

Pilot Study of Examining the Effectiveness of Cooperative Learning (CL) vs. Individualistic Learning (IL) in Fashion Illustration Class

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Introduction. Cooperative learning (CL) is the “instructional use of small groups so that students work together to maximize their own and each other’s learning” (Johnson, Johnson, & Holubec, 1993 p.6). CL improves students’ academic achievements more than individualistic learning (IL) when correctly implemented (Felder, 1995). CL as one of approaches of active learning (Keyser, 2000) is widely used in many disciplines; however, it is rarely used in drawing curriculum which is generally individualized. Thus, the purposes of this pilot study were to: (a) fill in the gap and determine whether CL could improve the quality of apparel design students’ works, (b) compare CL and IL teaching methods in a fashion illustration course.

Methods. The sample was 27 students who enrolled in two sections of an introductory

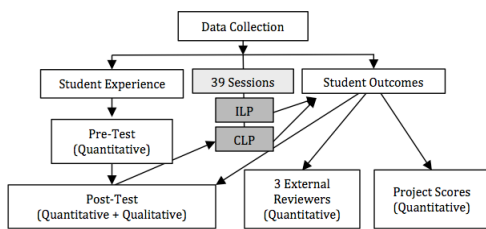


Figure 1. Data collection model

fashion illustration course from a Midwest university in United States. Steps for data collection (Figure 1) included: (a) a pre-test was given to each student to gather information on student’s drawing experiences, comfort level with drawing skills and experiences with material and mediums during the first class period, (b) thirty-nine teaching sessions to build foundational skills in fashion illustration, technical sketching, and creating presentation boards during the semester, (c) an individualistic learning project (ILP) to design a line of six women ensembles in their chosen product category (N=27) given to each student, (d) a cooperative learning project (CLP) required instructor defined groups of 2 to 3 students based on their previous performance and strengths demonstrated in the course (N=11 groups), and (e) a post-test was given following the CLP at the end of the semester. The post-test had the same questions as the pre-test so comparison could be made, but also included quantitative questions and open ended questions about the experiences of ILP and CLP. Due to the sample size for this pilot study only descriptive and frequencies were run on the quantitative data. Qualitative data was analyzed via content analysis, was coded by the two researchers and used constant comparison. The 92% of inter-rater reliability coefficient for coding was calculated as the number of agreement scores divided by the total number of decision scores (Touliatos & Compton, 1988, p. 122). Additional data about the quality of ILP and CLP were collected by having three external reviewers evaluate and select the top ten projects based on a grading rubric, and then the scores of ILP and CLP of each student were compared in order to examine the effectiveness of CL.

Results. The results of student experience show that 44% students (N=12) had drawing instruction prior to taking the fashion illustration class with an average 3 years drawing experience, but none of the students had a specific one fashion illustration course. The three

external evaluators each selected the same two ILPs and two CLPs as the top projects, thus the quality of the ILP and CLP among the best projects has no significant difference. However, according to the instructor’s evaluation of the ILPs and CLPs, the students in the CL condition performed significantly better than those who completed their projects alone (CLP mean score: 96 out of 100, CLP Standard deviation (SD): 2.50; ILP mean score: 92 out of 100, ILP SD: 6.70).

The quantitative data of the post-test shows that the students strongly agreed CL is beneficial in improving the quality of their project. 85% (N=23) of students agreed that *teamwork* is important to a fashion designer, and CL is a good way to practice working in a team environment. More than 70% students agreed that CL improved their *critique* and *communication* skills. Two main themes emerged with associated sub-themes and micro-themes: (a) Advantages of CLP and (b) disadvantages of CLP (Figure 2).

The qualitative results indicate that CL provides fashion design students is an effective means of improving performance, while simultaneously sharing skills, ideas and experience among the team. Individuals who underperformed within groups, demonstrated that lack of communication and time management skills had a direct influence on their progress and performance.

| Main Themes | | | |
|-----------------|--|---------------------|--|
| Advantages | | Disadvantages | |
| Sub themes | Micro themes | Sub themes | Micro themes |
| Efficient | High quality Division of labor Focus | Time management | Uneven division of labor Timeline |
| Collaboration | Brian storming Less stress Synergy Communication Time management Responsibility | Communication | Coordination Irresponsible team member Lack of synergy Lack of critique Compromise |
| Maximize skills | Many ideas Improve skills Creativity Positive outcomes Faster Highlighting strength | Personal aesthetics | Minimize Uncomfortable Not personal aesthetics Hard to collaborate Compromise Fear Synchronicity hard Varied skills Varied work aesthetics Decision making Cohesion Diluted vision Disagreement Varied styles |

Figure 2. Themes of qualitative data

Conclusions. These experimental results confirm that CL can be successfully adopted in a fashion illustration course. There are two major limitations for this study. First, the academic experience (63% students are sophomore) of the students potentially limits the findings because they may not have enough experience working in a team. Second, the sample size was relatively small due to the size of the fashion illustration classes available. The data will be collected by the researchers for several semesters for a larger study.

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