Conference Proceedings

Global Partnerships for a Democratic Future

May 16-19, Volzhskie Dali, Russia

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Foreword

The conference, *Global Partnerships for a Democratic Future*, held at Volzhskie Dali, in Saratov Oblast, Russia, from May 16-19, 2002, was a direct outcome of a New Independent States College and University Partnership (NISCUPP) Grant from the U.S. Department of State's Bureau of Educational and Cultural Affairs. This grant enabled East Carolina University to establish a partnership with Saratov State University. The project quickly spread to also include faculty at two affiliates of SSU — Balashov Pedagogical Institute and Saratov Pedagogical Institute. The conference gathering of over 100 Russian and American scholars and practitioners from several universities and institutes, including the Russian Academy of Education in Moscow, produced significant discussions on the impact of democratic and educational reform and global partnerships within the six conference strands:

- Education in a Democratic Society (5 papers)
- Educational Policy and Reform (8 papers)
- Information Technologies and Innovations (14 papers)
- Pedagogical Methods and Research (10 papers)
- Social Work Policy and Practice (10 papers)
- Special Education/Corrective Pedagogics (16 papers)

These Proceedings include 65 presentations from Russian and American participants. There were theoretical papers on such topics as distance education, open models of education, integrated education, disengagement in rural schools, university-school partnerships and university collaborations, child abuse in Russia, and social work and school reform in Russia. Even more numerous were the education and social work practice-oriented presentations on such topics as service learning, place-based education, portfolio assessment and development, testing in the classroom, inclusion, distance education and online course development, web-based computer conferencing, teaching strategies for children with mental disabilities, teacher preparation, and the diagnosis and treatment of attention deficit/hyperactivity disorder (ADHD).

By exploring the various themes related to global partnerships and democratic reform in education and social work, we hope these Proceedings will enhance further efforts in creating democratic institutions. The success of democratization globally will largely depend on continuing collaborations such as ours between all freedom-loving people.

— Nancy Zeller and Joyce Reed, Conference Coordinators
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Assistive Technology for Students with Disabilities
Помогающие Технологии для Учащихся с Отклонениями

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Abstract

В Законе об Образовании Учащихся с Отклонениями 1991 года (IDEA) помогающие технологии определены как "любой предмет, оборудование или специальное устройство, приобретенные в готовом виде, измененные или приспособленные, которые используются чтобы увеличить, поддержать или усовершенствовать функциональные способности человека с отклонениями."

Услуги относящиеся к помогающим технологиям определены как "любая услуга, которая напрямую помогает человеку с отклонениями в выборе, приобретении или использовании помогающей технологии": оценка в естественной обстановке; снабжение/покупка или аренда технологий; выбор, дизайн или подгонка технологий; координация с другими службами; обучение для индивидуала и/или семьи, работодателей. К категориям помогающих технологий относятся: средства для каждодневной жизни; вспомогательные или альтернативные средства общения; доступ к компьютеру; системы контроля окружающей среды; приспособления для дома и на рабочем месте; протезирование; посадка и положение; служебные животные; средства для людей с нарушениями зрения; средства для людей с нарушениями слуха; инвалидные коляски и передвижение; приспособления для транспортных средств.

«I know what to say, but I can't get the words out.
I start to write but then it gets all mixed up and
I just can't get it down"

—*A fifth-grade girl with learning disabilities.*

The IDEA defines an assistive technology device as "any item, piece of equipment or product system, whether acquired commercially off the shelf, modified, or customized, that is used to increase, maintain, or improve functional capabilities of individuals with disabilities" {20 U.S.C. Chapter 33, Section 1401(25)}. (26)

With the passage of the 1997 amendments to the Individuals with Disabilities Education Act (IDEA Amendments of 1997, Public Law 105-17), teachers are expected to have an additional set of knowledge and skills. For every student with an individualized education program, teachers must consider to appropriateness of assistive technology as a tool or intervention. Teachers with little knowledge of assistive technology will have difficulty fulfilling this new requirement without assistance or additional training. Many special educators currently in the field may need to gain new competencies in an area of special education unfamiliar to them.

Assistive technology consists of devices and services that enhance the performance of individuals with a disability by enabling them to complete tasks more effectively, efficiently, and independently than otherwise possible.

The issue of assistive technology consideration is a rather recent development. Its origin can be traced to the Individuals with Disabilities Education Act Amendment of 1997, which contained a requirement for individualized education team to consider assistive technology in the development of an IEP [Section 614 (d)(3)(B) Consideration of Special Factors].

Schools are required to provide assistive technology for students who need such tools, if they are necessary, for the student's participation in and benefit from a free appropriate public education. The requirement, however, covers all disabilities, and, therefore, issues such as following have emerged; Jimmy's handwriting is not legible; therefore, he needs a laptop computer (Edyburn, 2000).

There are two types of assistive technology: low-tech and high-tech. Low tech includes inexpensive devices that are simple to make and/or easy to obtain. The examples would be Velcro; pencil grips; eye-gaze boards; picture communication boards; modified eating utensils; simple splines. High-tech is expensive, more difficult to make, harder to obtain like wheelchairs; electronic communication devices and computers Eye-gaze communication boards are sometimes used when pointing is not feasible. Basically, these are clear plastic boards (about 15 inches by 19 inches) on which symbols — such as words, pictures, and objects — can be fastened. The student conveys messages by gazing at the appropriate symbols while someone on the other side of the board follows his gaze. Eye-gaze boards can be easily homemade. There are categories of Assistive technology:

Aids for daily living: devices designed or adapted to perform everyday activities and chores. Self help aids for use in activities such as eating, bathing, cooking, dressing, home maintenance, etc.

Augmentative and alternative communication devices: Augmentative and alternative communication...attempts to compensate (either temporarily or permanently) for the impairment and disability patterns of individuals with severe expressive communication disorders (i.e., the severely speech language and writing impaired). Electronic and non-electronic devices that provide a means for expressive and receptive communication for persons with limited or no speech.

Computer Access: Input and output devices, alternative assess aids, modified or alternative keyboards, switches, special software that enable persons with disabilities to use a computer.

Environmental Control: Provide an independent means of operating various appliances. Primarily electronic aids, security systems, etc. in their room, home and other surroundings. Any electrical appliance can be controlled whether it's in the home, office or classroom.

Home/Worksite Modifications: Structural adaptations, fabrications in the home, worksite or other area (ramps, lifts, bathroom changes) that remove or reduce physical barriers for an individual with a disability.

Orthotics and Prosthetics: Replacement, substitution or augmentation of missing or malfunctioning body parts with artificial limbs or other orthotic aids, there are also prosthetics to assist with cognitive limitations or deficits, including audio tapes or pagers.

Seating and Positioning: Accommodations to a wheelchair or other seating system to provide greater body stability, trunk/head support and an upright posture, and reduction of pressure on the skin surface (cushions, contour seats, lumbar).

Service Animals: The American with Disabilities Act defines a service animal as any guide dog (for visually impaired individuals), signal dog (for hearing impaired

individuals), or other animal individually trained to provide assistance to an individual with a disability.

Technology for Low Vision.

Technology for Low Hearing.

Vehicle adaptations: Adaptive driving aids, hand controls, wheelchair and other lifts, modified vans, or other motor vehicle used for personal transportation.

Historically, assistive technology devices and services have been associated with individuals who have physical and sensory impairments and moderate or severe needs. As special educators were introduced to assistive technology in the forms of alternate keyboards, switches, and different software programs, it is understandable that the application of these tools for students with mild disabilities were not readily apparent.

There are numerous assistive technology devices that may be helpful to students with learning disabilities, but not all devices are appropriate for everyone. Because students with LD possess individual strengths, weaknesses, interests, and experiences, a device that may be appropriate for one person may be inappropriate for another. In the same way, an assistive technology device that is helpful for one person in a particular setting may be of little value in a different situation or setting. Therefore, it is important to evaluate an individual for assistive technology devices relative to the specific student's strengths and limitations, setting(s), and task(s) to be performed (Bryant, D.P.; Bryant, B.R.; et al, 1998).

Assistive technology is not designed to improve particular skills or teach particular subjects. Instead, it provides a means for the user to work around the learning differences.

What can assistive technology do for you?

1.   Assistive technology tools can help you or someone you know be more functional and independent.

2.   "Tools" mean more choices and greater freedom in your daily life.

3.   Assistive technology provides tools to enable a person to experience success at home, work, or school, perhaps for the first time.

4.   Assistive technology helps people of all ages and disabilities.

5.   Assistive technology can make the difference between dependence and independence for people with disabilities and their families.

Assistive technology can enhance the quality of life for person with learning disability by enabling the individual to circumvent specific deficits, while capitalizing on given strengths.

Responding to the times, technology has made considerable advances in helping individuals with learning disabilities become productive and independent participants in work, classroom, and leisure settings (MacArthur, 1998).

Technology continues to be a motivator for students especially those with LD. It is sometimes "a key factor in enticing students to remain active participants in their own education." They have a way of expressing their ideas without the fear of making mistakes every other line or concerning themselves about whether or not he teacher will be able to read what they have written. They also begin to rely more on themselves, as learners, and less on their teachers and peers to help them out. Computers make each stage of writing more pleasurable, especially printing out the final product - one that looks so professional.

Computers and other technologies, both high tech and low tech, have become powerful allies of students and teachers in many inclusive classrooms. Assistive technology equipment, including adaptive or alternative input devices, voice synthesis and recognition technologies, a specialized software facilitate inclusion of students with disabilities in general education classrooms.

Technology has done a great many things for us it has raised our standards of living, enhanced our opportunities, helped us to attack world-wide problems of hunger and over-population, increased time allowance for leisure activities and improved our communication and transportation.

Technology alone cannot increase skills, but teacher must plan instruction and supply the students with strategies to make their work more effective.

The Introduction of the Training CD-ROM "Assistive Technology for Students with Learning Disabilities"

Since the first day I came to America I was thinking about making something useful that I can take home and that will be very interesting to my Russian colleagues. That was why I decided to burn the CD-Rom and to make two versions of it: in English and in Russian. When I first started working on it I thought that the main goal is to make it in Russian, for Russian teachers, that it will be useful only for them. But as I was working and working I found out that the area of assistive technology in special education for students with mild and/or learning disabilities is not well known to American teachers. Probably the reason here that this area is very new.

CD-ROM contains eight sections:

Section 1 provides essential information about the phenomenon of assistive technology for students with LD. You can find literature review on this topic there. From this sections teachers can know what it is assistive technology. Then there is the information about who it is for, where teachers can find, for example, that AT can be useful for students with learning disabilities not only in self-contained classes but also in inclusion and students without disabilities just love to work with such technologies and it can really useful for them too. "How it works" tells you about some features of assistive technology for students with learning disabilities. And the most important information is in the section "why it is important to use it for your students". I hope that this information will persuade teachers to start using it.

Then there are 5 similar sections. They are:

    Word processing;
    Word prediction;
    Speech feedback;
    Speech recognition;
    Concept mapping.

Word processing is especially important for students with learning disabilities who often have poor handwriting and make numerous errors. Word processors have several key features that may affect writing processes (MacArthur, 1996). First, their editing power makes revision possible without tedious recopying, thus potentially encouraging more revisions. Second, editing power combined with desktop publishing features makes it possible to produce attractive published papers with few errors. Third, the visibility of the screen together with the use of typing rather than handwriting may facilitate collaboration among students (MacArthur, Ferretti, Okolo, Cavalie, 2001).

Recent studies with students with learning disabilities (MacArthur, Graham, Swartz and Shafer 1995; Morocco, Dalton and Tivnan, 1990) indicate that **word**

prediction in combination with effective writing instruction can enhance the writing of students with learning disabilities. Word prediction was originally developed for individuals with physical disabilities to reduce the amount of efforts needed for a person with a physical disability to reduce written work (Heckathrone, Voda and Leibowtz, 1987; Hunnicutt, 1986; Swiffin, Arnott and Newell, 1987). Lewis, Graver, Ashton and Kiefer (in press) reported that students with learning disabilities, who had modest experience writing with a computer produced text slightly faster using word prediction than with typing.

Speech feedback translates the letters and words typed by the user into speech. Thus, it allows students to hear what they have written and, perhaps, to use their general language sense of monitor the adequacy of their writing.

Recent developments in the area of **speech recognition** technology have led to a possible alternative to the "traditional" dictation strategy used by many programs. Speech recognition systems operate in conjunction with word processing programs to allow the user to produce written text through speech. The user dictates (word by word) into a head-phone mounted microphone, and the system converts the spoken words to electronic text on a computer monitor.

Experienced writers typically devote a substantial portion of writing time to **planning** activities (MacArthur, 1996). Students with learning disabilities may have difficulty with this process (Englert et al., 1989; Graham et al., 1991). Typically they begin writing after devoting minimal time to planning. They typically lack awareness of common text structures that could help them in organizing content. However, some researchers indicate that even simple text-structure prompts may enhance the writing if students with learning disabilities (Montague, Graves and Leavell, 1991; Grahem, 1991; Salomon, 1992).

Sections 2-6 give you the opportunity to know about different types of assistive technology. In each section you will find:

- ⇨ Introduction to that particular type of assistive technology. There is the literature review on topics according to the section: and almost all researches on this topic.
- ⇨ The list of technologies available now in this particular group of technologies. Here you can find vary "famous" technologies like Co:Writer and AlphaSmart and also technologies that are very new like... Enkidu. You will find the description of each technology and also websites where you can find detailed information about this technology and about prices.
- ⇨ Interviews with teachers (5 different teachers). I decided to make teacher's interviews for my CD because I believe that it can encourage inexperienced teachers. It's always a risk to start using something new, now well known but when other real teachers who really use it in their real classrooms tell you that it good you start believe it.

Appearance of technologies on the classroom, liker lesson plan or student's samples. showing the difference with or without the technology or the sample of teacher's schedule showing how often she uses assistive technology.

In the **Section 7** - Tips for Parents you will find the information useful for parents who are going to buy the technology for their child but don't know how to start. This part can be interesting not only to American parents and parents in Russia.

Section 8 - Resources consists of references and website links for all information

about assistive technology. You may not leave the CD and just click on the website you are interested in and you will be transferred to that website.

In Russian version of this CD-Rom everything is the same: colors, pictures, design, except language. In Teacher's Interview parts all interviews were subtitled so teachers can listen to the original interview and read the text in the separate window. The research about available technologies showed that there are a lot of technologies right now that can really help students with learning disabilities to overcome their difficulties and to improve their academic skills. When I talked to teachers, all of them were really glad to talk about it. Because they really like AT, they know from their own experience that it can really help. And each interview inspired me to make this CD, to help more teachers to start using it and to get those results that my interviewed teachers already have.

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