A Study on Universal Design for the Education of Students with Disabilities

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Abstract. Students with disabilities experience physical or cognitive difficulties. These students can partly overcome their educational difficulties by educational approaches through universal design. Universal design for students with disabilities can be better applied by considering these students' various factors. This study shows the factors to be considered in universal design for students with disabilities. It also shows how these factors can be reflected in the development of universal design.

Key Words: Students with disabilities, universal design, the development of universal design

1   Introduction

Students with disabilities usually attend either a general school or a special school, and their educational approaches can be different according to their school placement. However, school placement is one of several considerations for the education of students with disabilities. There are many factors to be considered in the education for students with disabilities. For example, most students with disabilities experience educational difficulties due to their own physical or cognitive difficulties regardless of school placements. Traditionally, educators have considered these students' difficulties as their own problems, and have attempted to fix these problems. However, as the trend of special education for students with disabilities has been changed, the educational approaches on these students have been changed [1].

There are a lot of changes in special education. One of these changes is an educational approach through a universal design. Universal design in education is an educational approach designed to providing educational accesses to all the learners regardless of disabilities [4, 5, 6, and 7]. It has been studied through various methods including application [2] and e-learning [3].

2 Considerations of Universal Design

Students with disabilities can be placed at various educational environments, and they can be classified according to a type of disabilities or a degree of disabilities [1]. This study discusses the factors to be considered in universal design for students with disabilities.

2.1 Considerations of Educational Placements

Educational placements have to be considered in universal design of students with disabilities. These placements are usually divided as special schools and general schools. Although it is not applied to all the students with disabilities, students with mild disabilities such as learning disabilities generally attend general schools and students with severe disabilities attend special schools. In addition, although students with disabilities attend a general school, the participation rates in general classes can be different among students with disabilities [1].

2.2 Considerations of the Types of Disabilities

Students with disabilities can be diagnosed as a certain type of disabilities such as learning disabilities and visual impairment. In addition, some students with disabilities can be diagnosed as multiple disabilities having more than two disabilities [1]. Students with disabilities can require different needs on universal design according to their disabilities. For example, students with learning disabilities can want to receive the support of universal design in academic achievements, and students with visual impairments can want to receive the support of universal design related to instructional materials. Due to the different concerns among students with disabilities, universal design needs to consider the types of disabilities.

2.3 Considerations of the Degree of Disabilities

Students with disabilities can be classified by the degree of disabilities. Some students with disabilities can experience difficulties at the mild level, and others can experience difficulties at the severe level. For example, students with visual impairments can be classified as low vision and blindness. Among students with visual impairments, most students with low vision will read books with optical devices, but students with blindness will usually read books through braille. Therefore, it is important to consider the degree of disabilities [1].

3   Application of Universal Design

As students with disabilities have various factors to be considered [1], the application of universal design needs to reflect these factors. Figure 1 shows how universal design can be developed by considering these factors.
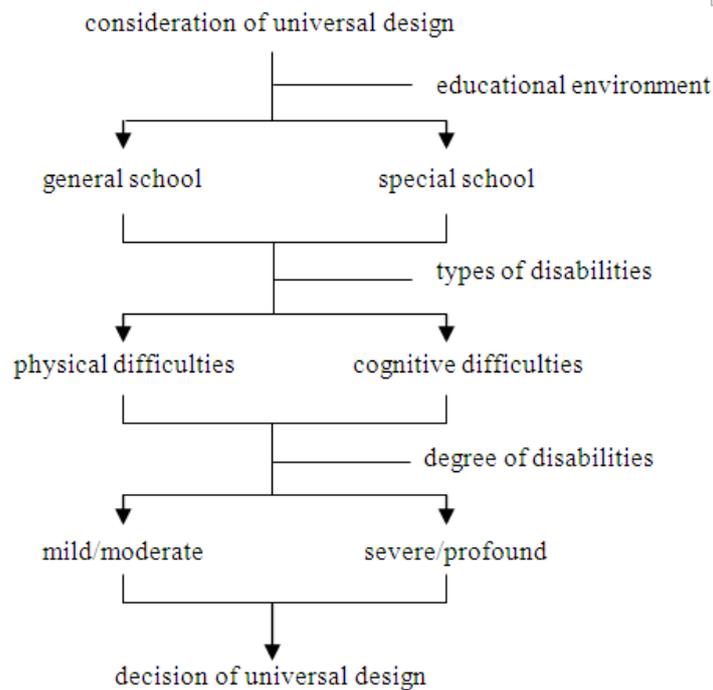

consideration of universal design

educational environment

general school   special school

types of disabilities

physical difficulties   cognitive difficulties

degree of disabilities

mild/moderate   severe/profound

decision of universal design

Fig. 1. Developmental process of universal design

4   Conclusion

Universal design for students with disabilities is a relatively recent educational approach in South Korea, and there are various studies on universal design for students with disabilities. However, there are not so many discussions on how to reflect various factors such as educational placements, the types of disabilities, and the degrees of disabilities. This study discusses various factors to be considered in universal design. It also attempts to show a developmental process of universal design for students with disabilities.

References

1. Heward, W.L., "Exceptional children: An introduction to special education(10th ed.)". Upper Saddle River, NJ: Pearson Education, Inc, 2013.
2. Han, D., Kang, M: "Application development guidelines for the students with developmental disability based on universal design for learning(UDL)", Journal of Digital Convergence, 12(10), pp, 485-491, 2014.
3. Kim, D.I., Son, J.Y., Youn, S.K., "Usability Testing of e-Learning applying Universal Design - Focusing on visual, hearing, and physical disabilities –" The Journal of Special Education : Theory and Practice, 9(2), pp, 97-127, 2008.
4. Kwak, S., "The perspective of universal design for instruction and learning influenced on educational inclusion of students with disabilities." Korean Journal of Physical and Multiple Disabilities, 53(4), pp, 1-29, 2010.
5. Lee, J., Yeom, M., "The Perception and Application of Secondary School Teachers for UDL(Universal Design for Learning) in Inclusive Settings." Special Education Research, 10(1), pp, 283-304, 2011.
6. Park, M., "The Effects of Inclusive Physical Class Applied Universal Design for Disabilities Attitudes and Class Participation Students with and without Disabilities in a General Middle School." Korean Journal of Adapted Physical Activity, 22(3), pp.1-13, 2014.
7. Son, J.Y., Kim, D.I., "A Research Review on Strategies and Effectiveness of Universal Design for Learning applied to the Education Settings." The Journal of Special Education : Theory and Practice, 11(1), pp, 385-411, 2010.