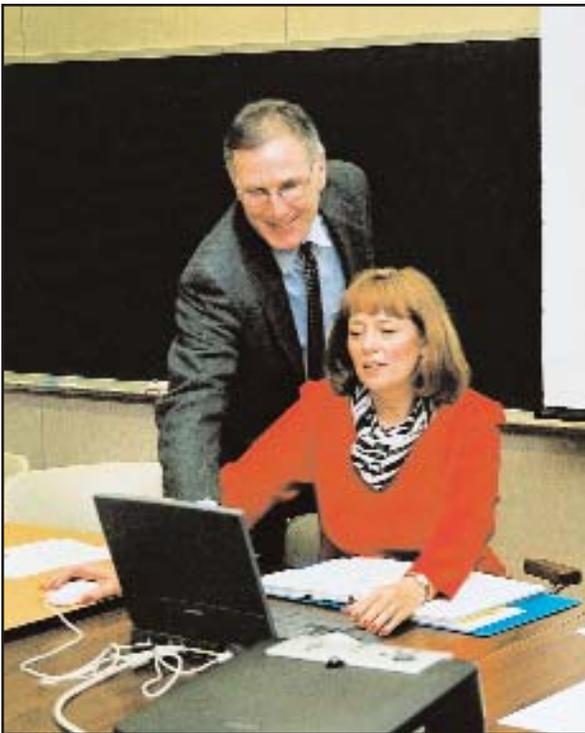


# New Models of Cooperative Teaching

James M. Walsh

Barbara Jones



In a standards-reform era demanding increased access to general education classrooms by students with disabilities, how can less restrictive instructional alternatives like co-teaching be expanded in light of special education teacher shortages and tighter budgets?

This article describes the challenges and benefits of new models of co-teaching that work in schools today.

Although concern has been expressed in the special education literature regarding the need for more research on the instructional benefits of cooperative teaching (Zigmond, 2001), new laws and regulations call for full access to the general education curriculum for students with disabilities—with highly qualified teachers. In fact, this is

a time to increase and not retreat from general education initiatives in our schools. Moreover, as school systems are significantly changing instructional programs in response to the standards-reform movement (Nolet & McLaughlin, 2000), and at the same time experiencing an increasing shortage of certified special education teachers (Kozleski, Mainzer, & Deschler, 2000), we need to develop alternative and additional means to support students with disabilities to successfully access general education classrooms.

After reviewing the benefits of cooperative teaching in the public schools of Anne Arundel County, Maryland, on the basis of parent, teacher, and student surveys; academic outcome data; and classroom observations, we propose four alternative models for co-taught classrooms that rely on flexible teacher schedules and the use of paraprofessionals. We describe the advantages and challenges of each model based on

classroom teacher comments and experience.

## Benefits of Cooperative Teaching

Since cooperative teaching was first suggested as a “mainstreaming strategy” (Bauwens & Hourcade, 1991, p. 19) and “a practical merger between general and special education integration” (Bauwens, Hourcade, & Friend, 1989, p.17) that provides the direct and immediate support to students with disabilities accessing the general education classroom, many authors have written about best practices in co-teaching (Cook & Friend, 1995; Vaughn,

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Schumm, & Arguelles, 1997) and the “intuitive sense” co-teaching makes (Murawski & Swanson, 2001). Despite the dearth of experimental research in the area of co-teaching, the requirements for the least restrictive placement of students with disabilities is a foundational principle of the Education for All Handicapped Children Act (Public Law 94-142) based on the long-standing lack of empirically derived research for more restrictive pullout models (Reynolds, Wang, & Walberg, 1987).

The most recent and complete analysis of the benefits of co-teaching as a less-restrictive instructional model for students with disabilities concluded, with some caution, that “co-teaching is a moderately effective procedure for influencing student outcomes” that “can have a positive impact on student achievement” (Murawski & Swanson, 2001, pp. 264-265). Included in this synthesis of quantitative data on the effectiveness of co-teaching were the results of earlier research conducted in the Anne Arundel County Public Schools finding that students in co-taught classrooms perform significantly better on state minimum competency tests as compared to students in similar general education classes without co-teaching (Walsh & Snyder, 1994). This research was conducted in response to early questioning regarding the efficacy of the “mainstreaming movement” and demonstrated that less-restrictive service options could result in positive outcomes for all students served by the collaborative efforts of a general and special education teacher in a co-taught classroom. Indeed, these academic outcome results complemented earlier survey research (Walsh, 1992) documenting that students with disabilities in Anne Arundel County Public Schools preferred co-taught classrooms to self-contained classroom placements, indicating that they enjoyed school more, learned more, and felt better about themselves in the general education classroom setting. This research served to reinforce the rationale for increased co-teaching implementation efforts and resulted in countywide support for this instructional model.

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A more recent discovery of the benefits of co-teaching in Anne Arundel resulted from an analysis of classroom observation data comparing instructional indicators in co-taught classrooms with more restrictive special education classrooms. During the 2000-2001 school year, we conducted more than 100 classroom observations in Anne Arundel’s secondary schools in an effort to assess the instructional strengths and weaknesses of special education teachers and to recommend needed staff development programs (Walsh & Conner, in press). Of 16 instructional indicators from classroom observation forms, two instructional areas show particular differences between co-taught and self-contained classrooms (Table 1). Teachers in co-taught classrooms ( $n = 39$ ; 95%) were much more likely to provide “instruction reflecting the general education curriculum” than were teachers in self-contained classrooms ( $n = 64$ ; 78%). Likewise, teachers (81%) in co-taught classrooms were more likely to provide instruction that involved students in the higher dimensions of learning needed for success on the critical thinking tasks of the Maryland Student Performance Assessment Program (MSPAP/DOL incorporated) than were

teachers (58%) in self-contained classrooms. In light of the critical need to find effective ways to enable students with disabilities to truly and consistently access the general education curriculum, the results of these classroom observations provide additional support for efforts to expand opportunities for students with disabilities to receive instruction in co-taught settings.

**Need for New Instructional Models**

Since cooperative teaching was first described and recommended as a pragmatic means to foster a shared responsibility for students with disabilities in general education classrooms (Bauwens, et al., 1989), much has changed in general education. The standards reform movement alone has revolutionized what is being taught and assessed, as well as what students are expected to learn and do before graduation. The shift from minimum competency assessments in Maryland to rigorous end-of-course content assessments has significantly raised the stakes for all students seeking a high school diploma, none more than students with disabilities.

Schools have also changed how they are organized to provide instruction. The adoption of flexible block schedules and four-period days have increased and broadened the curricular offerings in schools. In addition, the growing implementation of small learning communities in large high schools across the United States, paralleling the shift to interdisciplinary teams in middle schools, has significantly increased the

<b>Table 1. Summative Data of 2000-01 Special Education Observations: Self-Contained and Co-taught Classrooms</b>		
Instructional Indicators	Performance Rating (%)	
	Self-Contained ( $n = 64$ )	Co-taught ( $n = 39$ )
Instruction reflects general education curriculum	78	95
MSPAP/DOL incorporated	58	81
<i>Note:</i> Each teacher was rated on a scale of 0 (not observed) to 3 (consistently observed) to determine the performance rating for a school. MSPAP/DOL = Maryland Student Performance Assessment Program, Dimensions of Learning.		

number of general education settings that students with disabilities access. Because of these changes, many schools are developing more effective ways to support students with disabilities in general education classrooms.

The reality of limited school system budgets and availability of special education staff compounds the need to support students with disabilities required to learn general education content that is assessed for credit towards the diploma. Even when the county first proposed co-teaching as a practical way to support students with disabilities in the least-restrictive environment, schools did not have enough special education teachers to co-teach the range of general education offerings throughout the school day. The ability to co-teach all levels of English, math, science, and social studies classes from general to honors sections was impossible given the limitations of a typical special education department. Moreover, even if a school were fortunate enough to have the special education teacher positions needed to co-teach the necessary general education classes, there simply were not enough certified special education teachers available to fulfill this need. A recent analysis of the mounting shortage of special education teachers indicated that more than 30,000 special education positions in the United States were filled by noncertificated teachers (Kozleski, et al., 2000).

**The ability to co-teach all levels of English, math, science, and social studies classes from general to honors sections was impossible given the limitations of a typical special education department.**

<b>Figure 1. Collaborative Scheduling—A</b>							
<i>Description: Special educator splits class time between two different classes.</i>							
Teacher	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7
Teacher A	Co-Taught Math	Co-Taught Language Arts	Co-Taught Social Studies	Lunch	Co-Taught Social Studies	Self-contained Math	Planning
			Co-Taught Science		Co-Taught Science		
<b>Pros</b>				<b>Challenges</b>			
May provide a better ratio of students with IEPs to peers without disabilities.				Requires effective consultation skills.			
Special educator is present only when needed for instruction.				Special educator may not be seen by students as equal with the general educator.			
Benefits of special educator may be realized by more students.				More difficult for the special educator to keep up with class activities.			
Access to a broader range of general education classes (AP, honors, etc.).				✓ Special educator moves in and out of classes during class time.			
Accommodates student scheduling conflicts.							

*Note:* IEP = individualized education program; AP = advanced placement. Checkmarks designate the unique pros and challenges of this schedule.

### Models of Co-teaching

#### Traditional Co-teaching

The traditional model of co-teaching involves the general education teacher and the special education teacher implementing a range of co-teaching options from “one lead teacher, one teacher teaching on purpose”; to two groups, “two teachers teach the same content”; to multiple groups, “two teachers monitor/teach varying content” (Vaughn, et al., 1997). In each of these models, both teachers remain in the classroom throughout the entire lesson. The obvious advantage to the traditional model of co-teaching is the availability of continual support for students with disabilities throughout the period, as well as

providing an opportunity for the special educator to maintain ongoing continuity with the curriculum and instruction.

In our own 2000-2001 observations of co-teachers, we noted problems with the traditional co-teaching model. First, special education department heads reported that the county did not have enough special educators to co-teach most general education classrooms, and, as a result, co-taught classrooms easily became disproportionately filled with students with disabilities. Another chronic problem was that during some period of the class, due to the nature of the whole-group instruction or the teaching style of the general education teachers, special education teachers

were often expected to function more like a teacher assistant than a teacher.

In response to these concerns about traditional co-teaching, Anne Arundel’s special education teachers have experimented with adjusting teacher scheduling and using paraprofessionals to provide additional options for supporting students with disabilities in general education classrooms. The advantages and challenges of each of these models based on teacher comments and reactions follow.

**Collaborative Scheduling-A**

In one form of collaborative scheduling of co-teachers, the special educator will divide teaching time between two different classes in one or more periods of the school day. This form of scheduling, identified as “Collaborative Scheduling-A, (see Figure 1)” enables students with disabilities to access a broader range of general education classrooms, including advanced placement and honors classes with limited numbers of special education teachers. This model ensures the availability of direct support from a special education teacher for critical parts of the instructional programs, although it does require careful planning by co-teachers. A critical advantage of this model is the improved ratio of students with disabilities to students without disabilities, resulting in positive academic and behavioral role models. In addition to accommodating student scheduling needs, both special and general educators in this model can plan their cooperative teaching to address the instructional needs of all students with a minimum of down time.

The challenge of any model requiring teachers to divide their time between two classrooms in the same period is the need for effective consulting skills on the part of the special educator. In addition, collaborative teachers report that there is a danger that the special education teacher will not be seen as equal to the general education teacher and it is difficult for the special education teacher to keep up with the class activities when he or she is missing part of the class. Moreover, the possibility for disruption to the class routine exists with the special education

<b>Figure 2. Collaborative Scheduling—B</b>							
<i>Description:</i> Special educator splits time between two different classes on different days of the week. The schedule is modified on the basis of the needs of team members.							
<b>Teacher</b>	<b>Period 1</b>	<b>Period 2</b>	<b>Period 3</b>	<b>Period 4</b>	<b>Period 5</b>	<b>Period 6</b>	<b>Period 7</b>
Teacher A	Co-Taught Math	Co-Taught Language Arts	Co-Taught Social Studies (M, W, F)	Lunch	Co-Taught Social Studies (T, Th)	Self-Contained Math	Planning
			Co-Taught Science (T, Th)		Co-Taught Science (M, W, F)		
<b>Pros</b>				<b>Challenges</b>			
May provide a better ratio of students with IEPs to peers without disabilities.				Requires effective consultation skills.			
Benefits of special educator may be realized by more students.				Special educator may not be seen by students as equal with the general educator.			
Access to a broader range of general education classes (AP, honors, etc.).				More difficult for the special educator to keep up with class activities.			
✓ Can implement a full range of co-teaching models.				✓ Students do not have the support of a special educator in every class every day.			
✓ Recognizes the responsibility of the general educator for all students.				✓ Danger of special education teacher burn-out.			

Note: IEP = individualized education program; AP = advanced placement. Checkmarks designate the unique pros and challenges of this schedule.

teacher moving in and out of the classroom during class time.

**Collaborative Scheduling-B**

This model, a second version of collaborative scheduling, also requires the special education teacher to divide time between two different classes; but the involvement of the special education teacher would vary by days of the week, not within classes in the same day (see Figure 2). As with Collaborative Scheduling-A, similar benefits and chal-

lenges result from this model but in addition, co-teachers report an ability to implement a full range of co-teaching models because of the planned involvement of both teachers in complete classes on certain days of the week. That is, on days when both teachers are in attendance for the full period, teachers can plan differentiated activities, led by both teachers, as well as team teaching strategies for the entire class period.

The successful implementation of Collaborative-Scheduling B requires

effective consultation skills by the special education teacher, planning with two teachers who would surely prefer that the special education teacher be in all classes fulltime. Again, there are risks that the students will not see both teachers with equal status. In addition, teachers planning in this model have to be cognizant of the presence of two teachers on only certain days of the week. Students with specific support and accommodation requirements have to be well aligned with activities that provide varying degrees of support as the week unfolds. Special education teacher burnout is a real concern with this model because it requires a greater command of the general education curriculum by the special educator, and it relies on the ability of the general educator to implement individualized education program (IEP) requirements in the absence of the special education teacher. Supervisory judgment will be needed regarding which teachers can effectively plan and implement this model.

### Collaborative Scheduling-C

A third variation of a collaborative scheduling model requires the greatest amount of flexibility and planning by an interdisciplinary team of teachers. This model, however, has the potential of being most instructionally beneficial for all students. In “Collaborative Scheduling-C” (see Figure 3), the special education teacher serves as a resource to the interdisciplinary team, and his or her schedule is established weekly on the basis of the instructional activities planned across the team. That is, the team of teachers identify the essential opportunities for IEP instruction and support throughout the school day and week, and a schedule is established accordingly. In this model, the special

**Special education teachers were often expected to function more like a teacher assistant than a teacher.**

**Figure 3. Collaborative Scheduling—C**

*Description:*

Special educator’s schedule is set weekly on the basis of activities planned for each class.

The special educator serves as a resource for the team and does not have a rigid schedule.

Teacher	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6	Period 7
Teacher A	Co-Taught Math or Language Arts	Co-Taught Math or Language Arts	Co-Taught Social Studies or Science	Lunch	Co-Taught Social Studies (T, Th)	Self-contained Math	Planning

Pros		Challenges	
May provide a better ratio of students with IEPs to peers without disabilities.	Requires effective consultation skills.		
Benefits of special educator may be realized by more students.	Special educator may not be seen by students as equal with the general educator.		
✓ Team-based decision making.	More difficult for the special educator to keep up with class activities.		
✓ Special educator is present when most needed for instruction.	✓ Students do not have the support of a special educator in every class every day.		
✓ Most responsive to student needs and schedules.	✓ Requires careful planning among a number of teachers.		

*Note:* IEP = individualized education program; AP = advanced placement. Checkmarks designate the unique pros and challenges of this schedule.

educator is present when needed most for instructional support, according to a team decision. Instructional need dictates the cooperative teaching role, not the calendar or time of day, and thus, this model can be responsive to student needs and schedules. Collaborative Scheduling-C clearly requires the highest degree of planning and buy-in by a team of teachers.

### Collaborative Scheduling With a Teacher Assistant

A final version of collaborative scheduling recognizes the reality of special education teacher shortages and takes

advantage of the longstanding contribution to special education by paraprofessionals (Giangreco, Edelman, Broer, & Doyle, 2001). In this collaborative model, a teacher assistant teams with a special education teacher to support a caseload of students with disabilities (see Figure 4). The teacher assistant extends the support of the special education teacher to multiple general education settings, enabling increased access and success in these environments and decreasing the need to group students with disabilities disproportionately in the same co-taught classrooms. This model takes advantage of the avail-

**Figure 4. Collaborative Scheduling With a Teacher Assistant**

*Description:* Teacher assistant represents the special educator in co-taught classes as directed.

Teacher	Period 1 and 2	Period 3	Period 4	Period 5	Period 6	Period 7
Teacher	Co-Taught Language Arts or Science	Co-Taught Math or Social Studies	Lunch	Co-Taught Social Studies or Science	Self-Contained Math	Planning
Teacher	Period 1	Period 2	Period 3	Period 4	Period 5	Period 6 and 7
Teacher Assistant	Language Arts	Science	Math or Social Studies	Lunch	Social Studies or Science	T. A. scheduled with a special educator on another team.
Pros		Challenges				
Instruction can be differentiated to meet student needs.		Teacher assistants are not as highly skilled as teachers.				
Students have the support of a paraprofessional or professional for most of their instructional time.		Teacher assistants have less time to plan with teachers.				
Availability of human resources.		Students must work with a greater number of adults.				
Access to a broader range of general education classrooms with support.		Diminishes the role of the co-teacher.				
Less costly in a limited resource environment.		Requires IEP supervision by the professional special educator.				
		Parent concerns.				

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**Students with disabilities in co-taught classrooms reported that they enjoyed school more, learned more, and felt better about themselves in the general education classroom setting.**  
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bility to supervise and monitor the implementation of the IEPs of all students on their caseload, including students served by the paraprofessional.

**Final Thoughts**

Cooperative teaching has been a beneficial service delivery model in Anne Arundel County over the past 10 years. We have documented benefits in how students feel about themselves and school and have shown that co-taught settings can result in improved academic outcomes for all students. We have also seen how schools have changed organizationally during this period in response to the rigorous expectations established by standards-based reform. The remodeling of co-teaching described in this article was shaped by the comments of general and special education teachers with years of experience collaborating in the classroom. We hope that educators will use this information to expand their options for serving students with disabilities in the least restrictive environment.

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ability of qualified paraprofessionals in the absence of professional employees, and, because paraprofessionals are less costly than teachers, more staff can be hired to support students with disabilities.

Schools and districts with collaborative scheduling with a teacher assistant face significant challenges. For example, schools and districts must provide ongoing staff development and supervision

for paraprofessionals. Moreover, there is the danger that special education teachers will feel that their role as a co-teacher has been diminished with this model, and parents may question the ability of a paraprofessional to provide direct support to students with disabilities in the absence of direct supervision by the special education teacher. Special education teachers involved with this model must understand their responsi-

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**James M. Walsh** (CEC Chapter #246), Director of Special Education, Howard County Public School System, Ellicott City, Maryland.

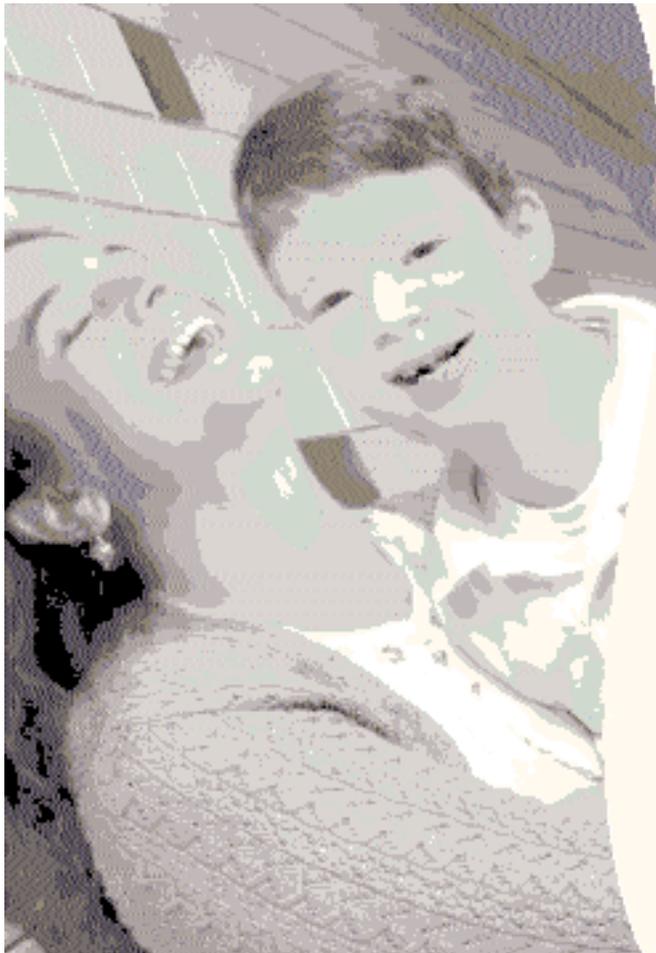
**Barbara Jones** (CEC Chapter #192), Special Education Coordinator for Middle Schools,

Spotsylvania County Schools, Spotsylvania, Virginia.

Address correspondence to James M. Walsh, Director of Special Education, Howard County Public School System, 10920 Route 108, Ellicott City, MD 21042 (e-mail: James\_Walsh@hcpss.org)

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