INSTRUCTIONAL METHODS, STRATEGIES AND TECHNOLOGIES TO MEET THE NEEDS OF ALL LEARNERS

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CH. 7 COOPERATIVE LEARNING

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Cooperative Learning is a teaching methodology.

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Think about the way you prefer to learn. Do you like to bounce ideas off other people and engage in conversation and debate, or do you prefer to learn by yourself and seek help only when needed?

Our students need to be engaged in learning in a variety of ways, but collaborative learning has been identified as a necessary skill for success in the 21st century and also an essential component of deep learning.

Cooperative learning involves students working together to accomplish shared goals, and it is this sense of interdependence that motivate group members to help and support each other. When students work cooperatively they learn to listen to what others have to say, give and receive help, reconcile differences, and resolve problems democratically.

However, placing students in small groups and telling them to work together does not guarantee that they will work cooperatively. Groups need to be structured to ensure that members will work interdependently if they are to reap the academic and social benefits widely attributed to this approach to learning.

The role the teacher plays in establishing cooperative learning in the classroom is critically important for its success. This involves being aware of how to structure cooperative learning in groups, including their size and composition the type of task set; expectations for student behavior; individual and group responsibilities; and the teacher's role in monitoring both the process and the outcomes of the group experience.

(Robyn Gillies, UQx: LEARNx Deep Learning through Transformative Pedagogy (2017). University of Queensland, Australia.

Scenario

To play a narrated PowerPoint presentation that summarizes the content in this page view this video

Cooperative Learning Presentation (13:[illegible]minutes)

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and Hilary Ritt (2006).

Mrs. Solomon teaches a 9th grade Careers course. The class consists of a mixture of ESOL students with limited English proficiency skills, “average” students, and honors students. There are also several students with special needs including learning disabilities and attention deficit disorders.

Mrs. Solomon is concerned because there are a high number of students currently failing her class. She has noted that, while the high achieving students tend to score well on Multiple/Choice and True/False questions, none of the students do well on application and scenario-type questions. Frequent absences, along with an apparent lack of motivation among students are also abundant in Mrs. Solomon’s class. In addition, she has noticed a high number of arguments among the students.

In an attempt to better manage her class, she assigned seats. She has determined that the seating arrangement has only escalated the arguments. Mrs. Solomon would like to find a way to overcome the difficulties within her classroom and also be able to instill these students with the skills necessary to become productive contributors to the workforce.

She has tried a number of teaching methodologies. Her first attempt was to lecture just as her teachers had done when she was in school. She found that the students were bored and often fell asleep. While most students performed average on objective tests, she had no way of measuring whether the students were grasping the concepts well enough to transfer that knowledge to real-world applications.

Any attempts at class discussions during the lecture tended to yield little or no response from the students. Students that did show interest were notably confused. She also found that some of the students were disrespectful to her during the lectures.

She also decided to try to make her classroom more student-centered by turning to a computer-based curriculum. She read that students tend to retain more information when a computer is incorporated into the lessons, so she

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Although the computer managed to pique the interest of more students than the lecture did, she found that a large number of students were off task.

They would rush through the assignment, if they did it at all, so that they could play games and/or go on the internet. She also felt that the use of the computer without any other forms of instruction prevented students from interacting with one another; thus, the computer-based learning activities were not promoting the interpersonal skills needed for successful employment.

As a last resort, Mrs. Solomon decided to try group work. Because of the already escalating tension due to class dynamics, she was reluctant to assign a monumental task on the first try. Instead, she opted for a basic assignment and allowed the students to pick their own groups. She wanted to test their problem-solving and communication skills without interference from an authority figure, so Mrs. Solomon gave the students their assignment and waited at her desk for the students to come to her with questions.

When she became alarmed at the noise level in the classroom, she finally decided to walk around the room to observe the groups. She was disturbed to find a number of students off-task. Several groups did not even attempt the project, and spent their time initiating conflict with the other groups. As the social problems among the students escalated, the students' test grades continued to be below average. The high-achieving students grouped together while the ESOL and special education students were left together with no leadership in the group.

Mrs. Solomon was devastated because she felt that she had lost control of her classroom. Feeling frustrated and defeated, she finally decided to seek help from another teacher in her department that was known for her outstanding teaching abilities. The other teacher suggested she try cooperative learning.

Definition and Background

- **Cooperative learning is defined as students working together to "attain group goals that cannot be obtained by working alone or competitively"** (Johnson, Johnson, & Holubec, 1986).

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possible in a lecture format. The underlying premise is founded in constructivist epistemology.
- It is a process which requires knowledge to be discovered by students and transformed into concepts to which the students can relate. The knowledge is then reconstructed and expanded through new learning experiences.
- Learning takes place through dialog among students in a social setting.

Cooperative learning is a methodology that employs a variety of learning activities to improve students' understanding of a subject by using a structured approach which involves a series of steps, requiring students to create, analyze and apply concepts (Kagan, 1990). Cooperative learning utilizes ideas of Vygotsky, Piaget, and Kohlberg in that both the individual and the social setting are active dynamics in the learning process as students attempt to imitate real-life learning.

By combining teamwork and individual accountability, students work toward acquiring both knowledge and social skills. It is a teaching strategy which allows students to work together in small groups with individuals of various talents, abilities and backgrounds to accomplish a common goal. Each individual team member is responsible for learning the material and also for helping the other members of the team learn.

Students work until each group member successfully understands and completes the assignment, thus creating an "atmosphere of achievement" (Panitz, 1996). As a result, they frame new concepts by basing their conclusions on prior knowledge. This process results in a deeper understanding of the material and more potential to retain the material.

Theoretical Framework for Cooperative Learning

There are two major theoretical perspectives associated with cooperative learning: motivational and cognitive (Swortzel, 1997). First, because students perceive that their success or failure is dependent upon their ability to work together as a group, students are likely to encourage each other to do whatever

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task(s) at hand. Therefore, cooperative learning increases student motivation to do academic work (Johnson, Johnson, & Holubec, 1986).

The other theory is that cooperative learning helps students acquire critical thinking skills. Because cooperative learning creates a situation in which students must explain and discuss various perspectives, a greater understanding of the material is obtained. Elaborative thinking is promoted because students give and receive explanations more often (Johnson, Johnson, & Holubec, 1986).

The use of cooperative learning (CL) also helps students clarify concepts and ideas through discussion and debate. Because the level of discussion within groups is significantly greater than in instructor led discussions, students receive immediate feedback, thus advancing the level of discussion. It is through this process of interacting with students of differing viewpoints that cognitive growth is stimulated. Emphasis is placed on learning how to cooperate in order to find the best possible solution to a problem. According to the constructivist approach, when students formulate their own solutions in this manner, they are truly thinking critically (Davis, Mahler & Noddings, 1990).

Collaborative vs. Cooperative Learning

Collaborative and cooperative learning are so closely related that the two terms are often used interchangeably. However, let's take a moment to address the similarities and differences in the two. Both learning theories assign specific tasks, both use groups, and both require the students to share and compare their findings. In both cases, discovery approaches are used to teach interpersonal skills and student talks are stressed as a means for working things out.

Collaborative learning has British roots and is based on the findings of English instructors who explored ways to help students take a more active role in their learning. It is a teaching methodology in which "students team together to explore a significant question or a meaningful project" (Disney).

Cooperative learning, which will be the focus of this chapter, was first used in America and can be traced back to John Dewey's philosophy of the social nature of

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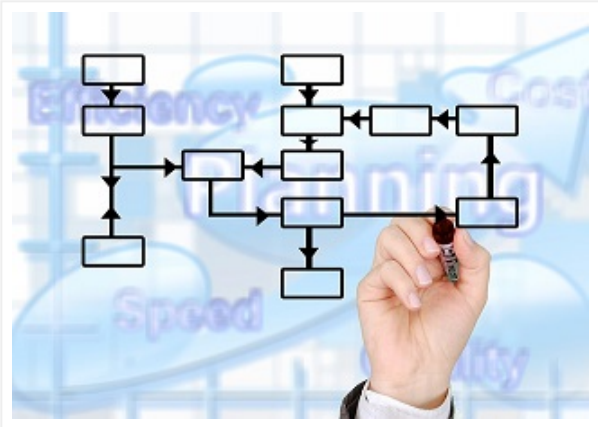
not only is the group assessed as a whole, but students are also individually accountable for their work.

A climate such as that created by cooperative learning will help Mrs. Solomon to better manage her classroom and help to keep the students on task. By following the guidelines presented in this chapter, Mrs. Solomon will be able to help her students use cooperative learning to acquire the knowledge necessary to reach the objectives of the course.

Implementation of Cooperative Learning



There are three phases of the implementation of cooperative learning.

1. The first phase is the **pre-implementation phase**, which includes: specifying instructional objectives, determining group sizes and assigning students to groups, arranging room, planning instructional materials to promote interdependence, assigning group roles, assigning tasks, explaining the criteria for success, structuring positive interdependence and accountability, and specifying desired behaviors.
2. The second phase is **implementation** which includes: monitoring behavior, intervening if needed, assisting with needs, and praise.
3. The third phase is **post-implementation** which includes: providing closure through summarization, evaluating students' learning, and reflecting on what

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After deciding to implement cooperative learning, the biggest challenge will be planning and readying the classroom and students for CL. According to Johnson, Johnson, and Smith (1991), there are several tasks that an instructor must accomplish before implementing cooperative learning in the classroom. This section will detail those responsibilities.

Specify Instructional Objectives (academic and social) of CL– The instructor must explain why she is using CL, describe its benefits, and the results typically found from using CL. To aid in this explanation, the instructor might produce and distribute a handout that describes collaborative learning.

Determine Group Size and Assign Students to Groups– Group size can range from two to four students, depending on the CL task. These groups can be homogeneous or heterogeneous. Groups can be formed by putting students together who share common strengths, interests, etc, or they can be randomly assigned. Once the groups are assigned, though, they should not be changed too often; students need time to develop a cohesive group and work together for a while before moving to a different group.

Arrange room– Instructors should optimize the space in their classroom so that students/groups can interact and move about the room easily. It is essential that a group's seats face one another. Further, research tools should be made easily available either in the classroom or in another room near the classroom (see, Resource-based Learning chapter for a more detailed discussion of this).

Plan instructional materials to promote interdependence– The instructional methods and materials that an instructor chooses must allow each individual to contribute to the group's success in a unique and meaningful way. Without these unique contributions, a group's structure and cohesion will be put in jeopardy.

Assign group roles– There is some debate about whether or not the instructor should play a role in this decision. Whether or not an instructor chooses to assign roles within a group, they should make sure there is a distinct role for each student. Also, the instructor should choose or assist the students in choosing roles that use their strengths and improve their areas of weakness. Instructors should

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recorder, checker (for understanding), summarizer, elaborator (on prior knowledge or discussion points), research-runner (gets materials), and wild card (does anything else that needs to be done).

Assign task– When picking an assessment task (product to be produced), the instructor should choose one standard to address and match it to the learning approach. The cooperative learning group's task should be interesting, challenging, and motivating. It should also be a performance driven and authentic task. The instructor should clearly explain procedures for the task, provide structure (especially useful for inexperienced CL students), and set a specific time frame for each part and the whole task. Finally, the instructor should question the students to check for understanding of the task and its procedures.

Explain Criteria for Success– The instructor should communicate the group-work skills that will be evaluated. A rubric should also be created, possibly with the students' assistance, which will be used to evaluate the group-work skills as well as the assessment task.

Structure positive interdependence and accountability– Group size should be kept small so that each member participates and contributes uniquely to the group. Instructors should also "test" groups and individuals by asking questions of both. A group should be asked to collectively explain its results and individuals should be able to defend their own position as well as the group's as a whole.

Specify desired behaviors– An essential part of cooperative learning's success is teaching students how to work in a group. To accomplish this, the instructor can conduct mini-lessons on ways to respect others (i.e. praise, taking turns, and shared decision making). Students also need to be trained in conflict-resolution. Finally, it would be wise to use icebreaker activities before beginning so that students find that they have something in common.

Before the actual implementation of cooperative learning, students also have several tasks. First, they can help the instructor generate an evaluation rubric, and they could possibly help design the assessment task if the instructor is willing to let the students participate in this capacity. By playing a part in the production

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work (see Six C's of Motivation chapter about choice and control as methods to increase motivation).

Finally, the students' most important role at this point in CL is to question the instructor if anything is unclear to them. Without students' complete understanding of the goals, objectives, and procedures, cooperative learning will not be a success.

As illustrated in the scenario at the beginning of the chapter, the students in Mrs. Solomon's classroom are very diverse and appear not to get along. Before implementing CL, it will be vitally important that Mrs. Solomon spend some time teaching respect, conflict-resolution, and other group work skills. It is probably a good idea to use some icebreaker activities so that the students learn that they have some commonalities with other class members.

In addition, because of the tension among them, Mrs. Solomon will want to assign students to cooperative learning groups; she may even want to assign each individual their role. As Mrs. Solomon designs and assigns the task to the students, it will be imperative that she chooses a structured, authentic assignment. This will assist the students in remaining on-task, and it will help with transferring their knowledge to real-world applications.

Implementation

After all the preparations, it is time to begin working. During the implementation phase of cooperative learning, the students play the most important role. Some of their tasks at this stage include:

- Working together
- Listening to one another
- Questioning one another
- Keeping records of their work and progress
- Producing the assessment task (product)
- Assuming personal responsibili[illegible]being involved in the group

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implementation of cooperative learning.

Monitor behavior– During the implementation of cooperative learning, the instructor should circulate throughout the classroom, visiting each group.

Intervene if needed– While circulating, if the instructor notices any group conflict or off-task behavior, she should intervene. Small-group conflict should be resolved as soon as possible, and students should be shown how to prevent problems in the future. The instructor might use a conflict resolution checklist to resolve the group's conflict. This checklist includes items such as explaining the importance of listening to everyone in the group, defining responsibilities, valuing each person's gifts, modeling excellence, and promoting humor. Having these listed on a handout for each group could prevent group discord and off-task behavior.

Assist with needs– While monitoring the groups' work, the instructor should assist groups with their needs. This might involve pointing out additional resources and/or points-of-view, and it also includes helping the students reflect on the work they have completed and their progress.

Praise– Students need to know if they are completing the assignment in a satisfactory manner, especially if they are inexperienced at working in cooperative groups. For this reason, the instructor should let individual students and groups know when they do something right or well.

As the class begins to work on their CL assignment, Mrs. Solomon will need to circulate around the room. It is likely, especially at the beginning of implementation, that her class will still have difficulty focusing on the task and getting along with one another. By moving around the class while the students are working, she will be able to assist any group that is facing these problems, and she can help them resolve the issues. At the same time, Mrs. Solomon must remember to praise the students and teams who are making an effort to cooperate and who are progressing nicely with the group assignment.

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After many hours are spent planning for cooperative learning groups, the plan is then put into action. Johnson, Johnson, and Smith (1991) give three jobs for the instructor to complete after the students have worked together to complete and submit the task.

Provide closure through summarization– The instructor should reconvene the entire group of students. At this point, the instructor can summarize the important points of the lesson/unit. Another suggestion is to have each group summarize their work and points that they think were important. This helps the instructor to know exactly in which knowledge level the groups are working. This is also very much in line with the idea of articulation and reflection in the Cognitive Apprenticeships chapter.

Evaluate students' learning– The instructor should use a rubric to grade/ evaluate each group's assessment task. They should also be evaluated on their group work using a rubric. These rubrics should have been created during the pre-implementation phase of cooperative learning, and the students might have had input into their content. After the instructor has completed the evaluations, it is important that they provide feedback to the students about their product and their group performance. Without this information, the students will not be able to improve their cooperative learning skills.

Reflect on what happened– Instructors should keep a record of what worked and why it worked each time they undertake a CL lesson or unit. This information can and should be shared with their cooperative learning support group. The instructor should also adjust their lessons based on the reflection and feedback of the students. This will prevent the stagnation of a CL unit; it will grow and change with each group of students.

After completing the group work and assessment task, the student's job is to reflect on the work that was accomplished in their group. What worked and what did not work? What would they change or keep next time they work together? The students should also give feedback to their instructor. They should be able to tell the instructor what worked or what wa[illegible]od about this unit, and they should point out what did not work well. This information can be written down or

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At the conclusion of Mrs. Solomon's first cooperative learning lesson, it will be important for her to get feedback from the students about how they thought the lesson went. In turn, she will also have to provide feedback to the students about their group work skills and their assignment. This may involve teaching or re-teaching group work skills and/or adjusting the procedures for the next cooperative learning lesson.

Helpful Hints for Cooperative Learning Lessons

- Begin trying cooperative learning with a homework assignment. Students could check their homework in groups, going over each problem and clarifying if there were any questions. The groups could then work each problem on the board.
- When beginning to use cooperative learning, start each class with a short lecture and then transition to a CL activity. As the instructor and students gain experience with using CL, begin the class with a CL activity and then conclude with a short lecture to highlight important points.
- Begin implementation by only using pairs for CL groups. Students who are inexperienced in using CL groups will be more likely to participate with just one other person in the group. Having only two students in a group is also an ideal way to teach key group work skills.
- When beginning CL implementation, only use the technique in one class period. Once you and the students have become more adept at using CL, you can increase it to involve more students/classes.
- Begin with worksheets as a form of group accountability. Students who are inexperienced with CL often have a difficult time getting started or reaching their goals. Having a worksheet to guide them will help the groups set their priorities, work towards their goal, and produce the assessment task.

Frequently Asked Questions about Cooperative Learning

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When is the best time to begin implementing cooperative learning?

The best time to begin using CL in the classroom is at the start of a new term or school year. This way, the students will not be exposed to individual work and then have to "switch gears" and learn to work in a group in the middle of the year.

Do you have to use cooperative learning all the time?

No, it is not necessary to use CL in your classroom at all times. It is often advised to use CL for a unit or two, use another teaching method for a while, and then revisit CL at a later time.

Should you include parents in cooperative learning?

Yes, parents and the community should be included in all school activities, including CL. This can be done through newsletters and/or special programs when parents and the community, visit the classroom and view the groups' assessment tasks.

What happens if one group finishes early?

If one group finishes early, the instructor can provide extension activities/tasks for that group. As more groups finish, pairs of groups can team up and share/comment on each other's work.

Other Forms of Cooperative Learning Groups [2]

3-step interview– Members of a group choose one partner from the group. The individuals interview their partners by asking questions. Then, they reverse roles and share their responses with the rest of the group.

3-review– The instructor gives the teams 3 minutes to review/clarify what has been said.

Numbered Heads– Group members are assigned a number. The group discusses as one, and then the instructor calls one number. The person with that number answers for the group.

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Team-pair-solo– Students do the problem(s) first as a team, then in a pair, and finally, solo.

Circle the sage– The instructor polls the students looking for special knowledge on a certain topic. Those with the knowledge spread out around the room. (They are the sages.) The other students (no two from the same team) circle the sage, take notes on the information they are presenting, and question them. Then, the group reforms and each explains what they have learned. If there is a disagreement, it is aired as a group with the whole class, and it is resolved there.

Structured problem solving– Groups are given a problem to solve within a specified time. All members must agree and all must be able to explain the solution.

Send-a-problem– Several groups generate solutions to problems. The problem is clipped to the outside of a folder, and all solutions from that group are written down and placed inside the folder. The folder is passed to a different group who reads the problem, but not the solutions. They write their solutions and put them inside the folder. A third group selects the two best solutions and amends them as necessary.

Drill review pairs– Groups of four split into pairs. The pairs are given two problems. One member is the explainer and one is the accuracy checker. After one problem is complete, they switch roles. When both problems are complete, the group of four reforms. If they are in agreement to the solution, they repeat the process with more problems. If there is disagreement, the problem is reviewed and a consensus is reached.

Benefits of Cooperative Learning

Ted Panitz (1996) lists over 50 benefits provided by cooperative learning. These benefits can be summarized into four major categories: social, psychological, academic and assessment.

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reasoning and conclusions, cooperative learning helps develop oral communication skills. Because of the social interaction among students, cooperative learning can be used to model the appropriate social behaviors necessary for employment situations.

By following the appropriate structuring for cooperative learning, students are able to develop and practice skills that will be needed to function in society and the workplace. These skills include: leadership, decision-making, trust building, communication and conflict-management.

The cooperative environment also develops a social support system for students. Other students, the instructor, administrators, other school staff, and potentially parents become integral parts of the learning process, thus supplying multiple opportunities for support to the students (Kessler and McCleod, 1985).

Students also benefit psychologically from cooperative learning. Johnson and Johnson (1989) claim, “cooperative learning experiences promote more positive attitudes” toward learning and instruction than other teaching methodologies. Because students play an active role in the learning process in cooperative learning, student satisfaction with the learning experience is enhanced.

Cooperative learning also helps to develop interpersonal relationships among students. The opportunity to discuss their ideas in smaller groups and receive constructive feedback on those ideas helps to build student self-esteem. In a lecture format, individual students are called upon to respond to a question in front of the entire class without having much time to think about his/her answer.

Cooperative learning creates a safe, nurturing environment because solutions come from the group rather than from the individual. Errors in conclusions and thought processes are corrected within the group before they are presented to the class.

Students also tend to be inspired by instructors who take the time to plan activities which promote an encouraging environment (Janke, 1980). Receiving encouragement in a cooperative setting from both the instructor and peers helps to develop higher self-efficacy (see the Motivation chapter). As a result of higher

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Research indicates that students who were taught by cooperative methods learned and retained significantly more information than students being taught by other methods. Requiring students to verbalize their ideas to the group helps them to develop more clear concepts; thus, the thought process becomes fully embedded in the students' memory. Vygotsky supports this concept in his research on egocentric speech by claiming that verbalization plays a significant role in task solution (Bershon, 1992).

Discussions within the groups lead to more frequent summarization because the students are constantly explaining and elaborating, which in turn validates and strengthens thoughts. Students also benefit from cooperative learning academically in the sense that there is more of a potential for success when students work in groups. Individuals tend to give up when they get stuck, whereas a group of students is more likely to find a way to keep going (Johnson & Johnson, 1990).

Cooperative learning calls for self-management from students because they must come prepared with completed assignments and they must understand the material which they have compiled. As a result, a more complete understanding of the material is developed.

There are also many benefits of cooperative learning from the aspect of assessment. It provides instant feedback to the students and instructor because the effectiveness of each class can be observed. As instructors move around the room and observe each group of students interacting and explaining their theories, they are able to detect misconceptions early enough to correct them. Only a few minutes of observation during each class session can provide helpful insight into students' abilities and growth.

Cooperative teaching methods also utilize a variety of assessments. Grades are not dependent solely on tests and individual assignments which only allow for right or wrong responses, leaving little or no room for reflection and discussion of error or misconceptions. With cooperative learning, instructors can use more authentic assessments such as observation, peer a[illegible]ssment and writing reflections.

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As Mrs. Solomon learns all of the benefits gained from the use of cooperative learning, her curiosity is piqued; however, she still finds herself questioning whether her complex class could overcome all of the barriers that are hindering the learning environment. There is evidence, though, that most of the problems experienced in her class could be solved by using cooperative learning.

Poor Attendance – In addition to the four major categories of benefits detailed above, schools utilizing this strategy report an increase in student attendance because students feel that they are a valuable and necessary part of their groups (McBrien & Brandt, 1997).

Classroom Disruptions – Students are less likely to act out in a cooperative setting. Students act out to get attention; however, the "stage" is removed in a cooperative environment because it is very difficult to gain the attention of the entire class when students are divided up into smaller groups (Stahl & Van Sickle, 1992). As a result, students are more likely to stay on task and are less likely to be disruptive. Cooperative learning also helps reduce classroom disruptions because students are allowed to socialize during the learning process. Students need peer interaction, and without the integration of interaction among students, the need for social contact emerges in a negative context.

Violence– According to Johnson and Johnson (1990), cooperative learning also helps to reduce violence. If enforced correctly, cooperative activities model non-violent resolutions to problems. Because group consensus is promoted, blame is eliminated and honor, friendliness and quality are promoted.

Diversity among students – Research shows that cooperative learning also builds diversity awareness among students. It encourages students to use their differences to help each other. Because students are placed in a situation where they are able to interact with peers that they otherwise may never socialize with, behaviors which might appear odd in other settings become understandable when students are given the opportunity to explain and defend their reasoning.

In a traditional classroom, there is very little opportunity for students to defend their perspectives. As students observe each other's reasoning processes, there is

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1990). As a result, a much deeper understanding of cultural and individual difference is developed (Yager, 1985).

In addition, because students are placed in a supportive environment where group-processing skills are essential, they are more likely to accept these differences than they would in a competitive, non-interactive environment. This greater understanding of their differences also helps students learn to resolve social problems which might arise (Johnson and Johnson, 1990).

Students with special needs – Cooperative methods are flexible and can easily be adapted for students with special needs. Because of the reasons mentioned above, this type of learning environment allows for improved social acceptance of mainstreamed students with learning disabilities (Slavin, 1990).

ESL students – Cooperative learning is especially useful in courses where interactions involving the use of language are important, such as ESL courses. It is an ideal way to "facilitate the acquisition of language and to practice the customs of debate and discussion which occur within the classroom" (Brufee, 1993). Research conducted using cooperative learning in classes with ESL students shows significant development in acquiring English-language skills.

Cooperative learning helps students learn language better than the drill and practice of traditional language training. It would appear that peer interaction in natural settings is the ideal use of language that is necessary for successfully acquiring second language skills (Neves, 1983). In addition, most educational psychology textbooks now contain "extended discussions of cooperative pedagogics and their effectiveness with regard to improved racial relations, self-esteem, and internal locus of control" (Sherman, 1991).

Arguments among students – Marzano (1992) asserts that in a cooperative setting, students can analyze the effects of the groups and "suggest activities which will promote positive interactions or deal with conflicts or personality problems within each group." It provides a supportive environment within which to manage conflict resolution (Johnson & Johnson, 1990).

Disagreement toward instructor – In the cooperative classroom, instructors have

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which often leads to a negative attitude toward the instructor. The class could also, potentially, be empowered to contribute to the development and implementation of classroom rules and procedures. This classroom management technique, when intertwined with cooperative activities, could help students overcome resentments which were created as a result of the teacher-centered classroom.

Differences in learning abilities – Performance is improved among weaker students when they are grouped with higher achieving students because the stronger students model successful reasoning processes. Students who usually struggle in academics are able to learn to prepare for tests, check and correct homework, and see alternative solutions to problems. Vygotsky (1978) hypothesizes that the social interaction among students extends the students' zone of proximal development (the difference between a student's understanding and their potential to understand).

When students work cooperatively in groups the more knowledgeable students are able to help the less knowledgeable students understand new concepts. High achieving students also benefit because they are verbalizing their ideas and actually teaching others. As mentioned earlier, the process of verbalizing thoughts helps to further promote understanding of material.

Cooperative learning also accommodates learning style differences among students because they are utilizing each of the three main learning styles: kinesthetic, auditory and visual. Material presented by the instructor is both auditory and visual, and students working together use kinesthetic abilities by working with hands-on activities. Discussing issues within the groups further enhances verbal skills, and class presentation of group findings helps to reinforce visual and auditory skills (Midkiff & Thomasson, 1993).

Drawbacks of Cooperative Learning

Instructors who are unfamiliar with cooperative learning may not initially accept this style of learning because they may [illegible] they will lose control of their classroom, or they may be unsure of the techniques used or possibly even think

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Loss of Control – Cooperative learning is a structured approach that requires instructor support and guidance. In order for cooperative learning to be utilized in the classroom, instructors must receive training to be proficient in implementing the techniques. Maximum learning will only emerge if proper training is received by the instructor and then transferred to the student.

Instructors may resist using cooperative learning techniques in their classroom because they are afraid they may lose control of their teaching routine. Cooperative learning takes time to implement; therefore, initial lessons may take longer. Once students and the instructor are comfortable with the process, then the amount of time for each lesson decreases.

Instructors may have a difficult time giving up their control of the content that is being covered (Panitz). They are accustomed to presenting the curriculum to the students and are unable to give students the freedom to learn on their own. Students learning only one part of the curriculum in their group may make an instructor anxious about what their students know.

Showing their expertise in a subject area is important for some instructors. Giving up the opportunity to show off this expertise may deter instructors from using cooperative learning in their classrooms. Also, if students are expected to explore on their own, then they may have questions that the instructor cannot answer. Both of these possibilities may cause an instructor to lose confidence in her teaching abilities. Instructors can still be experts, but they will be using their knowledge as a facilitator rather than a giver of information.

Group Work – Depending on the age level, students may resist using cooperative learning in their classrooms. Lecture does not require much interaction and participation from the students; therefore, they can get as much or as little from the class as they like. Being required to work in a group may ruffle a few feathers with the students because now they are being asked to participate and contribute to their learning. In addition, they are also asked to learn new concepts and taught how to work in a group. They may not be accustomed to working in a group, and therefore, may be unsure of the dynam[illegible]nvolved in group work.

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especially true if students are grouped by mixed ability, requiring higher ability students to guide lower ability students.

Deciding how groups should be formed is an important part of the cooperative learning planning process. There has been some debate as to how groups should be formed in order for students to effectively work together and reach their maximum potential.

Mixed ability grouping allows for all group members to be involved, though the type of involvement differs. Advanced students can teach struggling students, but concerns arise about advanced students doing all the work and struggling students not being motivated to be involved at all. There are also concerns that gifted students are held back by the lower ability students in their group.

If students are grouped with others of the same ability level, then the lower ability group may feel frustrated and unmotivated to try. This is also true of those who are grouped by gender or race because it may support stereotypes that certain subject areas are dominated by certain groups.

There are also varying opinions about the optimal number of people for small group formation. The consensus seems to agree that no more than 4 people in a group produces higher achievement (Slavin, 1987). Fixed seating and large class sizes may make group arrangement difficult though. Still, even if the room is easily arranged into small groups, instructors may have a difficult time accessing all of the numerous small groups.

Most students are not accustomed to group work, especially in high school classrooms. Students will have to be taught to work effectively in a group setting. Resolving group conflict can be a major challenge for instructors. Groups will need to make sure that every member listens to and appreciates each group member's contribution. Identifying responsibilities within the group and encouraging each to do their best work needs to be addressed before group work begins. Also, students that work better alone may struggle to succeed in a group atmosphere.

Since the classroom will be made up of several small groups, the noise level will

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are accustomed to a lecture and seatwork classroom. This can also cause problems for those students who have attention difficulties.

Cooperative learning is based on social interaction; thus, grouping students together to work independently even for a short period of time may encourage behavior that is off task. While the instructor is circling the room to observe and interact with the groups, it is difficult to make sure every group is productively working on their assignment. Self-management skills will have to be introduced before students break out into groups and be reinforced as they progress through their work.

Time Requirements – With cooperative learning, the textbook is used only as an instructional supplement, so it is necessary for instructors to create additional materials for the students. Usually these materials are made from scratch because many instructors' manuals offer limited suggestions for group activities. Creating these new materials can be very time consuming. So, not only are instructors spending a large amount of time implementing this new way of learning, but they also have to create the materials to go along with it.

Since students have to generate an answer or information within their group, work time may take longer than the traditional lecture. Because of this additional time, instructors may be unable to cover the same amount of curriculum as before when they used teacher directed class discussions. Many times, in a traditional classroom, the quality of the work is compromised in order to teach the entire curriculum.

Other Drawbacks – Since students are working together on a group assignment, it is difficult to assess students with a paper and pencil test. Instructors will have to find another way to assess student work and progress. Since students are used to concrete assessments, it may be difficult for students to adjust to authentic assessments.

Vague objectives, avoidance of teaching, and lack of critical thinking activities are

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Therefore, students are not receiving the needed guidance to effectively learn the task at hand. Some critics say that instructors who rely on small group work are avoiding their teaching responsibilities. Students are left on their own to teach themselves the curriculum. In addition, since students are working in small groups that require additional time, instructors may be more apt to assign tasks that do not demand higher level thinking skills. The quality is overlooked in order to increase the quantity of assignments.

CONCLUSION

Mrs. Solomon decided to implement cooperative learning in her Careers course. As mentioned earlier, there was some initial resistance from the students. But she kept a positive attitude about the benefits of cooperative learning and encouraged the students to give it a try.

She also started with a fun activity to help boost student morale. She carefully grouped students together, making sure that each group consisted of a diversity of student abilities and backgrounds. She continued to follow the strategies mentioned in this chapter for successful implementation. She was impressed with the results. She found that, once the students had some experience with CL, the higher-achieving students did not resent being paired with lower-ability students.

In fact, it helped to build their self-esteem to know that they were able to help their peers. They also found that the students with learning disabilities were actually very creative and could offer new perspectives on how to solve the given problem. The students also began to realize that students from different cultures may struggle to communicate in the English language, but they were very dedicated students who had a desire to do well on given assignments. Interestingly enough, Mrs. Solomon also found that absences began to decrease.

In the reflection papers that she had students complete at the end of the project, she discovered that students felt valued as part of the group and that they attended her class so that they would not disappoint their peers. After training the students on conflict resolution, cultural [illegible]ersity, and respect for others, Mrs. Solomon noticed that students appeared to get along better while doing the

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Students of all ability levels took pride in their accomplishments and felt a sense of involvement by being allowed to have input into the activities and classroom expectations. They also seemed to have a more complete understanding of the material and were able to score higher on all types of tests, including application questions. Overall, she saw a dramatic difference in her classroom atmosphere.

Both Mrs. Solomon and her students were more motivated and enthusiastic about each new chapter. Mrs. Solomon realized that there were still situations which would arise periodically within her classroom, and that cooperative learning would be a teaching strategy that she would have to improve on over time. But after learning more about cooperative learning, she believed that she had a whole new perspective on classroom strategies.

Additional Reading

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