Picking Pedagogical Practices Students Prefer: An Analysis of the Effectiveness of Teaching Tools in Face-to-Face Versus Online Delivery

Kenneth Henderson, Morehead State University - Morehead, Kentucky, USA
Barbara Lyons, Morehead State University - Morehead, Kentucky, USA
Bruce Grace, Morehead State University - Morehead, Kentucky, USA

ABSTRACT

This study explores graduate student perceptions of fourteen commonly used teaching methods. Convenience samples were drawn from a university exclusively delivering its MBA program via the Internet and a university providing traditional face-to-face classroom instruction. Overall, no significant preference differences were found for nine of the fourteen pedagogical methods. Students enrolled in online classes perceive textbooks, tutorials, and Internet activities as significantly more effective in helping them achieve their educational goals than students enrolled in face-to-face classes. Students enrolled in face-to-face classes rated guest speakers and team presentations as more effective learning tools than their online counterparts. The perceived comparative effectiveness rankings of the alternative teaching tools in assisting higher learning is discussed.

Keyword: learning tools

INTRODUCTION

The composition of university student bodies is changing as adults increasingly enroll in academic programs and traditional, younger students shift to part-time studies in order to work to pay for their education. Market Watch (2013) report that eighty percent of students divide their time between jobs and course work while half of these students need to work in order to pay for their tuitions and other educational costs. Among undergraduates in 2015, 43 percent of full-time students and 78 percent of part-time students were employed (The Condition of Education 2017). Despite these economic pressures, full time undergraduate students comprise 77% of enrollment at 4-year institutions and 39% of enrollment at 2-year institutions (National Center for Education Statistics 2017). To meet the shifting demands of their student population, 77% of accredited institutions of higher education have turned to distance learning programs in order to deliver course work to students separated by time and physical space (Parker, Lenhart, and Moore, 2011). For nearly two decades many universities and colleges have relied on online delivery (Manathunga, 2002; Wernet, Olliges, and Delicath, 2000) and the use of internet-based course content to replace classroom instruction has been regarded as a widely accepted practice (Ahern and El-Hindi, 2002; Brower, 2003; Ponzurick, France, and Logar, 2000). Researchers have investigated effective pedagogy utilizing this medium (Ipek and Ziatdinov, 2017). This study examines the fundamental question *Are the needs of the changing student population being met by this electronic method of delivering education?*

Despite a growing body of literature examining learner needs, motivation, and skills, little research has been conducted with regard to student preferences among the multitude of teaching methods. Furthermore, academicians are divided regarding how online course material should be delivered. Some advocate creating online courses that emulate traditional face-to-face classroom experience while others argue that equivalency is impossible because the medium shifts the dynamics of teaching and learning within virtual classrooms (Donovan, Mader, and Shinsky, 2011). One way to gain insight regarding this "equivalency" debate is to simply compare which learning tools face-to-face classroom students and online students prefer. Failure to find significant differences would support the equivalency theorists while significant differences in preferences would suggest that face-to-face classrooms and virtual classrooms should be constructed differently.

This study asked graduate students enrolled in MBA Marketing Management classes delivered either entirely via the Internet or entirely in face-to-face classrooms to evaluate the effectiveness of fourteen alternative learning tools. The remainder of this paper presents the results of this study.

RESEARCH METHOD

Subjects

Subjects were drawn from MBA students enrolled in Marketing Management subjects taught at two large Midwestern universities. One university delivers its graduate program exclusively online while the other university provides traditional face-to-face classroom delivery. The sample drawn from the online program consisted of 84 students and the face-to-face classroom sample consisted of 42 students. Both groups were evenly divided by gender. No significant age or GPA differences were found between the comparison groups. The majority of students in both samples were less than 30 years old. The samples significantly differed in years of work experience ($t = 3.05$, $p = .003$) with more online students possessing at least 5 years of employment experience than face-to-face classroom students. Significant differences were also found for the undergraduate majors earned by students ($t = 4.435$, $p < .001$). More face-to-face classroom students entered graduate business school with non-business academic backgrounds than the online comparison sample.

Course instructors administered the questionnaires. Participation in the study was voluntary.

Instrument

A questionnaire was developed to examine student perceptions of the effectiveness of fourteen alternative learning tools to promote higher learning. The fourteen learning tools identified in this study are lectures, textbooks, supplemental reading materials, small group sessions with fellow students, one-on-one meetings with instructor, case studies (three or more pages read prior to class), case scenarios (less than three pages read during class meeting), tutorials, videos and other electronic materials, guest speakers, Internet activities, research papers, role playing, and team presentations. Students evaluated the effectiveness of each of these pedagogical methods using a 3-point scale (very effective, neither effective nor ineffective, very ineffective). Students also ranked these learning tools based on their personal preferences.

RESULTS

An aggregate learning tool effectiveness score was calculated (very effective minus very ineffective = ___ % effective rating) for each of the fourteen pedagogical methods. Overall, online students demonstrate a higher overall satisfaction with existing teaching methods than in-class students. Interestingly, face-to-face classroom students hold negative perceptions of the effectiveness of textbooks and online activities (i.e. very ineffective exceeded very effective ratings). Table 1 summarizes the overall effective scores of the learning alternative tools.

Table 1: Students' Evaluations of Alternative Learning Tools

Learning Tool	Overall Effectiveness % / Rank	Online MBA Students % / Rank	Face to Face MBA Students % / Rank
Group sessions	46.38 / 1	51.08 / 2	38.40 / 1
One-on-one	44.52 / 2	49.76 / 4	35.60 / 2
Cases	40.53 /3	50.96 / 3	22.80 / 4
Supplemental Reading	38.58 / 4	49.28 / 5	20.40 / 5
Scenarios	37.88 / 5	46.51 / 6	23.20 / 3
Textbooks	32.57 / 6	53.14 / 1	(2.4) / 13
Research papers	30.04 / 7	37.59 / 8	17.20 / 7
Team Presentations	25.97 / 8	32.78 / 10	14.4 / 8
Internet Activities	24.49 / 9	42.89 / 7	(6.80) / 14
Tutorials	23.16 / 10	36.32 / 9	.80 / 11
Lecture	22.69 / 11	31.33 / 12	8.00 / 10
Electronic materials	20.42 / 12	32.20 / 11	.40 / 12
Role playing	17.66 / 13	20.05 / 13	13.60 / 9
Guest speaker	14.38/ 14	10.84 / 14	20.40 / 5

Table 2 lists the rank order of learning tools in terms of student preference (1 = most favorite, 14 = least favorite) and mean score.

Table 2: Students' Rank Order Preferences for Learning Tools

Learning Tool	Overall Preference Ranking Mean / Rank	Online MBA Students Mean / Rank	Face to Face MBA Students Mean / Rank
Lecture	5.22 / 1	4.96 / 2	5.76 / 2
Textbooks	**5.32 / 2***	4.07 / 1	7.85 / 8
Group sessions	5.66 / 3	6.00 / 3	4.98 / 1
Cases	6.15 / 4	6.00 / 3	6.46 / 3
Supplemental Reading	6.82 / 5	6.62 / 5	7.24 / 7
Scenarios	6.93 / 6	6.92 / 6	6.95 / 5
One-on-one	7.13 / 7	7.36 / 8	6.68 / 4
Internet Activities	**8.05 / 8***	7.16 / 7	9.85 / 14
Research papers	8.30 / 9	8.47 / 9	7.95 / 9
Guest speaker	**8.52 / 10***	9.25 / 12	7.02 / 6
Electronic materials	8.87 / 11	8.73 / 11	9.17 / 12
Tutorials	**8.94 / 12***	8.60 / 10	9.61 / 13
Team Presentations	**9.19 / 13***	9.71 / 13	8.15 / 10
Role playing	9.90 / 14	10.27 / 14	9.15 / 11

T-tests between the comparison groups found significant differences in the perceived effectiveness of five pedagogical methods. Students enrolled in online classes perceive textbooks ($t = 4.831$, $p < .001$), tutorials ($t = 1.65$, $p = .10$), and Internet activities ($t = 3.966$, $p < .001$) as significantly more effective in helping them achieve their educational goals than students enrolled in face-to-face classes. Conversely, students enrolled in face-to-face classes rated guest speakers ($t = 3.149$, $p = .002$) and team presentations ($t = 2.146$, $p = .034$) as more effective.

DISCUSSION

Although the sample populations in this study are similar in age, gender, and GPA, students enrolled in the online program are more likely to possess business-related undergraduate degrees and more years of work experience than students enrolled in the face-to-face classroom sample. These students possess pre-existing foundational understanding of the subject material and can apply this material to a broader range of personal business experiences. This combination of tertiary and hands-on business background might shift the learning needs of these students. Students temporally and spatially separated from their universities or colleges who enroll in courses delivered online may be more self-directed. They use textbooks as roadmaps to guide them through the course material and one-on-one tutorials with instructors to clarify topics they do not comprehend. Conversely, students, who lack prior exposure to business courses and have fewer years of workplace experience, may feel more comfortable in face-to-face classroom environments where instructors frequently review textbook content, augment their lectures with experiential anecdotes, and present appropriate foundational information to facilitate understanding. As a result, students enrolled in face-to-face programs may be less dependent on textbooks as a learning tool. Similarly, online delivery lends itself to solitary study. The logistics of organizing group presentations and guest speakers is much more difficult online than in classrooms. Finally, the finding that online students prefer Internet learning activities more than face-to-face students suggests that students choose learning venues that match their preferences.

The results of this study suggest that technological differences between methods for delivering education may render emulating traditional face-to-face classroom experience impossible in virtual classrooms. The different dynamics of teaching and learning within virtual classrooms versus physical classrooms may require instructors to reconsider appropriate pedagogical tools for cyberspace. Simply transferring traditional classroom learning tools to cyber

classrooms may not be the methods that are most appropriate for online student learning.

REFERENCES

Ahern, T.C. and A.E. El-Hindi (2002). Improving the instructional congruency of a computer-mediated small-group discussion: A case study in design and delivery. *Journal of Research on Computing in Education*, 32, 385-400.

Arbaugh, J.B. (2000). Virtual classroom versus physical classroom: An exploratory study of class discussion patterns and student learning in an asynchronous Internet-based MBA course. *Journal of Management Education*, 24, 2, 213-234.

Brower, Holly H. (2003). On Emulating Classroom Discussion in a Distance-Delivered OBHR Course: Creating an On-Line Learning Community. *Academy of Management Learning and Education*, 2, 1, 22-36.

Clark, L.J. (2001). Web-based teaching: A new educational paradigm. *Intercom*, 48, 20-23.

Donovan, Judy; Cynthia E Mader, and John Shinsky (2011). Constructive Student Feedback: Online vs. Traditional Course Evaluations. *Distance Education Report, 1*5, 4, 6-2.

Ipek, Ismail; Rushan Ziatdinov (2017). New Approaches and Trends in the Philosophy of Educational Technology for Learning and Teaching Environments *European **Journal** of Contemporary **Education***, 6, 3, p381-389.

MacKinnon, G.R. (2000). The dilemma of evaluating electronic-discussion groups. *Journal of Research on Computing in Education*, 33, 125-132.

Manathunga, Catherine (2002). Designing Online Learning Modules: An Australian Example of Teacher Education. *International Journal of Instructional Media*, 29, 2, 185-195.

Market Watch (2013) http://www.marketwatch.com/story/nearly-4-out-of-5-students-work-2013-08-07.

National Center for Educational Statistics (NCES) (2017). Characteristics of Post-Secondary Students [Online]. https://nces.ed.gov/programs/coe/indicator_csb.asp.

Parker, Kim, Amanda Lenhart, and Kathleen Moore (2011). The Digital Revolution and Higher Education. Pew Research Center Internet & Technology. http://www.pewinternet.org/2011/08/28/the-digital-revolution-and-higher-education.

Ponzurick, T.G., K.R. France, and C.M. Logar (2000). Delivering graduate marketing education: An analysis of face-to-face versus distance education. *Journal of Marketing Education*, 23, 180-188.

Simonson, M., C. Schlosser, and D. Hanson (1999). Theory and distance education: A new discussion. American *Journal of Distance Education*, 13, 60-75.

The Condition of Education 2017 nces.ed.gov/programs/coe/pdf/coe_ssa.pdf.

Van Dusen, G.C. (1998). Technology: Higher Education's Magic Bullet. http://www.nea.org/he/tanda.html/s98pg59.

Wernet, Stephen P., Ralph H. Olliges, and Timothy A. Delicayh (2000) Postcourse Evaluations of WebCT (Web Course Tools) Classes by Social Work Students. *Research on Social Work Practice*, 10, 4, 487-505.