Development of a Model for the TPACK for Children with Learning Disability

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ABSTRACT

This paper proposes the development of a model for the TPACK for college students with learning disability. A learning disability is a neurological disorder. Students with learning disabilities are smart as or smarter than their peers. But they may have difficulty in reading, writing, spelling, reasoning, recalling and/or organizing information if left to figure things out by themselves or if taught in conventional ways The TPACK framework was derived from the conceptions of Shulman (1986), who placed importance on the complex inter-relationships between the teacher's knowledge about pedagogy, content, and the different ways to characterize subject matter. The broad conception of TPACK is the knowledge regarding the interactions between Content Knowledge (CK), Pedagogy Knowledge (PK), and Technology Content (TK) in teaching through the use of technology. Koehler and Mishra emphasized the importance of domains—Pedagogical Content Knowledge (PCK), Technological Content Knowledge (TCK), Technological Pedagogical Knowledge (TPK) and TPACK—as a way to see the interaction among the three main domains (CK, PK and TK). This paper aims to available TPACK for college students with learning disability and facilitate their learning process in the classroom. Thus this paper tries to answer the following questions. What is meant by learning disability? What is meant by TPACK? Are there any TPACK available for college students with learning disability? A suggestive model of TPACK for college students with learning disability. So, in this paper a TPACK model is presented for college students with learning disability in the higher education.

Keywords: *TPACK, college students with learning disability*

Learning Disability

A learning disability is a neurological disorder. They may have difficulty in reading, writing, spelling, reasoning, recalling and/or organizing information if left to figure things out by themselves or if taught in conventional ways.

People with a learning disability tend to take longer to learn and may need support to develop new skills, understand complicated information and interact with other people. Teachers can help the college students with learning disabilities achieve such success by encouraging their strengths, knowing their weaknesses, understanding the educational system, working with professionals and learning about strategies for dealing with specific difficulties.

Technological Pedagogical Content Knowledge (TPACK)

The TPACK framework was derived from the conceptions of Shulman (1986), who placed importance on the complex inter-relationships between the teacher's knowledge about pedagogy, content, and the different ways to characterize subject matter. The broad conception of TPACK is the

knowledge regarding the interactions between Content Knowledge (CK), Pedagogy Knowledge (PK), and Technology Content (TK) in teaching through the use of technology. Koehler and Mishra emphasized the importance of domains—Pedagogical Content Knowledge (PCK), Technological Content Knowledge (TCK), Technological Pedagogical Knowledge (TPK) and TPACK—as a way to see the interaction among the three main domains (CK, PK and TK). Prior studies suggested that the TPACK framework proposed a good quality of teaching and defined an understanding of the interactions between the three domains; technology, pedagogy, and content. It is important to note that the TPACK framework can be flexibly applied in any learning environment. It does not demand specific instructions about what specific content should be taught, which pedagogical method is useful, and what tool of technology can be used in teaching (Mishra, Koehler, & Henriksen, 2010)

TPACK for learning disabled children

Technology

An assistive technology device is defined as a device that is used to increase, maintain, or improve the functional capability of college students. An instructional (or educational) technological device can be defined simply as a device used for learning. The teacher and parents becomes familiar with multiple modes in which a lesson may be taught using techniques such as parallaxic praxis. The educator is able to support the class's multiple ways of learning.

The assistive and instructional technology could be the same. The main difference between these two is that a device is considered assistive if it is used to compensate for a diagnosed disability. Word prediction software, spell checkers, and screen readers were once the province of special education. Now they are widely used and enjoyed by the general public. However, there are still additional supports for those with low incidence disabilities. For instance, college students with more severe impairments can use communication devices in order to interact with others. Assistive communication devices come in many forms, ranging from advanced eye gaze technology to simple switches (Big Mac) to communication tablets (Dynavox and GoTalks). All are dedicated to college students with a disability a voice.

Pedagogy

Differentiated instruction is often used for college students with disabilities. Each student with a disability has an IEP (Individualized Learning Plan) which describes the student's particular disability, his/her strengths and weaknesses, goals and objectives for the duration of the IEP, and services being provided. The IEP is a legal document that must be adhered to by all teachers and service providers. It also lists the modifications and accommodations required to help the student achieve academic success. Accommodations can include extra time to complete and assignment, or presentation of assignment or assessments in a different manner than his/her gened peers (i.e., oral test vs. written). Modifications can be as simple as fewer problems to complete or (in the case of a written assignment), fewer pages or paragraphs, or an illustrated story vs written, or a typed or video presentation.

Content

The teacher may offer accommodations for higher education with special needs. Accommodations are made to assist the college students in achieving academic success. Accommodations can take the form of decreased lengths of homework assignments, tests in a quiet area, small group testing, text-to-speech, preferred seating arrangements, or extended time on tests. An instructor may also make modifications to the actual curriculum. Modifications are made for college students with disabilities who are unable to comprehend all the content given in class. Assignments may be modified significantly and/or reduced in number. The college students generally will follow an altered grading scale as well. The college students who receive modifications in the regular classroom setting can receive passing grades, regular report cards, and diplomas.
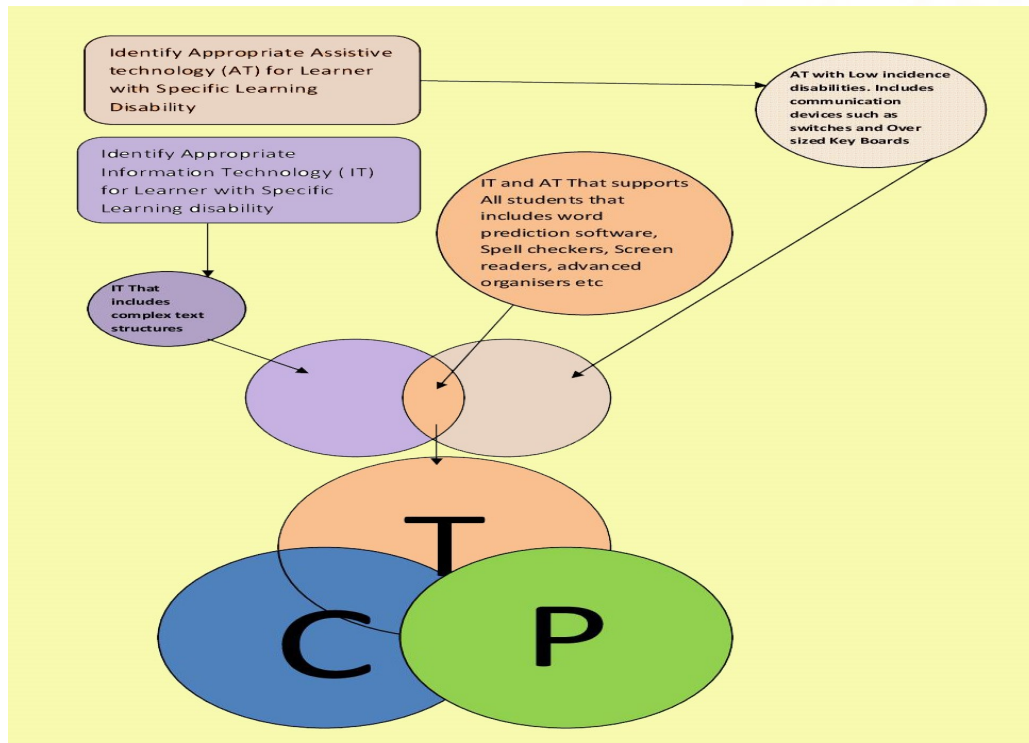
Pedagogical Content Knowledge

Lessons in an inclusive classroom with higher functioning students with special needs follow the course of the general education classroom with adaptations (differentiated instruction) for the student's particular disability. Co-teaching and experiential learning are also widely practiced for college students with disabilities. Differentiation is even more prevalent with a class of students who are low functioning as each student's individual needs have to be considered, including their form of communication.

Technological Pedagogical Knowledge

Technology has had a major impact on the teaching practices in special education. It has allowed the college students to interact in ways that simply were not possible before. For example, touch screens have brought computer technology within reach of individuals with severe disabilities. The ease of use of tablets and interactive whiteboards has made them prominent features in the learning disabled students.

In our model, the technology core (T) is parsed to represent the importance and overlapping constructs inherent in both assistive technology (AT) and instructional technology (IT) consider that word prediction software in routinely considered s assistive technology for students with disabilities who struggle with writing. AT and IT are purposefully selected for students for students formally identified with disabilities in order to improve functional performance in a specific context. So that IT and AT that supports all students that includes word prediction software, spell checkers, screen readers, advanced organizers etc.

Model for the TPACK for Students with Learning Disability

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