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Benefits of collaborative learning

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Abstract

Collaborative learning is an educational approach to teaching and learning that involves groups of learners working together to solve a problem, complete a task, or create a product. This review article outlines benefits of learning in collaboration style, begins with the concept of the term and continues with the advantages created by collaborative methods. This paper sets out major benefits of collaborative learning into four categories of; social, psychological, academic, and assessment benefits. Each of them is further subdivided to more specific themes.

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1. Introduction

There are a number of benefits that are associated with the concept of collaborative learning (CL). It is through understanding the benefits, that we can truly use this learning style to our benefit. Before one can make a judgment on the merits of CL, it is important to understand exactly what CL is (Annett, N., 1997).

Collaboration is a philosophy of interaction and personal lifestyle where individuals are responsible for their actions, including learning and respect the abilities and contributions of their peers. In all situations where people come together in groups, it suggests a way of dealing with people which respects and highlights individual group members' abilities and contributions. There is a sharing of authority and acceptance of responsibility among group members for the groups' actions. The underlying premise of collaborative learning is based upon consensus building through cooperation by group members, in contrast to competition in which individuals best other group members. CL practitioners apply this philosophy in the classroom, at committee meetings, with community groups, within their families and generally as a way of living with and dealing with other people (Panitz, T., 1996).

Brown and Lara (2011) cite Johnsons (2009) that say; there are three ways when individuals take action in relation to the actions of the others. One's actions may promote the success of others, obstruct the success of others, or not have any effect at all on the success or failure of others. In other words, individuals may be:

- Working together cooperatively to accomplish shared learning goals;
- Working against each other (competitively) to achieve a goal that only one or a few can attain;
- Working by oneself (individualistically) to accomplish goals unrelated to the goals of others.

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They state that Johnsons' survey of educational research demonstrates cooperation, in comparison with competitive and individualistic efforts, results in;

- Higher achievement and greater productivity;
- More caring, supportive, and committed relationships, and;
- Greater psychological health, social competence and self esteem.

This paper aimed at presenting the main benefits followed CL.

1.2. Material & method

This review article begins with a concept of the CL, describes the top benefits created by learning in this method and organizes the advantages into four major categories while further subdividing each area to specific themes, ensuring the main benefits are brought into account. Key issues are identified through review of literature on the CL and on the benefits of learning in a collaborative style.

1.3. Results

Collaboration is a promising mode of human engagement that has become a twenty-first-century trend. The need for think together and work together on critical issues has increased (Austin, J. E., 2000; Welch, M., 1998), causing to stress on from individual attempts to team work and from autonomy to community (Leonard, P. E. & Leonard, L. J., 2001).

The concept of CL, the grouping and pairing of learners for the purpose of achieving a learning goal, has been widely researched and advocated; the term CL refers to an instruction method in which learners at various performance levels work together in small groups toward a common goal. The learners are responsible for one another's learning as well as their own. Thus, the success of one learner helps other students to be successful (Gokhale, A.A., 1995).

Woods and Chen (2010) cite Johnsons (1994) that; in order for a CL effort to be more productive than competitive or individualistic methods, five conditions must be met, as:

- Clearly perceived positive interdependence;
- Considerable promotive interaction;
- Clearly perceived individual accountability and personal responsibility to achieve the group's goals;
- Frequent use of the relevant interpersonal and small-group skills, and;
- Frequent and regular group processing of current functioning to improve the group's future effectiveness.

Numerous benefits have been described for CL (Pantiz, T., 1999). A good way for organizing the benefits of CL, are to put them in categories. Johnsons (1989) and Pantiz (1999) list over 50 benefits for CL. The list below is based on their works. This paper summarizes them into four major categories of; social, psychological, academic and assessment, as in following:

- Social benefits;
 - CL helps to develop a social support system for learners;
 - CL leads to build diversity understanding among students and staff;
 - CL establishes a positive atmosphere for modelling and practicing cooperation, and;
 - CL develops learning communities.
- Psychological benefits;
 - Student-centered instruction increases students' self esteem;
 - Cooperation reduces anxiety, and;
 - CL develops positive attitudes towards teachers.
- Academic benefits;
 - CL Promotes critical thinking skills
 - Involves students actively in the learning process
 - Classroom results are improved
 - Models appropriate student problem solving techniques

- Large lectures can be personalized
- CL is especially helpful in motivating students in specific curriculum
- Alternate student and teacher assessment techniques;
 - Collaborative teaching techniques utilize a variety of assessments.

In our society and current educational framework, competition is valued over cooperation. By asking group members to identify what behaviours help them work together and by asking individuals to reflect on their contribution to the group's success or failure, students are made aware of the need for healthy, positive, helping interactions (Panitz; T., 1996; Cohen B.P. & Cohen, E.G., 1991).

1.4. Discussion

According to Johnson, Johnson, and Holubec (1984); a major component of learning includes training students in the social skills needed to work cooperatively. CL develops social interaction skills (Cohen, B.P., Cohen, E.G., 1991).

A significant benefit of CL is regarding to the groups operating together long enough during a course. The people in teams will get to know each other and extend their activities outside of class. Students will contact each other to get help with questions or problems they are having, and they will often continue their communications in later terms (Bean, J., 1996). CL helps to develop learning communities within classes and institutions (Tinto, V., 1997).

As students are actively involved in interacting with each other on a regular basis in an instructed mode, they are able to understand their differences and learn how to resolve social problems which may arise (Johnson, R.T. & Johnson, D.W., 1985). It creates a stronger social support system (Cohen, S., & Willis, T., 1985). A natural tendency to socialize with the students on a professional level is created by CL. Students often have difficulties outside of class. Openings them can lead to a discussion of these problems by the teacher and student in a non-threatening way and additional support from other student services units in such areas can be a beneficial by-product (Kessler, R.C. & McCleod, J.D., 1985).

CL builds more positive heterogeneous relationships (Webb, N.M., 1980) and encourages diversity understanding (Swing, S.R. & Peterson, P.L., 1982).

Johnsons (1990) claim; CL promotes positive societal responses to problems and fosters a supportive environment within which to manage conflict resolution. Research shows that CL reduces violence in any setting. Sherman (1991) notes; Most social psychology text books contain considerable discussions about conflict, sometimes instigated by individual or inter-group competition, and its resolution and/or reduction through the use of cooperative techniques. CL promotes positive societal responses to problems and fosters a supportive environment within which to manage conflict resolution (Johnson, R.T., Johnson, D, W, 1990; Messick, D.M., & Mackie, D.M., 1989). In a CL setting, students develop responsibility for each other (Bonoma, J., Tedeschi, J., Helm, B., 1974).

CL helps students to resolve differences in a friendly manner. They need to be taught how to challenge ideas and advocate for their positions without personalizing their statements (Johnson, D.W., Johnson, R.T., Holubec, E.J., 1984).

Higher level thinking skills are developed by CL (Webb, N.M., 1982). Students are committed in the learning process. Students working together represent the most effective form of interaction. When students work in pairs one person is listening while the other partner is discussing the question under investigation. Both are developing valuable problem solving skills by formulating their ideas, discussing them, receiving immediate feedback and responding to questions and comments (Johnson, D.W., 1971; Peterson, P.L. & Swing, S.R., 1985).

In order to develop critical thinking skills, students need a base of information to work from. Acquiring this base often requires some degree of repetition and memory work. When this is accomplished individually the process can be tedious, boring or overwhelming. When students work together the learning process becomes interesting and fun despite the repetitive nature of the learning process (Panitz, T., 1999).

CL develops students' oral communication skills (Yager, S., Johnson, D.W. & Johnson, R.T., 1985). Students who tutor each other must develop a clear idea of the concept they are presenting and orally communicate it to their partners (Neer, M.R., 1987).

CL involves students actively in the process of learning (Slavin, R.E., 1980). During the cooperative process, students can become involved in developing curriculum and class procedures (Kort, M.S., 1992).

Students are often asked to assess themselves, their groups, and class procedures (Meier, M. & Panitz, T., 1996). The high level of interaction and interdependence among group members leads to deep rather than surface learning (Entwistle, N. & Tait, H., 1993). CL is student centered, leading to an emphasis on learning as well as teaching and to more student ownership of responsibility for that learning (Lowman, J., 1987).

In a CL setting, students are actively involved in the learning process and more likely to become interested in learning and participating school; therefore student maintenance is increased (Astin, A.W., 1977).

CL leads to self-management by students (Resnick, L.B., 1987). Students are trained to be ready to complete the tasks and work together within their groups and they must understand the subject that they plan to contribute to their group. They are also given time to process group behaviors such as checking with each other to make sure homework assignments are not only completed but understood. These interactions help students learn self-management techniques. CL provides the teacher with many opportunities to observe students interacting, explaining their reasoning, asking questions and discussing their ideas and concepts (Cooper, et al., 1984). These are far more inclusive assessment methods than relying on written exams only (Cross, K.P. & Angelo, T.A., 1993).

Johnsons (1990) state: In a learning situation, student goal achievements are positively correlated; students perceive that they can reach learning goals if and only if the other students in the learning group also reach their goals. Thus, students seek outcomes that are beneficial to all those with whom they are cooperatively linked. When individuals get stuck they are more likely to give up, but groups are much more likely to find ways to keep going.

CL provides many opportunities for alternate forms of student assessment (Panitz, T. & Panitz, P., 1996).

CL reduces classroom anxiety created by new and unfamiliar situations faced by students (Kessler, R., Price, R. & Wortman, C., 1985). The students see that the teacher is able to evaluate how they think as well as what they know. Through the interactions with students during each class, the teacher gains a better understanding of each student's learning style and how he/she performs and an opportunity is created whereby the teacher may provide extra guidance and counseling for the students.

1.5. Conclusion

CL compared with competitive and individualistic efforts, has numerous benefits and typically results in higher achievement and greater productivity, more caring, supportive, and committed relationships; and greater psychological health, social competence, and self esteem.

References

- Annett, N. (1997 Oct 5). *Collaborative learning: definitions, benefits, applications and dangers in the writing center*. University of Richmond, Virginia; USA. Retrieved 5 Nov.2011, from: writing2.richmond.edu/training/fall97/nanne/collaboration.html.
- Astin, A.W.(1977). *Four critical years: Effects of college beliefs, attitudes and knowledge*. San Francisco, USA. Jossey Bass Publishing.
- Austin, J. E. (2000). Principles for Partnership. *Journal of Leader to Leader*. 18 (Fall), pp. 44-50.
- Bean, J. (1996). *Engaging ideas, the professor's guide to integrating writing, critical thinking, and active learning in the classroom*, San Francisco; USA. Jossey Bass Publishing.
- Bonoma, J., Tedeschi, J., Helm, B. (1974). Some effects of target cooperation and reciprocated promises on conflict resolution. *Journal of Sociometry*. 37(2), pp. 251-261.
- Brown, L. & Lara, V. (2011. Oct. 9). *Professional Development Module on Collaborative Learning*. El Paso Community College, Texas; USA. Retrieved 5 Nov. 2011, from: http://www.texascollaborative.org/Collaborative_Learning_Module.htm.
- Cohen, B.P. & Cohen, E.G. (1991). From groupwork among children to R & D teams: interdependence, interaction and productivity, In Lawler, E.J., Markovsky, B., Ridgeway, C. & Walker, H. (Eds.), *Advances in Group Processes* (pp205-226). Greenwich, Connecticut; USA. JAI Publishing.
- Cohen, S., & Willis, T. (1985). Stress and social support and the buffering hypothesis. *Psychological Bulletin*. 98(2), pp. 310-357.
- Cooper, J., Prescott, S., Cook, I., Smith, L., Mueck, R. & Cuseo, J. (1984). *Cooperative learning and college instruction- Effective use of student learning teams* (pp41-65). Long Beach, California; USA. California State University Foundation publishing.
- Cross, K.P. & Angelo, T.A. (1993). *Classroom Assessment techniques: A Handbook for faculty*. San Francisco, CA; USA. Josey-Bass Publishing.

- Entwistle, N. J. & Tait, H. (1993). *Approaches to Studying and Preferences for Teaching in Higher Education: Implications for Student Ratings*. Annual Meeting of the American Educational Research Association (12-16 April 1993), Atlanta, Georgia; USA. Eric document; ED359206. Retrieved 5 Nov. 2011 from: <http://www.eric.ed.gov/PDFS/ED359206.pdf>.
- Gokhale, A.A. (1995). Collaborative learning enhances critical thinking. *Journal of Technology education*. 7(1), Retrieved 5 Nov. 2011, from: <http://scholar.lib.vt.edu/ejournals/JTE/v7n1/gokhale.jte-v7n1.html>.
- Johnson, D.W. (1971). Effectiveness of role reversal: actor or listener. *Journal of Psychological Reports*. 28(1), pp. 275-282.
- Johnson, D.W. & Johnson, R.T. (1989). *Cooperation and Competition Theory and Research*. Edina, Minnesota; USA. Interaction Book Co. publishing..
- Johnson, D.W. & Johnson, R.T. (1990). Using cooperative learning in math, In Davidson, N. (ed.), *Cooperative Learning In Mathematics* (pp.103-125). Menlo Park, California; USA. Addison-Wesley Publishing.
- Johnson, D.W. & Johnson, R.T. (2009). An Educational Psychology Success Story: Social Interdependence Theory and Cooperative Learning. *Journal of Educational researcher*, 38(5), pp. 365-379.
- Johnson, D.W., Johnson, R.T., Holubec, E.J. (1984). *Cooperation in the Classroom*. Edina, Minnesota; USA. Interaction Book Co. publishing..
- Johnson, R. T., and Johnson, D. W. (1994). An overview of cooperative learning. In Thousand, J., Villa, A. & Nevin, A. (Eds.), *Creativity and collaborative learning* (p.2). Baltimore, Maryland; USA. Brookes Publishing.
- Johnson, R. T., and Johnson, D. W. (1985). Relationships Between Black and White Students in Intergroup Cooperation and Competition. *Journal of Social Psychology*. 125(4), pp. 421-428.
- Kort, M.S. (1992, Fall). Down from the Podium: Preparing faculty for the learner-centered classroom. *Journal of New directions for community colleges*, 79, pp. 61-71.
- Kessler, R.C., McCleod, J.D. (1985). Social support and mental health in community samples (pp.219-240), In Cohen, S. & Syme, S.L. (Eds.), *Social Support and Health*. San Fransisco, California; USA. Academic Publishing.
- Kessler, R.C., Price, R. & Wortman, C. (1985). Social Factors in Psychopathology: Stress, Social Support and Coping Processes. *Annual Review of Psychology*, 36, pp. 351-372.
- Leonard, P. E., & Leonard, L.J. (2001). The collaborative prescription: Remedy or reverie? *International Journal of Leadership in Education*, 4(4); pp. 383-99.
- Lowman, J. (1987). Giving students feedback. In Weimer, M.G.(ed.), *Teaching Large Classes Well: New directions for teaching and learning # 32* (pp. 71-83). San Francisco, California; USA. Jossey-bass Publishing.
- Meier, M., and Panitz, T. (1996). Ending on a High Note: Better Endings for Classes and Courses. *Journal of College Teaching*, 44(4), pp. 145-148.
- Messick, D.M. & Mackie, D.M. (1989). Intergroup relations. *Annual Review of Psychology*. 40, pp. 45-81.
- Neer, M. R. (1987). The development of an instrument to measure classroom apprehension. *Journal of Communication Education*, 36 (2), pp. 154-166
- Panitz, T.(1999). Benefits of Cooperative Learning in Relation to Student Motivation", in Theall, M. (Ed.) *Motivationfrom within: Approaches for encouraging faculty and students to excel, New directions for teaching and learning*. San Francisco, CA; USA. Josey-Bass publishing.
- Panitz, T.(1996). *A Definition of Collaborative vs Cooperative Learning*. Deliberations, London Metropolitan University; UK., Retrieved 5 Nov. 2011, from: <http://www.londonmet.ac.uk/deliberations/collaborative-learning/panitz-paper.cfm>.
- Panitz, T. & Panitz, P. (1996). Assessing students and yourself using the one minute paper and observing students working cooperatively. *Cooperative Learning and College Teaching Newsletter*, 6(3), Retrieved 5 Nov 2011, from: <http://home.capecod.net/~tpanitz/tedsarticles/Assessment.htm>.
- Peterson, P.L. & Swing, S. R. (1985). Students Cognitions as Mediators of the Effectiveness of Small-group Learning. *Journal of Educational Psychology*. 77(3), pp. 299-312.
- Resnick, L.B. (1987). *Education and Learning To Think* (p.20). Washington, DC, USA. National Academy Publishing.
- Sherman, L.W. (1991) . *Cooperative learning in post secondary education: implications from social psychology for active learning experiences*. Annual meetings of the American Educational Research Association (3-7 April 1991), Chicago, Illinois; USA. Eric document; ED330262. Retrieved 5 Nov. 2011 from: <http://www.eric.ed.gov/PDFS/ED330262.pdf>.
- Slavin, R. E. (1980). Cooperative learning. *Journal of Review of Educational Research*. 50 (2), pp. 315-342.
- Swing, S.R. & Peterson, P.L. (1982). The relationship of student ability and small group interaction to student achievement. *American Educational Research Journal*, 19 (2), pp. 259-274.
- Tinto, V. (1997). Enhancing learning via community. *Journal of Thought and Action*, 6 (1), pp53-54.
- Webb, N.M. (1982). Group Composition, Group Interaction, and Achievement in small groups. *Journal of Educational Psychology*, 74(4), pp.475-484.
- Webb, N.M. (1980). An analysis of group interaction and mathematical errors in heterogeneous ability groups. *British Journal of Educational Psychology*. 50 (3), pp.266-276.
- Welch, M. (1998). Collaboration: Staying on the bandwagon. *Journal of Teacher Education*; 49(1), pp. 26-38.
- Woods, D.M. & Chen, K.C. (2010). Evaluation techniques for cooperative learning. *International Journal of Management & Information Systems*, 14(1), pp.1-6.
- Yager, S., Johnson, D.W. & Johnson, R.T. (1985). Oral Discussion Groups-to-Individual Transfer, and Achievement in Cooperative Learning Groups. *Journal of Educational Psychology*, 77(1), pp. 60-66.