Implementation Models for Interteaching

Rachel Helgeson and Ashley Tucker with Drs. Lori Bica and Catya von Károlyi

Psychology Department • University of Wisconsin-Eau Claire

WHAT DO WE KNOW ABOUT INTERTEACHING?

This poster describes an approach to classroom instruction known as interteaching (IT) and discusses evidence documenting its effectiveness in enhancing student engagement and learning. What we know about IT comes from examination of scholarly sources published in peer-reviewed journals between 2002 and 2016, as well as conversations with four UW-Eau Claire instructors who employ IT in their courses.

Limited Review of the Literature

IT, which is based on behavior-analytic principles, can be used in face-to-face, hybrid, or online courses, in any discipline and with students of various ages and ability levels. According to Boyce and Hineline (2002), the typical sequence of a traditional IT session in a face-to-face class proceeds as follows. The instructor first distributes a preparation guide (PG) they developed for the purpose of guiding students through content they will cover during the next class. PGs contain some questions that assess factual knowledge and some emphasizing application and synthesis.

Typically, in the following class session students meet in pairs to discuss PG questions. Although times may vary from class to class, discussion comprises approximately 75% of the class period. While the students engage in discussion, the instructor checks in with students in order to facilitate discussion and support comprehension. Next, students identify challenging content. The instructor will use this feedback to develop a clarifying lecture for the next class. Finally, students rate the quality of their discussions and provide an explanation for these ratings.

In the traditional approach to IT, there is a clear connection between PG questions and the items on a follow-up test. The tests contain several essay questions that come directly from the PGs, as well as items (e.g., multiple choice, short answer) that closely mirror those found in the PGs.

Researchers have investigated the effectiveness of IT relative to other more conventional methods of instruction, in both controlled laboratory settings (Saville, Zinn, & Elliott, 2005) and in typical university classroom settings (Saville, Zinn, Neef, Van Norman, & Ferreri, 2006). Researchers have also investigated IT effectiveness with different student populations (Saville, Pope, Truelove, & Williams, 2012) and across various disciplines (i.e., Goto & Schneider, 2009). Across all studies, IT facilitated learning and resulted in better retention of material compared to other methods.

Saville, Zinn, and Elliott (2005) conclude that this result is due to IT (a) requiring active learning; (b) creating a cooperative learning environment; (c) providing a clear relation between study and test materials; and (d) capitalizing on immediate social reinforcement from both instructor and peers. Furthermore, IT allows students to choose content for subsequent lectures, which may serve as a motivational function (Saville, Zinn, & Elliott).

REFERENCES

Please See Handout

Acknowledgments: We thank LTS for printing this poster. Mostly we wish to thank the instructors who shared their IT experiences with us.

WHAT DID WE HEAR FROM UW-EAU CLAIRE INSTRUCTORS?

We engaged in informal interactions with four instructors who use IT in their courses to learn more about their experiences with UWEC students.

How Instructors Use Interteaching

Two of the instructors followed the traditional approach to IT as described by Boyce and Hineline (2002). Variations employed by the other two instructors included:

- Having students answer different and complementary PG questions rather than answering all of the same questions
- Forming discussion groups of 4-5 students instead of using pairs
- Using Desire 2 Learn (D2L) to conduct initial discussions of PG questions before in-class discussion
- Giving the clarifying lecture the same day as IT instead of during the following class session
- Using assessment measures other than tests in conjunction with IT

Instructor-Identified Benefits and Challenges of Interteaching

Potential Benefits

- Opportunity for student-directed learning and teaching
- Students take an active role in identifying difficult concepts, allowing for effective instructor follow-up
- Positive impact on student engagement
- Students develop greater understanding of course content
- Skill development in written and oral communication
- Enhancement of critical thinking skills
- Students provide feedback about their own and classmates' performance

Potential Challenges

- IT-related logistics (e.g., planning groups, tabulating scores) can be onerous for the instructor
- Success of IT process depends largely on student effort and communication skills
- Student perceptions about the nature and benefits of IT do not always align with instructor perceptions (e.g., some students state they prefer lecture over peer-centered approaches)

Use of Technology with Interteaching

The extent to which the four UWEC instructors employed technology to facilitate IT activities varied from minimal to extensive. Software used included:

- Microsoft Word to create preparation guides
- D2L to facilitate initial discussion of preparation guides
- Qualtrics to collect student ratings of IT performance
- Microsoft Excel to calculate IT scores

SUPPORT FOR INSTRUCTORS

Saville, Lambert, and Robertson (2011) assert that instructors may be aware of the efficacy of IT but may not to use it in their classes for the following reasons: (a) IT may not "fit" with traditional pedagogical practices (e.g., a focus on mastery can raise concerns about possible grade inflation); (b) because of habit--coupled with the lack of time many university faculty have to dedicate to course preparation, given their other responsibilities in the areas of research and service; (c) because students can be resistant to alternative teaching methods; and (d) because some instructors may be hesitant to give up control in their classrooms.

Although none of the four UWEC instructors identified these issues as particularly problematic, we acknowledge these barriers could certainly dissuade other instructors on our campus from considering this approach. CETL can play a critical role in supporting instructors who are interested in employing IT (as well as other innovative approaches) by offering professional development and funding to support course redesign and revision.

An issue that *was* raised by two of our four instructors was the extremely onerous and time-consuming nature of the logistics of implementing IT in large classes. This issue was significant enough to cause them to consider reducing the number of ITs they felt they *could* employ in a course, or even to discontinue the use of IT altogether.

Beyond the development of preparation guides (which could serve multiple semesters), there are repetitive tasks that include, at least, setting up discussion groups, and collecting and calculating scores. Fortunately, technology-based solutions enabled both of these instructors to continue the use of IT in their courses. One instructor began using D2L for preliminary exchanges of information about PG questions, which enabled her to devote more class time to the difficult topics. Both instructors collect scores using Qualtrics, rather than using paper. One instructor researched, developed, and shared a Microsoft Excel workbook that employs a set of advanced Excel techniques that profoundly streamlined the scoring process.

CONCLUSIONS

Based on our limited review of the literature and personal experiences with IT--as students and faculty members--we find there are demonstrated benefits to college students of employing IT in courses. Although there may be logistical issues for instructors, there are many technological solutions which can minimize these. We feel the benefits outweigh the challenges and hope that other instructors at UWEC will consider employing this approach.

IDEAS FOR FUTURE RESEARCH

- ***Why do instructors choose to, or choose not to, employ IT?***
- ***To what extent do IT logistical challenges hinder employing IT techniques?***
- ***What would promote increased use of IT?***
  - ✓ ***Additional evidence?***
  - ✓ ***Training in implementing IT?***
  - ✓ ***Help with technological solutions to the logistical challenges?***