Ideas for Practice: A Collaborative Look to the Classroom

By Dorothy A. Osterholt and Katherine Barratt

ABSTRACT: ***Many developmental students begin college ill-equipped in the social and emotional competencies to be successful. Thus, it is essential that institutions of higher education address the broader needs of these students. The purpose of this article is to present collaborative learning as a tool for addressing the social and emotional inhibitors that may prevent success during this time of transition. We address potential concerns for making this pedagogical shift and present reasons for considering this approach. We also provide specific classroom applications of this process that increase the chance that all students acquire the full spectrum of skills crucial for academic success through cooperatively-shared experiences.***

The extensive body of literature on collaborative learning and EI confirms major benefits to students well beyond their academic achievement.

Within the current academic climate that is focused on encouraging more high school graduates to attend college, higher education is facing an increased number of underprepared students entering postsecondary institutions. Many of these students arrive on campus with sufficient academic credentials and standardized test scores, but they fail to meet college academic expectations. For others, despite a high school diploma or GED certificate, they lack both academic skills and social readiness necessary for college, both of which may require significant intervention and on-going support. Since academic inadequacies are usually exposed during the admissions process, many institutions now provide developmental classes to increase reading, writing, and math skills. However, improving the academic performance of these students and others in the regular college program may require more than an intensive focus on academic skills. In this article, we will address both the importance of developing skills in the social and emotional realms and appropriate implementation as a way to help underprepared students become more successful in college.

"Since the earliest American study on collaborative learning in 1897, hundreds of studies have been conducted attesting to the validity of employing grouping techniques in the classroom" (Wood, 1992, p. 96). Issues that have framed some of the earlier research include the understanding of how one person's knowledge is changed by another or how individual understandings among a group's members help to create a unified consensus shared by everyone in that group (Dillenbourg, Baker, Blaye, & O'Malley; 1996). The primary focus here is on the individual cognitive development resulting from collaboration. Although more recent studies have been interested in social development, Piaget and Vygotsky recognized the interconnectedness of cognitive and social development. This body of research illustrates the significance of the interactions as a vehicle for positive effect (Dillenboug, Baker, Blaye, & O'Malley, 1996). Another body of research that is closely aligned with collaborative learning is cooperative learning. Robert E. Slavin (1981) reinforces the positive effects of cooperative learning to include academic achievement, intergroup relations, acceptance of mainstream students, and increased self-esteem. The research conclusions drawn by Johnson and Johnson (1997) likewise have reinforced the need for collaborative working opportunities for all students to balance out individual work. It is only through collaboration with another that students will develop positive expectations about working with others, constructive attitudes toward controversy, and the ability to adopt another person's perspective. The recognition that student participation in small groups is an effective method for enhancing learning continues to be highlighted in the research (Chinn, O'Donnell, & Jinks, 2000; Draskovic, Holdrinet, Bulte, Bolhuis & van Leeuive, 2004; Veenman, Denessen, van den Akker, & van der Rijt, 2005; Webb, Farivar, & Mastergeorge, 2002).

Daniel Goleman (1995) initiated the idea that one's social skill, or emotional intelligence (EI), could be a greater contributing factor than IQ for success in school, career, and life in general. Attributes including self-awareness, emotional management, empathy, and social competence were at the core of his theory. Further, Low and Nelson (2006) explain EI as a "learned ability to understand, use, and express human emotions in healthy and productive ways" (p. 2). They further contend that by teaching students how to work cooperatively in small collaborative groups the likelihood of developing both academic pro-

Dorothy A. Osterholt
Professor
dosterholt@landmark.edu

Katherine Barratt
Professor

First Year Department
Landmark College
1 River Road, South
Putney, VT 05346

ficiency and emotional intelligence attributes is interwoven into the entire class curriculum as well as its content. The extensive body of literature on collaborative learning and EI confirms major benefits to students well beyond their academic achievement, which may also speak to the set of proficiencies at the heart of what stabilizes the developmental student.

Identifying and addressing social and emotional needs of underprepared students has become a common focus of first-year programs at colleges and universities throughout the country. Such innovation reflects "consistent and growing research that points to the need and value of incorporating personal skills and emotional intelligence into academic and student development programs." Further, "The most important finding and message of this growing research and application basis is that improving emotional intelligence (EI) is the key factor in achievement, college success, personal health, career performance and leadership" (Low & Nelson, 2006, p. 8).

College educators must first recognize that the social and emotional needs of a student—especially developmental students—along with academic skills impact their overall adjustment to college. Secondly, they must understand that the development of social skills can be facilitated within a college classroom with EI-infused curriculum. We contend that this can be accomplished in the college classroom by implementing collaborative learning activities.

For years, social and emotional growth has been a focus of accommodations for students with learning disabilities (LD); but it can be beneficial for all incoming freshmen as they become acclimated to college. Reiff, Hatzes, Bramel, and Gibbon (2001) contend that LD students "need to adapt to a new environment and develop effective compensatory and coping strategies, as a safety net of parents and the structure and supports offered at the secondary level are less readily available" (p. 76). However, what is most striking about their assertion is their conclusion that the integration of EI into the curriculum "ultimately may lead to more effective practices in preparing students with and without LD to meet the demands of college and the workplace" (p. 76). Such evidence builds the case for broadening the curriculum to serve the whole student.

As institutions of higher education attempt to improve the first-year experience for developmental students, there has been debate about the need for transitional programs to begin prior to college enrollment. However, at this time, this bridge is addressed primarily through postsecondary programs or developmental classes. It is our belief that social and emotional skills must be supported through college curricula that promotes behaviors related to the domains of emotional intelligence. Furthermore, such skills can be addressed both comprehensively and consistently within the college classroom without sacrificing academic content.

The Developmental Student Today

The pool of developmental students entering college exhibit of a broad range of needs (Russell, 2008). Formerly they included first-generation students, students for whom English was not their first language, and students with psychological disorders. However, as the idea of the "developmental" student evolved, additional features have been included: students who in high school were functioning below other students for their age or grade level, those who may have dropped out and earned a GED, and those who deliberately chose easier senior year courses and missed opportunities for rigorous courses to prepare for college-level expectations. The latter characteristics expand the profile of the current developmental student. Furthermore, the need for developmental education also stems from an increase in adult workers returning to college to gain additional education and upgraded skills to compete in the job market and returning veterans and new immigrants needing the basic skills before attempting college-level work (Russell, 2008 p.8). Deficits beyond purely academic preparation can become the overwhelming barriers to successful completion of the first semester of college. These may include managing multiple study tasks, persevering through frustration, prioritizing time, and knowing how to de-stress. An equally important criterion is personal self-belief and emotional perspective towards one's abilities. This is an integral piece of achievement and can be a highly challenging aspect for developmental students during their transitional period. It also corresponds directly to the competencies of emotional intelligence which, when optimally integrated into the classroom itself, result in far greater positive outcomes than what might be achieved in exterior support services alone. To introduce the use of collaborative learning as a means to support the developmental learner, we will first examine perceptions that may exist on college campuses and may be obstructing its implementation.

Postsecondary educators are in a position to make a real pedagogical shift that meets the needs of the current developmental student.

Bringing Collaborative Learning into the Classroom

Collaborative learning has long been debated among college/university faculty who cling to traditional methods of teaching despite changing student populations. The problem is that the "traditional structures and culture of the academy" (Smith & MacGregor, 1992, p. 16) enable a continuation of the teacher-centered transmission of information via lecture in which student interactions, examination of ideas, and multiple perspectives are constrained. It reinforces the concept that achievement is gained by working alone and in competition with peers. This concept can prevent students from asking for help because on one hand, when support comes from faculty, it may expose personal vulnerabilities; on the other, when information is discussed with a peer, it may require each to reluctantly share information gleaned individually.

By contrast, a collaborative learning classroom puts a meshing of student learning and content coverage within an interdependent participatory community front and center. It reshapes the roles and relationships of teacher-student and student–student, questions long-held assumptions, and greatly alters the expectations of students to be active participants and colleagues in the learning process. All of these elements foster the social and emotional growth of students.

Postsecondary educators are in a position to make a real pedagogical shift that meets the needs of the current developmental student. It is time for educators to move toward student-centered learning in which regular, structured collaborative activities are integrated into the content as the primary delivery system for emotional and social aspects of learning.

> [College faculty] provide an opportunity for students to clarify and formulate their own points of view and to share them in a socially acceptable manner. We must leave room for students to take risks and feel safe (Liff, 2003, p. 34).

She also supports the integration of EI competencies into the college classroom: "By addressing social and emotional learning within both traditional and developmental classrooms, postsecondary educators can devise systems and create environments that foster the scholarly as well as interpersonal growth of students" (p. 28).

The needs of the developmental student relate to the collaborative classroom environment. In a 1995 study Gokhale looked at the link between collaborative learning and critical thinking by investigating the effectiveness of indi-

vidual learning versus collaborative learning to develop content skills as well as critical thinking ability. In the analysis both groups performed equally as well on the drill and practice test. Yet those who learned collaboratively scored higher than the other group when evaluated for critical thinking. In fact, a number of significant benefits resulted for developmental students who engaged in a collaborative process. These included the following: discussion to look more deeply into the content as a shared process among the partner/small group (P/SG) configurations; emphasis of the P/SG on each member moving toward a common goal; value and respect of others' opinions through this team approach; drill and practice for content review that reinforced and solidified the informational base; exposure to different interpretations of a given situation, which could be overlooked individually; support and empathy built into this P/SG process; and experience as speaker and listener, which were integral parts of the entire collaboration.

Stephen D. Brookfield (2006) reinforces the need for such student-centered learning. He emphasizes the importance of understanding and responding to the emotions in learning. In fact Brookfield states that it is crucial for teachers to know how the "emotional rhythms" of the classroom affect the students. If emotional factors are left untreated, students may very well "end their educational journey" (p. 76).

Although Brookfield specifically calls for new faculty to understand and apply the teaching approach to the general student population, it is a useful reminder for seasoned faculty as well. He believes "if you are going to help people learn you need to have some understanding of where students are, how they are responding to different classroom activities, and in what ways you can best help them connect to new material and knowledge" (Johanson, 2010, p. 27). Without this basic knowledge it is difficult to address the social and emotional inhibitors that may prevent success during this time of transition. The collaborative classroom can effectively address these components of learning and develop EI.

By looking at the characteristics of collaborative learning, it is possible to understand the connection between emotional intelligence and collaborative learning. The characteristics of the EI domain generally parallel those of learning collaboratively. According to Smith and MacGregor (1992) these domains include responsibility, persistence, and sensitivity. The same authors use the following descriptors for a collaborative environment: interdependent, interactive, engaging for students, and cooperative. This environment aims at reshaping the power structure of a teacher-centered mode for the transmission of information in which students are mute receivers of the content via lecture-type delivery.

Within a collaborative structure there is a consistent expectation of verbal exchange through an orderly sequence of skills. For example, students learn and practice the roles of speaker and listener in paired work before they collaborate in a larger group. Under this kind of structure, debriefing and peer feedback become integral and important parts of the collaborative process. It cannot be overemphasized how crucial the faculty role becomes to facilitate this evaluative process (Smith & MacGregor, 1992). It is also important to note that it does not sacrifice content but rather facilitates a deeper understanding of the material through directed analysis and relevant application of the information while simultaneously building EI domains of self-awareness, social competence, and self-motivation.

Of course, if collaboration is to be successful, it is not enough to simply tell students to work together. Activities can be designed for a variety of "readiness" levels and integrated into the content. Collaboration can be started with pairs, then triads and finally, larger clusters. As the group size increases, it allows students to practice their skills and build further self-confidence by experiencing a variety of roles.

This environment aims at reshaping the power structure.

Criteria for a Collaborative Classroom

Students who are transitioning into college are expected to wrestle with complicated questions that bring forward conflicting ethical principles (Paul & Elder, 2010). This requires a teacher's thorough understanding of collaborative learning and class preparation that is centered around a set of guiding principles: first, the importance of the teacher's knowledge to create a collaborative-based classroom; second, the teacher's competency to model and provide critical thinking opportunities in content-based activities; and third, the teacher's ability to guide the students as they learn and apply collaborative skills. Additionally, teachers who are the most effective have an understanding of the emotional blocks and attitudes among the students in order to "help students enhance their emotional intelligence to become successful learners" (Wilkinson, 2009).

According to Stephen Brookfield (Johanson, 2010), there are several criteria that influence the teacher's effectiveness to teach critical thinking, all of which should be integrated into a collaboratively structured class. First, modeling critical thinking by explaining what you are doing in incremental steps should present assumptions and ideas from different perspectives around a topic. Next, asking questions is essential to develop an awareness of how the students are experiencing learning. Recognizing the student's significant past experiences and including breaks for individual and group reflection of the content can all contribute to increased self-awareness and self-regulation. Helping students connect the course material to life beyond the classroom will also establish the relevancy of the content. Building the trust level within the class community will help minimize feelings of intimidation between faculty and students so that ideas will be shared openly to strengthen communication skills and self-confidence.

Activities

There are specific applications of this process that increase the chance that all students benefit through mutual trust and a shared goal. Optimally, it is effective to incorporate collaboration into every class from the first day. Allowing as little as 5 minutes of reflection will not only get students talking about the content but will allow them to consolidate new information so they will improve their chances of remembering it later (Sousa, 2006). Faculty should direct the collaboration by setting the purpose, identifying specific outcomes, and assigning various roles to the group members. Each member of a group should have a role to ensure that all students are actively engaged. The pairing and grouping of students should change continually to ensure that each student has the opportunity to work with all members of the class. After completing the assignment, the students should debrief about the effectiveness of the group and the work that was completed. Points to consider when planning the activities—whether partner or small group—are that collaboration is a regular part of the class format, students understand the purpose of working together versus individually, and an all-inclusive component is built in so no one is exempt from participating.

Students making a transition to college may initially have a poor sense for planning and building academic connections as well as miscalculations about curricula expectations (Liff 2003; Simpson Stahl, & Francis, 2004). Inadequate experience participating in discussion classes may leave them decidedly unsure about breaking their silence. In some cases, feelings of isolation can spiral into a general passivity and

CONTINUED ON PAGE 30

Table 1
Classroom Paired Collaborative Activity Design

Activity	Design	Benefits
Previewing Set frame of thinking, and attention to the topic before lecture using a question that draws on the student's experience, background knowledge and/or personal perspective.	• The lecture is started with a brief overview and an opening question based on that day's topic. • Students pair up for a 3 minute dialogue to share & clarify each other's idea. • Each student completes a brief template guide as part of an on-going journal. • Each student gives a short response to the whole class. • Data is recorded by teacher. • Teacher gives feedback in a general statement noting student input.	Activates brain to topic Starts students talking Connects new material to background knowledge Initiates assumptions Spurs interest and focus Develops speaking and listening skills
Reviewing Deepen the students' understanding of material that calls for its application that will relate to lecture part 2	• At a logical midway stopping point, the teacher directs students into pairs with a task to identify & apply main ideas of lecture part 1. • Partners collaborate on task following a general template that itemizes & guides the steps in the process. • Pairs write out a joint response on the template & decide how the oral report is divided. • Each student reports on one part of the joint answer. • Teacher records paired work on a chart & can comment on exemplary feedback that accurately using info.	Changes brain focus Starts consolidation with review Allows immediate use of material Sets accountability to participate Provides an opportunity for students to model exemplary thinking Develops leadership & listening skills.
Peer Review	• Working in pairs, a student reads his/her own work • Their partner is asked to respond to the two questions, "What I heard is…" "What I wonder is…" • The reader listens to the response and records the feedback on his or her own paper.	Provides nonthreatening peer feedback Assesses content and tone of writing rather than grammar Provides specific and concise feedback
Critical Thinking Reflection Extend the content into an illustration or relevant context that reflects a current trend or condition associated to the topic.	• Teacher assigns lecture response that extends the topic to a life situation. • Pairs are assigned and work begins in class to be finished as homework for presentations to begin the following class. • Paired students talk over the key ideas / terms discussed to integrate into the response task. • Students follow a template to guide questioning & recording their thought process through completion. • Each pair prepares a joint report approximately 3 minutes. • Teacher guides a discussion as students assess how well classmates applied critical thinking to the topic through their expanded context. • Teacher is active and points out exemplary work so these students can explain how they approached this process. • Students may rework their reports based on peer / teacher feedback before grading. • Follow-up paired office hour is scheduled for debriefing.	Requires accountability to a peer Establishes collaborative dialogue for a joint production Fosters appreciation for peer support as well as patience for a peer less skilled Integrates leadership with listening to negotiate the final product

CONTINUED FROM PAGE 28

repetitive self-defeating behaviors. Yet a deliberate well-integrated collaborative process early in students' college careers can begin to expand intellectual competency in the content and build peer social affiliations that are cooperative in nature rather than competitive.

Collaborating in Pairs

The collaboration process in these instances can begin using paired activities that are inserted around a lecture format of a content class. At the heart of this challenge is the need to build safety within the classroom to diminish the possibility of passivity and discouragement. Researchers Paul and Elder (2010) assert that it is essential for students to begin to understand the limitations of "singular, personal experiences" that can lead to "ego-centric" thinking. The teacher must be skilled and sensitive in working with these students in order to understand the "tenor" of the class and the level of vulnerability. From this the teacher can establish a regular and predictable set of procedures to integrate collaborative skills and ultimately to help students learn to critically think about and respond to the material being presented (Paul & Elder, p. 34).

An effective use of paired collaboration embeds short activities into the class lecture at three different intervals (see Table 1). A previewing activity—such as a question that draws on students' background knowledge or personal perspective—establishes the frame of thinking to the topic. A reviewing activity, inserted midway into the lecture at a logical stopping point, allows immediate use of the material to

CONTINUED ON PAGE 32

Table 2
Paired Research Feedback Activity

Design	Examples	Benefits
Rotating "Feedback" Partners • Using a specific class time, each student checks in weekly with a classmate at designated stages in a 4 – 6 week research project. • Each student gives & receives feedback from their peer at each session. • A uniform check-list is distributed for this activity as a guide. • Suggested questions guide the partners' dialogue with one another. • Regular individual support is provided through office hours.	Feedback can be given for each step, or selective steps, of the research process. Possible points of feedback include: Topic selection Literature Search Outline Drafting Editing & Revision Student makes appointment with professor for additional feedback	Provides a give-and-take experience as listener, speaker, & evaluator Demands accountability to supply worthwhile feedback Challenges student to a time-line Offers peer support Teaches how to give & receive constructive feedback Provides practice using objectiveness

CONTINUED FROM PAGE 30

deepen and apply concepts taught. Changing the learning modality from a receptive mode to an expressive approach allows students to consolidate the new material and recapture attention. At the end of the lecture, a reflective critical thinking activity can challenge students to sum up or illustrate the central ideas by extending the content to broaden their knowledge base. Intermixing the lecture and collaboration not only promotes active engagement but may increase critical thinking. According to Johnson and Johnson (1984), cooperative groups can be used to help students gain greater knowledge, like school more, get along better with others, and improve social skills.

The essentials of the collaborative process should be introduced in a highly structured and predictable class regimen in which everyone is a participant and respected as a learner. The purpose and intended outcome of paired work is explicit and stresses appropriate shared dialogue. Findings are shared in class and visually recorded for reference in the on-going discussion. In this manner, students are exposed to a variety of perspectives, both unlike their own and at a higher level of sophistication. They learn to appreciate different ways of thinking as they weigh their own perspective. Further benefit can come from the opportunity to "de-brief" and, quite possibly, demystify the process. Additionally, because students keep a written record of the paired teamwork using a structured activity template, a record of growth and improvement as a collaborator can be tracked and reviewed.

Aside from the functional importance, collaboration breaks down the traditional idea that students must remain autonomous and complete with one another in the learning arena; instead it emphasizes the value of cooperation and inclusiveness.

A bit more sophisticated paired student activity can be instituted when research has been assigned (see Table 2). In this case, each periodic collaborative session matches different students with one another so feedback is continually coming from different listeners who may give different views in their reaction to the writing. Uniformity is achieved by using a standardized checklist so feedback is consistent across all collaborative pairs.

Small and Large Groups

As students become more confident in paired activities, they should be exposed to larger group sizes in order to learn the importance of negotiating with more than one perspective. Students can only gain a deep respect for complicated ethical questions that are at the core of higher education if they are able to build their understanding of context and recognize the value of multiple world-views within the class. Educators are often mistaken in thinking that students come to class with an inherent intellectual or emotional connection to the topic. It is more realistic to assume that interest should be cultivated through predefined collaborative activities. Once this is understood then it is easier to see connection to the topic as an intentional outcome of an academic experience rather than a starting point. Like all in-class activity that requires students to be fully engaged, these collaborative sessions require significant thought and preparation (see Table 3, p. 35).

Stephen Brookfield (2006) describes class discussion as "the jewel crown of the engaged classroom" (p. 115). He recognizes that this format provides a unique opportunity for students to grapple with the complexities of an idea, listen to contradictory perspectives, express their personal views clearly and coherently to others, and practice using the academic jargon accurately with confidence. These skills not only create critical thinkers, but they "help prepare learners for the process of participatory democracy" found outside of the classroom (Brookfield, p. 115).

In terms of supporting learners who are developing the social and emotional skills needed for this level of engagement, larger group activities impose a larger risk for exposing themselves. A large group requires participants to carefully consider many logical arguments through meaningful dialogue and debate. Furthermore, students must synthesize many perspectives to reach a mutual consensus in order to produce a collaborative outcome.

Defining specific rotating roles can provide the structure for all students in the group to be fully engaged. Each member of the group should be responsible for some aspect of the work. Some examples of these roles are the following: the "navigator" is responsible for introducing the topic, providing concrete examples of how to complete the task, and inviting others in the group to contribute to the conversation; the "reflective analyzer" keeps a record of the conversation as it develops, provides a summary at different intervals, and poses any emerging concerns that arise; the "task analyzer" offers helpful resources to support the process that would validate the outcome; the "devil's advocate" poses possible arguments and contrasting views on the topic and listens for unchecked, unacknowledged, and unchallenged biases; and the "spokesperson" verbally summarizes and

CONTINUED ON PAGE 34

CONTINUED FROM PAGE 32

analyzes the group's work to the class when it is time to report and addresses questions that arise during the presentation.

Practice in all of these roles builds the skills for continued group collaboration. Likewise, in order to help students to be successful the mutual work must be valued as much as tests and papers. Assigning grades for their participation will encourage students to take the process seriously. Consistent, even daily, opportunities to work in small and large groups fosters continued growth throughout the semester.

There are a number of activities suited for the college class. Table 3 outlines some that have been used successfully to spark social and emotional growth as well as reinforce a deeper understanding and lasting memory of the course content.

Discussion

The current educational literature abounds with articles that point out the growing numbers of at-risk students transitioning into higher education. The stronger voices say educators must adapt teaching to a different kind of student who is lacking academic/social readiness for college success. These spokespersons are concerned about the developmental students who arrive academically unready and emotionally apprehensive to community colleges and two- and four-year institutions.

Whether or not educators see the origin of this problem at the high school level and advocate for stricter social/academic disciplines prior to college does not alter the fact that an ever-increasing number of students transitioning into college are not adequately prepared. They are not just recent high school graduates; rather a variety of backgrounds and motivations are represented in this group. Many demonstrate an inability to directly enter the college track without a different approach and an institution-wide change of course. This article explains some explicit measures faculty can integrate into their content teaching that enrich the number of competencies that can be addressed simultaneously. In the process developmental students can obtain the very skills exemplified in emotional intelligence that may go unnoticed yet may be equal determinants with cognitive preparedness for success in college courses.

Conclusion

Educators can infuse opportunities in the college classroom to teach students competencies beyond the content when a collaborative setting is established by choosing to become well-versed in this design and to expand the very value of class time. Collaboration works in unison with the traditional lecture approach, integrating time for students to not only digest the material to expand knowledge base but to think critically and creatively about the material itself to reach a common goal. Then it takes learning a step further using its interactive and reflective nature to build social competencies and cooperation; raise confidence and empathy among its learners.

References

Brookfield, S. D. (2006). *The skillful teacher: On techniques, trust, and responsiveness in the classroom* (2nd ed.). San Francisco, CA: Jossey-Bass.

Chinn, C., O'Donnell, A., & Jinks, T. (2000). The structure of discourse in collaborative learning. *Journal of Experimental Education, 69*(1), 77-97.

Dillenbourg, P., Baker, M., Blaye, A., & O'Malley, C. (1996). The evolution of research on collaborative learning. In E. Spada & P. Reiman (Eds.), *Learning in humans and machine: Towards an interdisciplinary learning science* (pp. 189-211). Oxford: Elsevier.

Educators must adapt teaching to a different kind of student who is lacking academic/social readiness for college success.

Draskovic, I., Holdrinet, R., Bulte, J., Bolhuis, S., & Van Leeuwe, J. (2004). Modeling small-group learning. *Instructional Science, 32*(6), 447–473.

Gokhale, A. A. (1995). Collaborative learning enhances critical thinking. *Journal of Technology Education, 7*(1), 22-30.

Goleman, D. (1995). *Emotional Intelligence: Why it can matter more than IQ for character, health, and lifelong achievement*. New York, NY: Bantam Books.

Johanson, J. (2010). Cultivating critical thinking: An interview with Stephen Brookfield. *Journal of Developmental Education, 33*(3), 26-30.

Johnson, D. W., & Johnson, R. T. (1984). Cooperative small-group learning. *National Association of Secondary School Principals, 14*(1), 1-6.

Johnson, R.T., & Johnson, D.W. (1997). Cooperative learning: *Two heads are better than one* (IC#18). Retrieved from http://www.context.org/ICLIB/IC18/Johnson.htm

Liff, S. (2003). Social and emotional intelligence: Applications for developmental education. *Journal of Developmental Education, 26*(3), 28-34.

Low, G. R., & Nelson, D. B. (2006). Emotional Intelligence and college success: A research-based assessment and intervention model. In *Center for Education Development & Evaluation (CEDER)* Retrieved from Texas A&M University-Kingsville website: 1-10. http://www.operamentis.com/upload/O/EI_and_College_Success-2006.cederpaper.pdf

Paul, R., & Elder, L. (2010). Critical thinking: Ethical reasoning as essential to fairminded critical thinking, part III. *Journal of Developmental Education, 33*(3), 34-35.

Reiff, H., Hatzes, N., Bramel, M., & Gibbon, T. (2001). The relation of LD and gender with emotional intelligence in college students. *Journal of Learning Disabilities, 34*(1), 66-78.

Russell, A. (2008, August). Enhancing college student success though developmental education. In *American Association of State Colleges and Universities* (A Higher Education Policy Brief, pp. 1-8). Retrieved from http://www.aascu.org/media/pm/pdf/pmaug08.pdf

Simpson, M. L., Stahl, N., & Francis, M. A. (2004). Reading and learning strategies: Recommendations for the 21st century. *Journal of Developmental Education, 28*(2), 2-14.

Slavin, R. E. (1981). Synthesis of research on cooperative learning. *Educational Leadership, 38*(8), 655-660.

Smith, B., & MacGregor, J. (1992). What is collaborative learning? In A. Goodsell, M. Mahler, V. Tinto, B. L. Smith, & J. MacGregor (Eds.), *Collaborative learning: A sourcebook for higher education* (pp. 9-22).University Park, PA: National Center on Postsecondary Teaching, Learning, and Assessment, Pennsylvania State University.

Sousa, D. (2006). *How the brain learns* (3rd ed.). Thousand Oaks, CA: Corwin Press.

Veenman, S., Denessen, E., van den Akker, A., & van der Rijt, J. (2005). Effects of cooperative learning program on the elaborations of students during help seeking and help giving. *American Research Journal, 42*(1), 115-151.

Webb, N., Farivar, S., & Mastergeorge, A. (2002). Productive helping in cooperative groups. *Theory into Practice, 41*(1), 13-20.

Wilkinson, D. P. (2009). Restructuring developmental math courses to enhance emotional intelligence. In *NADE Selected Papers*. Retrieved from NADE website: http://www.nade.net/documents/SCP02/RestructuringDevelopmentalMathCourses.doc

Wood, K. D., (1992). Fostering collaborative reading and writing experiences in mathematics. *Journal of Reading, 36*(2), 96-103.

Table 3

Classroom Small and Large Group Collaborative Activity Design

Activity	Design	Benefits
Teaching to Learn	• Start by generating a list of topics the class would like to discuss. • Topics are divided up among the group with several students assigned to each topic. • Students begin by working independently as they gain an understanding of their topic. • Then they work together in their "expert group" to develop a deeper understanding through about 15 mins. of group discussion and note taking. • The groups then reconfigure into new groups that have one person from each expert group.	Allows exposure to diverse perspectives Provides practice in the role of both learner and teacher Provides practice in speaking clearly and concisely Promotes leadership skills
Understanding Controversy	• Have groups of no more than three, select a key concept from the class content. • Ask students to take a position that is unfamiliar, that they are unsympathetic with, or even find objectionable. • They should then research valid support for this position in an attempt to build a valid argument. • As a group, they should present their findings to the class. This could also lead to a debate. • After all the group perspectives from the class are revealed, students should reflect about what surprised them the most and how the broader view may have changed their own perspective.	Allows students to approach topics with an open mind Builds in time to reflect on the changes they may have experienced during the process Initiates empathy for others
Using Group Strength	• Students should identify their strengths and challenges for assuming group roles by using learning profile inventories • Students list their strengths publicly on chart paper. • Students form their own groups, each representing a diverse range of strengths. • A leader, or navigator, is chosen based on the qualities best suited for the assignment given by teacher. • Other roles can be assigned based on the tasks & skills required to complete the assignment. • A strict time limit should be established and adhered to. • Once the task is completed students should reflect upon the group's efficiency and effectiveness.	Organizes groups based on learning styles and skills Models the workplace Allows understanding of different leadership qualities
Understanding Text Material	• In groups of three to six members, students apply analytical skills to text material or other sources used in class. • One member is the summarizer and summarizes their understanding of the content in as much detail and without bias. • The rest of the group takes on the role of detective and when the summarizer finishes their job is to uncover unanswered assumptions without being judgmental. • The group would then work to evaluate the assumptions by their relevance to the context and the class. • They can also extend the author's perspective by figuring out how he/she might respond to the questions at hand and why the assumptions were not addresses in the content. • Once the task is completed students should reflect upon the group's efficiency and effectiveness.	Applies critical analysis without bias or judgment; Strengthens personal interactions and discussion skills.
Meaningful Mingling	• In groups of four or five students they are handed a question relating to the class content. • The students take a few minutes to write down their response in quiet reflection. • One person starts by sharing his/her ideas. • Moving clockwise around the circle, the next person listens to the first student and then builds on something they heard, continuing around the circle until all the students have shared their thoughts. Only one person speaks at a time. • When all students have had an opportunity to speak the conversation can be opened up to anyone who has something to say. • The activity should not last more than 5-8 mins. It is a good warm-up exercise. • Design a casual conversational atmosphere in the classroom by allowing students to mingle amongst themselves as they discuss a content-related topic. • This may also be beneficial to get to know each other better. • If you choose to designate an outcome, you can give students a list of questions they can use in their conversations. The results can also be published at the end. • Once the task is completed students should reflect upon the group's efficiency and effectiveness.	Provides social interaction similar to that found in non-academic settings Supports students in initiating and sustaining meaningful conversations with a wide variety of people