The term special education implies both a commitment to educating all children and an acknowledgment that some students face particular challenges or have unique needs. Learning disabilities, autism spectrum disorder, deafness. Whatever the situation, parents and teachers must seek out special ways and wisdom to ensure they receive an appropriate, equitable education. The special education faculty members in Michigan State University’s College of Education are accomplished researchers and practitioners who remain committed to reaching out for new answers: uncovering knowledge, defining skills and preparing the next generation of...
Faculty in Special Education

Carol Sue Englert, professor
Ph.D., Indiana University
Englert is interested in literacy instruction for students at risk for school failure. Her work involves a research project with teachers to design, implement and integrate a literacy curriculum emphasizing the role of oral and written language in a discourse community.

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Susan Peters, associate professor
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Professor of special education Harold Johnson remembers when and where he had his epiphany. “It was 1991. I was flying back from a deaf education conference when it hit me. The real challenge for people who are deaf is not the lack of sound. It’s the abundance of isolation.”

These days, having joined the Michigan State University faculty, Johnson remains dedicated to overcoming that isolation by bringing people together – connecting those who have a wealth of knowledge with people who can build on it to improve the lives and work of students, parents, teachers and researchers.

One person who knows a lot and makes an impact is Johnson’s colleague Claudia Pagliaro. She is an expert in the mathematics education of students who are deaf and hard of hearing, particularly in problem-solving strategies and the use of a visual language (American Sign Language). Johnson convinced her to join him at MSU in fall 2007, and now the two of them are working together to build communities of learners that, in Johnson’s words, “take deaf education programs to a whole new level.” Says Pagliaro, “We are growing lifelong learners, people who know where the field has come from but who want to help shape the field in the future.”

One example: In January 2008, the two scholars launched a wiki in collaboration with the editors of the prestigious Journal of Deaf Studies and Deaf Education (JDSDE) and their publishers at the Oxford University Press. Called Author’s Corner, the Web site features a short, non-technical summary of a recent JDSDE article, written by the authors themselves. Visitors to the wiki (jdsde-author-corner.wiki.educ.msu.edu) can then ask questions, make comments and share experiences to which the authors will respond, creating a threaded discussion. Each month will feature a new article, with previous articles and discussions kept in an accessible archive.

“This allows teachers, parents and other researchers more immediate access to the latest thinking,” explains Pagliaro, an associate professor of special education and the wiki’s first author. “Claudia’s doing great research and sharing it across the
country and around the world, not just with other scholars and researchers, but with lay people as well,” says Johnson, adding, “there’s absolutely nothing like it anywhere else in deaf education.”

Connecting programs equals new opportunities

While Author’s Corner intends to connect research more directly with practice, Johnson also is intent on linking researchers with each other, because isolation can affect the faculty who work in the field as well. “Sometimes there are only one or two of you on campus,” observes Pagliaro.

To combat this, Johnson is building a new collaborative network of Ph.D. programs in deaf education across the country. “All the major programs have already agreed to collaborate,” said Johnson, who has secured a $100,000 planning grant from the U.S. Department of Education to flesh out the details. This network of institutional programs will provide a more robust community of learners than any one program can provide. The plan is to create a critical mass of intellectual capital that will benefit not only the students in each of the Ph.D. programs but also the deaf and hard of hearing community as a whole by producing more, better prepared deaf education practitioners and researchers.

Johnson was the driving force behind the creation of the highly successful Web resource for educators of deaf and hard of hearing students, www.deafed.net, in 2001. Continuing one of the Web site’s major projects, he also plans to engage deaf education’s master teachers – those teachers who have shown themselves to be innovative and effective. “We know that where new teachers are placed has more impact on their practice than their teacher preparation coursework,” he said.

So Johnson’s goal is to use technology to match teacher candidates with master teachers wherever they are in the nation, eliminating the constraints of geography. He already uses mini-cameras and the Internet to connect his class of fifth-year students at MSU with master teachers in other states, allowing them to work collaboratively on problems from real practice. “But I don’t do big box technology,” explains Johnson. “It has to be easily available and sustainable to anyone with high speed Internet access.”

Collaboration multiplies mathematics insights

Pagliaro also relies on technology
to connect with colleagues while researching how children who are deaf or hard of hearing process mathematics story problems using American Sign Language. Her work with Ellen Ansell, a mathematics education faculty member of the University of Pittsburgh, illustrates the value of collaboration between institutions and, more so, between general education and special education researchers.

“A lot of our work is talking about what each of us sees and helping the other to understand it,” says Pagliaro, who was director of Pittsburgh’s deaf education program before coming to MSU. She explained both researchers can watch a video of a child who is deaf working on a story problem. “She sees the mathematical concepts in play, while I see the processes being used and the linguistic influence on them.”

Their different perspectives enrich each other’s understanding of how students who are deaf or hard of hearing think about mathematics. “Often we come to a completely new set of understandings about our data. For example, initially, our ideas of ‘mapping’ – how these students may approach a solution to a problem – were very different from each other. Through our conversations about the data, however, we came to understand what ‘mapping’ meant for these students who use a visual-spatial language.”

Pagliaro and Ansell continue to discern how the children in their study made use of ASL as a representational form of the mathematical problem and as a tool for their solution strategies. Meanwhile, Pagliaro plans to use her growing collection of findings to work directly with teachers of deaf and hard of hearing students. She hopes to influence their approach to teaching mathematics based on how deaf and hard of hearing learners understand, organize and process mathematical concepts – instead of assuming that they do so in the same way as hearing students.

She also is designing several new studies, including one on mathematics readiness with students who are deaf and hard of hearing and their parents, and another with a colleague at Malmö University on the mathematics achievement of Swedish Deaf students.

**“We are growing lifelong learners, people who know where the field has come from but who want to help shape the field in the future.”**

- Claudia Pagliaro

Johnson’s own current research includes generating data on a particularly troubling topic in the field: child abuse. “The incidence of abuse and neglect among children who are deaf or hard of hearing is more than three times that of the general population,” Johnson said. To tackle the issue, he first hopes to increase awareness among teachers and parents of children who are deaf and hard of hearing, helping them understand the incidence and impact of a problem experienced by so many for so long.

Currently, Johnson says, it is hard to gauge how much parents and teachers know about the prevalence of abuse and its effect on student behavior and achievement. So he has reached across disciplines to work with Associate Professor Ellen Whipple from MSU’s School of Social Work. Together, they have constructed an online informational survey designed to gather data on adult awareness. This information will be used to tailor the professional development efforts needed to increase knowledge about and foster commitment to reducing abuse and neglect.

Johnson admits that “abuse within the deaf and hard of hearing community is an extremely difficult subject to tackle,” but one he feels a strong professional imperative to address. It also is the right thing to do as a teacher educator. “We’re producing the best teachers in the world here,” says Johnson, “but if these children aren’t ready to learn (because of abuse or neglect), it’s a waste.”

**On-campus community for ASL communication**

With support from Johnson and Pagliaro, MSU now offers students the opportunity to live in a residence hall environment where American Sign Language (ASL) is the primary mode of communication. Snyder-Phillips Hall also will serve as a hub for academic and cultural events focused on deafness – bringing together students who are deaf and hard of hearing and others from across campus who use or study ASL. Deaf Education majors are especially encouraged to apply.
Judging from the popular press – Time, Newsweek, morning news shows, even Oprah – autism, a pervasive developmental disorder among children, has finally gained the national spotlight it deserves. The Centers for Disease Control and Prevention reported in February 2007 that one in 150 children suffer from some form of the autism spectrum disorder (or ASD). It appears that the prevalence of ASD may be on the rise and, with it, the public’s concerns about children struggling to learn, interact and communicate because of their varied disabilities.

Michigan State University's Summer Ferreri is impressed but not surprised by the growing interest in ASD across the country. The assistant professor of special education has been studying the disorder for more than a decade.

“When I started working with children with ASD in 1995, it seemed as if no one knew about it,” she remembers. “Today there is amazing activism among parents as they network and share information.”

Increasingly, Ferreri says, parents of children with ASD are insisting – sometimes through lawsuits – that their children be placed in general education classrooms as part of a “free and appropriate education” guaranteed by the federal Individuals with Disabilities Education Act (IDEA). The result is that all teachers need, and will benefit from, research into behavioral-based interventions and strategies that can help students meet personal and state achievement goals.

All of which makes Ferreri, who prepares teachers to work with both general education and special education students, the right person in the right place at the right time. Her general research interest is in effective behavioral-based interventions for children with disabilities. However, she is especially focused on contributing research about effective treatments for children with ASD – new evidence practicing educators need as they develop today’s classroom strategies.

“There are many treatment programs aimed to help individuals with ASD, but very few have been empirically validated,” Ferreri said. She hopes to use a comprehensive, standardized assessment tool to determine which treatment programs in which settings are most effective in helping children develop particular skill sets, whether social, academic or physical. The assessment tool can collect data on more than 500 skill sets.

Finding passion in the field

Ferreri’s desire to uncover effective treatments for ASD and other...
disabilities comes from experience she gained as a graduate student. While completing her master’s degree in psychology, Ferreri worked in a classroom that included children with autism. Before long, she was supervising other graduate students in the classroom, then running the practicum site itself.

In 2000, at the request of a parent of a child with autism, Ferreri founded the Early Intervention Center, a private, nonprofit school aimed at early intervention that provides individualized programs to teach children with ASD a variety of skill sets. Eventually, she moved on to pursue her Ph.D., graduating from The Ohio State University, where she focused on behavioral assessments and their role in helping to develop appropriate interventions for children with disabilities.

Ferreri still serves as a consultant to the school she helped create. “My passion in the area of ASD stems from all the children and families I was so intimately involved with for so many years. ASD is one of the most pervasive disorders with one of the bleakest outcomes when children do not receive appropriate intervention and instruction.”

Making a difference through research

Ferreri developed and studied a means to teach communication skills to children with ASD by teaching them to mand (ask for) items through a modified Picture Exchange Communication System (PECS). Many children with ASD use PECS, but PECS requires a student have a picture of the actual item they want. “If they don’t have the picture on hand, they cannot ask for the item, so we taught them to identify items by function, color and shape. For example, if a child wanted an Oreo, but didn’t have a picture of an Oreo, we taught him to ask for ‘eat, round, brown, white,’” explains Ferreri. She has even published on the use of tapioca pudding to help reduce pica, the dangerous habit of swallowing nonfood items, such as plastic toys, that is common among children with autism.

Ferreri has found her expertise with ASD and behavioral assessment to be much in demand at MSU. “Autism spectrum disorder has become a big, and touchy, interest, both in the general public and in academia,” she says. “I am continuously contacted by faculty across the university interested in different issues related to it.” For example, faculty members from MSU’s Department of Communicative Sciences and Disorders have consulted with Ferreri because communications problems are some of the main deficits of ASD.

Contacts from other departments are more surprising. The Department of Epidemiology, for instance, asked her to join their investigation of connections between ASD and blood levels of mercury and lead. A colleague in the Department of Psychology has asked her to help develop a program that would train special education teachers to train parents how to continue working with their children on skill sets in home settings. Another team in psychology has consulted with Ferreri on using brain scans to see whether particular interventions result in new neural pathways. And faculty in the Department of Computer Science and Engineering have asked her to consider whether a robot designed to teach language and math skills could be adapted for use with children with ASD.

Motivation to keep moving forward: families

Knowing that others are working to improve the lives of those touched by disabilities such as ASD thrills Ferreri. “I plan to continue to research the efficacy of programs aimed to help individuals with ASD. I want to be able to provide educators, administrators, policy makers and, most importantly, parents with information on which types of strategies, techniques and interventions will most likely provide the greatest gains for individuals with ASD.”

It is clear that her commitment is both professional and personal. “I really want answers for families who are struggling emotionally and financially because of the impact of ASD. I have watched parents take out second mortgages on their homes to pay for services for their child with ASD and then not see their child make any significant gains. I don’t want that to be the norm.”
What about writing?

Researchers study underlying dynamics of the essential subject area

The federal No Child Left Behind Act holds states and schools accountable for student achievement in reading and mathematics, two of the traditional “three Rs” of education. But what about the third “R”?

Even in an increasingly wireless environment, writing remains the primary means of communicating knowledge. Several high-profile reports suggest writing has become an even more essential skill in the digitized, globalized world, in which (in the words of the Carnegie Corporation-sponsored Writing Next report) “economies sink or swim on their ability to mine and manage knowledge.” This means the instruction and assessment of writing will become critical issues for states and schools.

The National Commission on Writing, in publications such as Writing and School Reform and The Neglected “R,” also has called national attention to important connections between writing and real-life success.

“It is exciting to see these reports coming out,” says Gary Troia, an MSU associate professor of special education whose research interests include writing disabilities. “Currently, writing instruction and assessment are not high-stakes, in that they are not tied to outcomes. But they will be.”

That’s why Troia has been contacted by policymakers around the country, including leaders of the state education departments in Massachusetts and Iowa, to help them understand the Writing Next findings and their implications for state curriculum and assessment strategies.

Troia and his colleague Natalie Olinghouse conduct research on writing disabilities as well as on fundamental issues concerning the teaching and learning of writing.
and testing of writing; both have research underway that could provide key insights for improving writing instruction and achievement in every classroom and in every state.

Troia, for example, is looking across the 50 states at state-level alignment between writing standards, curriculum and assessment and student achievement data, as measured by both that state’s assessment and by the National Assessment of Educational Progress (NAEP). Together, Troia and Olinghouse also are zeroing in on how states conduct their large-scale writing assessments.

“We want to know, what are good, valid, reliable writing measures,” says Olinghouse. She notes this important question affects “diverse groups who otherwise never interact – teachers from kindergarten through high school – because writing is a primary means of assessment.”

Olinghouse is analyzing data from each state, such as which grade levels are assessed in writing and what kinds of writing prompts are used. Some states seem to be thoughtful about what they have students write about and why, while others seem unclear about their objectives. A few states, Olinghouse says, still have no statewide writing assessment, relying on district-level assessments or multiple-choice tests.

Helping teachers improve writing instruction

“People are frustrated with how to teach writing at all levels,” says Olinghouse. “I often hear teachers talk about finding better ways to teach and assess the writing of students more effectively.”

To help teachers address this issue, Troia and Olinghouse have teamed with assistant professor of language and literacy Janine Certo to create a professional development video and supplemental materials that showcase exemplary writing instruction in diverse elementary classrooms. Funded by the Literacy Achievement Research Center at MSU, the materials emphasize well studied writing practices and a vision for future directions in writing instruction. “These are research-based effective strategies,” says Troia, who notes that much of the current professional development in writing has been silent on research. In part, he feels, this is because writing research is underdeveloped. “There’s a lot of rhetoric, as opposed to approaches that are informed by evidence. We hope to contribute something new and proven.”

In developing the video project, Troia says it has been hard to find instances of effective writing instruction occurring. Many teachers think too narrowly about how to teach writing; Troia notes that research shows a focus on grammar can have a negative impact on student writing. “There’s a gap between research and practice,” he says.

Another problem in practice: Writing is not just the responsibility of the language arts teacher. “We need to look to teachers in our content areas to help kids become accomplished communicators within a discipline.” This, in turn, means all teachers must be capable of helping kids become better writers. Knowing that the typical reaction from teachers will be, ‘How do I find time to fit this into my instruction?’ Troia urges teachers to prioritize within their disciplines.

However, making room for writing in each subject area will be difficult: Troia’s research shows that state standards often fail to recognize the importance of teaching writing across the disciplines. Instead, states have adopted curriculum standards stuffed with content information and little emphasis on one of the primary skills that enables students to truly understand that content: writing.

Troia also is interested in motivation as a factor in writing success. Working with data from more than 700 students in grades 4-12 in Michigan and Washington, he is looking at the relationships between different aspects of their motivation to write, their writing abilities and their writing performance. “This has not been done before,” says Troia, who reasons that motivation has a large impact on how students perform in class.

He hopes to illuminate the underlying components of motivation in writing and how
they influence and are influenced by student performance and activity. This research is sorely needed, he says. “The gap between poor and average writers grows over time, and we need to better understand what factors play a role in this widening gap – what things exacerbate it and what things mitigate it.”

Revealing the reading and writing connection

Meanwhile, Olinghouse, an assistant professor of both special education and teacher education, is interested in the theoretical connection between reading and writing in elementary students. How can that connection be used to help struggling readers and writers through combined reading-writing interventions?

She currently is conducting research, led by primary investigator Donald Compton at Vanderbilt University, aimed at understanding how to use text to improve the knowledge and vocabulary of struggling students. In this intervention project, funded by the Institute for Education Sciences within the U.S. Department of Education, 120 struggling readers in grades 2 through 5 receive one of three different reading instruction methods and then are asked to write about the texts they read.

Olinghouse will analyze their writing to look for evidence of each method’s effect, as well as for overall improvement based on learning more about a specific topic. She hopes to use results from the pilot study to justify a larger study that combines reading and writing instruction.

“What are the causal mechanisms that connect reading with writing? If students are reading, how do they use that information in their writing?” she asks. “We educators make assumptions that, if we give kids text, they use that information in their writing. But often this is not really happening, at least for struggling readers. We need to tie reading and writing together.”

Count on Troia and Olinghouse to remain at the forefront in the search for solutions to the vexing problem of how to help students become better writers. Observes Olinghouse, “Poor writing skills are extremely detrimental to kids as they go through school, and yet writing research is quite a bit behind reading research. There is still a lot we don’t understand as to how we might actually teach and assess (writing skills).”

Writing is not just the responsibility of the language arts teacher.

Writing is not just the responsibility of the language arts teacher. Gary Troia interacts with a student in his search for exemplary writing instruction.
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