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Homework has traditionally been considered by educators and parents alike to be an important ingredient in academic success. For students with disabilities, homework is also important—and in many cases, especially difficult. In recent years, researchers have tackled issues related to homework and how to ensure that students with disabilities benefit from it. This issue describes their work.

"Access to all aspects of the general education curriculum is emphasized by the 1997 amendments to the Individuals with Disabilities Education Act (IDEA). Homework is one of these aspects." Marjorie Montague - Researcher University of Miami

Homework Practices that Support Students with Disabilities

Homework is one aspect of the general education curriculum that has been widely recognized as important to academic success. Teachers have long used homework to provide additional learning time, strengthen study and organizational skills, and in some respects, keep parents informed of their children's progress. Generally, when students with disabilities participate in the general education curriculum, they are expected to complete homework along with their peers. But, just as students with disabilities may need instructional accommodations in the classroom, they may also need homework accommodations.

"There is little question that homework has taken on a position of significance in American education," Edward Polloway, researcher at Lynchburg College, says. "At the same time, with the movement towards inclusion of students with disabilities in general education classrooms, the challenges for these students to be successful are increased by the greater reliance on homework as an adjunct to instruction. Without attention to the need for adaptations in homework assignments, research and practice would suggest that we have little reason to be optimistic about the potential success of these students."

It goes without saying that many teachers routinely make homework accommodations for students with disabilities. What can research offer to support their practices?

The literature on homework goes back to the early 1900s, but only in recent years have researchers considered its relationship to students with disabilities. Many special education researchers have undertaken investigations of homework funded by the U.S. Department of Education, Office of Special Education Programs (OSEP). These efforts address how homework might best be used to improve learning results for students with disabilities and are the focus of this Research Connections.

What Have We Learned About Homework and Students with Disabilities?

Today, partly as a result of educational reform, many students are receiving increased amounts of homework. For students with disabilities, homework may pose significant challenges. Some of these problems are related to a student's ability to maintain attention, sustain acceptable levels of motivation, demonstrate effective study skills, and manifest positive attitudes toward

homework. Others are related to factors such as how homework is assigned and the quality of communication between home and school about homework.

For over a decade, OSEP has supported researchers in studying effective homework practices, and in return, researchers have produced findings to help students participate and progress in the general education curriculum. This section features the work of several I research- who are advancing our understanding of how practitioners and families can ensure that homework is effective.

Solving Homework Communication Problems

William Bursuck, researcher at Northern Illinois University, has been studying how practitioners and families can make homework a more successful experience for students with disabilities. One thing is clear - parent involvement is critical if homework is to be beneficial.

With his colleagues, Michael Epstein, Edward Polloway, Madhavi Jayanthi, and others, Bursuck has amassed a series of publications, many of which are outgrowths of OSEP-funded research projects, that provide insight into the perceptions of teachers, families, and students. "Teachers and parents of students with disabilities must communicate clearly and effectively with one another and with students about homework policies, required practices, mutual expectations, student performance on homework, homework completion difficulties, and other homework-related concerns," Bursuck points out. "Unfortunately, too often, communication is either unclear or not present."

With his colleagues, Bursuck conducted a series of studies to identify problems parents and schools were experiencing in communicating about homework, as well as recommendations for ameliorating these problems. Focus group interviews with parents and both general and special education teachers revealed problems in the following areas: initiation of communication, timeliness of communication, frequency and consistency of communication, follow-through, and clarity and usefulness of the information.

Teachers encountered the following problems:

- Insufficient time and opportunity to communicate.
- Too many students on a given teacher's caseload.
- Need for additional knowledge to facilitate communication (e.g., students' needs, whom to contact).
- Other factors that hindered communication, such as lack of phones in teachers' classrooms.

Recommendations for improvement grew out of the discussions. "To test for validity, we checked out all of the recommendations with large survey samples," Bursuck reported. Teachers identified use-adaptations for students with disabilities. They also suggested strategies for ensuring that homework was clear and appropriate:

Preferred Homework Adaptations

- Provide additional one-on-one assistance to students.
- Monitor students' homework more closely.
- Allow alternative response formats (e.g., audio taping rather than writing an assignment).
- Adjust the length of the assignment.
- Provide a peer tutor or assign the student to a study group.
- Provide learning tools (e.g., calculators).

- Adjust evaluation standards.
- Give fewer assignments.

In addition, the surveys indicated that teachers preferred the following strategies to maintain effective communication:

- Use technology to aid communication (e.g., use answering machines or e-mail, and establish homework hotlines).
- Encourage students to keep assignment books.
- Provide a list of suggestions on how parents might assist with homework. For example, ask parents to check with their children about homework daily.

Tips For Assigning Homework

Make sure the students can complete the homework assignment.

Write the assignment on the chalkboard.

Explain the assignment clearly.

Remind students of due dates periodically.

Assign homework in small units.

Coordinate with other teachers to prevent homework overload.

Make sure students and parents have information regarding your policy on missed and late assignments, extra credit, and available adaptations. Establish a set routine at the beginning of the year.

• Provide parents with frequent communication about homework.

- Use written modes of communication (e.g., progress reports, notes, letters, forms).
- Encourage the school administration to provide incentives for teachers to participate in face-to-face meetings (e.g., release time, compensation).
- Suggest that the school district offer after school and/or peer tutoring sessions to give students extra help with homework.
- Share information with other teachers regarding student strengths and needs and necessary accommodations.

If students, teachers, and parents do not find homework strategies palatable, they may not use them. "The ultimate impact of these homework practices on students may depend largely on how favorably teachers, parents, and the students themselves perceive them," Bursuck adds. "Our research underscores the need to check out practices with all stakeholders. Simply put, practices that are not acceptable will not be used."

Planner Increases Homework Completion and Communication

"Homework accounts for one-fifth of the time that successful students are engaged in academic tasks," Tanis Bryan, Arizona State University researcher, states. "Yet students complete homework in environments over which teachers have no control-which, given the fact that many students experience learning difficulties, creates a major dilemma." With OSEP support, Bryan and her colleague, fellow researcher Karen Sullivan Burstein, began investigating how teachers, parents, and students might improve study skills, and ultimately, homework completion.

"Both general and special education teachers consistently reported that homework problems seemed to be exacerbated by deficient basic study skills," Sullivan-Burstein explains. "We found that many students, particularly students with disabilities, needed instruction in study and organizational skills." Among those organizational skills most basic to homework were:

Identifying a location for doing homework that was free of distractions.

- Having materials available and organized.
- Allocating enough time to complete activities and keeping on schedule.
- Taking good notes.
- Developing a sequential plan for completing multi-task assignments.
- Checking assignments for accuracy and completion.
- Knowing how to get help.
- Turning in completed homework on time.

Bryan and Sullivan-Burstein found it effective for teachers to provide classroom instruction on the organizational skills and then talk with parents about how best to support the application of skills at home.

[Note: For information on Bryan land Sullivan-Burstein's study skills curriculum program, contact Planning for Success at ksulli@asu.edu.]

Bryan and Sullivan-Burstein also found that students with disabilities often needed additional organizational support. One of the strategies the researchers found to be effective in increasing students' completion and return of homework was use of a planning calendar. "As adults, we use calendars and schedulers, lists, and other devices to self-monitor our activities," Bryan said. "Students can benefit from learning how to use these tools as well "

To help students with disabilities address the self-monitoring requirements of homework, Bryan and Sullivan-Burstein developed a planning calendar and taught students how to use it to keep track of homework assignments. Sullivan-Burstein added, "These planners evolved into a communication tool with parents. We included a place for parents to sign that their child's homework had been completed, and we also left a space where both the teacher and parent could write messages." In conjunction with the homework planner, students graphed their homework return and completion rates-another strategy that was linked to homework completion and improved performance on classroom assessments.

"Ask students to indicate how long it took them to complete a homework assignment. The student who takes much longer than expected may not know how to do it, may have difficulties with attention, or may have to cope with distractions."

-Tanis Bryan, Researcher

Both Bryan and Sullivan-Burstein believe that for any of these strategies to work, the homework assignment must be appropriate and meaningful. They concur that if the homework assignment is too hard, is perceived as busy work, or takes too long to complete, there is a risk of students tuning out and resisting it. And, they add, "Always reward homework completion!"

Increasing Homework Completion-A Success Story

What do you do when students do not return their homework? Verl Curtiss, who teaches fourth grade in the Paradise Valley Unified School District, AZ, found that a variation of Bryan and Sullivan-Burstein's homework planner was the solution. "My classroom was one of the implementation sites for the research project, so I already knew the power of the homework planner," Curtiss asserts.

"When I transferred to my new school where there was little parent involvement, I decided to see if the homework Planner might increase family communication around homework and result in improved completion rates."

Curtiss had students develop their own homework calendars. Each page in the calendar reflected one week. There was a space for students to write their homework assignments and a column for parent-teacher notes. "The cover was a heavy card stock that children decorated," Curtiss describes. "Some students came up with homework tips that they added throughout the planner." Students were expected to take their homework, planners home each day and return them the next day to class.

"I had to build a reward system for returning homework and the planners," Curtiss explains. On a self-monitoring chart in their planner students recorded their homework completion status each day. They would

- Color the square for the day green if homework was completed and returned.
- Color the square for the day red if homework was not done.
- Color one-half of the square yellow and one-half of the square red if homework was late.

If students met the success criterion, they received a reward at the end of the week, such as 15 extra minutes of recess.

Curtiss stresses that it is important to monitor students, especially younger ones, to let them know that homework is valued and counts. "In the majority of cases, the weekly reward worked well, however, I had to increase the frequency of rewards for students with behavioral disabilities," Curtiss said. Students kept track of the points they earned in their planners. "The planners became

important to parents and the student they became portfolios of the students' accomplishments."

Curtiss cautions that the success of the homework planner depends on reasonable homework assignments. "Never send any homework home that students cannot do. All homework must be an extension of what they have learned in class. And, make sure that if you need to modify a homework assignment, you do so before sending it home."

Cooperative Homework

Researcher Michael Rosenberg looked at the efficacy of blending cooperative learning teams with individualized homework assignments. With his colleague, Mary O'Melia, who is a principal at a residential treatment center, Rosenberg investigated the effects of homework in conjunction with cooperative learning on early adolescents with mild disabilities.

The researchers chose to follow, Robert Slavin's Team Assisted Individualization cooperative learning model because of its built-in provisions for addressing individual needs. Building on this cooperative learning model, Rosenberg and O'Melia designed Cooperative Homework Teams (CHT).

"CHT was crafted to maximize instructional time and the benefits of well-designed homework assignments," O'Melia described. CHT uses peer teams to grade and cooperatively make corrections to individualized homework assignments. Here's how CHT works:

- Students are given a placement test to determine their specific basic skills deficiencies.
- Results of the assessment are used to plan instructional lessons and relevant homework assignments.

- Results of the assessment are used as a guide in assigning students to heterogeneous groups.
- At the end of each lesson, Students are given individualized assignments (estimated time of completion was approximately 15 minutes) based on their performance. Students are monitored during instruction to ensure that they demonstrate at least moderate acquisition of material.
- The next day, CHT groups meet for 10 minutes. Students submit their individually completed homework assignments to the designated group checker (the role of checker changed daily). The papers are scored and the scores are given to the teacher, who records the scores.
- Teammates assist each other with correcting the errors. At the end of the session, homework assignments are collected and given to the teacher.
- Points are awarded to individuals based on the rate of completion and the percentage correct, regardless of the level of difficulty. Team scores are determined by averaging each member's daily score and using these individual scores to calculate a team mean.
- Each week, awards in the form of certificates are presented to teams who meet or exceed the pre-selected criteria for success.

In earlier studies, Rosenberg had found that two elements-the amount of homework completed and the accuracy of that homework-had a positive effect on achievement. The current results indicated that CHT was effective in increasing both of these. Data also suggested that CHT is likely to be more effective with older students than younger ones who are just transitioning into the middle grades.

Making Homework Work At Home

According to University of Vermont researchers Martha Fitzgeraid and Pam Kay, children with learning disabilities have more favorable attitudes regarding homework when assignments are

made in the context of a strong support system of teachers, parents, and peers. And, favorable attitudes typically translate into completion and better learning.

In 1990, Fitzgerald and Kay responded to an OSEP request or proposals that asked, "Has the increased reliance on homework created a bridge between home and school or resulted in increased parent/child friction and the need for tutorial services?" To answer this question, Fitzgerald and Kay brought together school districts and families (some with children with disabilities) from five Vermont communities for focus group and individual interviews.

Several themes emerged. First, parents felt ill-equipped to help their children with homework. They cited lack of information about the curriculum and lack of, information about the new curriculum reforms. "Parents were very concerned that this lack of information would hamper their efforts to help their children, who in many cases needed specialized assistance," Fitzgerald reports. "Parents also wanted to know and understand the classroom teacher's expectations and approach for homework. Many felt that these expectations needed to be made explicit from the get-go."

Another theme centered on parents' preference for homework that was tailored to the individual child and that respected child and family needs. Parents of children with disabilities recounted stories of how homework could be inappropriate. As one parent summarized, "What's the point in giving someone an assignment that they can't possibly do?" Overwhelmingly, parents preferred homework that involved concrete, authentic projects that were motivating for children.

Finally, parents wanted a comprehensive, two-way communication system. "The daily demands of homework create the need for some parents to have a dependable, ongoing source of information about the details of class work and curriculum Fitzgerald explained.

"Parents said they would like more recognition of their role in homework, more feedback on the results, more opportunities for parent conferences, and more time to really talk at meetings."

Views From the Field

Looking for ways to enhance the effectiveness of homework? Researchers, practitioners, and family members-in many cases, with OSEP support-have studied various aspects of doing homework that affect its completion, accuracy, and ultimate learning benefit.

After School Program Support for Homework

Increasingly, schools are offering after school programs in which homework is a major activity. With OSEP support, University of Miami researcher Marjorie Montague has been studying the effect of these after school programs on students' academic progress.

Montague found that students must participate in after school programs at least 50 percent of the time to attain any academic benefits. Montague believes that this is related to the fact that teachers appreciate students who turn in their homework. "As a student routinely begins turning in homework assignments, you start to hear comments from classroom teachers that the child is doing better and that his or her grades are improving-although we did not study this phenomenon yet, it is a pretty typical occurrence."

Montague points to the results of program evaluations in two schools she has been studying. In one school, children who attended the after school program at least 50 percent of the time improved their overall reading grades from the previous. year, and in another school, children who attended the after school program

at least 50 percent of the time improved their overall reading and mathematics grades from the previous year. In both cases, attendance in the after school program positively correlated with school attendance. Focus group interviews also revealed that children and their parents over whelming credited after school homework support for improved academic progress.

According to Montague, some students with disabilities just need to do their homework-these are students who need you to get them started and to monitor them until they are done. There are other students who need to know what they are supposed to do--they literally have forgotten that they have an assignment. Similarly, some students have forgotten how to do the assignment and need help understanding it. Finally, there are students who may do their homework, but never get it back to their teachers. These students need help remembering to turn it in. Montague suggests several things that after school program staff can do to enhance accurate homework completion for students with disabilities.

- Communicate with the day school staff. At the very least, administrators should arrange for day staff to meet after school staff.
- Facilitate ongoing communication between the day staff, after school staff, and parents by using homework notebooks.
- Use older students and graduates of the school as helpers (e.g., middle school students for elementary students).
- Build instruction in study skills and learning strategies into the homework program.

As part of one of Montague's OSEP-funded grants, she produces the free quarterly publication, Afterschool Extensions, which provides practical strategies and approaches for supporting students with disabilities in after school programs, including homework. To be put on the mailing list, visit the web site at www.education.miami.edu./afterschoolnet/index.html or e-mail nfonseca@miami.edu.

Student Feedback Yields Constructive Information

"When, teachers know which accommodations and adaptations are most useful they can better identify appropriate practices to implement, thereby potentially increasing students' involvement, understanding, and motivation to learn," Sharon Vaughn of the University of Texas-Austin points out.

With OSEP-funding, Vaughn and her colleagues have been studying students' perceptions of instructional adaptations in inclusive classrooms, including those made for homework "Homework is unique with regard to accommodations," Vaughn explains. "Unlike instruction and grouping practices where all students find it acceptable and fair for teachers to make adaptations for students with disabilities, this is not the case for homework, in fact, students think it is not a good idea to change the nature of a particular student's homework."

Vaughn suspects that underlying this perception is the fact that homework often serves as an organizer for after school social communication. Often homework is the major stimulus for students to call each other from home. "If a student has a different assignment, he or she is essentially cut out of the social loop," Vaughn cautions. "We need to make sure that all students feel a valued part of their learning community, and this includes how they participate in homework."

In one study, Vaughn and her colleagues synthesized the research literature on students' perceptions. Tips on facilitating homework derived from this review are shown here:

Students say teachers can make homework easier by...

- Assigning homework toward the beginning of class.
- Explaining how to do the homework, including providing examples and writing directions on the chalkboard.
- Giving students time to begin the homework in class and checking for understanding and/or providing assistance at that time.
- Assigning homework in small amounts.
- Relating homework to classwork and/or informing students how they will use the content of the homework in real life.
- Checking homework and giving feedback on it to students.
- Establishing a routine at the beginning of the . year for how homework will be assigned.
- Allowing students to work together on homework.

Parents - An Important Component in Homework Success

Families have implicit and sometimes explicit expectations for being involved at various points with their children's homework assignments. The Parent Advocacy Coalition for Educational Rights-better known as the PACER Center-addresses many topics for families with children with disabilities, including homework. According to Leslie Sparks, who co-coordinates the Minnesota Parent Center housed at PACER, "All families need support with homework; however, the needs are often more intensive when the child has a disability." Sue Abderholden, associate director at PACER and Sharman Davis-Barrett, co-director of the OSEP-funded Technical Assistance Alliance for Parent Centers at PACER concur. "There are huge expectations placed upon families," Abderholden remarks. "There is so much information to keep up with that the best parents often find the amount of information overwhelming."

What support do families need if they are to ensure a positive homework experience? Here are some PACER staff suggestions for teachers:

- Remember that children need time to enjoy the non-academic aspects of life. Too much homework or homework that is too difficult can take its toll on children and their families, especially since it often takes children with disabilities longer, than their peers to complete assignments.
- Make homework assignments useful. Children need ways to practice their new learnings in the home setting. They do not need busy work.
- Send home required items. It makes it very difficult for families to help their child when they do not have access to the information.
- Provide all materials needed for the assignment. Do not expect families to purchase or locate materials.
- Offer ways for parents to check on homework after hours. Also, provide a way for families to get help with homework.
- Establish consistent routines for students to use in bringing homework home and returning it. Teach the routine to the children and inform families of it.
- Send home assistive technology devices used at school. Tell families about strategies and accommodations that work in the classroom.

• Share resources for helping children with homework (e.g., tutoring, after school homework programs)

Sparks also recommends several tips for family members. "At the beginning of the school year, parents need to make sure they have a clear understanding of the entire scope and sequence of curriculum for the year and of the homework requirements. Sparks suggests that parents ask about things like weekly spelling tests or semester term papers so that they can plan in advance to provide family time that incorporates time for homework. Abderholden adds that it also is a good idea to include goals and objectives about homework completion in the child's individualized education program (IEP). "Make sure that if the child needs assistive technology, supplementary supports, accommodations, etc., they are written into the IEP."

Contacts

Sue Abderholden, Leslie Sparks & Sharman Davis-Barrett PACER Center 8161 Normandale Boulevard Minneapolis, MN 55437 888-248-0822 www.pacer.org

Tanis Bryan & Karen Sullivan-Burstein Arizona State University College of Education P.O. Box 872011 Tempe, AZ 85023 480-965-2777 tanishbr@aol.com Bill Bursuck
Northern Illinois University
Department of Teacher Education
147 Gabel Hall
Dekalb, IL 60115
815-753-8441
bursuck@niu.edu

Martha Fitzgerald & Pam Kay University of Vermont School Research Office 88 University Heights Burlington, VT 05405 802-656-8551 mdfitzge@zoo.uvm.edu

Marjorie Montague University of Miami Special Education P.O. Box 248065 Coral Gables, FL 33124 305-284-2891 mmontague@aol.com

Michael Rosenberg
Johns Hopkins University
Special Education
100 Whitehead Hall
Baltimore, MD 21218
410-5168275
www.parproject.org

Sharon Vaughn University of Texas College of Education Sanchez Building Austin, TX 78746 512-471-4161 srvaughnum@aol.com

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Susan Bergert, Director, ERIC/OSEP Special Project

Jane Barnette, Publications Manager, ERIC/OSEP Special Project

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