

Teachers' Use of Universal Design

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Abstract: Student diversity in the classroom is becoming a critical factor within the American educational setting. Changing demographic, social, and economic trends have important implications for education in the twenty-first century, as a more culturally and linguistically diverse student population challenges educators to expand their efforts in teaching for diversity and equity. In addition to cultural differences, the uneven access to technology (digital divide) has been identified as a potential hindrance to success. Many areas throughout the DC/MD/VA metropolitan area have seen a tremendous growth in immigration and a corresponding increase in diversity. To help deal with this challenging environment, we designed and implemented content to provide in-service teachers with the information needed to help them better teach for diversity, equity and global interconnectedness. This study examines the ways in which in-service teachers instructionally planned, practiced, and what beliefs they held regarding UD/AT strategies and applications before and after a content-specific course Universal Design/AT for Learning in the General Classroom Setting

Key Words: Cultural diversity; Multicultural education; Digital Divide; Universal design; Digital equity

Background

English language learners (ELLs) are among those students at highest risk for school failure. Teacher's knowledge of Assistive Technology (AT) devices and Universal Design (UD) curriculum adaptation and integration strategies has the potential to help ALL students in the general classroom setting. Universal Design for Learning and Literacy provides a framework for individualizing learning in a standards-based environment through flexible pedagogy and tools. Universal Design for Learning, a research-based set of principles forms a practical framework for using technology to maximize learning opportunities for every student. Failure to understand and/or the inability to build upon the unique strengths of students from non-English backgrounds, place these students at a greater risk for leaving school prior to obtaining a high school credential (NCES 2003) and for inappropriate placement in special education (Robertson, Kushner, Starks & Drescher, 1994). To create optimal learning environments, mainstream teachers of ELLs must receive high quality professional development not only in content area literacy, but also in Universal Design strategies that aid in facilitating all students to excel.

A number of technologies encourage and support the development and maintenance of Universal Design. For example, the Internet brings authentic language and cultural experiences to students and provides opportunities for them to interact with native speakers. To ensure appropriate education for all students, teachers must enter the classroom equipped with the content knowledge, diverse instructional strategies, and technology integration skills.

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Participants and Setting

Twenty classroom teachers participated in this study (M=5, F=15). Teachers were volunteers who signed up to participate in a state funded program through a local school system: The New Majority: Professional Development for Public School Teachers to Maximize the Success of Latino English Language Learners. Teachers were from two middle schools and two high schools. The course met face to face for the first two sessions, and then again in the middle of the semester for a tour of an AT/UD lab and once the last day of class. The remaining eleven sessions were done online through WebCT.

Methods

Four methods of data collection were used throughout the study: participant observation in the field, completion of a pre/post profile instrument, participant interviews, and document analysis (i.e., items completed online and submitted lesson plans). These use of a range of methods, or triangulation, contributes to the study validity.

Questions

To determine student learning about UD before and after completion of required fieldwork in the semester following completion of EDUC 6980, the following questions guided the inquiry of study:

1. What level of understanding did in-service teachers have about integration of UD - including culturally diverse technology strategies and applications into their classroom before and after a content-specific course Universal Design/AT for Learning in the General Classroom Setting?
2. What were the short and long term effects on student learning?
3. Did the knowledge gained through completion of the EDUC 6980 lead to behavior changes (utilization of UD) in the classroom?

Results

Early analysis at the time, leads itself to the following conclusions:

1. Participants knew little about Universal Design (UD) and far less about assistive technologies that help facilitate UD before the completion of the course
2. Utilization of the Sheltered Instruction Observation Protocol (SIOP) Checklist provided a quick way to reference and log integration of UD
3. Teachers, despite experience working with English language learners, did not have a sophisticated understanding of the needs of students going through the second language acquisition process. Their professional training was in a content area, not ESL. It took significant time for those teachers to understand that these students require significant

amounts of comprehensible input, as well as curricular modifications. Many teachers, rather than implementing major components of UD via the SIOP model, isolated certain items within the model, such as slowing their presentation of material and using more visual clues, and focused their attention only on those features.

4. To help make a stronger connection between UD strategies and AT devices and applications, the cohort helped develop an UDL Practical framework modified from the UDA National Center on Educational Outcomes (NCEO) Framework from Sandra J. Thompson.

This study addresses an articulated need within the local participating school system: providing specific teacher development activities related to reading and language skills for Hispanic students, the fastest growing segment of the school age population in the state and the nation (The Progress of Education Reform 2004). According to this recent report, in some states, one of every two children entering school is of Hispanic descent. Hispanic students are significantly more likely than white students to enter kindergarten unprepared for learning, to have to repeat grades, and eventually drop out of school. As articulated in another seminal work, “Closing Achievement Gaps: Improving Educational Outcomes for Hispanic Children” (Tomas Rivera Policy Institute 2003), the achievement gap between Hispanic and white children is a product of a range of social, economic, and educational disparities. Among their recommendations for closing the gap within the context of education are the following activities:

- Increasing the number of teachers with knowledge and skills to teach students from culturally and linguistically, non-English backgrounds
- Taking action to ensure that teachers and leaders of schools which serve Hispanic children are knowledgeable, understanding, and respectful about the culture, history, and language of the various Hispanic communities in their respective districts.
- Increasing the planning and training necessary to integrate computers, the Internet, and related technologies into more widespread use, across all subjects.

Teacher’s knowledge of AT devices, Universal Design, curriculum adaptation and integration strategies helps ALL students in the general classroom setting. Universal Design for Learning and Literacy provides a framework for individualizing learning in a standards-based environment through flexible pedagogy and tools. Universal Design for Learning, a research-based set of principles that forms a practical framework for using technology to maximize learning opportunities for every student

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