
Essays on Instruction and Curriculum

Individual Learning Styles in the Context of Classroom Cooperation

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Cooperative learning is widely recognized as one of the most effective practices in contemporary education. Cooperation is used in teaching academic subjects at various educational levels—from elementary to higher education.

Despite its widespread popularity, there are many questions that remain unanswered. Most educators trying to implement CL techniques in their classrooms face a number of difficulties. Often these difficulties are related to individual differences between students. Learners are not uniform in their ways of knowledge acquisition, they use different strategies and techniques. This well-known fact is not always taken into consideration by teachers. As a result, the potential of CL may not be fully realized. A number of researchers have tried to find ways of dealing with individual differences of learners in a cooperative setting (Coelho, 1996; Eriksson, 1993; Ely and Pease-Avarez, 1996; Neely and Alm, 1992; Oxford, 1996). This paper contributes to this research. It addresses three main issues of CL application in an EFL college classroom:

- 1. Cooperative learning principles and strategies versus individual learning styles.*
- 2. Reading class cooperation could be accommodated to analytical and relational types of learners.*
- 3. Cooperative strategies to be reconsidered on the basis of learning types.*

1.

Researchers advocate CL as a means of achieving a new teaching paradigm. This paradigm is based on a number of assumptions. First, that knowledge is constructed, discovered, transformed, and extended by students. Second, that students actively construct their own knowledge. Third, that teacher effort is aimed at developing students' competence and talents. Fourth, that education is a personal transaction between students and between teachers and students as they work together. Fifth, that all of the above can only take place within a cooperative context. Sixth, that teaching is assumed to be a complex application of theory and research that requires considerable teacher training and continuous refinement of skills and procedures (Johnson, Johnson, and Holubec, 1998).

The underlying principles of CL are represented by positive interdependence, individual accountability, promotive interaction, interpersonal and small group skills, and group processing (Johnson, Johnson, and Holubec, 1998). These principles are widely recognized as a beneficial and essential element of modern teaching.

At the same time, because these principles as well as recommendations regarding CL

practical implementation are of a general nature, they cannot address every particular teaching situation. For example, teachers are advised to use CL 60 to 70 percent of the time, individualistic learning 20 percent of the time, and a competitive learning 10 to 20 percent of the time (Johnson and Johnson, 1999). This time distribution may, probably, be effective in some teaching situations. As for others, it may not be applicable at all. Specific subjects require specific instructional modes, and also, students differ from each other even within the same teaching context. Individual differences cannot be ignored, in particular, in foreign language instruction (Coelho, 1996; Eriksson, 1993). Individual abilities, as well as age, cultural background and previous study experience are some of the factors shaping learning styles (Cheng and Banya, 1998). Learning styles, as opposed to learning strategies (Oxford, 1990) are *internally* based characteristics, often not perceived or consciously used by learners, for the intake and comprehension of information (Reid, 1998). Being internally based, learning styles can hardly be affected by external factors, such as modes of instruction. (Putnam, 1998). Since 1990, learning styles have become a focus of attention in ESL/EFL teaching. Researchers have demonstrated that higher student achievement is related to a match between student learning styles and teacher teaching styles (Oxford, Ehrman, and Lavine 1991). Thus, when applied, cooperative learning has to fit with diverse learning styles of a particular group of students, in particular, analytic/relational learning styles (Kinsella and Sherak, 1998). Due to their different left-brain and right-brain strengths, as well as learning strengths, analytic and relational learners differ in aspects directly involved in the cooperative learning situation. For example, the former prefer predictable routines and familiar activities and like to work independently or with a partner who has a compatible learning style. The latter prefer a variety of creative activities and like to work with others to achieve a common goal (Kinsella and Sherak, 1998). Being socially oriented, relational learners are better at collaborative problem-solving. These factors obviously determine the ways analytic and relational learners behave in cooperative classroom setting, the strategies they deploy, the results they achieve and the degree of satisfaction.

The analytic/relational division is of a very general nature. It is obvious that cultural factors have their impact on predominance of analytic or relational features. Thus, Japanese students are described as learners who have the following style preferences: a) analytic rather than global; b) reflective rather than impulsive; c) left-brained rather than right-brained; d) thinking-type rather than feeling-type (Call, 1988).

It is critical for a teacher to take into account the characteristics of analytic and relational learning styles. There are several reasons for that. First, regular classes do not comprise only two these types of learners. Every learner has a naturally acquired range of characteristics which can dominate at a particular point and, consequently, provide the ground for placing this students in either of the two groups. Second, no conclusions should be made regarding the performance of both types of students because this differentiation does not imply any reference to the learners' intellectual capacity. The critical difference between these types manifests itself predominantly in their ways of processing and using material. Third, all students are quite capable of using both analytic and relational strategies. Under certain circumstances determined by teaching styles, classroom characteristics, individual inclinations etc., learners select the style most suitable to them at a particular point. At that point, we can consider them as analytic or relational.

Due to the lack of any distinct borderline between the two learning styles, there is no obvious necessity for grouping students according to the style they employ. Nevertheless, educators can benefit from taking the differences between analytic and relational learners into consideration and investigating their potential for cooperative learning, in particular.

As student cooperation requires their interaction and productive exchange, any differences between learning styles should be noted and used so that they might come to be of positive rather than negative benefit.

At this stage the following question arises: How should one implement cooperative learning in order to stimulate both learning types equally and provide them with equal opportunities for effective classroom performance? In an attempt to find an answer to this question an experiment was conducted at the Koryo International Women's College during the second semester 2001–2002 academic year.

2.

The goal of this research was to determine an effective way of implementing cooperative learning principles in groups of students whose styles varied. The objectives were set as follows: a. To determine individual learning styles of each student within the given group; b. To find out an effective way of organizing classroom cooperation of students with different learning styles using jigsaw cooperation technique.

Two groups of second year students participated in the research: an experimental group and a control one.

The constants for both groups were as follows: 1. The number of participants (twelve), their level (second year students of the International Communication Course); 2. The period of instruction (both groups met once a week for fourteen class periods; a reading task took about half an hour of each class); 3. The difficulty level of the reading material; 4. The cooperative learning technique (a jigsaw reading task followed by a short comprehension test).

The variable factor was represented by the different procedures of the last step—(a short test based on the text read in class). Students in the control group answered the test questions in small groups. Students of the experimental group were given a choice of working on the test in small groups (three or four), pairs or individually.

The first stage of the experiment required identifying the individual learning styles of the participants. A written survey was selected as a method of identifying analytic and relational learners. All students were given a questionnaire (see Appendix 1). Their answers were used as the basis for classifying their learning styles as analytic or relational. The results of this survey showed that there was no clearly defined border between analytical and relational learners in the group. All twenty four students gave answers which indicated manifestations of both analytical and relational features. For example, all students approved of pair work. However, some respondents expressed a higher preference for collaboration than others. On these grounds, they were defined as relational learners, whereas the latter were thereafter referred to as analytical ones. Thus, the control group consisted of nine relational and three analytical learners; the experimental group included ten relational and two analytical learners.

The next stage of the experiment required both control and experimental groups to work cooperatively using jigsaw reading materials—short stories from “Basic Reading Power”

(Mikulecky and Jeffries, 1997) and “More True Stories” (Heyer, 1997). For the purpose of student cooperation small groups had to be formed. Researchers in cooperative learning recognize three main categories of ways of grouping: teacher-selected, random, and seating-related (Baloche, 1998; Coelho, 1996; Johnson and Johnson, 1999). For the purpose of this research, groups were formed by the teacher as it was essential to balance the number of analytical and relational learners in each group. The size of cooperative groups was limited to four students, which, in theory and practice of teaching, proved to be the optimal size (Baloche, 1998; Putnam, 1998). Thus, in both control and experimental groups small cooperative groups of four were formed. The control group was split into three cooperative groups with one analytical and three relational students in each one. The experimental group was split into three cooperative groups—two with one analytical and three relational students, and one group consisted of relational learners only (due to the imbalance in analytical/relational numbers). This was not perceived as a problem as a reasonable distribution of analytical learners was achieved. Then, a leader was elected in each small group. The role of the leader consisted in organizing the group work: distributing and collecting task sheets, time keeping and assigning grades.

At the next stage, the jigsaw cooperation learning technique (Aronson, Blaney, Stephan, Sikes, and Snap, 1978) was implemented in both control and experimental groups. This technique is widely used in cooperative learning due to its effectiveness in achieving student cooperation. Every small group of four students was given a text which was divided into four equal parts and a grading sheet (Appendix 2). The leaders distributed the reading passages and kept the grading sheets. Every member of a small group received one passage. Next, every student had to find two other students (among members of two other small groups) with the identical reading passage. The three of them worked together trying to read and understand the passage within the given time limit. After they finished reading, they returned to their small groups. All four members of every small group in turn explained the content of their part of the text to the others, so that every member knew the complete story from the beginning to the end. When this was achieved, the leaders filled out grading sheets and gave them to the teacher. At this stage, brief discussions took place in each small group. Interestingly, leaders always chose to discuss every member’s contribution and the corresponding grade with other students (without being instructed by the teacher to act collectively). This was regarded as a sign of positive atmosphere within cooperative groups, positive interdependence being one of the key factors of cooperative learning (Johnson, Johnson, and Holubec, 1998).

Finally, a short test was given to all students. At this stage, students in the control group were requested to work in small groups. They had to answer the test questions collectively. Students in the experimental group were allowed to choose whether to work alone or in small groups. Thus, they were free to choose between cooperative and independent work.

Following reading comprehension questions and tasks, students were invited to comment on their performance and attitudes (Appendix 3). The results showed greater degree of satisfaction in the experimental group than in the control group. Students appreciated the freedom of choice given to them and responded positively (Appendix 4). Contrary to the natural assumption, not only analytical, but also relational learners occasionally chose to work on their own. Further inquiry suggested that the degree of difficulty and nature of

reading material possibly influenced their choice. However, the two analytical learners in the experimental group consistently chose to work alone when they were given the test. This fact was difficult to explain other than by reference to their learning style, because, in general, they did not differ from other students in any obvious way. They were friendly with other students and seemed to enjoy working in small groups. Nevertheless, at the critical moment of test-taking they preferred individual work to cooperation.

3.

The survey of the two groups showed that, to some degree, student satisfaction was determined by the nature of the reading material: many students enjoyed more when they worked with texts which were more accessible. Thus, they felt satisfied. However, it is considered important for educators to achieve an atmosphere of happy, enjoyable learning at the time when students work on challenging tasks. From this perspective, the results of the experimental teaching can be considered satisfactory (Appendix 4). Further study of the results provided by the experimental group indicated that the chosen testing strategy increased the level of the satisfaction of the students (Appendix 5). The learners showed their preference for a style of testing which reflected their learning style. Both relational and analytical students appreciated the opportunity to choose to work either cooperatively or individually.

These observations demonstrate the merit of taking into account the individual differences between learners, in particular their learning styles. It was concluded that some students strongly prefer to work independently, whereas others choose cooperation with others. This fact obviously calls for examining the components and goals of cooperative class tasks and restructuring these tasks in order to accommodate all students' learning styles. This does not mean eliminating or compromising cooperative assignments. Rather, it means looking for components that must be done cooperatively (otherwise the goals might be sacrificed), and those which could be done individually or jointly without sacrificing the goals of the learning experience. Creating options for joint versus individual components of the learning process allows independent learners some flexibility to work on their own, if they choose. At the same time, providing adequate instruction and incentives (such as grading) around the required collaborative aspects of the assignment may enforce collaboration and emphasize the importance of collaboration in the learning process.

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References

- Aronson, E., Blaney, N., Stephan, C., Sikes, J., and Snapp, M. (1978). *The Jigsaw Classroom*. Beverly Hills, CA: Sage Publications.
- Baloché, L. A. (1998). *The Cooperative Classroom: Empowering Learning*. Prentice Hall.
- Call, J. (1988). Expanding the Learning Styles of Japanese Analytic Learners. In Joy M. Reid (ed.),

- Understanding Learning Styles in the Second Language Classroom* (pp. 136–146). Prentice Hall Regents.
- Cheng, M. H. and Banya, K. (1998). Bridging the Gap Between Teaching Styles and learning Styles. In J. M. Reid (ed.), *Understanding Learning Styles in the Second Language Classroom* (pp. 80–85). Prentice Hall Regents.
- Coelho, E. (1996). *Learning Together in the Multicultural Classroom*. Pippin Publishing.
- Eriksson, R. (1993). *Teaching Language Learning*. ACTA Universitatis Gothoburgensis.
- Ely, C. M. and Pease-Avarez, C. (1996). Learning styles and strategies in ESOL: Introduction to the special issue. *TESOL Journal*, 6, 1: 5.
- Heyer, S. (1997). *More True Stories: A High-beginning Reader*. Longman.
- Johnson, D. W., Johnson, R. T. and Holubec, E. J. (1998). *Cooperation in the Classroom*. Interaction Book Company.
- Johnson, D. W. and Johnson, R. T. (1999). *Learning Together and Alone*. Allyn and Bacon.
- Kinsella, K. and Sherak, K. (1998). Designing ESL Classroom Collaboration to Accommodate Diverse Work Styles. In J. M. Reid (ed.), *Understanding Learning Styles in the Second Language Classroom* (pp. 85–99). Prentice Hall Regents.
- Mickulecky, B. S. and Jeffries, L. (1997). *Basic Reading Power*. Longman.
- Neely, R. O. and Alm, D. (1992). Meeting individual needs: A learning styles success story. *The Clearing House*, 66: 109–113.
- Oxford, R. (1996). *Language Learning Strategies Around the World: Crosscultural Perspectives*. Manoa: University of Hawaii Press.
- Oxford, R., Erdman, M. E. and Lavine, R. Z. (1991). Style wars: Teacher-student style conflicts in the language classroom. In S. Magnan (ed.), *Challenges in the 1990s for College Foreign Language Programs* (pp. 1–25). Boston: Heinle & Heinle.
- Putnam, J. W. (ed.) (1998). *Cooperative Learning and Strategies for Inclusion: Celebrating Diversity in the Classroom*. Paul Brookes Publishing Co.
- Reid, J. (1998). Teachers as Perceptual Learning Style Researchers. In J. M. Reid (ed.), *Understanding Learning Styles in the Second Language Classroom* (pp. 15–27). Prentice Hall Regents.

Appendix 1.

Learning Style Survey (adapted from Kinsella and Sherak, 1998 and used with the authors' permission).

Please tick 'Yes' or 'No'	Yes	No
1. When I work in class by myself, I often feel unhappy or bored.
2. When I work by myself in class, I usually work better.
3. I enjoy sharing work with my group members.
4. When I work by myself in class, I can learn more.
5. I like working with one partner (in pairs) the best.
6. Sometimes I enjoy working alone in class.
7. I enjoy talking to one partner the best.
8. When I work with a partner or a small group, I often feel unhappy or bored.
9. When I work with a small group in class, I usually learn better.
10. Usually I like working with a group.
11. When I work with a partner in class, I learn better.
12. I want to choose my partner or group.
13. I like when the teacher makes pairs or groups.
14. I like working with a partner better than alone.
15. I like working in groups with students (not my friends)
16. I hope we will work in groups often.
17. I hope we will not work in groups often.
18. I want to work with my friends only.
19. I hope we will work in pairs often.
20. Usually, working in a group is a waste of time.

Appendix 2.

GROUP SHEET

NAME	TEXT	GRADE
GROUP GRADE:		

How did the group work today?

What could be improved?

Leader's comment:

Appendix 3.*What do you think about your work on today's reading task? Please circle one answer.*

1. It was very easy.
2. It was not easy, but I'm satisfied with my work.
3. It was not easy, and I'm not satisfied.
4. I answered the questions by myself.
5. My partner helped me.
6. Other students helped me.

Appendix 4.

Comments of the students on their work during 14 weeks.

Group	Week	The task was easy	The task was difficult	I'm satisfied	I'm not satisfied
Exper.	1	8	4	9	3
	2	9	3	10	2
	3	6	6	7	5
	4	6	6	8	4
	5	7	5	8	4
	6	9	3	10	2
	7	8	4	9	3
	8	8	4	11	1
	9	5	7	12	0
	10	6	6	12	0
	11	5	7	11	1
	12	7	5	12	0
	13	6	6	12	0
	14	6	6	11	1
Contr.	1	7	5	8	4
	2	8	4	9	3
	3	6	6	6	6
	4	5	7	6	6
	5	6	6	8	4
	6	7	5	7	5
	7	9	4	9	3
	8	8	5	9	3

Contr.	9	4	8	8	4
	10	7	5	8	4
	11	5	7	6	6
	12	6	6	9	3
	13	7	5	8	4
	14	7	5	8	4

Appendix 5.

Comments of the students in the experimental group.

Week	Satisfied	Not satisfied	Worked by myself	Others helped me
1	9	3	2	10
2	10	2	3	9
3	7	5	2	10
4	8	4	4	8
5	8	4	3	9
6	10	2	4	8
7	9	3	4	8
8	11	1	5	7
9	12	0	3	9
10	12	0	4	8
11	11	1	3	9
12	12	0	2	10
13	12	0	2	10
14	11	1	3	9