Module 3: COLLABORATIVE LEARNING

Upon completion of this module, you should be able to:

- Define collaborative learning
- Describe the different ways collaborative learning is used in higher education
- Demonstrate how collaborative learning may be applied in your subject
- Compare the different types of collaborative learning techniques
- Discuss the advantages and disadvantages of collaborative learning

Module Outline

3.1 What is collaborative learning?
3.2 Underlying features of collaborative learning
3.3 Why is collaborative learning not widespread in higher education?
3.4 Collaborative learning techniques
3.5 Advantages of using collaborative techniques
3.6 Disadvantages of using collaborative techniques
Summary
Key Terms
References

In chapter 2 we discussed the lecture method which continues to be a widely used teaching method in universities and colleges. In this chapter we will discuss in detail about collaborative learning in which students work in small groups. Collaborative learning is aimed at achieving many of the objectives of higher education teaching that may not be attained through the lecture method. While there is no consensus on what is collaborative learning, there are some underlying features that will be identified. Discussed in this chapter are many different types of collaborative learning which instructors may select for adoption in their respective courses.
3.1 WHAT IS COLLABORATIVE LEARNING?

Increasingly, universities and colleges are recognising the need for education to be more closely aligned with team-playing, project-based learning and problem-solving approaches necessary for the world of work in the global and information age. Hence the growing interest among university and college teachers in collaborative learning. Unfortunately, there is no agreed upon definition as to what is collaborative learning. The term has been used in a wide variety of ways across different disciplines and fields and hence the lack of consensus. One way to understand what is collaborative learning is to refer to what experts in the field have to say.

- According to Gerlach, “collaborative learning is based on the idea that learning is a naturally social act in which participants talk among themselves (Gerlach, 1994, p.12).

- According to Smith and MacGregor (1992), collaborative learning is an umbrella term for a variety of educational approaches involving joint intellectual effort by students, or students and teachers together. Usually students are working in groups of two or more, mutually searching for understanding, solutions, or meanings, or creating a product. Collaborative learning activities vary widely, but most centre on students’ exploration or application of the course material, not simply the teachers’s presentation or explication of it.

- Dillenbourg (1999) defines collaborative learning as a situation in which two or more people learn or attempt to learn something together. “Two or more” may be interpreted as a pair, a small group (3-5 subjects) or a class (20-30 subjects). “Learn something” may be interpreted as “follow a course”, perform learning activities such as problem solving”. “Together” may be interpreted as different forms of interaction which may be face-to-face or computer-mediated.

- Golub (1988) emphasises that in collaborative learning allows for student talk in which students are supposed to talk with each other, and it is in this talking that much of learning occurs.

- Collaborative teaching and learning is a teaching approach that involves groups of students working to solve a problem, complete a task or create a product (MacGregor, 1990).

However, the use of collaborative learning techniques is not aimed at abandoning the lecture, but rather using active learning techniques to supplement lectures. "Active Learning" is, in short, anything that students do in a classroom other than merely passively listening to an instructor's lecture. This includes everything from listening practices which help the students to absorb what they hear, to short writing exercises in which students react to lecture material, to complex group exercises in which students apply course material to "real life" situations and/or to new problems. The term "collaborative learning" covers active learning activities
which students do as groups rather than alone. In collaborative learning techniques students work in groups and are assigned complex tasks.

3.2 UNDERLYING FEATURES OF COLLABORATIVE LEARNING

Even though, collaborative learning takes on a variety of forms and is practiced by teachers of different disciplines and fields there are a number of important underlying features about learners and the learning process. The following are some of the features of collaborative learning:

- Learning is an active process whereby students assimilate the information and relate this new knowledge to a framework of prior knowledge.
- Learning is a constructive process. To learn new information, ideas or skills, our students have to work actively with them in purposeful ways. They need to integrate this new material with what they already know or use it to reorganize what they thought they knew. Students are not simply taking in new information or ideas. They are creating something new with the information and ideas. These acts of intellectual processing - of constructing meaning or creating something new - are crucial to learning.
- Learning requires a challenge that opens the door for the learner to actively engage his/her peers, and to process and synthesise information rather than simply memorize and regurgitate it.
- Learners benefit when exposed to diverse viewpoints from people with varied backgrounds.
  - Learners are challenged both socially and emotionally as they listen to different perspectives, and are required to articulate and defend their ideas. In so doing, the learners begin to create their own unique conceptual frameworks and not rely solely on an expert's or a text's framework.
  - Learners have the opportunity to converse with peers, present and defend ideas, exchange diverse beliefs, question other conceptual frameworks and be actively engaged.
- Learning flourishes in a social environment where conversation between learners takes place. During this intellectual gymnastics, the learner creates a framework and meaning to the discourse.

Collaborative learning activities immerse students in challenging tasks or questions. Rather than beginning with facts and ideas and then moving to
applications, collaborative learning activities frequently begin with problems, for which students must marshal pertinent facts and ideas. Instead of being distant observers of questions and answers, or problems and solutions, students become immediate practitioners. Rich contexts challenge students to practice and develop higher order reasoning and problem-solving skills.

3.3 WHY ARE COLLABORATIVE LEARNING TECHNIQUES NOT WIDELY USED?

- First, many people are still unfamiliar with collaboration tools as many of these tools are not intuitive and hence not easy to use.
- Second, the way these techniques are used is not the way most people converse and collaborate, i.e. they are awkward.
- Third, many people have poor listening, communication and collaboration skills, and these tools do not solve (and can exacerbate) this underlying problem of ineffective interpersonal skills.
- Fourth, student may not be accustomed to learning with others because traditional schooling rewards individual effort (e.g. you take the test by yourself).
- Fifth, students do not know the people they are to collaborate with. They need to go through a process of discovering who those people are first.

3.4 COLLABORATION TECHNIQUES

Collaborative learning techniques, although not the easiest way to adopt, can revitalise students and instructors by providing a structured environment for sharing some of the responsibility for learning. Through working together to learn complex conceptual information and master knowledge and skills, students learn more, have more fun, and develop many other skills, such as learning how to work with one another. Instructors, meanwhile, must provide the foundation and learning structures to guide their students in this new learning experience.
1) Seminar
The seminar is a popular collaborative teaching-learning strategy in which a student presents a paper and others in the group including the instructor commenting on the paper.

**Step 1:** A student is assigned the task of preparing a paper. He or she may consult with the instructor as to the scope, balance and contents of what is to be covered in the paper.

**Step 2:** The student presents the paper which may be accompanied by powerpoint slides and handouts distributed to the group.

**Step 3:** The instructor invites comments and views on the paper. If comments or questions are not forthcoming, the tutor may ask individuals to make specific observations. At various points the instructor can draw the discussion together. The instructor can suggest his or her own views, but not present them as dogma.

**Step 4:** The instructor summarises the main points discussed with his or her additional inputs. Students could further comment on the summary.

2) Syndicates
In this technique groups of 20 to 25 students are broken down into sub-groups or syndicates of 4-5 students. Each syndicate may be assigned different tasks or the same task.

**Step 1:** A preliminary meeting is held to describe the procedures, to allocate assignments and to set up the syndicates. Depending on the task, this meeting could be used for example, to view a video-clip, observe an experiment or demonstration which will serve as the stimulus for the task each sub-group is going to undertake.

**Step 2:** Each syndicate works independently in which they discuss, form views and deduce principles for themselves from reading and doing research. It is envisaged that the small number of individuals in the group means everyone can take full and active part in the work assigned. Each syndicate brings its task to completion by the writing of a joint report or preparation of notes for an oral report.

**Step 3:** There are a number of options available:
- The papers from each syndicate is submitted to the instructor who may summarise their conclusions and present it in a lecture. The instructor will correct misconceptions and extend the subject beyond what students have presented. The purpose is to consolidate what the students have learned.
• Alternatively, each syndicate makes an oral presentation to the full group. Students from other syndicates comment on the presentation and may ask questions to clarify. The instructor draws the different reports and gives comments and his or her views. The instructor will find commonalities and make generalisations based on the various reports. Sometimes he or she may invite experts to come and comment on the students’ work.

3) Three-Step Interview
This technique is commonly used as an ice-breaker or a team-building exercise developed by Kagan (1989). It is aimed at helping students reinforce and internalise important concept-related information based on lectures or textbook material.

The Three-Step Interview Process:
• **Step 1**: One student interviews another within specified time limits.
• **Step 2**: Reverse roles and conduct the interview again.
• **Step 3**: Students then share the highlights of the information or insights gleaned from the paired interview.

This technique reinforces listening and probing skills, helps students process and rehearse information, and results in shared insights. Questions asked are related to the assigned readings. The teacher or instructor will monitor how well the students have responded to the readings and possibly incorporate some of their ideas in the follow-on lecture or discussion. This technique can be modified to be role-playing session. One student will assume the role of a historical figure, or a CEO or human-resource manager and so forth. The other student will interview the personality.

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<th>3.2 ACTIVITY</th>
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a) Discuss how you have used the seminar in your course.  
b) Explain how you would use the syndicate technique in your course.  
c) Do you think you would be able to use the ‘three-step interview’ in your course?  

4) Think-Pair-SHARE
This activity was developed by Frank Lyman (1981). The teacher or instructor poses a question, preferably one demanding higher order thinking (analysis, evaluation, or synthesis).
- **Step 1: Think** - Students given 30 seconds or more to think through an appropriate response. This time can also be spent writing the response.
- **Step 2: Pair** - After this "wait time," students then turn to a partner and share their responses, thus allowing time for both rehearsal and immediate feedback on their ideas.
- **Step 3: Share** - Student responses can be shared within learning teams, with larger groups, or with the entire class during a follow-up discussion. This technique gives all students an opportunity to express themselves as well as reflect on their answers. It also prevents vocal students dominating the discussion.

Students may use Think - Pair - Share to reach a consensus; however, this versatile technique can be used in other ways:

- pairs problem solving: two students work together to solve a math problem, for example;
- thinking aloud pairs problem solving: a variation where one student in the pair listens to the other as s/he talks through the solution to the problem; and
- peer teaching: students teach each other the material.

5) Think-Pair-SQUARE

Similar to the Think- Pair- Share structure, Think- Pair - Square asks students, once they have completed their assigned pair task, to join with another pair to compare their conclusions. The instructions to the newly formed "squares" may be to reach a consensus within their groups or to explain their conclusions to the other pair who has joined them.

6) Dyadic Essay Confrontation (DEC)

This technique was developed by Sherman (1991) to enable teachers or instructors make certain students work independently outside of class to master assigned material. Students then extend and validate their individual study through an in-class writing/thinking cooperative learning exercise.

- **Step 1:** Students read assigned material, such as a textbook chapter, and prepare an essay question. They come to class with their essay question on one sheet of paper, along with a second sheet of paper, which includes the question and their carefully thought-out response.
- **Step 2:** Randomly-paired students exchange questions, spending about 20 minutes writing an answer either closed or open book depending on the complexity of the material to their partner's essay question.
• **Step 3:** The two then read, compare, and discuss the four answers, looking in particular for the differences between the in-depth responses prepared before class and the spontaneously generated in-class responses. This technique promotes critical thinking by requiring students to confront differing ideas, offers writing-to-learn opportunities, and provides solid and immediate feedback to students about their intellectual responses to discipline-specific material.

### 3.3 Activity

a) What is the difference between the ‘think-pair-share’ and ‘dyadic essay confrontation’ technique?

b) Explain how you would use these two techniques in your course.

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7) **Jigsaw**

The Jigsaw popularised by Elliot Aronson (1960) was adopted as technique to reduce racial tension in schools in the United States in the 60s. The underlying belief of this technique is that no one can know something well without the aid of every other person in the group and each member has a unique and essential contribution to make. This technique can be used in higher education in disciplines where students confront complex, challenging problems involving multiple pieces of information necessary for a final, overall solution. The following are the steps for using the Jigsaw technique:

• **Step 1:** Divide students into 5 or 6 person jigsaw groups. The groups should be diverse in terms of gender, ethnicity and ability. Appoint one student from each group as the leader. Initially, this person should be the most mature student in the group.
  - Select a topic or issue that can be broken down into segments. For example, if you want students to build a website on Tengku Abdul Rahman; you might divide the problem into: His childhood; His path towards being Prime Minister; Economic policies during his premiership, Social policies during his premiership, Politics during his premiership and his life after being prime minister until his death.
  - Assign each jigsaw group to work on one segment, making sure students have direct access only to their own segment.

• **Step 2:** Each member of a team assumes responsibility for one of one part of the problem. They are responsible not just for researching the segment assigned; they must also be able to teach the material to their fellow teammates. Thus, working together, the jigsaw group merges the various portions to solve the "puzzle."
• **Step 3:** One student from each jigsaw group temporarily leaves the group to form temporary "expert groups". Students in the expert group will discuss the main points of their segment and to rehearse the presentations they will make to their jigsaw group.

• **Step 4:** Each student presents his or her segment to the group. Encourage others in the group to ask questions for clarification.

• **Step 5:** At the end of the session, give a quiz on the material so that students quickly come to realise that these sessions are not just fun and games but really count.

The instructor floats from group to group, observing the process. If any group is having trouble (e.g., a member is dominating or disruptive), the instructor should make an appropriate intervention. Eventually, it is best for the group leader to handle this task. Leaders can be trained by whispering an instruction on how to intervene, until the leader gets the hang of it.

8) **Buzz Groups**

The term ‘buzz’ comes from the hive of verbal activity. It is a small discussion group formed for a specific task such as generating ideas, solving problems, or reaching a common viewpoint on a topic within a specific period of time. Groups may be divided into buzz groups or 2-3 persons after an initial presentation in order to cover different aspects of a topic or maximise participation. These small groups meet for a short period (up to three minutes) without any time for preparation or reflection to consider a simple question or problem. Each group appoints a spokesperson to report the results of the discussion to the larger group. Buzz groups are a form of brainstorming and is good for overcoming students who are shy to talk.

9) **Snowball**

Snowball is a variation of the ‘buzz group’ where students are asked to form small groups to exchange ideas or address a set question or to clarify understandings, identify misunderstandings and so forth. Students either start with an individual task (e.g. reflection) or in pairs to share initial ideas. This pair then joins another pair to form a foursome where students start to look for patterns, trends, and points of consensus or disagreement. It is possible to develop further by forming groups of eight who then begin to develop principles or guidelines or action plans.
9. Paired Annotations
This activity motivates students to read important chapters or articles prior to a class session. Besides this useful “front-loading” of course material, another key objective is to build critical thinking and writing skills by having students contrast and then compare their responses to the same piece of writing.

- **Step 1:** The instructor identifies a pool of articles on a specific topic under consideration or the students themselves can identify key resources. Students, working individually, prepare a reflective commentary on one of the articles or chapters. They do so using a double-column format, where they cite key points excerpted from the original source on the left-hand side and reactions, questions, commentary, and connections with other readings on the right (the columns will not be the same length).

- **Step 2:** When students come to class, the instructor randomly pairs them with another student who has read and analyzed the same article or chapter. The two partners now read one another’s reflective commentaries, comparing both the key points they have identified and their specific responses to them. They discuss their reasons for these choices.

- **Step 3:** Then, working together, they prepare a composite annotation summarizing the article. If time permits, several students can present to the class their joint annotations. This step offers more peer reinforcement and enhances the speaking/presentation skills students will need.

This activity should be repeated several times during the semester, pairing different students. It enables students to reflect on their own thinking skills (metacognition) and to compare their thinking with that of other students. The more paired annotations they complete, the more skilled students become at identifying key points in an article. They are also more likely to remember the material because they had an opportunity not only to give a personal response, but also to discuss their response with another individual. This activity motivates students to arrive prepared if only because of peer pressure. Informal, hand-written comments on the pieces will reinforce student thinking and provide feedback leading to more sophisticated writing in the future. It is useful to share exemplary models with the class as a whole. If time is a problem, then the final step of preparing a joint annotation can be omitted, leaving students time, however, to discuss their reactions, a valuable learning tool. The final presentation step can always be deleted.

10. Fishbowl
The fishbowl is a technique adopted for the scholarly discussion of an essential question in which student opinions are shared, proven, refuted, and refined through dialogue with other students. The technique divides students into two group;
• the outer circle is made of students who act as observers and coaches.
• The inner circle is made up of students who form the panel that is discussing the question or topic.

There are many ways in which the fishbowl technique can be implemented and discussed here is one format.

**Preparation:**
- The instructor gives the fishbowl panel which consists of 3 to 5 students questions on the topic discussed. These students become 'experts' for the topic discussed and present and discuss their viewpoints to an audience.
- The questions are also given to students in the outer circle so that students they will be aware of the themes and points of analysis which will be the focus of final discussion.
- Students in the inner circle or fishbowl panel should be cautioned to avoid discussing their individual questions with members of their panel because you want the discussions to be spontaneous and entirely unrehearsed.
- For example if the discussion is about a novel or short story, students should be prepared to provide citations of passages from the novel or short story to support their planned statements.

**Implementation:**
- As the fishbowl panels are heard, there is no moderator and the instructor does not participate. The discussion and flow is entirely up to the fishbowl panel or inner circle while the outer circle or rest of the class observes and takes notes.
- Class note sheets can be collected and graded for participation points. These note sheets are then given to the panel to provide feedback from the class.
- A simple tally of logical points made for each member of the panel is effective. Requiring observers to make specific comments assists panel members to evaluate how they came across to the audience. In addition, this method serves to keep the audience "tuned in" to the discussion.
- The instructor also keeps a tally of points made by each speaker. Comments for each speaker and a grade can be assessed on the spot.
- As the fishbowl panel comes to a close of discussion, the point under focus can be opened to the entire class.
- Timing is up to the discretion of the instructor.
- Once the panel runs out of new points to address or seems to start repeating, it is best to move to another group and question. Students need to understand that they must participate or they will not earn a good grade.

**11. Structured Problem Solving**
- **Step 1:** Members of learning teams, usually composed of four individuals, count off: 1, 2, 3, and 4. The teacher poses a question or problem requiring higher order thinking skills.
- **Step 2:** Students discuss the question or solve the problem, making certain that every group member can summarise the group's discussion or can explain the problem.
- **Step 3:** The instructor calls a specific number and the designated team members (1, 2, 3, or 4) respond as group spokespersons. To avoid repetition,
instructor will usually ask for responses from only three to six groups. The desired learning will already have occurred.

In this activity, students benefit from the verbalization, from the opportunity to exchange differing perspectives, and from the peer coaching that helps high and low achievers, alike. Less class time is wasted on inappropriate responses, and the principle of simultaneity is operative because at any given time 25% of the students are vocal within their groups. Students become actively involved with the material and, since no one knows which number the teacher will call, each has a vested interest in being able to articulate the appropriate response. Those chosen randomly as spokespersons (often students who do not volunteer during a whole-class discussion) feel far less threatened giving a team, rather than an individual, answer.

3.5 ACTIVITY
a) Explain how you would use the ‘fishbowl’ technique in your course.

b) What is the difference between the ‘paired annotations’ ‘structured problem solving’ technique?

12. Roundtable
Roundtable is a technique useful for brainstorming, reviewing, or practicing a skill. Students use a single sheet of paper and pen for each group. Students in the group respond in turn to a question or problem by stating their ideas aloud as they write them on the paper.

It is important that the ideas be vocalized for several reasons: (a) silence in a setting like this is boring, rather than golden; (b) other team members need to be reflecting on the thoughts; (c) variety results because teammates learn immediately that someone has come up with an idea they know now not to repeat; and (d) hearing the responses said aloud means that students do not have to waste valuable brainstorming time by reading the previous ideas on the page.

Team members are encouraged not to skip turns, but if their thoughts are at a standstill, they are allowed to say “Pass” rather than to turn the brainstorm into a brain drizzle. Thus, there is almost universal participation in Roundtable. Roundtable is most effective when used in a carefully sequenced series of activities. The brainstorming can reinforce ideas from the readings or can be used to set the stage for upcoming discussions. Students, for example, could identify the characteristics of an effective leader or the attributes of terrorism before these topics are formally introduced. Comparing a student-generated list with those of the
"experts," creates interest. Many creative uses can be made of the ideas generated, depending on their nature.

In Roundtable, the multiple answers encourage creativity and deeper thinking. This activity builds positive interdependence among team members because of the shared writing surface, but more importantly, it builds team cohesion and reinforces the power of teamwork because students see in action the value of multiple viewpoints and ideas.

13. Stand Up and Share

This report-out method should be rapid and energetic. It works best when students have completed an activity, such as Roundtable, that lends itself to single statement summaries. It relies on students having an easily designated identity within each team so that you can call on the "Number Twos" to serve as spokespersons.

These designated students then rise, prepared to respond on behalf of the group. Each team responds in turn, giving only one response, in rapid round robin fashion. Depending on the number of answers and the number of teams involved, you may want to go through another rotation, calling on another group member to share one group idea (the "Number Fours" this time).

All students must attend to the sharing because they may serve as the next spokesperson. No ideas should be repeated. If student spokespersons find that all the topics on the team's list have been covered, they merely sit down and the rotation continues. Besides allowing for rapid exchanges (Sometimes this activity becomes a "Stand Up and Shout"), the value of positive interdependence (team work) is emphasised.

14. Three-Stay One-Stray

Like "Stand Up and Share," this structure requires the easy identification of a team member who will become the group’s spokesperson. It too builds on another structure, such as Structured Problem Solving, but in this case the topics can be far more complex. After the problem solving discussions are complete and all team members indicate that they can give the team's report, you designate the student from each team who will "stray." That is, one student from each group (such as the "Number One") leaves it and rotates to an adjoining team to give the report.

In large classes it is essential that the order of rotation is clear. The designated student, who is welcomed as a visitor, shares with this new team the results of his original group's discussion, giving proposed solutions to problems or summarizing discussions. A second rotation may be desirable if the topic prompted divergent thinking and solutions.

Three-Stay One-Stray offers a low-threat forum where students can exchange ideas and build social skills such as asking probing questions. It also offers students the opportunity to learn by teaching. Placing the report-out responsibility on the students reinforces the valuable conception that knowledge resides within the learning community, not just with the "authority-figure" instructor. Perhaps its greatest value lies in its efficiency. Instead of, for example, ten sequenced five-minute reports to the entire class (fifty minutes, plus transition time), individual students are simultaneously giving five-minute reports throughout the room.
15. Gallery Walk

A Gallery Walk requires a report-out that can be visually depicted, preferably on butcher paper. It can be an outline, a concept or mind map, or any other written product. In this case a designated student stays by the desk or table or next to the butcher paper if it is taped to the wall and serves as the group spokesperson.

The other students rotate around the room examining the products of other teams' thinking, asking questions of the designated spokesperson. (The spokesperson role should be rotated so that no one is left without the stimulation of exploring the different student creations.)

This structure is also efficient and engenders a sense of team cohesion as each group displays the product of their "group think." The variety of the end products emphasizes the value of critical/creative thinking.

You can use a variation of "Gallery Walk" when you have required individual or team long-term products. Rather than having time-consuming report-puts, each student circulates to classmates a summary of his or her project. Each product, such as a term paper or student portfolio, is assigned to specific work area, as in a conference poster session. Then a class period can be spent with students examining one another’s work. To provide an opportunity for feedback, each student leaves a comment sheet next to the product, and browsers write a brief response.

16. Send or Pass a Problem

This structure is particularly effective for problem solving. The starting point is a list of problems or issues, which can be be generated by students through an activity such as a Roundtable or can be teacher-selected.

Each team identifies the particular problem or issue upon which they wish to focus initially and records their choice on the front of a folder or envelope. Each team selects a different problem.

The teams then brainstorm effective solutions for these problems and write them down on a piece of paper. At a predetermined time, the ideas are placed in the folder or envelope and forwarded to another team.

The members of the second team, without looking at the ideas already generated, compile their own list. This second set of ideas is forwarded to a third team which now looks at the suggestions provided from the other teams, adds its own, and then decides on the two most effective solutions.

Besides encouraging collaborative higher order thinking skills this structure results in students’ evaluative judgments which are the highest cognitive level in Bloom's well-known taxonomy.

Reports to the whole group occur as time permits and can take many forms, including written reports when the material is relatively complex. Some instructors use this structure for examination review sessions by putting typical exam questions in folders for group problem solving.

17. Student Summary of another Student's Answer

In order to promote active listening, after one student has volunteered an answer to your question, ask another student to summarize the first student's response. Many students hear little of what their classmates have to say, waiting instead for the instructor to either correct or repeat the answer. Having students summarise or repeat each others' contributions to the course both fosters active participation by all students and promotes the idea that learning is a shared enterprise. Given the possibility of
being asked to repeat a classmate’s comments, most students will listen more attentively to each other.

18. Note Comparison or Sharing
One reason that some students perform poorly in classes is that they often do not have good note-taking skills. That is, while they might listen attentively, students do not always know what to write down, or they may have gaps in their notes which will leave them bewildered when they go back to the notes to study or to write a paper. One way to avoid some of these pitfalls and to have students model good note-taking is to have them occasionally compare notes. The instructor have students read each others' notes, filling in the gaps in their own note-taking. This is especially useful in introductory courses or in courses designed for non-majors or special admissions students. Once students see the value of supplementing their own note-taking with others', they are likely to continue the practice outside of class time.

3.6 ACTIVITY
a) Explain how you would use the ‘roundtable’ technique ‘three-stay & one stray’ technique in your course.
   b) Do you think the note comparison technique will be able to enhance the note-taking ability of students? Explain.

3.5 ADVANTAGES OF COLLABORATIVE LEARNING

1) A lot more done in a shorter amount of time.
   - One advantage of working in groups is that a problem can be solved faster and easier
   - Any time more than one person works together to solve a problem it is usually more efficient.
   - When working in a group it allows for people to think as one and help others become "unstuck." Problem solving becomes easier when people work together.

2) Each member of the group has something unique to contribute.
   - People often get stuck in their own unique ways of thinking; listening to another person's ideas helps them to broaden their horizons.
   - The saying "three heads are better than one" is definitely true

3) Motivated by others in the group
   - Reassurance from others and trusting their own thoughts
   - Because of the group students do not give up on doing assignment
   - Group keeps each other on hand
   - Partner explains things that are not easily understood

4) Students relate to one another more easily than to a teacher.
• Students feel more comfortable asking their own peers questions because they are on the same level
• Group creates a ‘comfort zone;
• Makes the assignment or project more fun

5) Long term benefits
• Teaches social skills such as cooperation, teamwork, and communication skills useful in later life.
• Learn to work together to achieve a common goal and how to problem solve together which is required in the workplace

3. 6 DISADVANTAGES OF COLLABORATIVE LEARNING

1) People need to go at different speeds.
• Some students need more time than others to understand and absorb the information.
• In groups slow students need to catch up which may cause tension because others are pulled back or delayed.

2) Some students may try to take over the group.
• Not everyone is has an equal voice in a group. One person may dominate the group while others feel left out.
• Some students do not trust the abilities of others in the group which results in tension and refusing to cooperate.

3) Quiet students may not feel comfortable.
• Some students are shy or reserved and feel awkward when working with others.
• Not sure whether others will appreciate a person’s beliefs and values.

4) Sometimes people just don’t get along.
• Sometimes people just don't get along no matter how hard they try because of personality differences
• Personality differences lead to arguments, wasting of time and unproductive group work.

5) Not everyone pulls their weight.
• Frustrating when all work hard and a few students do not do their work.
• One or two people end up doing all the work and all in the group may get the grade they do not deserve.

6) Not properly understanding
• At time it is possible that one may miss things which they would not if they did the work individually.
7) Time spent on irrelevant things

- Sometimes nothing gets done because everyone is talking about everything else except but what they are supposed to be doing.

**3.6 ACTIVITY**

a) What are the advantages of using collaborative learning techniques?

b) Are the disadvantages of using collaborative learning techniques likely to happen in your course?

**SUMMARY**

- Increasingly, universities and colleges are recognising the need for education to be more closely aligned with team-playing, project-based learning and problem-solving approaches necessary for the world of work in the global and information age.

- Collaborative learning is based on the idea that learning is a naturally social act in which participants talk among themselves.

- However, the use of collaborative learning techniques is not aimed at abandoning the lecture, but rather using active learning techniques to supplement lectures.

- Learning is an active process whereby students assimilate the information and relate this new knowledge to a framework of prior knowledge.

- Learning flourishes in a social environment where conversation between learners takes place.

- Many people are still unfamiliar with collaboration tools as many of these tools are not intuitive and hence not easy to use.

- The seminar is a popular collaborative teaching-learning strategy in which a student presents a paper and others in the group including the instructor commenting on the paper.

- The syndicate is a technique where groups of 20 to 25 students are broken down into sub-groups or syndicates of 4-5 students.
• The underlying belief of the jigsaws technique is that no one can know something well without the aid of every other person in the group and each member has a unique and essential contribution to make.

• The fishbowl is a technique adopted for the scholarly discussion of an essential question in which student opinions are shared, proven, refuted, and refined through dialogue with other students. It consists of an inner and outer circle of students.

• In the stand-up and share technique, designated students rise and respond on behalf of the group.

• There are both advantages and disadvantages of using collaborative learning techniques in higher education.

<table>
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<th>KEY TERMS</th>
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<td>Collaborative learning</td>
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REFERENCES:


