

The Use of Collaborative Testing (CT) among Graduating Baccalaureate Nursing Students

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Introduction

- Collaborative testing (CT) is an active learning strategy, in which students learn and practice together in collaboration.
- CT is also referred as group testing, cooperative testing, dyad testing or double testing.
- It is broadly defined as a “method of collaborative learning in which students work together on a test”
- Research on CT have shown that student’s perception of CT were positive, it gave them opportunities to “bounce ideas off each other” and practice effective communication, and that it increased test scores among nursing students worldwide
- Yet, despite these findings, CT is not a widely used testing strategy in nursing.

Purposes

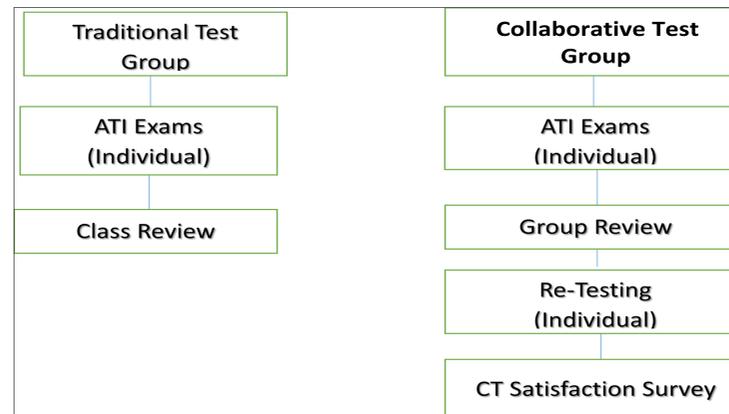
- (1) To compare the mean Assessment Technologies Institute (ATI) Comprehensive Assessment test scores between students taught using CT versus those using traditional pedagogy (control), and
- (2) to evaluate student’s satisfaction on the use of CT.

Method

- **Design:**
 - ❖ Descriptive, correlational and non-equivalent study design
- **Sample:**
 - ❖ Students enrolled in the Essentials of Nursing Practice III during winter 2017 session at our institution were the student participants.
 - ❖ The course had two sections, taught by two nursing faculty members at two different times.
- **Study Protocol:** (see Fig. 1)

Method (Cont’d)

Fig. 1. Group assignments and activities



- **Ethical consideration:** IRB approval obtained
- **Instruments:**
 - ❖ CT satisfaction questionnaire
 - ❖ ATI practice and predictor assessments
- **Data Analysis:**
 - ❖ Paired t-test

Results

- **Students’ characteristics**
 - ❖ The total cohort consisted of 35 students (22 in CT group and 13 in the control group).
 - ❖ The overall mean age was 30.2 +/- 4.9, 82% female; 78% were Caucasians/White and 62% of the students did not have prior clinical experience.
 - ❖ Table 1 presents the demographic characteristics of the students participants.

Table 1. Comparison in demographic characteristics between CT group and control group

Demographic characteristics	CT group (n=22)	Control group (n=13)	p value
Mean age	30 ± 5 years	31.3 ± 4 years	0.3
Gender (%)			0.7
M	14	16	
F	86	68	
Others	0	8	
Missing (did not disclose)	0	8	
Race			0.3
-Asian	9	8	
-Caucasian	74	69	
-Mixed/Others	9	15	
-Missing	9	8	
Prior health care experience			0.7
-Yes	36	42	
-No	84	58	

Results (Cont’d)

- **Difference in scores in CT group**
 - ❖ There is a significant difference in the mean scores between pre-CT and post-CT scores in five areas except management of care (Table 2)
- Table 2. Difference in Pre-and-Post CT Practice Assessment Scores**
- | Practice Assessments | Pre-CT score (Mean) | Post-CT score (Mean) | Difference in scores | Significance (p value) |
|------------------------------|---------------------|----------------------|----------------------|------------------------|
| Basic Care and Comfort | 75 (±11) | 88 (±8) | 14 (±13) | t = -4.7, 19, p<0.01 |
| Management of Care | 78 (±8) | 84 (±6) | 5 (±12) | t = -1.9, 18, p=0.71 |
| Safety and Infection Control | 80 (±12) | 93 (±9) | 13 (±14) | t = -4.2, 20, p<0.01 |
| Physiologic Adaptation | 66 (±16) | 95 (±8) | 31 (±20) | t = -6.6, 17, p<0.01 |
| Psychosocial Integrity | 67 (±15) | 81 (±12) | 13 (±16) | t = -3.5, 18, p=0.02 |
| Pharmacology | 78 (±11) | 93 (±6) | 16 (±13) | t = -5.5, 20, p<0.01 |
- **Difference in Predictor Assessments**
 - ❖ No difference in the comprehensive and leadership predictor assessments’ scores noted between the CT group and control group
 - **Student satisfaction**
 - ❖ 61% of the students rated the usefulness of CT to be high or to an exceptional degree

Discussions and Conclusion

- This study showed that significant pre-and-post difference in ATI scores in the CT group however, no difference was noted in the predictor assessments between the CT group and control group suggesting improvement in short-term memory but not long-term.
- Students perceived CT improved their social skills, retention, critical thinking and clinical reasoning.
- Limitations include: non-equivalent study design, small sample size, students from one university only, lack of student diversity, and CT survey tool is not validated.

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