Personalized System of Instruction in Physical Education

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Many physical education teachers have and only practice one form of teaching which is considered by many as the "traditional teaching" method. Traditional teaching allows the teacher to be the controller of the learning environment. A traditional style teacher controls all power, manages responsibility, carries out role of instructor, and acts as decision maker. Additionally, a traditional teacher also considers students as having "knowledge holes" that need to be filled with information (Dowd, 1998, p. 527). Novak (1998) suggested that the traditional teacher believes the teacher causes learning to occur.

Although the traditional style of teaching does have its place in teaching, there are some disadvantages to this style of teaching. The traditional approach to teaching fails in knowledge transfer and transfer of power from the teacher (teacher-centered) to students (student-centered), and the students are unable to move the knowledge they have acquired in the school outside the classroom (Fahiminezhad et al., 2012). Moreover, traditional approaches cannot create a link between the syllabus, the real world, and learning (Findley, 2000; Fahiminezhad et al., 2012). According to Jaques (1992), the traditional format encourages students to concentrate on superficial indicators rather than on fundamental underlying principles, thus neglecting deep, active learning. Active learning refers to "experiences in which students are thinking about the subject matter" as they interact with the instructor and each other (McKeachie, 1999, p. 44; Gamson, 1991).

In today's society, teachers must find ways of linking some of the gaps that are seen in the traditional style of teaching. There are instructional models within physical education that address some of the disadvantages within the traditional style of teaching. A quality physical education class should motivate all students to be active and provide them with the skills necessary to pursue a life full of physical activity (National Association for Sport and Physical Education [NASPE], 2004); using a less direct teaching approach should help equip students with these skills. Therefore, one indirect instructional model that can be used in PE is the Personalized System of Instruction (PSI).

Keller (1968), a psychology professor, created PSI in the 1960s to help his college students in Brazil learn course material without use of the traditional teaching method. Initially, the instrument was design for psychology but was soon utilized in other educational disciplines as well. The components that characterize PSI are self-pacing, a unit perfection or mastery requirement, the use of proctors, and reliance on the written word (Kulik, Kulik, & Bangert-Drowns, 1990; Kulik, Kulik, & Cohen, 1979). In 1973, Siedentop recognized the potential that PSI had within physical education. Since that time, Metzler (2000) has developed a PSI instructional series of workbooks for high school and college-level activity courses.

PSI allows students the opportunity to progress through a series of tasks in a learning module at their own pace. Each module that is given to the learners includes information on task presentation, task structure, performance criteria, and error analyses. All tasks and criteria are given through prepared materials such as written instructions and video samples provided by the instructor (Metzler, 2000).

In the PSI course, content is separated into unit portions. In order to advance to the next unit, the students must demonstrate mastery of the content. Taking a quiz or completing a physical demonstration that requires a minimum score to be reached for completion of the task can demonstrate unit mastery. Because PSI has a mastery-learning element, students who do not reach the required mastery score for each particular module are required to repeat the module until they reach the specified mastery score. Once students have reached the specified requirements, they proceed to the next module. If students do not complete the skills task within the specified amount of opportunities, the students will be asked to repeat the module. When retaking a quiz, a different quiz over the same information is provided (Metzler, 2000).

The PSI instructional model has a mastery requirement. Knowing that all students learn differently and at varied rates of acquisition, PSI allows for differences among students. Students are able to pick up where they left off in the module from the previous class session. During each class, the teacher spends time giving one-on-one instruction and feedback to students (Metzler, 2000).

Twenty-six of the 30 research studies that have used the PSI instructional model have been in high school and higher education (Cregger & Metzler, 1992; Hannon et al., 2008). Pritchard et al. (2012) conducted a research study on the effects of fitness levels and knowledge in a college weight training class using the PSI instructional model. The results of the study concluded that the teacher was able to provide high amounts of direct contact with students who had minimal experience with weight lifting and allowed for high levels of specific individual feedback from the teacher. Furthermore, this particular study showed one of the conveniences of the PSI model which Metzler (2005) articulated as "students" progress as fast as they can or as slowly as they need" (p. 217). Overall, the weight training PSI course allowed the students the opportunity to master (Eyre, 2007) proper lifting techniques and proper ways of planning a personal weight-training program.

Hannon et al. (2008) conducted a research study within a high school using the PSI instructional model to teach health related fitness. All students received a workbook that was designed to provide students with learning objectives, content-based modules, methods of assessment, and classroom rules and policies. Both student and teacher reactions and comments led the researchers to believe that the implementation of the PSI unit was successful. After having the opportunity to familiarize themselves with the instructional model, the students expressed their enjoyment of the structure and material presented. The teacher also expressed that after spending the first couple of days explaining and establishing the PSI instructional model, the PSI unit used very little time on classroom management and a majority of the classroom time was spent on providing individualized feedback to students.

In general, the results of this study were similar to those described by Cregger and Metzler (1992) who used the PSI instructional model in a college volleyball class. Specifically, low management time, high rates of teacher cues and guidance, and high rates of task related feedback have been shown to differentiate between more and less effective teaching and learning in physical education (Rink, 2006). Additionally, other researchers (Pear et al., 2011; Brooke & Ruthven, 1984) have agreed that PSI allowed for more teaching time than classroom management time. Overall, PSI has been found to have low management time (Hannon et al., 2008), high rates of individual feedback (Hannon et al., 2008), an increase in student knowledge (Pritchard et al., 2012), low lecture/demonstration time (Cregger & Metzler, 1992), high rate of practice time, and a high rate of task related feedback (Hannon et al., 2008).

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