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ABSTRACT

There is evidence of the pedagogical effectiveness of online teaching and the teaching styles that work best with it. However, few studies have looked at the specific pedagogical approaches in relation to specific learning variables such as cognitive components, motivational components, and social components, and the online teaching features that make distance education so useful and preferred by many students. The present study was designed to help establish policies and guide strategies to prepare both students and instructors for distance education. Students (N=189) in a course using Blackboard, a distance learning software package that allows for teaching of courses asynchronously, participated in a study to determine the usefulness of using the various features of the software either as an online course or as a supplement to face-to-face instruction. Preliminary findings indicated that given the format in which the course is taught as well as the academic area, pedagogical use of certain online teaching features varied. Both formats, either completely or partially online, are conducive to learning, but most importantly, students' writing skills seemed to improve more when completing online courses. Several suggestions are given for teachers of psychology on how to enhance a partial or complete online class. (Contains 10 figures and 29 references.) (JDM)

Asynchronous Approaches to Teaching Psychology Courses Online

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Pace University, New York

Presented at

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San Francisco, CA

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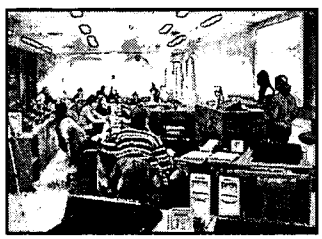
Asynchronous Approaches to Teaching Psychology Courses Online



There is research evidence that point to the pedagogical effectiveness of online teaching and the teaching styles that work best with it, but there have been few studies that have looked at how specific pedagogical approaches used in teaching online in relation to specific learning variables such as cognitive components (e.g., student comprehension, note-taking skills), motivational components (e.g., student interest), social components (e.g., classroom interaction), and the online teaching features used (e.g., discussion board, virtual chat, access on online lectures, etc.) that make distance education so useful and preferred by many students.

Emerging technologies have forced a redefinition of distance education. At the same time, the distance education research agenda has also evolved. The focus has shifted to a more learner-centered approach. Researchers are not merely looking at achievement but are examining learner attributes and perceptions as well as interaction patterns and how these contribute to the overall learning environment. While there is continued interest in distance learning technologies, the focus is not on which medium is best, but on what attributes of the medium can contribute to a positive, equivalent learning experience.

While it is often risky to summarize research in a few sentences, it is also the obligation of those who have studied the literature extensively to provide others with their best estimates of what has been reported. The distance education literature has several characteristics that make summarization difficult. The largely anecdotal nature of distance education literature makes it difficult to generalize. Widely criticized comparison studies continue to be popular. Comparing the achievements of distance learners with those of traditional learners or between distance learners using different technologies appear to continue to show "no significant difference." Subjects tend to be highly motivated, with adult learners providing little help in generalizing to other populations. In spite of these limitations, it is possible to draw the following tentative conclusions from the research literature. Although these summary statements should be interpreted skeptically, they are supported by the literature.

- Distance education is just as effective as traditional education in regard to learner outcomes (e.g., Bramble & Martin, 1995; Bruning, Landis, Hoffman, & Grosskopf, 1993; Cheng, Lehman, & Armstrong, 1991; Clark, 1983, 1984; Martin & Rainey, 1993).
- Distance education learners generally have more favorable attitude toward distance education than do traditional learners, and distance learners feel they learn as well as if they were in a regular classroom (e.g., Biner, Dean, & Mellinger, 1994; Fast, 1995; Jegede & Kirkwood, 1994; Ross, Morrison, Smith, & Cleveland, 1991; and Sorensen, 1995).
- Successful distance education learners tend traditionally to be abstract learners whoa re intrinsically motivated and possess internal locus of control (e.g., Bernt & Bugbee, 1993; Biner, Bink, Huffman, & Dean, 1995; Dille & Mezack, 1991;

Coggins, 1988; Fjortoft, 1995; Garland, 1993; Laube, 1992; Ross & Powell, 1990; and Stone, 1992).

- While interaction seems intuitively important to the learning experience, interaction should not be added without real purpose. Focusing on building collaboration and group interaction may be more important than focusing on individual participation (e.g., Baker, 1995; Bauer & Rezabeck, 1992; May, 1993; Fulford & Zhang, 1993; Schoenfelder, 1995; Souder, 1993; and Zhang & Fulford, 1994)
- Each form of distance education technology has its own advantages and disadvantages in contributing to the overall quality of the learning experience (Ahern & Repman, 1994; Egan, Welch, Page, & Sebastian, 1992; Garrison, 1990; and Tuckey, 1993).

The assessment tool administered to students and their instructors at the end of the course determined the effectiveness of using the various features of a distance learning (DL) software called **Blackboard** (version 5.5) either as a completely online course or a supplement to face-to-face instruction. Psycho-educational variables such as student motivation, comprehension of the material, specific "behaviors" in an online environment (e.g., discussion board postings and responses), outcome measures of learning (e.g., critical thinking, writing skills, comprehension), usage frequency and patterns of specific features of Blackboard, and others were incorporate in the questionnaire.

The assessment tool and protocol procedures generated from this project will be used to establish policies and guide strategies to prepare both students and instructors for distance education. Furthermore, this project will hopefully contribute to the growing trend in instructional psychology and educational technology research. By looking at how students are affected by different pedagogical styles in which online courses are taught and the media attributes provided by distance education technologies, effective teaching strategies might be proposed that will most likely enhance student learning and motivation.

METHOD

Students (N = 189) in courses offered at Pace University during the Fall 2001 semester that use Blackboard, a full-featured distance education software package that allows for the teaching of courses asynchronously, participated in the study. These students belonged to one of 21 courses in various disciplines from four schools.

Sample demographics:

Age:	Mean = 22.57	SD = 5.95	[min. score = 17; max. score = 54]
Gender:	Males = 54	Females = 132	No response: 3
Ethnicity:	Asian:	24	
	Black/African American:	23	
	Hispanic/Latin:	17	
	White/Caucasian:	106	
	Other:	4	
	Choose not to indicate:	11	
	No response:	4	
Year Level:	Freshpersons:	23	
	Sophomores:	39	
	Juniors:	41	
	Seniors:	74	
	Graduate:	8	
	Other:	1	
	No response:	3	
Computer Use per week:	Mean = 21.91	SD = 18.8	
Computer Proficiency:	Mean = 4.49	SD = 1.102	
Use of BlackBoard in previous courses:	Mean = 1.35	SD = 1.45	

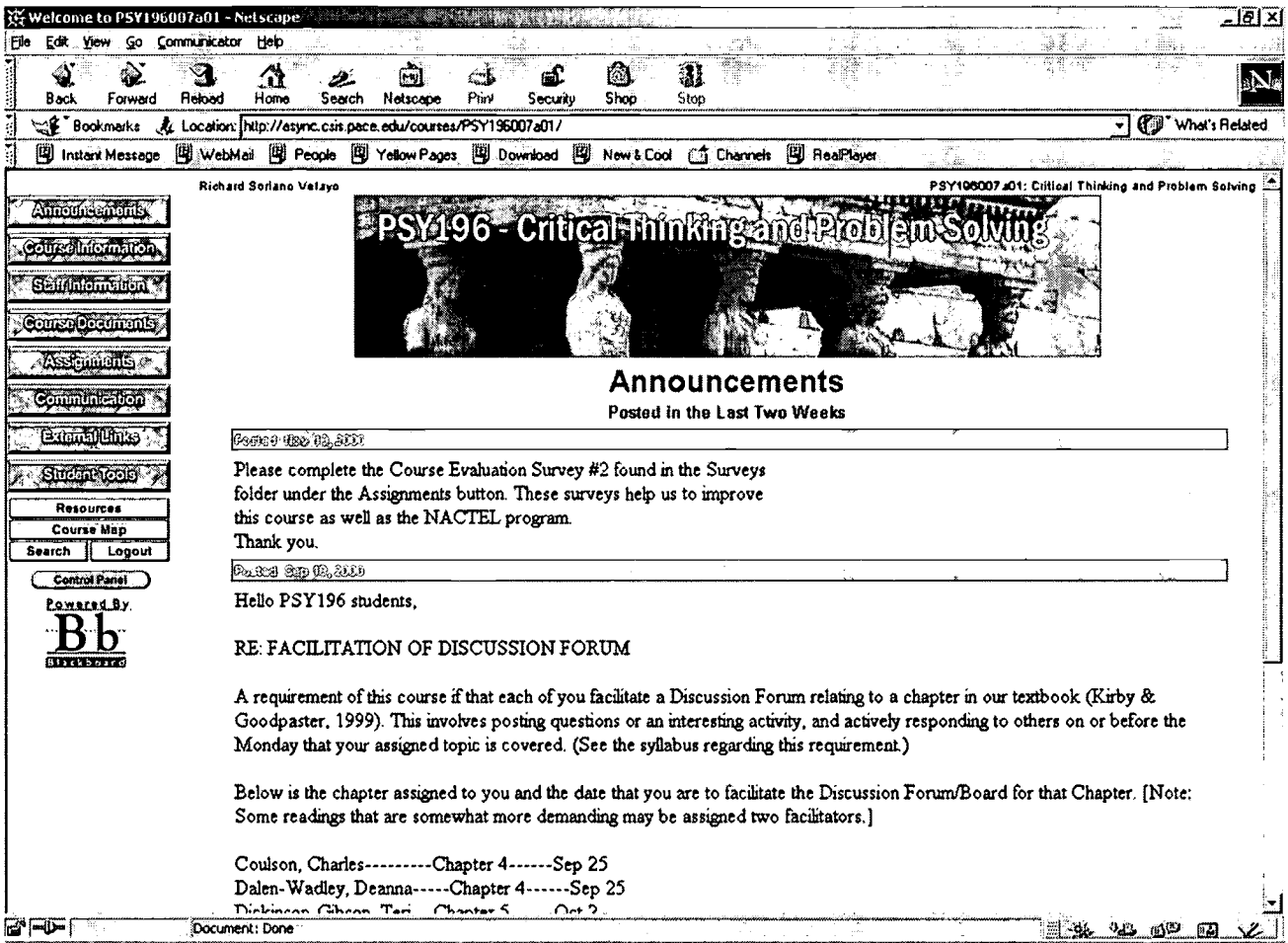
How BlackBoard was used in current course:

124 Supplemental/Hybrid (i.e., some aspect/proportion of the course involves face-to-face instruction with students in addition to using Blackboard)

64 Completely Online (i.e., the course involves NO face-to-face instruction with students, course instruction is totally online/asynchronous using Blackboard)

Students completed the survey, which was made available to them online during the last two weeks of the semester. The survey contained questions regarding demographic information, how the various features of Blackboard are used in the course, measures of perceptions of learning (student comprehension, student interest and motivation, classroom interaction, and presentation of course material), and learning outcomes (course content, class participation, critical thinking, and writing skills). [Note: A copy of the questionnaire may be obtained upon request.]

Figure 1. A sample "Announcements Page" in BlackBoard.



RESULTS

Preliminary findings indicate that given the format in which the course is taught (either completely online or partially online) as well as the academic area (e.g., arts, sciences, business, etc.) pedagogical use of certain features of online teaching varies and that student evaluation of these courses reflects students perceived them. Essentially, both formats are conducive to learning, but the most interesting finding is that writing skills seem to have been enhanced more among students in completely online courses. students look for a "match" in terms of the course requirements and the distance education features that allow them to function effectively in an online learning environment. In addition, given the findings of this study, a list of suggestions will be provided on how to enhance the distance education experience for both student and instructor.

Figure 2. Bar graph showing percentage of student ratings of **most useful feature** of Blackboard.

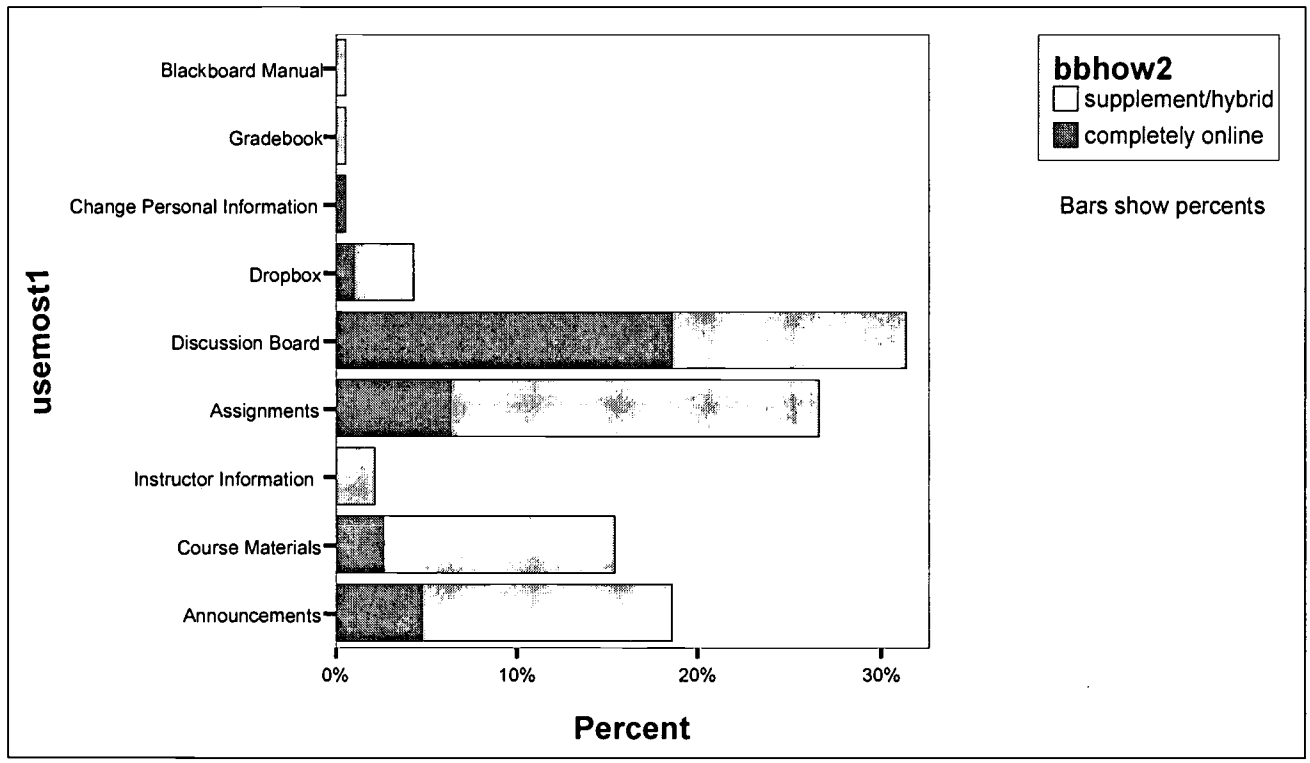


Figure 3. Bar graph showing percentage of student ratings of **second most useful** feature of Blackboard.

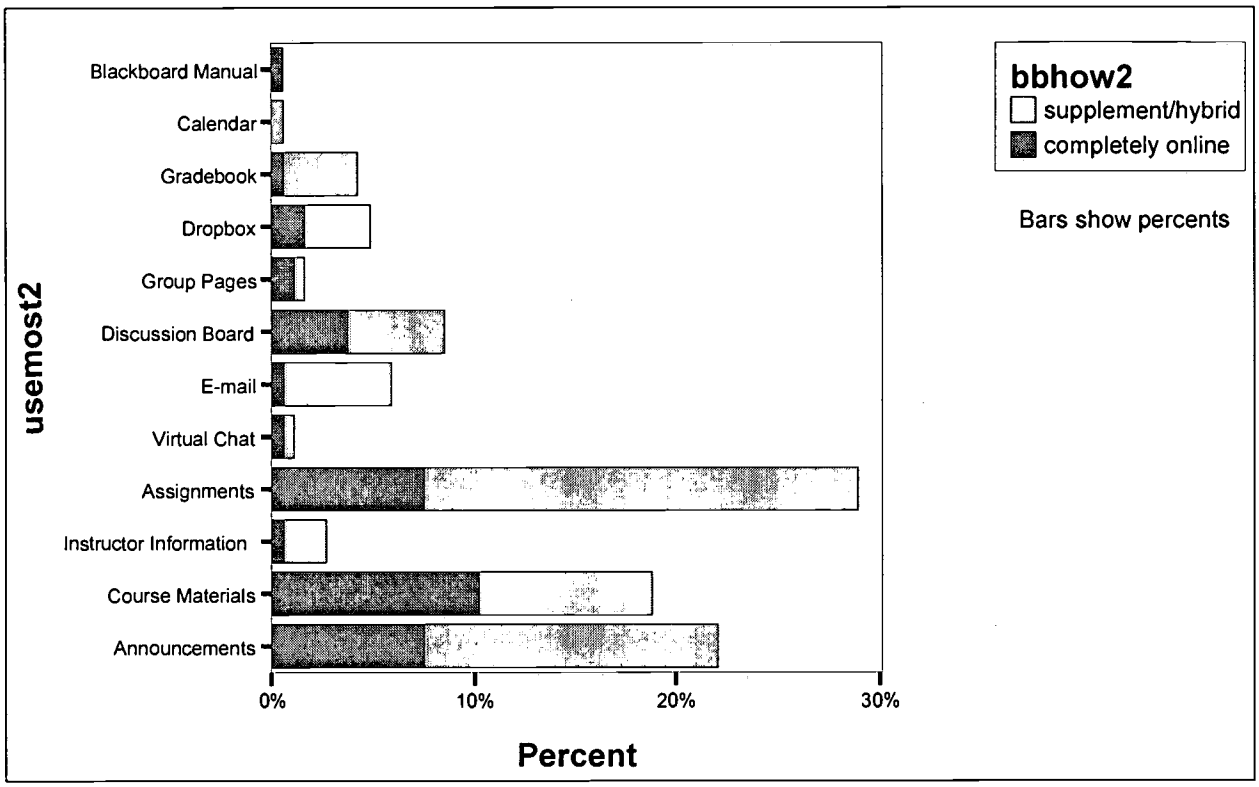


Figure 4. Bar graph showing percentage of student ratings of **least useful** feature of Blackboard.

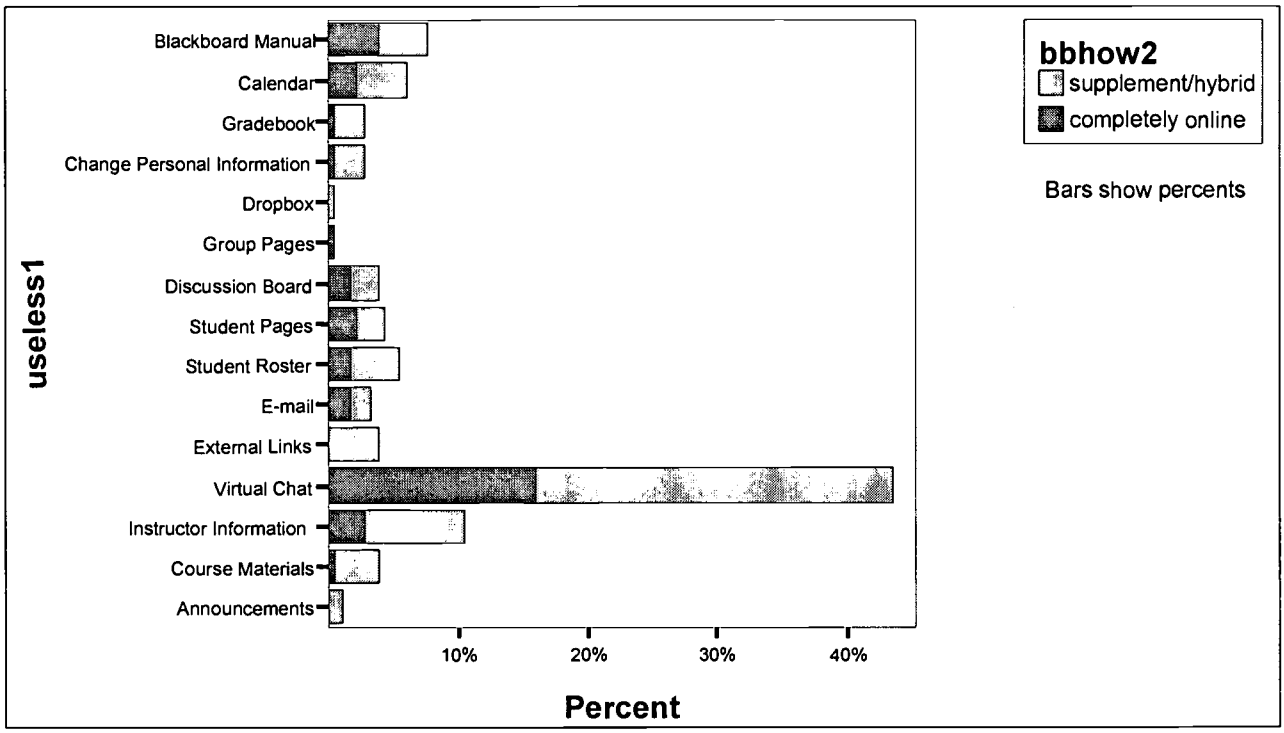


Figure 5. Bar graph showing percentage of student ratings of **second least useful** feature of Blackboard.

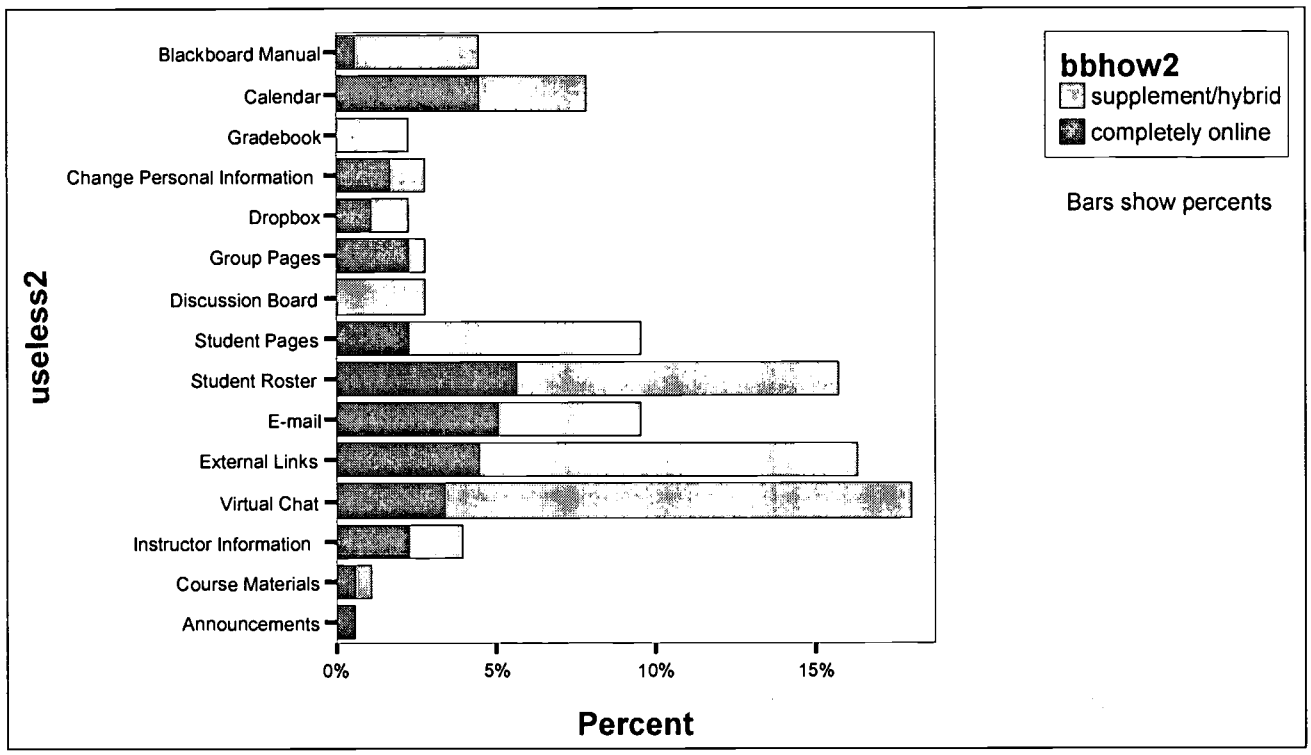


Figure 6. Bar graph showing percentage of student ratings of **most beneficial** feature of Blackboard.

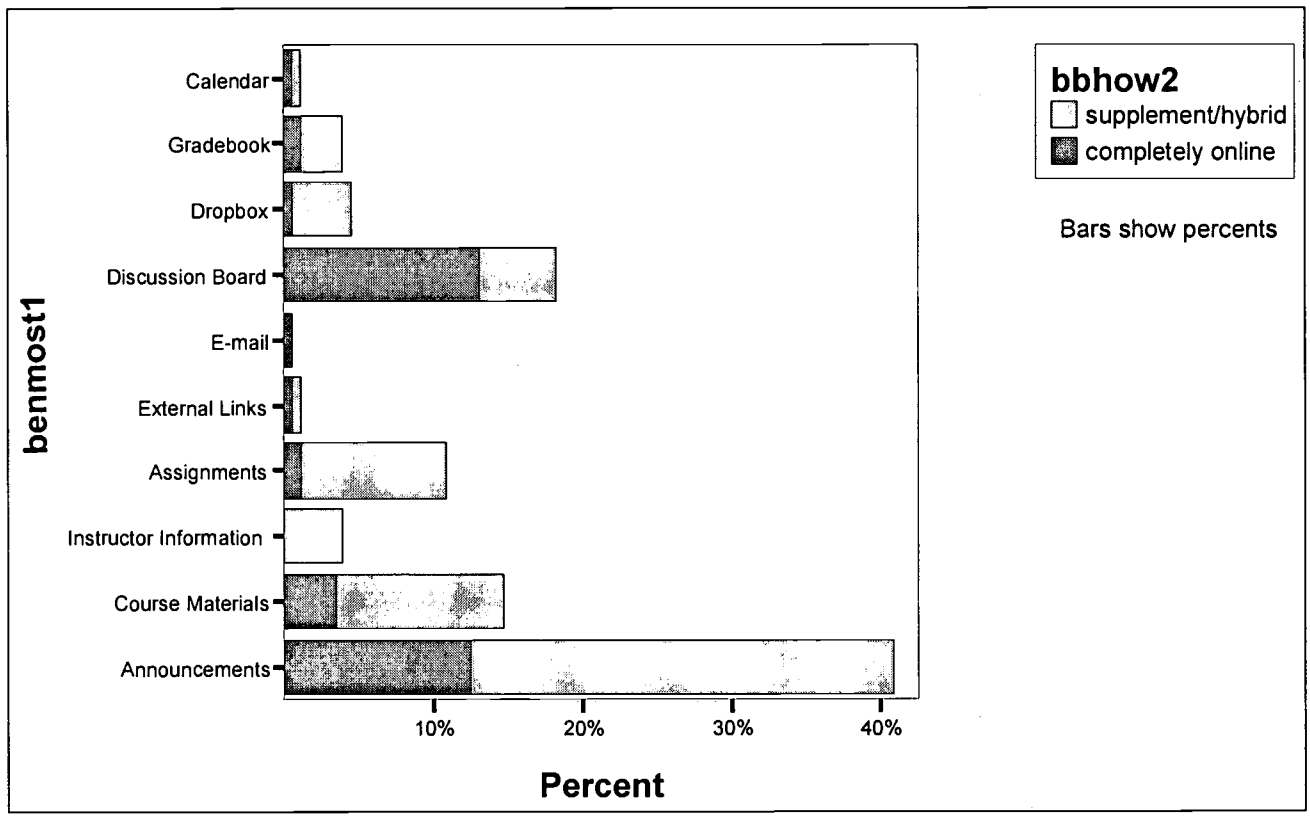


Figure 7. Bar graph showing percentage of student ratings of **second most beneficial** feature of Blackboard.

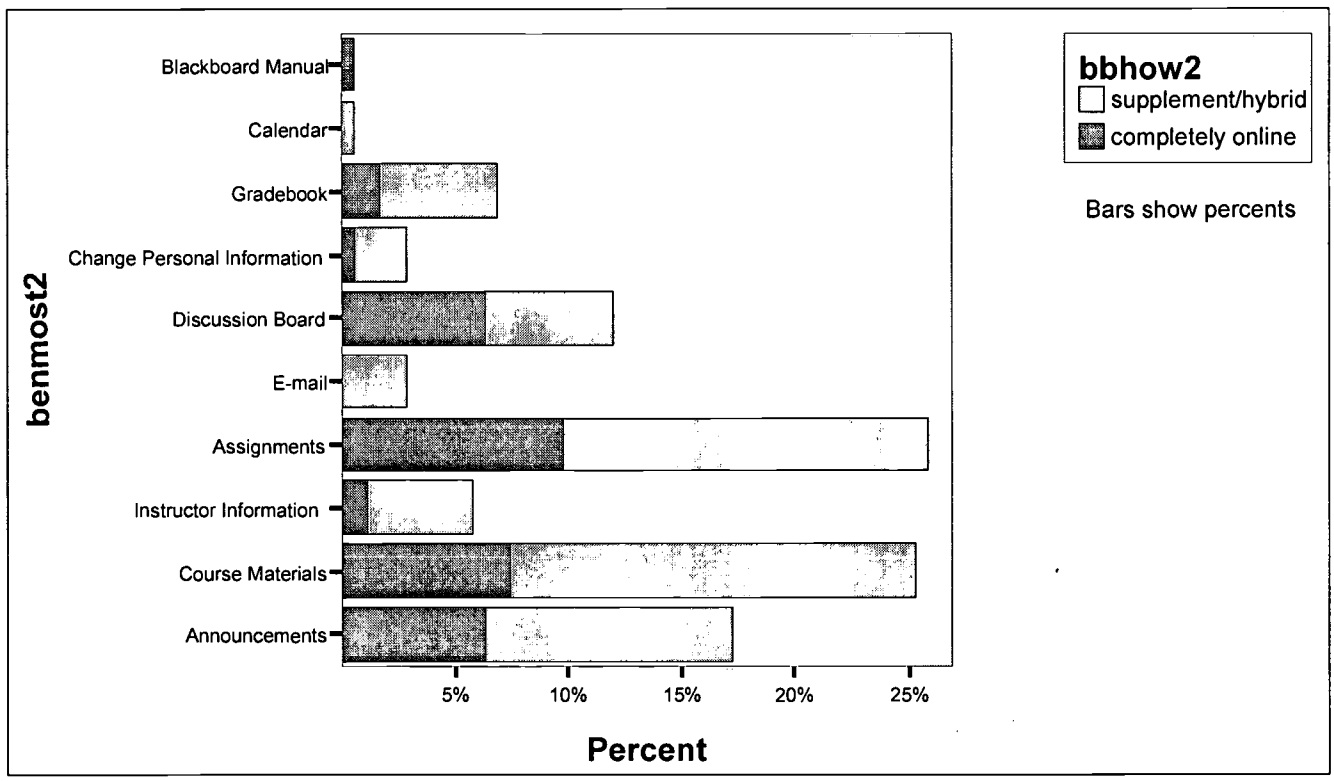


Figure 8. Bar graph showing percentage of student ratings of **least beneficial** feature of Blackboard.

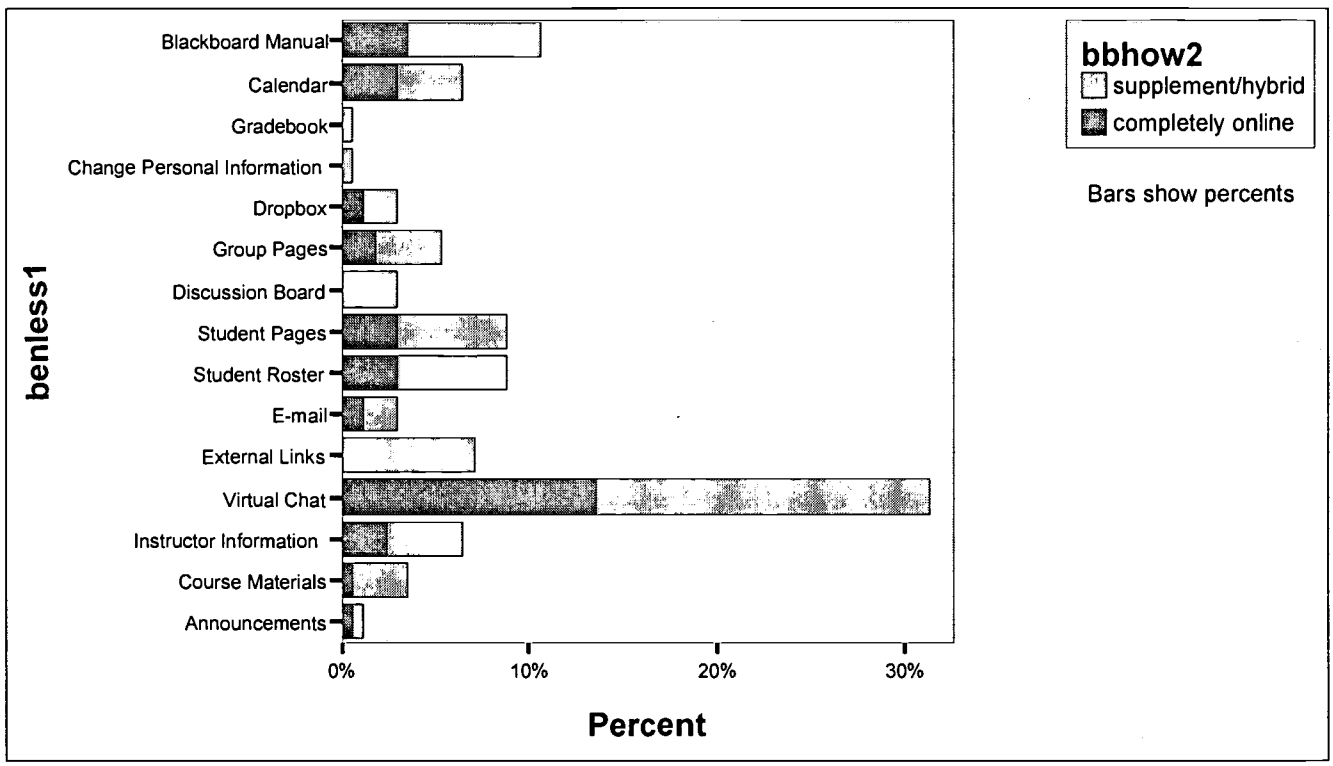


Figure 9. Bar graph showing percentage of student ratings of **second least beneficial** feature of Blackboard.

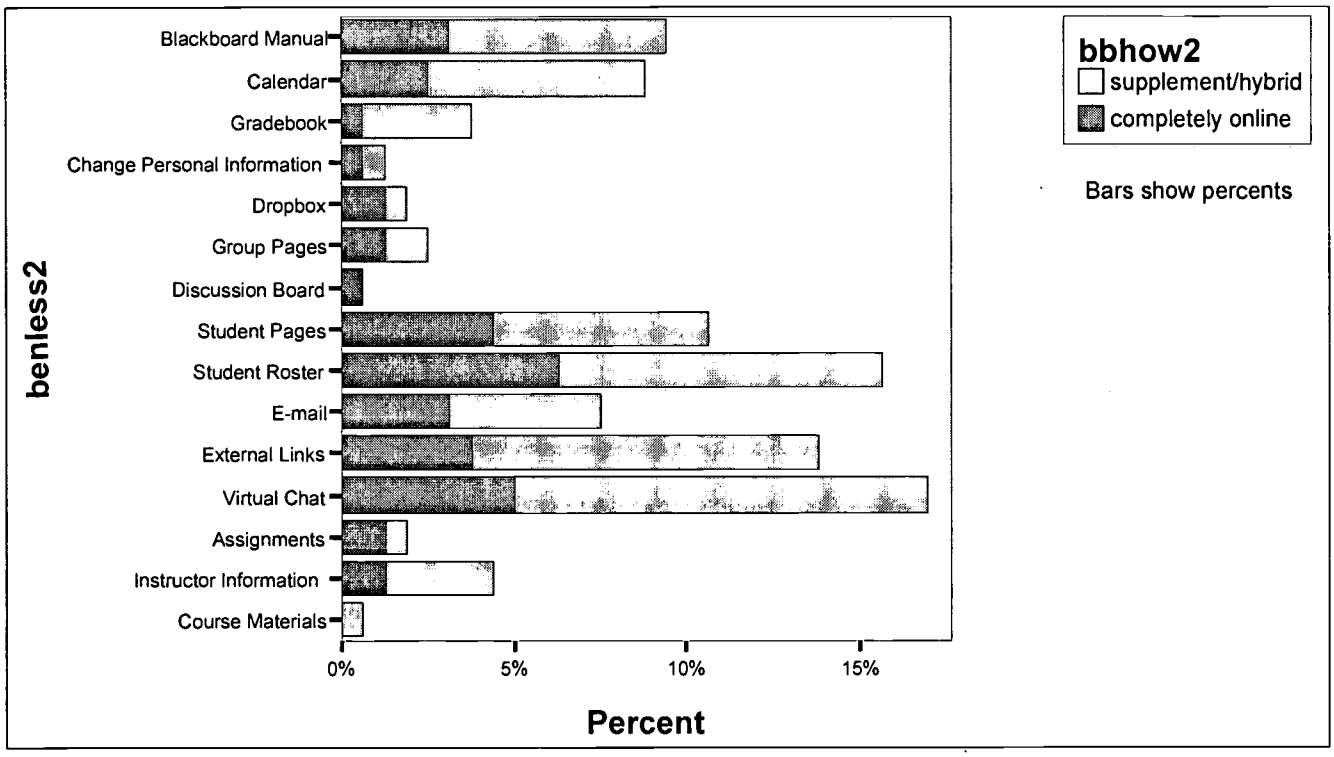
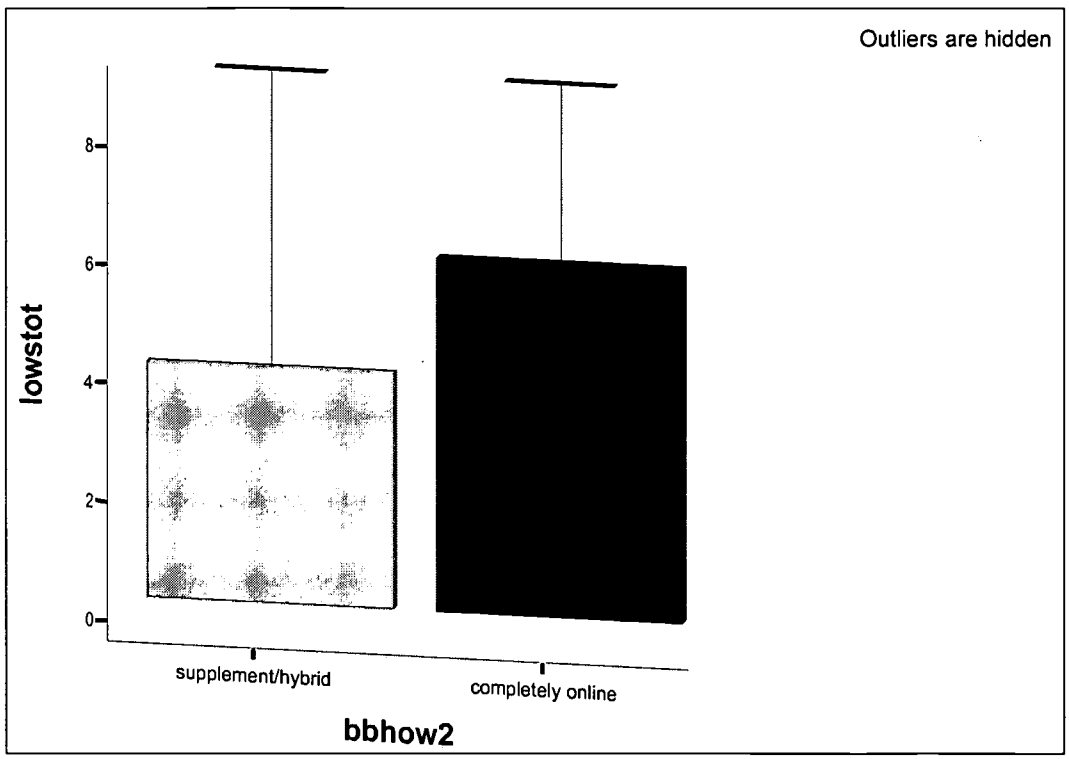


Figure 10. Box plots showing significantly higher development of writing skills for students in completely online courses than those in supplemental/hybrid courses.



TIPS FOR TEACHERS OF PSYCHOLOGY

Given the growing number of psychology instructors using distance learning technologies in their courses, either as a supplement to face-to-face instruction or as a completely online format, it is important that instructors look at the impact of these technologies on student learning and motivation. Instructors of psychology, as with other disciplines, should assess how the various attributes that a distance learning technology can afford to do for the student (and even the teacher) to enhance the learning experience, especially as it relates to learning outcomes. There is no doubt that future research on the educational efficacy of these media attributes, their pedagogical use or applications, and the psychological and demographic characteristics of learners will be major variables that will be investigated further.

Based on my own experience teaching both online and hybrid psychology courses, and on the results of this study, I attempt to provide a few basic useful recommendations to teachers of psychology, from those courses that are more content-laded to skill-based and research-oriented courses. This list is by no means meant to be exhaustive. I believe that these recommendations apply to high school, undergraduate, and graduate level DL courses.

For completely online and supplemental/hybrid courses:

- The Discussion Board, Assignments, Course Materials, and Announcements are the most useful and beneficial features of a DL course. Incorporate their use in the accomplishment of course requirements. Use these features wisely and extensively.
- Other less useful features may be used as needed. If a feature is perceived to complicate how students function in the course, minimize its use, or not to require its use at all.
- Given that learning outcomes relating to Course Content, Class Participation, and Critical Thinking, show no significant differences between Completely Online and Supplemental/Hybrid courses, strategies that may enhance these learning outcomes in the context of a DL environment should be explored.
- Know as much about your students regarding their characteristics that may contribute to how they may adapt to the distance learning (DL) format. (e.g., Internet knowledge and access, previous DL courses taken,)
- Be familiar with the most essential features or media attributes of the DL technology. Early during the course, demonstrate clearly to your students the most useful attributes they will be using to succeed and learn most effectively in the course.
- As an instructor, post assignment, update lecture materials, regularly respond to the Discussion Board postings, and update the online gradebook regularly. This practice models the appropriate expectations you have of your students.
- Have student written projects/papers be made available online so that other students may provide direct feedback to each other about their work. The instructor could facilitate this process. Be an active participant to questions/topics posted.
- Technical support for students is important. Make sure that this is readily and conveniently available to them.

For completely online courses:

- Use the Discussion Board more extensively to foster discussion. Facilitate the online discussion only for the first and/or second course topics. Have students or teams of students post their own questions or topics of interest to them (upon your approval) and have them facilitate the discussion.
- The use of Virtual Chat for office hours or for meetings may prove to be unnecessary. Students often e-mail you if they need to communicate with you about their individual concerns or questions.
- A initial training program on this is crucial to familiarize students with how to use the DL technology to be able to function at a certain basic level.
- Students should be aware of what to expect from your use of the DL technology. Post lecture notes on a weekly basis promptly.
- Create a sense of classroom community early during the course. Encourage students to complete their student pages (homepage), have a discussion on topics that allow them to introduce themselves to each other (including you), and/or have an informal Discussion Board set up for matters that are not specifically course-related.

For supplemental/hybrid courses:

- Make writing a more integral part of the course requirements. Focus on ways to improve student writing skills by making use of the making use of the Discussion Board as a way to continue classroom discussion beyond the classroom.
- Given that you also meet students face-to-face, many DL features may not be used. Thus, do not make course requirements contingent on these features that may be unnecessary.

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