The Effects of Immediate Feedback Devices in High School Chemistry Classes

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Research Questions

1) What is the effect of using immediate feedback devices (IFD) on student motivation?
2) What is the effect of using immediate feedback devices on student achievement?
Overview

- Compared 72 students from Fall 2006 (no IFD) to 65 students from Fall 2007 (with IFD)
- 2 month study period – 4 chapters
- 4 tests, 5 lab reports, 35 homework assignments
- Surveys, field notes

Summary of Findings

- One test with statistically significant increase, all others no significance
- One lab report with statistically significant increase, 2 with significant decrease, others no significance
- No statistically significant change in homework scores
Summary of Motivation

Findings

- Students prefer use of IFDs to other review methods
- Students feel IFDs help understanding of chemistry
- Students enjoy use of IFDs
- High overall rating of IFDs as learning tool

Conclusions

- Inconclusive with regards to a change in achievement
- Use of immediate feedback devices helps increase student motivation
- IFDs are a good formative assessment tool
Limitations

- Relatively small sample size
  - Fall 2006 (without IFD) – 72 students
  - Fall 2007 (with IFD) – 65 students
- Short study period – only 2 months
- Comparing different groups of students
- Assuming any change due to use of IFD

Recommendations

- Recommend the use of the IFDs as a review tool
- Recommend IFDs for use as a formative assessment
Further Study

- Will there be an achievement change if IFDs are used over a longer period?
- What will the effects of the IFDs be using a larger sample size?
- Further study of IFDs as a formative assessment tool