

Lessons From Another Field: Applying Coteaching Strategies to Gifted Education

Claire E. Hughes
Florida Gulf Coast University

Wendy A. Murawski
California State University, Northridge

ABSTRACT

Because research has found that differentiation of instruction for gifted students does not typically occur within the general classroom, collaboration between gifted and general education teachers is critical in order to ensure appropriate services to students with high abilities. Gifted education teachers are now being called upon to provide services to their students in the regular education environment. This fundamental change in setting mirrors mandated changes in special education, wherein students with disabilities are increasingly served in the general education classroom. This article provides a new definition of collaboration within the context of gifted education and expands on the utilization of coteaching as a collaborative strategy. Five models of coteaching originally developed for meeting the needs of students with disabilities were adapted, and examples of their use with gifted students in the general education classroom are provided.

The need for collaboration between and among professionals in education has been explored for a variety of purposes. Collaboration has been a major component of school reform in areas such as improving university-school relationships (Munby & Hutchinson, 1998), developing various forms of teaming (Chalfant, Pysh, & Moutrie, 1979; Creasey & Walther-Thomas, 1996), determining a variety of student service configurations (Arreaga-Mayer, 1998), providing school consultation (Erchul, 1992; Kampwirth, 1999), and increasing school-parental relationships (Palmer, Borthwick-Duffy, & Widaman, 1998). Specific fields within education have also explored the potential benefits of developing collaborative relationships. Of these, special education is notable for the emphasis recently placed in the area of collaboration (i.e., Bawens & Hourcade, 1997; Friend & Cook, 1996; Korinek & Walther-Thomas, 1995). In particular, the field of special education has focused on the potential benefits that collaborative relationships between professional educators within the general education classroom can have on the development of students with special needs, as well as their general education peers.

Although the special education focus on collaboration in the classroom has been primarily between special education personnel and general educators, the fundamental underpinnings and strategies developed to increase collaborative rela-

PUTTING THE RESEARCH TO USE

The coteaching approaches suggested here can be used by both general and gifted education teachers to plan varied curricular experiences that benefit all students, including gifted students. Because enrichment, acceleration, and compacting are frequently overlooked in the general education classroom, coteaching can provide a means for two teachers to provide appropriate education to all students. Using the proposed models, teachers can work together to ensure that the material is differentiated in such a way that gifted students are challenged, yet other students are not neglected. In addition, the approaches provide a structure through which teachers can begin the process of dialoguing about collaboration.

The inclusion of students into general education classes is an administrative issue, as well. School administrators and enrichment specialists are encouraged to provide staff development training on the use of coteaching. General and gifted educators should be provided with multiple opportunities to work together. As teachers feel more comfortable with the various approaches to coteaching, they will be more likely to implement them and work to differentiate for the needs of the students.

Limited research in the area of coteaching has been done, primarily with students with disabilities. More empirical data is needed on how coteaching can impact gifted students' academic and social outcomes in the general education setting. As we learn more about how coteaching can be used most effectively, new models can be developed and current models can be strengthened.
tionships are often applicable to other fields in education. Definitions of collaboration do not specify the job title of the persons involved in the interactions, but rather describe a need for professionals with common goals, shared responsibilities and resources, and open communication (Brown, Wyne, Blackburn, & Powell, 1979; Friend & Cook, 1996). While Idol, Paolucci-Whitcomb, and Nevin (1986) defined collaboration as an interactive process in which individuals with diverse areas of expertise address mutually defined goals through the use of creative problem solving, Friend and Cook (1996) refined the definition of collaboration as “a style for interaction between at least two co-equal parties voluntarily engaged in shared decision making as they work toward a common goal” (p. 6). The Friend and Cook definition emphasizes that collaboration is a style of interaction that can be used with a variety of applications. Certain characteristics of collaboration that are generally accepted include mutual trust and open communication, as well as the sharing of decision-making, responsibility, accountability, resources, and planning (Brown et al., 1979; Dyck, Sundbye, & Pemberton, 1997; Idol et al., 1986; Pugach & Johnson, 1995).

Many authorities in education have posited the potential benefits to be gleaned from collaboration between professionals. Broad goals for collaboration have been found to include shifting the organizational paradigm (Villa, Thousand, Nevin, & Mageri, 1996), increasing the ability to meet diverse needs (Purcell & Leppien, 1998; Schlichter et al., 1997), achieving more complex goals, improving social interactions, and increasing creativity (Pugach & Johnson, 1995). More specific student-oriented goals include assisting with problem solving (Foley & Mundschenk, 1997; Friend & Cook, 1996), modeling and communicating the value of collaborative behaviors (Villa et al.), and providing additional enrichment opportunities (Purcell & Leppien; Schlichter et al.; Villa et al.).

Although collaboration between professional educators does seem to offer numerous benefits for the teachers involved, as well as students with exceptional needs, it is certainly not a panacea for meeting those needs (Cook & Friend, 1995), nor is it without certain drawbacks or concerns. Some of the most noted hurdles to be overcome are inadequate teacher preparation and training for collaboration (Bauwens & Hourcade, 1991; Bondy & Brownell, 1997); ineffective organizational structures, policies, and procedures (Bauwens & Hourcade; Foley & Mundschenk, 1997; Villa et al., 1996); poor leadership or support; lack of adequate communication; unclear goals (Bauwens & Hourcade; Cook & Friend); lack of planning time (Bondy & Brownell; Mastropieri & Scruggs, 2000; Reinhiller, 1996); and different areas of expertise, frames of reference, approaches to instruction, and/or skill bases (Foley & Mundschenk; Friend & Cook, 1996).

With certain collaborative competencies in place, many of the barriers to collaboration can be overcome. Foley and Mundschenk (1997) identified particular competencies for collaboration, which include: knowledge of clear roles and responsibilities; knowledge and skill in the use of communication skills, assessment, and instructional approaches; and knowledge and skill in the general education curricula, as well as the adaptation of said curricula in meeting individual needs. Proper preparation, teacher willingness, and adequate supports can make a significant impact on the success of a collaborative relationship within the classroom (Mastropieri & Scruggs, 2000; Steffes & Hof, 1999). By recognizing potential barriers and developing the collaborative competencies to overcome those barriers, we can reap the benefits of collaboration.

A New Definition for Collaboration in Gifted Education

Professionals in gifted education have long recognized the potential benefits of collaboration, as well. Purcell and Leppien (1998) defined collaboration from the perspective of gifted education as “the dialogue and planning between professionals in which the goal is to provide differentiated services for high achieving students” (p. 172). This definition includes the characteristics of shared planning, common goals, and communication, but neglects some characteristics others have found essential, such as the need for diverse expertise and parity (Friend & Cook, 1996; Idol et al., 1986). Thus, incorporating the most salient characteristics, we offer a new description of collaboration within the context of gifted education.

Collaboration is a style for interaction that includes dialogue, planning, shared and creative decision making, and follow-up between at least two coequal professionals with diverse expertise, in which the goal of the interaction is to provide appropriate services for students, including high-achieving and gifted students.

The Changing Role of Educators of the Gifted

Why should educators of gifted students increase their collaborative relationships? Although the availability of a continuum of services is critical for gifted students (VanTassel-Baska, 1991, 1998), the fact remains that most gifted students spend the majority of their day in general education classrooms (Purcell, 1995). The reform movement within general education has called for activities that require higher thinking and
more stringent content standards, activities that indirectly benefit gifted students (Council for Exceptional Children, 1994; VanTassel-Baska, 1998). Thus, the role of the gifted education teacher is changing significantly (Kirschenbaum, Armstrong, & Landrum, 1999; Purcell & Leppien, 1998). In many states and school districts, the role of gifted education focuses on the differentiation of materials and activities within the general education classroom, as opposed to a more separate model (Winebrenner, 1992). There are numerous calls throughout the field of gifted education to provide a more collaborative relationship with general education (Kirschenbaum et al.; Tomlinson, Coleman, Allan, Udall, & Landrum, 1996; VanTassel-Baska, 1991; Westberg, Archambault, Dobyns, & Salvin, 1993; VanTassel-Baska, 1998) since there is ample evidence to indicate that differentiation for gifted students rarely occurs within the general education classroom without such collaboration (Archambault et al., 1993; Shaklee, 1997; Westberg et al.).

This fundamental change in gifted education mirrors the mandated changes within special education, wherein students with disabilities are increasingly served within the general education classroom (Individuals With Disabilities Education Act, 1990). The primary role of the special educator has shifted from providing direct services to students in a pull-out capacity to providing both direct and indirect services through collaboration and consultation with general educators. Although gifted education often falls under the umbrella of special education as “a part of the continuum of exceptionalities” (p. 212), Shaklee (1997) noted that gifted education is often ignored and treated as a separate entity. Thus, much of the literature related to collaboration in the field of special education does not address the unique concerns of students with gifts and talents. Yet, as reform in gifted education parallels the changes in special education, gifted and special education teachers are being asked to play similar roles within the general education classroom. They are being asked to provide consultative services, collaborate with the general education teacher, and meet the needs of students with learning differences within the context of the general education classroom (Cline & Schwartz, 1999; Council for Exceptional Children, 1994; Shaklee). Therefore, it is increasingly important that professionals in gifted and general education work together to provide a cohesive experience for all students and that they both understand the distinctive educational experiences that are necessary for gifted students (Tomlinson et al., 1996).

Changes in teacher roles have prompted the need for increased focus into areas such as how teachers can most effectively interact with one another within the classroom. Special education professionals have developed numerous models of collaboration for the general education classroom, designed to provide support for teachers and to describe the process in which teachers interact with students (Reinhiller, 1996). In fact, in the area of gifted education, Kirschenbaum and colleagues (1999) have called for a replication of the efforts in special education that are designed to aid students with disabilities. However, because there are different emphases between the needs of students with disabilities and students with gifts and talents, it is crucial that any model of teacher behaviors from special education be adapted to meet the unique needs of the gifted education teacher and gifted students. Few such adaptations have been made. Thus, it is necessary that gifted education begin the process of discussing and determining the nature and goals of the interactions between general and gifted education teachers, with guidance from special education models of collaboration that have been adapted to the needs of gifted education.

Goals of Collaboration as Applied to Gifted Education

It is essential that the goals of collaboration be defined before establishing a collaborative relationship between teachers. Because gifted education programs differ drastically between schools, divisions, and states, the goals and intended outcomes of any collaborative relationship need to be clearly addressed by all parties involved. Naturally, these goals should reflect and support the goals for gifted students, the gifted education program, and the school in general.

Although scholars in special education provide strong models for collaboration, it is important to remember that the specific goals of gifted education are significantly different from those of special education, as the focus of gifted educators is to develop the talents of students in such a manner that they become more different from their regular education peers. While talent development is a necessary goal for all students, the nature of gifted students requires that the initial differences become more enhanced, rather than diminished. There is no “closing of the gap” goal, but rather the necessary step of talent development on an individual level. These goals might include making content more complex, accelerating the rate of information, providing real-world problems and audiences, and providing opportunities to students who may not qualify for gifted services, but who demonstrate a significant talent in a particular area. Collaborative relationships cannot be taken for granted. Whenever educators decide to work together, there are competencies that need to be met and concerns that need to be addressed to ensure that educators truly share similar goals for the interaction. Before engaging in collaboration, general and gifted education teachers should spend time addressing role clarification, role parity, and role expectations.
(Dettmer, Dyck, & Thurston, 1999; Friend & Cook, 1996). Additionally, Bos and Vaughn (1998) have stressed the need for curriculum planning to identify new goals for students at varying levels. They also remind educators that resources, especially time and space, are frequently at a premium and should be discussed before collaborating.

Trust, respect, and a belief in the value of collaboration were identified by Friend and Cook (1996) as emergent characteristics; while necessary prerequisites, they “typically emerge and grow from successful experience with collaboration” (p. 10). In addition, resourcefulness, enhanced communication skills, an understanding of each other’s training, and the ability to self-reflect are necessary components for an effective collaborative relationship (Purcell & Leppien, 1998). Such collaboration between teachers can act as an opportunity for mutual staff development.

In addition to general collaborative competencies, teachers working together to benefit gifted students in the general education classroom must also value the talent-development process, understanding that providing a student with advanced content is not reducing the educational rights of other students, but can be an improvement in challenge for all students (USDOE/OERI, 1993). Finally, both teachers must respect each other, recognizing that the goals of gifted education may be different than the goals of general or special education. Once goals have been discussed and are shared, teachers must then determine a service-delivery model that can meet these diverse needs.

One of the most rapidly emerging responses to the challenge of meeting the needs of a diverse group of students in the same classroom is coteaching (Reinhiller, 1996). By adapting and modifying existing models of coteaching, we are able to create new approaches designed to meet the unique needs of gifted students in the general education classroom.

**Coteaching Models as Applied to Gifted Education**

Cook and Friend (1995) noted that coteaching occurs when “two or more professionals jointly deliver substantive instruction to a diverse, or blended, group of students in a single physical space” (p. 1). Steffes and Hof (1999) stressed that, for effective coteaching to occur, there must be shared responsibility, common planning time scheduled during the school day, and the use of varied instructional techniques, while Smith and Harris (1999) more closely followed the definition of Cook and Friend, adding only the need to select and use a coteaching model and to specify a common goal.

Cook and Friend (1995) developed five models of coteaching, providing a solid foundation for many researchers and practitioners in this area (Bauwens & Hourcade, 1997; Korinek & Walther-Thomas, 1995; Vaughn, Schumm, & Arguelles, 1997). Although initially developed for special education professionals in the general education classroom, these models, if modified, hold much promise for the field of gifted education.

It is important to note, however, that critical to the notion of coteaching as described by Cook and Friend (1995) is the heterogeneity of student groups. The inclusion and integration of students with disabilities into the general education classroom, with appropriate modifications, supports, and accommodations, is the focus of many special educators, and the diversity of student groups is a key component to successful coteaching experiences (Cook & Friend). While advocates for special education historically have fought for access to general education curricula for students with disabilities (Meyen, 1998), professionals in gifted education often focus on the necessary differentiation from the regular curriculum in order for gifted students to develop their talents (Winebrenner, 1992; VanTassel-Baska, 1998). This difference in emphases requires the modification of coteaching models, and, when modified, these new approaches to coteaching may not meet the original definitions of those in special education. Therefore, it is important that general educators and their coteaching partners determine the goals and needs of their entire class before selecting an approach to coteaching.

While the tasks, expectations, and goals are not the same for a coteaching relationship between gifted and general educators as they are for a relationship between special and general educators, many of the strategies can be easily applied with some adaptations for the needs of gifted students. These adaptations would continue to allow the collaborative relationship within the classroom to support the needs of all students. It is important that the gifted education teacher and the general education teacher develop mutual goals and continue open communication. When goals and activities have been specified, teachers can then determine which model of coteaching would be most appropriate for that particular situation. By modifying and adapting models of coteaching previously presented in special education literature for the inclusion of students with varying readiness levels and needs (Cook & Friend, 1995), the following five models of coteaching are presented as options for educators to further meet the needs of gifted students in the general education classroom. These models include: (a) Lead and Support; (b) Rotation; (c) Simultaneous Instruction; (d) Tiered Instruction; and (e) Team Teaching, and are summarized in Table 1.

1. **Lead and Support.** This model can be most easily applied to a coteaching situation among gifted and general education teachers. There are numerous tasks and activities that the sup-
Table 1
Coteaching Approaches for Use With Gifted Students

<table>
<thead>
<tr>
<th>Model Name</th>
<th>Description of Models</th>
</tr>
</thead>
<tbody>
<tr>
<td>Lead and Support</td>
<td>One teacher takes a lead in the classroom instruction, while the other acts in a support capacity, gathering information on student behaviors, participating as a silent partner, or drifting around the room, assisting students during the instruction.</td>
</tr>
<tr>
<td>Rotation Teaching</td>
<td>Teachers divide the material and each takes responsibility for teaching that material to a portion of the class. The class can be divided in half so that both teachers take half of the class, or it can be divided into smaller groups with activities that are not teacher-led at certain stations (i.e., listening lab, independent practice). At a prespecified time, groups rotate to different stations, allowing teachers to present the same material to the next group while differentiating questions and activities as needed.</td>
</tr>
<tr>
<td>Simultaneous Instruction</td>
<td>Students are divided, and each teacher takes responsibility for the total instruction of his or her smaller group. The teachers plan the lesson jointly, but each presents the same basic content to a smaller group of students, making adaptations as necessary.</td>
</tr>
<tr>
<td>Tiered Instruction</td>
<td>One teacher works with a small group of students while the other teacher works with the larger group. Either educator can work with the small group, and the small group can be used for acceleration, review, or enrichment activities.</td>
</tr>
<tr>
<td>Team Teaching</td>
<td>Both teachers share the planning, instruction, and assessment of the students and copresent information and activities. This approach typically requires the most planning, trust, and communication between coteachers.</td>
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</table>

ious complexities involved in the judicial system, the support coteacher assists by walking around the classroom, encouraging students to pay attention, directing students to additional resources, and asking other questions unobtrusively so that the lead teacher can continue with the discussion. Other positive aspects of this include the limited collaborative planning time necessary, the additional support in the classroom, the opportunity for increased collegiality, and the ease of implementation (Dettmer, Dyck, & Thurston, 1999).

There are, however, some potential negative consequences when consistently using this model. Cook and Friend (1995) cautioned coteachers to vary roles frequently and to avoid overusing this model. They have found that if one teacher constantly takes the lead during the coteaching time, the other teacher may appear as a “visitor” or a glorified aide. This is a waste of teachers’ time and talent.

II. Rotation. This approach facilitates the use of independent contracts or compacting activities, in which teachers can work with different groups, present appropriate information, and differentiate the instruction based upon the nature of the groups. This strategy is particularly adaptable for occasions when there is a need for small group instruction in material that is not linear in nature; skills learned in one station are not predicated upon information presented in any other station. Teachers can more easily adapt the complexity and breadth of the material that is covered for the particular group and make changes based on individual differences in a smaller group setting, providing a tiered lesson experience for students.

For example, classrooms organized around Problem-Based Learning might benefit from this model of coteaching because it allows groups to investigate multiple aspects of the problem in depth, due to the facilitation that more than one teacher can provide. Coteachers may facilitate activities in which one group of students conducts a lab to determine the pH of household cleaners, a second group uses the Internet to investigate the Hazmat procedures for acid spills, and a third group independently maps out alternate driving routes in the case of a highway acid spill. All three groups move through each of the activities, rotating areas, but the level of questions asked, the complexity of information required, and the volume of information needed can be amended according to the readiness of the students in the group. Another example might be the language arts classroom in which one teacher works with a small group of students on nouns, the other teacher works with a small group of students on verbs, while worksheets at various levels are available at a third independent station. Students would rotate among stations so that all students would receive instruction from each of the teachers, but the level of instruction could be geared differently for different readiness levels.

Students benefit from the lower student-teacher ratio and the small group interactions in which gifted students do not have to be singled out in order to receive appropriate instruction. In addition, because each teacher instructs each part of the class at various times, the parity of teachers is maximized and different learning styles can be accommodated by the differences in teaching styles. Although teachers have to divide the material and communicate the content and activities to one another, each can be individually responsible for the specific planning and presentation of that material, thereby reducing the need for common planning time.

A potential difficulty inherent to this model is the increased noise level that typically accompanies such stations or activities (Friend & Cook, 1996). In addition, if students are rotating areas within the same class period, teachers have to work together to closely monitor the time. Strategies such as having a student at each area responsible for monitoring time or using a central class timer, as well as designing activities so as to have only one station engaged in active discussion with the others focused on independent work, silent reading, or audio or visual activities, help eliminate these potential difficulties. Because this strategy also presupposes that the teachers are both equally able to adapt and differentiate appropriately for the needs of the students (Vallecoura, deBettencourt, & Zigmond, 2000), it is important that coteachers meet and determine compatibility before implementation. Finally, this strategy is limited by the nature of the material that is being covered. Therefore, this model of coteaching is not appropriate for material that must be sequentially presented. However, this approach is extremely effective in reinforcing initial concepts or working with groups that are at different places in the curriculum.

III. Simultaneous Instruction. The salient characteristic of this model is the lower student-teacher ratio (Cook & Friend, 1995; Vallecoura et al., 2000). This approach requires that teachers plan together so that students receive the same content, but there is significant room for differentiation in processes, products, and concepts. Students can be divided into instructional groups that reflect their educational levels, and appropriate differentiation strategies can be made within the small-group environment. While the basic content may be the same, the teacher of gifted students can focus on higher order concepts and interdisciplinary connections. There are also opportunities for extension through enrichment and research. This model of teaching is most effective for initial exposure to material, projects needing close teacher attention, hands-on activities, and test review.

A significant advantage of this approach is the ability to present content at multiple levels (Dettmer et al., 1999). Advanced groups can cover the material more quickly, allowing additional time for individual projects or research opportu-
nities within the content area. For example, if a class is studying Sherman’s involvement in the Civil War, simultaneous instruction allows both groups to discuss, chart, and explore Sherman’s march to the sea, while the more advanced group can discuss the economic and political reasons involved, as well. In the science classroom, both teachers could present material on astronomy. However, one teacher could present the material to half of the class in a more concrete manner, using manipulatives and models, while the other teacher could lead the other half in a more theoretical discussion in which the characteristics of an alien must reflect the nature of the planet from which it originates. Each group is covering the same basic curriculum at the same time, but the content presented by teachers is manipulated to reflect the needs and abilities of the students within the groups.

The greatest challenge in the use of this model is reinforcing the parity of each group of students. It is therefore important that each group perceives that its activities are challenging and a contribution to an overall understanding of the content material. Other potential difficulties of this model include presenting material within the same time period, given differences in abilities, teaching styles, personalities, and resultant group dynamics. As with the rotation model, some teachers may have difficulties with the increased noise level. Finally, the level of differentiation available for gifted students is more constrained because of the time-limit factor. This strategy is more appropriate for activities that lend themselves to enrichment and deeper knowledge within a content area, rather than linear acceleration.

IV. Tiered Instruction. In this approach, the teacher working with the small group should frame the differentiated activities within the context of the classroom curriculum, materials, and activities. If a small number of students have compacted out of specific material, they can work with a teacher in a small group on independent projects or accelerated information. For example, if one teacher is working with the large group on multiplication, the other teacher can work with a small group on the process of division, more complex multiplication, or mathematical applications. Or, while one teacher instructs the larger group on vocabulary development, the other teacher can work with the students who have mastered that content on a research project that explores the etymology of related vocabulary. If a school is involved in the Three-Stage Enrichment Model, one teacher can work with a large group of students who are engaged in Stages One and Two, while the other teacher can work with the smaller group involved in Stage Three.

This model of coteaching allows small groups of students to receive differentiated instruction and activities as a cohesive part of their overall instruction. Teachers are able to pace appropriately the material that is being covered so that certain students can receive advanced content while the rest of the class is working with more fundamental material. This model works particularly well for material that is linear in nature because the second teacher is available to facilitate the acceleration and compacting processes. Coteachers can also support enrichment opportunities, such as individual projects and research, for small groups who may have already mastered the requisite content and skills.

The greatest risk of this approach involves the process of continually grouping gifted students together and the “elitist” feeling created within the classroom itself. Changing the groupings for different subject matters and ensuring that the small groups interact with both teachers at different times can alleviate this risk (Friend & Cook, 1996; Vaughn, Schumm, & Arguelles, 1997). It can be arranged so that all students have an opportunity to interact within a small-group setting, with different activities tailored to individual needs. For example, if the high-ability readers meet in a small group while the rest of the class receives other instruction, it should be arranged so that the lower reading groups also have an opportunity to meet and experience more individualized instruction and activities.

V. Team Teaching. Team teaching can take a variety of forms. Teachers may take turns leading a discussion; one may speak while the other asks follow-up higher order thinking questions; one may present information while the other provides additional connections and enrichment information; or one may present an initial level of tiered activities while the other teachers to additional tiers. Teachers may role-play, simulate conflict, and model appropriate questioning techniques. This strategy affords an excellent means of providing those skills essential for gifted students’ growth, and it is often appropriate for other students, as well. Teaching techniques such as the use of higher order thinking skills, Problem-Based Learning, and creative activities can be presented to the whole class, with content modifications made for students who are struggling with the material. For example, one teacher can present the role of the industrialization of the North in the Civil War, while the other teacher asks critical thinking questions connected to the material; one teacher can present the Creative Problem Solving method, while the other teacher connects it to a current class topic of discussion, such as pollution; or one teacher can discuss the metabolic activity of a cell, while the other role-plays the cell interactions.

Because this model requires the highest level of trust and commitment between teachers, it is an approach that many coteachers are reluctant to try. However, it is an approach that many veteran coteachers have reported as the most rewarding (Cook & Friend, 1995). While it does require both teachers to share a similar level of trust in one another, a respect for all stu-
students, a willingness to allow students to progress at uneven rates, an understanding of individual differences, and the desire to help students achieve and reach the next level of development and knowledge, it does not require that both teachers have the same level of knowledge or teaching proficiency. The benefit of having two professionals collaborate in the same setting provides for the differentiation of expertise; the general education teacher has a mastery of the curriculum, while the gifted education teacher offers a mastery of curriculum differentiation, strategies for enrichment, and an insight into the needs of higher achieving students.

This model of coteaching requires a mature relationship between partners and frequently needs time to evolve. A relationship built on trust and communication would necessitate a significant commitment to the process. In addition, coteachers must be prepared to deal with conflict resulting from differing personalities, time constraints, proximity, and varying emphases within the curriculum. Due to the extremely collaborative nature of this model, coteachers must be prepared to spend the time necessary for planning, communication, problem solving, and relationship building.

**Selecting and Combining Coteaching Models**

As coteachers jointly select (a) the content to be presented, (b) the process through which they are going to instruct students, (c) the products they are going to ask of students, (d) the concepts that they are going to highlight and make explicit, and (e) the learning environment in which all of this is to occur, they can determine which coteaching model is most appropriate for their needs and the needs of their students. It is important to realize that these models can be used in tandem and at different times throughout a lesson.

For example, during a science lesson on soil erosion, the class might begin with the gifted education teacher providing some background information on different types of soil and establishing the “problem” to be solved (i.e., landowners losing homes in Malibu due to soil erosion). In the meantime, the general education teacher could be setting up experiments in learning centers, using the Lead and Support model.

Next, the two teachers could have the students move to the learning centers to conduct experiments, using either the Rotation or Simultaneous Instruction models. If the students moved from one teacher or center to another to receive different instruction, the Rotation model would be used; if the class were divided and each group remained at one center while teachers presented similar material at the same time, the Simultaneous Instruction model would be implemented.

Toward the end of the lesson, the two teachers could bring the class together to present the findings in a Team Teaching mode in which they both ask questions about soil erosion and facilitate a discussion that summarizes the major findings of the experiments and helps students suggest a course of action for the landowners in Malibu.

Finally, using the Tiered Instruction model, the general education teacher could have the majority of the class participate in a follow-up activity in which they write a proposal to the city council from the perspective of a Malibu landowner. During this time, the gifted education teacher could work with a small group of students in a more complex activity in which they consider the perspectives of other stakeholders in the community and write counterproposals based on those perspectives.

Such flexibility of use of the models represents the adaptability to individual teacher characteristics and curriculum needs. Appropriate instruction for gifted students can be accomplished through the flexible groupings possible with the use of multiple coteaching models.

**Summary and Future Directions**

“Generalists don’t feel that they can do everything, even if reformers think they can” (Tomlinson et al., 1996, p. 171). There is an urgent need for educators to recognize and serve the needs of gifted students in a cohesive and coherent manner. Because it is critical that a variety of service options, experiences, and differentiated curricula be available for gifted students (VanTassel-Baska, 1998), it is vitally important that collaboration between gifted and general education increase. Without such collaboration, research has consistently found that differentiated instruction rarely occurs within the general education classroom (Archambault, et al., 1993; Westberg et al., 1993). Therefore, it is necessary for gifted and general educators to embrace models of collaboration that will increase the chances for such differentiation.

The potential benefits of collaboration between gifted and general educators are numerous. The selection and implementation of the five models of coteaching adapted for use with gifted students offers an invaluable opportunity to reap these benefits. However, in order to promote the effective use of these models, teachers must also be aware of the dynamics involved in establishing such a relationship, the support systems necessary, and the roles and responsibilities required of all participants.

While current literature is replete with positive anecdotal experiences, suggestions for implementation, and guidelines for setting up coteaching situations, there is a significant need...
for more empirical data. A recent meta-analysis on coteaching found an overall mean effect size of .40, but cautioned readers that the various dependent measures involved make this analytic procedure an “apples and oranges” comparison (Weichel & Swanson, 2000). None of the articles in the meta-analysis focused specifically on the effects of coteaching experiences with gifted students. Researchers are encouraged to conduct experimental studies with coteaching as the independent measure and gifted student outcomes as the dependent measure. It cannot automatically be assumed that the results found through research in special education will also be found in gifted education.

Although special education is based upon a different paradigm, the reform movement has impacted both special education and gifted education in similar manners. The field of special education has been prolific in providing models of collaboration designed to promote increased interactions between teachers so that students may be served more appropriately within the general education classroom. While the literature in gifted education has emphasized the need for increased collaboration with general education, few models to meet this need have been provided. Because special education is another field focused on the needs of students who learn at different rates and in different ways, gifted education will benefit by examining and adapting examples of collaboration provided in special education literature. The adapted models of coteaching discussed in this article provide an example of the numerous possibilities that present themselves when gifted educators look to established practices in other fields.

References


