

COLLABORATIVE LEARNING STRATEGIES: POTENTIAL APPLICATION IN DISTANCE EDUCATION

Dr. Muhammad Javed Iqbal

Chairman, Distance, Non formal & Continue education department,
Allama Iqbal Open University
Islamabad, Pakistan

Ms Najma Kousar

PhD scholar, Allama Iqbal Open University Islamabad

Dr Fazalur Rahman

Lecturer, Early childhood & Elementary Teacher Education Department
Allama Iqbal Open University Islamabad.
E-mail: fazalaiou@yahoo.com

Abstract

This study discussed that collaborative learning strategies promotes academic and social-affective learning such as the ability to work in a team. However, there is a lack of empirical research on collaborative learning strategies in the classroom. The findings revealed that the distance students not very much clear about the concept of collaborative learning. Further collaborative learning was not always integrated in the classroom. This paper discussed some of the findings of the study and suggested few recommendations for better use of collaborative learning strategies for distance learners.

Key Words: Collaborative learning, ICT, Collaborative learning strategies, e-learning environment, distance education.

Introduction

Distance education contributes to individual for personal satisfaction and to social mobility. Distance education is known for its easy access to courses, providing opportunities for increased diversity in terms of time and location, and increasing revenue for institutions. (Chaney, et al., 2007, p.2). Distance education can also contribute to achieve millennium development goals also. Khan (2003) stated that distance education is an innovative tool to expand the traditional education system by modernizing the delivery channel. Learning occurs in social setting, community and context. The process of dialogue has not only the function of reaching understanding, but also of coordinating action/ socializing actors. Collaborative learning proves more beneficial in distance education because distance students get fewer chances to communicate with peers. This implementation of collaborative learning strategies is important in distance education. Mandal (2009, pp.6-9) described these collaborative learning strategies:

1. Jigsaw
2. Think-Pair-Share
3. Three-Step Interview
4. Numbered Heads Together
5. Round Robin
6. Three-minute review
7. Buzz Groups
8. Talking Chips
9. Critical Debate
10. Write Around
11. Praise-Question-Polish

Sense of belongingness is collaborative learning enhances students' motivation and engagement. Mann (2005) also supports this that building a sense of belonging is important for the learning community as a "communicative event" while Siemens (2004) argues that learning theories such as behaviorism do not address learning that occurs outside of people (i.e. learning that is stored and manipulated by technology). Siemens also proposes "connectivism" as a learning theory for the digital age.

Collaborative learning strategies can be used in the planning, translating and reviewing, so that the creation produced by the group is of value. During the procedure of drafting a lot of discussions take place where teachers encourage the students to participate in discussions. For the effective collaborative learning the following structures and techniques are used by the University of Texas:

1. Roundtable
2. Focused Listing
3. Structured Problem-solving
4. Paired Annotations
5. Structured Learning Team Group Roles
6. Send-A-Problem
7. Value Line
8. Uncommon Commonalities
9. Team Expectations
10. Double Entry Journal
11. Guided Reciprocal Peer Questioning
12. One Minute Papers

COLLABORATIVE LEARNING AND STUDENT ACHIEVEMENT

More than 70 major studies by federally sponsored US Department of Education (1992) research centers, field-initiated investigations, and local districts examining their own practices have demonstrated collaborative learning's effectiveness on a range of outcomes:

1. Positive Growth in Student Achievement
2. Improved Relations among Different Ethnic Groups
3. Mainstreaming Students with Learning Disabilities
4. positive interdependence
5. face-to-face interaction
6. individual accountability
7. social skills
8. group processing
9. greater student achievement
10. social benefits
11. changing business structure
12. economic benefits

Students' Role

Students' perform these roles as:

- Spokesperson—represents the group and presents group work to rest of the class
- Organizer—provides the group with the overall process structure
- Questioner—generates questions and involves all students
- Evaluator —evaluates the progress of each work session
- Summarizer: Restates the team's conclusions or answers.
- Timekeeper—keeps group on task and on time
- Team facilitator—Moderates discussions, keeps the team on schedule, ensures that work is completed by all, and makes sure that all have the opportunity to participate and learn.

Collaborative learning in learning communities may help students to improve critical thinking (Gokhale, 1995) and to learn to work effectively, a requisite attribute which has value in their professional and personal lives.

Examples of Collaborative Learning

- In the E-learning Market Computer-supported collaborative learning (CSCL) is a relatively new educational paradigm within collaborative learning which uses technology in a learning environment to help mediate and support group interactions in a collaborative learning context. CSCL systems use technology to control and monitor interactions, to regulate tasks, rules, and roles, and to mediate the acquisition of new knowledge.

- Collaborative Networked Learning is a form of collaborative learning for the self-directed adult learner. Youth directed collaboration, another form of self-directed organizing and learning, relies on a novel, more radical concept of youth voice.
- Learning Management Systems is a context in which collaborative learning has specific particular meaning. In this context, collaborative learning refers to a collection of tools which learners can use to assist, or be assisted by others. Such tools include virtual classrooms (i.e. geographically distributed classrooms linked by audio-visual network connections), chat, discussion threads, application sharing (e.g. a colleague projects spreadsheet on another colleague's screen across a network link for the purpose of collaboration), among many others.
- Collaborative Learning Development enables developers of learning systems to work as a network. Specifically relevant to e-learning where developers can share and build knowledge into courses in a collaborative environment. Knowledge of a single subject can be pulled together from remote locations using software systems. An example of this could be Content point from Atlantic Link.
- Collaborative Learning in Virtual Worlds Virtual Worlds by their nature provide an excellent opportunity for collaborative learning. At first learning in virtual worlds was restricted to classroom meetings and lectures, similar to their counterparts in real life.
- Collaborative learning in thesis circles in higher education is another example of people learning together. In a thesis circle, a number of students work together with at least one professor or lecturer, to collaboratively coach and supervise individual work on final (e.g. undergraduate or MSc) projects. Students switch frequently between their role as co-supervisor of other students and their own thesis work (incl. receiving feedback from other students).

Research on Collaborative learning

As the world of education is now moving towards a global learning approach with ICT integration. This new paradigm in education has created innovation. Many approaches with different courtier's perspectives, in the form of special projects have been adopted. Among those one is the use of Television (TV) in Malaysia, Bangladesh initiated a pilot study of e-Learning in Gazipur and Comilla from 2009 with the support of BRAC under TQI-SEP (Teaching Quality Improvement in Secondary Education Project). Ministry of Education formally inaugurated Mobile ICT Lab of TQI-SEP on 23rd February, 2010 in order to provide e-Learning for rural Bangladesh (The Daily Samakal, 2010). The Sustainable Development Networking Programme (SDNP), a global initiative of the United Nations Development Programme (UNDP) emerges in Bangladesh as a joint of UNDP and Government of Bangladesh. Government of Bangladesh declared a vision to build 'Digital Bangladesh' by 2021. Computer Literacy and, availability, and ICTs are integral to the Digital Education component of the Digital Bangladesh, (Raihan, 2009). In an attempt to dominate the limitations of the 'one child, one computer' vision, Microsoft India launched its Windows MultiPoint Software Developer Kit (SDK), to provide an enhanced learning experiences. A Tablet Computers for Learning in India was advertised as an item for consumption called iProf which have video conferencing capabilities, synchronous, asynchronous and collaborative learning activities, (Abhijit Kadle, 2010). In collaborative learning method when the teacher gives a writing task, the members of the groups work together towards certain shared learning goals, (Mandal 2009).

India unlocked a very new system, 'Interactive Radio Learning' for students' (Mahmud, 2009), and the Tata Computer Based Functional Literacy Programme (CBFL) in India uses a mixed method, including computer software, animated graphic, multimedia presentations and flashcards to teach literacy skills. (UNESCO, 2006). Tata Teleservices are offering mobile education for rural communities. (Tata, 2009). *EAFIT* Escuela de Administración y Finanzas e Instituto Tecnológico. (*EAFIT*), Colombian University, with financial support from *Colciencias*, the Infodev Program working on the *Conexiones* project since 1992 in Colombia. It seeks to put together ICT into the basic education curriculum to improve the quality and equality of Colombian education. *It* worked on the hypotheses; do the technologies help in collaborative Learning? Another Collaborative Learning Environment based on Individual and Group Memory Building. (COLEGA) facilitates communication. COLEGA provides users with synchronous and asynchronous communication tools. Recently China started English learning through mobile phone. In an article by (Lai Junyong, Luo Jing, Zhao Xinjian and Zhang Mu 2009), collaborative learning resource, network course plays a significant role in improving teaching effect. The *eChina~UK* programme also focuses on the processes of 'intercultural' collaboration in the development of an e-learning module of the *eChina~UK* programme (Banks *et al.*, 2004; *eChina~UK* 2006).

A collaborative effort One Laptop per Child (OLPC) in Ethiopia was launched. This effort to take OLPC to Ethiopia, OLPC in Ethiopia has taken place within a capacity building concept endorsed by both the Ministry of Capacity Building as well as by the Ministry of Education. So momentum for change starts with local environment improving their practice through collaborative learning, developing the skills they need to become leaders in pushing the limit of what's possible in education and ends with improved thinking and learning for every student in the school. Collaborative Learning fosters professional development of students by working together.

Several researchers mentioned that collaboration may affect each participant's cultural characteristics (Chang and Lim, 2002; Cifuentes and Murphy, 2000; Ferdig et al., 2007; Holloway and Valentine, 2000; Lim and Zhong, 2005; Michailidou and Economides, 2007). Computer-based collaborative work can transform classroom cultures, the roles of teachers and the expectations of learners (DeVoogd, 1998). Online communication can help breakdown stereotypes, bias, and misunderstandings that children hold towards people in other countries (Holloway and Valentine, 2000). By using asynchronous learning networks, learners from an individualistic cultural context might emphasize more on group achievement or relationship than before, and learners from a collectivistic context might become more independent and insistent on their own opinion during the reasoning process (Chang and Lim, 2002). Together, participants would co-create a "new culture" that is neither one nor the other, but a combination of the two, or three, and so on (Lim and Zhong, 2005). So, cultural co-creation may occur in computer supported collaborative learning that support diversified cultures (Michailidou and Economides, 2007).

OBJECTIVES OF THE STUDY

The objectives of the study were:

- i. To identify the climate for the application of collaborative learning strategies in distance education,
- ii. To examine application of collaborative learning by students
- iii. To suggest suitable collaborative learning strategies for students of Allama Iqbal Open University

METHODS OF THE STUDY

The present study was descriptive type. Population of the study comprised of the academicians of Faculty of Education, Allama Iqbal Open University, Islamabad. Questionnaire was used to collect the data. Questionnaire were validated both professionally and small scale try out was also made for each. Observation/ comments of this try out were accommodated before actual administrating of tool to sample. Questionnaire was administered personally. The data collected through rating scales was analyzed by using percentage, mean score and t-test. A brief description of the data analysis presented in table 1 below.

CONCLUSIONS

Collaborative learning prepares students to work collaboratively and creates new ideas for students. It was found that collaborative learning provided social environment for distance learners and developed appropriate rationale for the use of communication technologies. It was also revealed that collaborative learning provided user friendly environment and promotes positive interdependence among student and teacher. It encouraged group discussion and developed team work skills. It was also found that it provided feedback on assessment work and knowledge. It supported the distance education significantly and created mental picture during communication process. Collaborative learning is easy in group work and created decision making ability about the task assigned. Collaborative learning develops critical thinking among distance learners.

RECOMMENDATIONS

This study recommended that:

1. Collaborative learning strategies may be implement practically during workshops to make whole sessions of workshops more successful.
2. Implementation of JIG-SAW and Think-Pair-Share may be made.
3. Learning technology may be made accessible to all participants.
4. Working in groups may be encouraged.

References

- Alavi, M. (1994, June). Computer-mediated collaborative learning: an empirical investigation. *MIS Quarterly*, 18 (2), 159-175.
- Brown, L. A., Eastham, N. P., & Ku, H (2006). A performance evaluation of the collaborative efforts in an online group research project. *Performance Improvement Quarterly*. 19(3), 121-140.
- Bruner, J.S. (1996), *Culture of education*, Harvard University, Cambridge, MA.
- Chaney, E.H., Eddy, J. M., et al, (2007). A primer on quality indicators of distance education. Accepted for publication in *Health Promotion Practice*.
- Chung, K. and Adams, C. (1997), "A study on the characteristics of group decision-making behaviour: cultural difference perspective of Korea vs US", *Journal of Global Information Management*, Vol. 5 No. 3, pp. 18-29.
- Cifuentes, L. and Murphy, K. (2000), "Promoting multicultural understanding and positive self-concept through a distance learning community: cultural connections", *Educational Technology Research and Development*, Vol. 48 No. 1, pp. 69-83.
- Dabbagh, N., & Bannan-Ritland, B. (2005). *Online learning : concepts, strategies, and application*. Upper Saddle River, NJ: Pearson/Merrill/Prentice Hall.
- DeVoogd, G.L. (1998), "Computer use levers power sharing: multicultural students' styles of participation and knowledge", *Computers and Education*, Vol. 31 No. 4, pp. 351-64.
- Economides, A.A. (2005), "Collaborative learning evaluation (CLE) framework", *WSEAS*
- Ferdig, R., Coutts, J., Di Pietro, J., Lok, B. and Davis, N. (2007), "Innovative technologies for multicultural education needs", *Multicultural Education & Technology Journal*, Vol. 1 No. 1, pp. 47-63.
- Gokhale, A. A. (1995). Collaborative learning enhances critical thinking. *Journal of Technology Education*, 7(1), 22-30.
- Gros, B., & Adrian, M. (2005). The use of virtual forums to promote collaborative learning in higher education. *Educational Technology*. 45(5), 17-20.
- Haythornthwaite, C., Kazmer, M. M., Robins, J., & Shoemaker, S. (2000). Community development among distance learners: Temporal and technological dimensions. *Journal of Computer-Mediated Communication*, 6, 0-0.
- Hiltz, S. R. and Wellman, B. 1994. Asynchronous learning networks as a virtual classroom. *Communications of the ACM*, Vol. 40, N. 9, September, pp. 44-49.
- Holloway, S.L. and Valentine, G. (2000), "Corked hats and coronation street: British and New Zealand children's imaginative geographies of the other", *Childhood*, Vol. 7, pp. 335-57.
- Johnson, R.T., Johnson, D.W. (1986), "Action research: cooperative learning in the science classroom", *Science and Children*, Vol. 24 pp.31-2.
- Khan, A.W. (2003). *Shaping the Future with Knowledge: Empowerment through Education and Training*. Gazipur: Convocation address at the Bangladesh Open University.
- Kitchen, D., & McDougall, D. (1998-99). Collaborative learning on the internet. *Journal of Educational Technology Systems*. 27(3), 245-258.
- Lai, J., Luo, J., Zhao, X. & Zhang, M. (2009). A Collaborative Learning Issue of Network Curriculum Based on Knowledge Management: Case Study on the Course of eCommerce in Tourism. *Proceedings of the 2009 First IEEE International Conference on Information Science and Engineering*, IEEE Computer Society Washington, DC, USA
- Lim, J. and Zhong, Y. (2005), "Cultural diversity, leadership, group size and collaborative learning systems: An experimental study", *Proceedings of the 38th Hawaii International Conference on System Sciences*.
- Mandal, R.R. (2009). *Cooperative Learning Strategies to Enhance Writing Skill*, Vol.1:2, Chennai.
- Mann, S. J. (2005). Alienation in the learning environment. *Studies in Higher Education*, 30(1), 43-55.
- Michailidou, A. and Economides, A.A. (2007), "Gender and diversity in collaborative virtual teams", in Orvis and Lassiter (Eds), *Computer Supported Collaborative Learning: Best Practices and Principles for Instructors*, IGI Global, Hershey, PA, pp. 199-224.
- Palloff, R. M., & Pratt, K. (1999). *Building learning communities in cyberspace : effective strategies for the online classroom*. San Francisco: Jossey-Bass.

- Raihan, A. (2009). ICT for Development: The Immediate Doables. Paper presented in the Conference on Development with Equity and Justice: Immediate Tasks for the Newly Elected Government. Bangladesh-China Friendship Conference Centre, Dhaka, Bangladesh; 28-29 March, 2009: Centre For Policy Dialogue(CPD).
- Rovai, A. (2001). Building classroom community at a distance: A case study. *Educational Technology Research and Development*. 49(4), 33-48.
- Siemens, G. (2004). *Connectivism: A Learning Theory for the Digital Age*. Retrieved October 2010 from <http://www.elearnspace.org/Articles/connectivism.htm>
- Slavin, R. (2003). *Educational psychology: Theory and practice*. New York: Allyn & Bacon.
- Tan, S. C., Hung, D., & Scardamalia, M. (2006). Education in the knowledge age: Engaging learners through knowledge building. In D. Hung & M. S. Khine (Eds.), *Engaged learning with emerging technologies*. Dordrecht, the Netherlands: Springer.
- Tata. (2009). Mobile Education Initiative Launched by Tata Indicom in India.[online]. Available from <http://www.mobiletor.com/2008/01/29/mobile-education-initiative-lau...> [Retrieved January, 05, 2011].
- The Daily Samakal, Dhaka, Bangladesh: Vol-5, Issue 331, January, 2010.
- Tomasello, M. (1999), *The Cultural Origins of Human Cognition*, Harvard University Press, Cambridge, MA.
- Transactions on Advances in Engineering Education*, Vol. 2 No. 4, pp. 339-46.
- U.S. Dept. of Ed. (1992). *Cooperative Learning*. Office of Research.
- UNESCO. "The Prague Declaration: 'Towards an Information Literate Society'".
- UNESCO. (2006). *ICT in Education Programme. ICT as a Tool for Achieving Literacy for All-Using ICT to Develop Literacy*. Dhaka, Bangladesh: UNESCO.
- Vadera, S. (2007). PhD Computer Science, FBCS, CITP, C.Eng Professor of Computer Science, The University of Salford, United Kingdom
- Vasiliou, A. and Economides, A.A. (2007), "Mobile collaborative learning using multicast MANETs", *International Journal of Mobile Communications*, Vol. 5 No. 4, pp. 423-44.

Table 1 Data analysis

S.No	Statement	Mean score
1.	Collaborative learning prepares to students to work collaboratively	3.75
2.	Collaborative learning creates new ideas in students	3.88
3.	Collaborative learning provides social environment for distance learners	4.25
4.	Collaborative learning develop appropriate rationale for the use of communication technologies	4.38
5.	Collaborative learning provide user friendly environment	4.00
6.	Collaborative learning promotes positive interdependence among student and teacher	4.25
7.	Collaborative learning encourages group discussion	4.25
8.	Collaborative learning develop team work skills	4.00
9.	Collaborative learning provide feedback on assessment work	4.25
10.	Collaborative learning provide the knowledge	3.75
11.	Collaborative learning support the distance education significantly	4.00
12.	Collaborative learning creates mental picture during communication process	4.12
13.	Collaborative learning reveal the differences among the students	4.50
14.	Collaborative learning encourage team work	3.94
15.	Collaborative learning is easy to work in grouping	3.62
16.	Collaborative learning creates decision making ability about the task assigned	3.75
17.	Collaborative learning develops critical thinking among distance learners	4.38