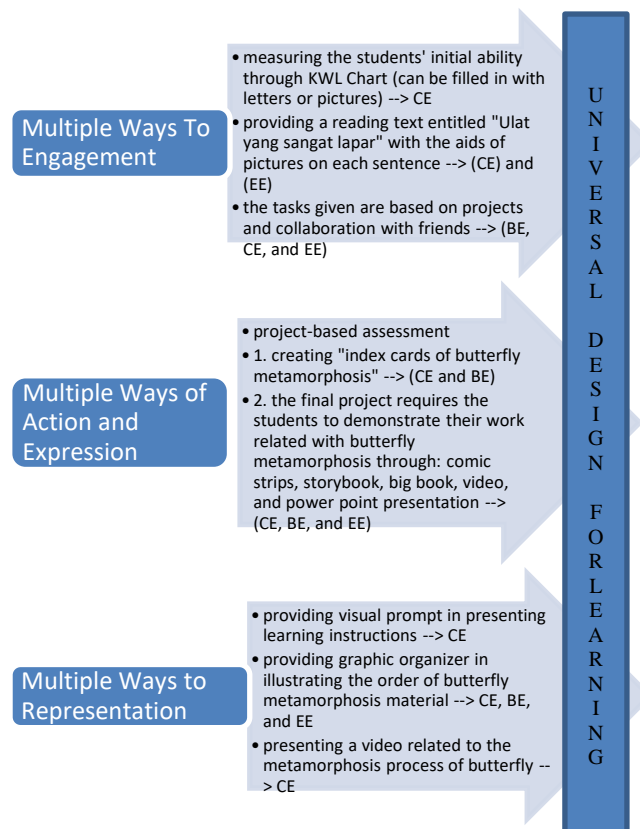
The research conducted by [12] proves that modifying UDL-principles-based learning instructions is able to fulfill the students learning needs. The teachers remind the students' engagement by using the hand-hold voting machines to answer the multiple-choices questions in the evaluation. The accessibility provided in that evaluation motivates students with special needs in learning.

In line with the previous research, [22] states that utilizing UDL as the basis of learning design can improve the opportunity of the students in accessing general curriculum. Students with reading and writing difficulties can develop their literacy skill with and without technology.

It is also strengthened by the research conducted by [23], explaining that providing unstandardized assessment which is adjusted with the needs of students with special needs makes them have improved progress in performing assessment. They can answer the questions given more freely. The same finding is also revealed by [24] that teachers giving providing multimedia learning as the supplementary enable students with or without special needs to be optimal in the learning process activity. The researcher implemented technology and scaffolding in supporting the students to finish their tasks.

Students' engagement improves through the implementation of UDL in the learning activities, marked by the use of digital environment and technology [25]. The learning was presented by utilizing web-based and science notebooks compared with the traditional method of paper-pencil. The result shows a significant improvement in the positive experience, high level interests, and the feeling of competence and autonomy. The research conducted by [26] reveals the steps which must be conducted by the teachers in order to present learning with various alternatives, representatives, and varieties to improve the students' engagement.

Based on the literature review, it was concluded that UDL has a great potential to encourage the students' active engagement in the learning. Therefore, the writer attempted to develop a simple learning design for students with special needs and those without special needs.



Note:

CE= Cognitive Engagement
BE= Behaviour Engagement
EE= Emotional Engagement

Figure 2: Example of learning design based universal design for learning

CONCLUSION

Students' engagement is highly crucial in academic activities. The students with special needs require alternative methods in order to be engaged in academic activities. Moreover, the students also need variety in receiving the stimulus given by the environment in constructing knowledge. Afterwards, in order to be able to express what they understand must be facilitated with various methods. Therefore, the students will be motivated in finishing the academic tasks, creating a strategy to finish the task according to their favored learning style, and thinking that learning is something fun to do. Teachers should not focus on the difficulties of students with special needs, but on the students' ability in learning.

Universal Design for Learning is one of the education frameworks which can facilitate several learning needs of students with various methods. Due to the unique characteristics of students with special needs, UDL Framework has the potential to provide the opportunity so that the learning will be meaningful and the students are able to participate in achieving success. The engagement of the students with special needs in classroom academic activities is the predictor which can be monitored so that the teachers can monitor the development of the students with special needs and that of the students without special needs. Students' engagement through various methods is one of the main principles of UDL. Hence, in its implementation, UDL requires the students to actively participate in the learning activity. It highly shows that UDL has great potential in improving students' engagement.

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