The Effects of Two-Column Guided Notes on Science Assessment Scores

Introduction

Assessment results are a common indicator of student learning. Much of our time as educators is spent on instruction and delivery of content, but students still need help organizing, studying and preparing for unit assessments. I implemented a two-column, teacher-guided note style and determined the effect on students' assessment results and students' attitudes toward notes.

Conceptual Framework

Assessment scores improve when students take teacher-guided notes (White, 2012). Explicit instruction of the Cornell note style aids students with recall and key word focus. (Donohoo, 2010). When students analyze and develop questions from their notes their recall is better than it is when they simply look over their notes (King, 1992).

Table 1. Class Demographics (*N*=56)

Trait	Comparison Class	Implement. Class
Male	19	18
Female	9	10
Caucasian	17	12
African-American	1	8
Hispanic	5	6
Multi-Ethnic	5	2
Special Ed. (IEP)	4	1

Global Issues – The Class

- Semester-long, science elective
- Comprised of current, scientific world issues
- Four units covered include:
  - Population growth
  - Food production
  - Genetic engineering
  - Cloning

Focus Question	Data Source 1	Data Source 2	Data Source 3
Primary Question Effect of Guided Notes on Assessment Scores	Pre- and Post Unit Assessments Normalized Gains	Weekly Online Quizzes	Weekly Note Checks
Sub-Question 1 Effect of Structured Study Schedule on Assessment Scores	Post Quiz Survey	Weekly Online Quizzes	Post Unit Online Student Survey
Sub-Question 2 How Assessment Results Influence Student Attitudes Toward Notes	Unit Assessment Results Survey Post Quiz Survey	Student Interviews	Teacher Journal

Methodology

- Four units implemented over eleven week period
- One Implementation Class and one Comparison Class
- Procedures and routines were kept consistent for both classes with the exception of the two-column notes in the Implementation Class

Results

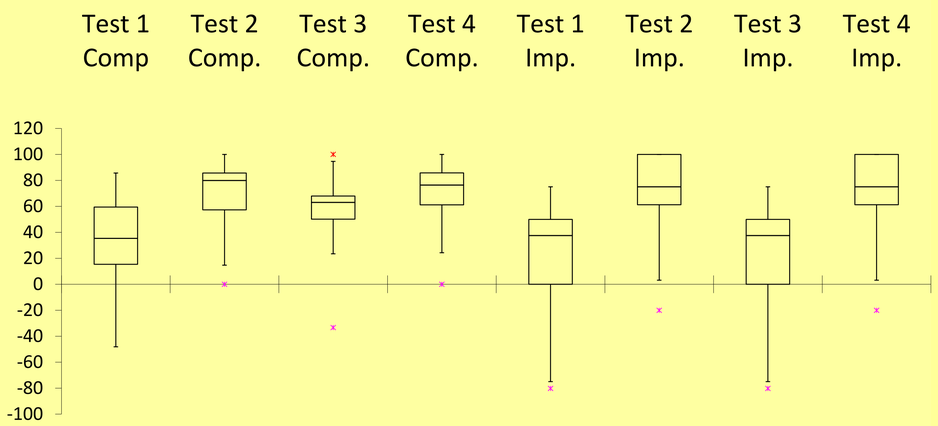


Figure 1. Normalized gains for Comparison and Implementation classes, (*N*=55).
Note. Minimum score of -300 removed from Test 1 Comp.

- Both classes followed a similar trend in normalized gain scores across all four units
- Implementation class consistently showed larger range of normalized gain scores

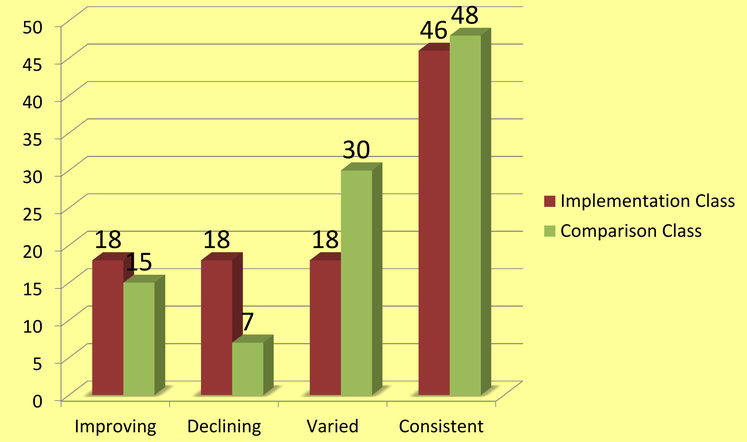


Figure 2. Trend in students' attitudes toward notes, (*N*=55)

- Similar results for improving and consistent attitudes
- Implementation Class showed more declining attitudes
- Consistently higher average quiz score in Implementation Class

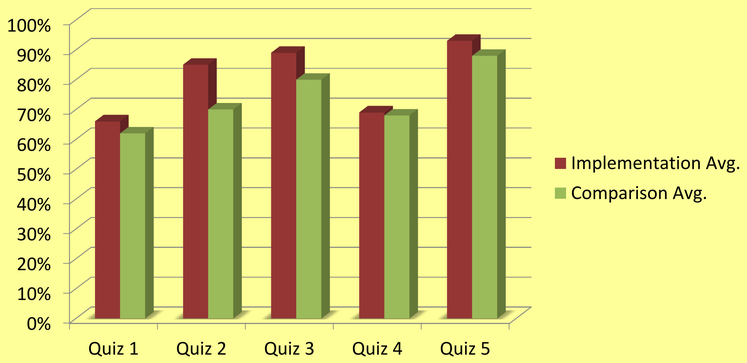


Figure 3. Quiz score results across all units, (*N*=55)

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