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Implementing the adapted physical education E-learning program into physical education teacher education program

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ABSTRACT

According to the Ministry of Education Korea (2014), the approximately 70.4% of all students with disabilities are included in general schools in Korea. However, studies show that Korean GPE teachers do not feel comforatble or prepared to include students with disabilities (Oh & Lee, 1999; Roh, 2002; Roh & Oh, 2005). The purpose of this study was to explore whether an APE e-learning supplement would have an impact on the level of self-efficacy and content knowledge of pre-service teachers related to including students with intellectual disabilities. An APE supplement was developed based on the Instructional

Design Model (Dick, Carey, & Carey, 2005) to provide three sources of self-efficacy, mastery experience, vicarious experience, and social persuasions. Three groups of pre-service teachers (N = 75) took the same content supplement with different delivery system, E-learning group (n = 25) with online, traditional group (n = 25) with printed handout, and control group (n = 25) without supplement. Two instruments, the Physical Educators' Situation-Specific Self-efficacy and Inclusion Student with Disabilities in Physical Education (*SE*-PETE-D) and the content knowledge test, were given to all participants twice (i.e., pretest and posttest). A 3 × 2 mixed effect ANOVA revealed that pre-service teachers' perceived self-efficacy (p = 0.023) improved after taking the e-learning supplement. However, there was no significant difference in the level of content knowledge (p = 0.248) between the learning group and tranditional group.

1. Introduction

In Korea, since the first special education classes were developed in general schools in 1971, educating students with disabilities has gradually shifted from special schools to special classes within general education schools. In 1997, the Special Education Promotion Act (SEPA) was enacted, and the term "inclusion" was introduced in Korea. Since the passing of the revised SEPA, inclusion in Korea has increased. From 2000–2006 the number of special classes in general schools significantly increased from 3802 to 5204 (Ministry of Education and Human Resource Korea, 2006). In 2014, the number of special classes in general schools reached 9617 (Ministry of Education Korea, 2014). Since more students with disabilities are included in general education schools, it is likely that these students are also included in general physical education classes. Unfortunately, studies (Oh & Lee, 1999; Roh, 2002; Roh & Oh, 2005) indicated that this is not necessarily the case.

Rho (2002) studied the status of inclusion in Korea. A total of 120 in-service teachers (N = 120) participated in the study, and the results revealed that 85% of students with disabilities were not fully included or were excluded from GPE classes. Thirty percent of GPE teachers refused to teach the students with disabilities, asking the students with disabilities to stay in their classrooms or take a

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break during the PE classes. In other words, in Korea, most of the students with disabilities in general schools were not included in the GPE classes, and GPE teachers often choose not to include students with disabilities in their classes. While there is more pressure on GPE teachers to include students with disabilities, a recent study confirms that exclusion still exists, with as many as 50% of GPE teachers in Korea still choosing not to include students with disabilities in their GPE classes (Jeong & Block, 2011).

There are limited studies that investigated GPE teachers' attitudes toward including students with disabilities in Korea (Jeong & Block, 2011; Oh & Lee, 1999; Roh & Oh, 2005). Jeong and Block (2011) investigated Korean physical educators' attitudes, beliefs, and intentions toward teaching students with disabilities based on Ajzen & Fishbein's (1980) theory of planned behavior. Results revealed that teachers' competence, teaching experiences, and beliefs were highly correlated with teachers' behaviors in teaching students with disabilities. Oh and Lee (1999) used Rizzo and Vispoel's (1991) Physical Educators' Attitude Toward Individuals with Disabilities (PEATID-III) to explore Korean GPE teachers' attitudes toward teaching students with disabilities. Results revealed that the best predictor of favorable attitudes toward teaching students with disabilities was the quality of GPE teachers' experiences in teaching students with disabilities, and the second best predictor was whether the GPE teacher had taken adapted physical education (APE) coursework. GPE teachers who have teaching experiences and who have completed APE courses showed more favorable attitudes toward teaching students with disabilities.

However, an analysis of the physical education tacher education (PETE) curriculum studies revealed that APE coursework is an elective in most PETE programs in Korea (Lee & Choi, 2011; Oh et al., 2010). Research also found that some universities in Korea do not even offer any APE courses in their PETE programs (Lee & Choi, 2011; Oh et al., 2010). Results from these PETE curriculum studies suggest PETE programs in Korea do not provide appropriate training to future PE teachers for including students with disabilities.

2. An Infusion Approach to PETE

Similar problems with including APE coursework into PETE programs were seen in the Unites States in the 1980s and 90s. Even when APE coursework was required, there were questions whether such coursework really provided the specific knowledge and skills to help GPE teachers include children with disabilities in their GPE programs (DePauw & Goc Karp, 1994; Kowalski, 1995). The infusion approach is a way to systematically introduce knowledge about individuals with disabilities throughout the PETE curriculum rather than having one comprehensive APE course. (Block, Healy & Kwon, 2016; Kowalski, 1995). The argument for an infusion approach is that the students will have a better understand of how to apply knowledge of disability and how to accommodate students with disabilities if they are explosed to information about disability in all their courses. For example concepts about students who use wheelchairs and how to accommodate these children can be embedded into individual and team sport classes. In turn, students in these classes will learn about students who use wheelchairs but more importantly how to include these children in general physical education.

DePauw and Goc Karp (1994) viewed the infusion approach curriculum as comprising three levels: additive, inclusive, and infusion. The **additive level** is the stage in which specific information regarding individuals with disabilities is simply added to the course. For example, in a biomechanics course information about wheelchair propulsion could be added. The **inclusive level** is the stage of questioning assumptions and educational goals, and it allows pre-service teachers to have a learning experience (e.g., practicum experience) through the courses (DePauw & Goc Karp, 1994). Here is where discussions take place about specific challenges and solutions to including students with disabilities into GPE. Finally, the **infusion level** suggests that all concepts of disabilities are interconnected throughout the overall curriculum, so that pre-service teachers are likely to develop competence in teaching students with disabilities (Hodge, Davis, Woodard, & Sherrill, 2002) along with a positive attitude (Hodge, Tannehill, & Kluge, 2003). At this level students take information about physiology and movement and apply this information to how to modify activities (physical education pedagogy class) for students who use wheelchairs so these students can have a safe and successful experience in GPE.

Studies revealed that an infusion approach curriculum model could positively affect PETE students' attitudes toward individuals with disabilities (Barrette, Holland Fiorentino, & Kowalski, 1993; DePauw & Goc Karp, 1994; Lepore & Kowalski, 1992). There also is evidence that the infusion approach curriculum positively correlates with attitudes and beliefs of pre-service teachers. Kowalski and Rizzo (1996) examined pre-service teachers' (N = 133) perceived competence and their attitudes toward teaching individuals with disabilities who were enrolled in an infusion approach curriculum. Results revealed that pre-service teachers who took more courses based on the infusion approach curriculum had more positive attitudes toward teaching and working with individuals with disabilities. Similarly, Hardin (2005) showed that students who experienced an infusion approach curriculum had a higher level of confidence in their abilities to teach students with disabilities.

However, there are still barriers in developing an infusion approach curriculum. Power (2004) studied faculty perspectives on the infusion of environmental education into methods courses for pre-service teachers. The faculty agreed to infuse the environmental education into pre-service science and social studies methods courses by sharing sources and connecting to local communities. Still, there were some difficulties in integrating the infusion approach curriculum. Time pressure was a major constraint; faculty had to work within limited lecture hours, and students were overextended. Since universities pressured their faculty to decrease the number of credits pre-service teachers needed to graduate, faculty members were reluctant to set precedents for more add-ons in their limited lecture hours. Another barrier was the pressure/competition of other groups who wanted to be included in the curriculum. To successfully apply an infusion approach curriculum, it is believed that alternative instructional methods are necessary to control constraints such as time, pressure, and workload.