

Exploring Effect of Instructor's Image on Students' Learning Effectiveness and Experience in Online Quantitative Methods Course

Qingqing Hu*

School of Journalism and Communication, Northwest University, China

**Corresponding author. Email: Hu.qingqing@nwu.edu.cn*

ABSTRACT

The current study investigates ways to improve instructor-student interaction in online teaching. Specifically, we aim to examine effect of instructor's image on students' learning effectiveness and experience in online quantitative methods course. Results indicated that instructor's image as an information cue associated with higher learning effectiveness, and provided both positive and negative learning experiences to students. Findings from the current result add knowledge to our understanding on influence of information and communication technologies in the field of education.

Keywords: *Instructor's image, Learning effectiveness, Learning experience, Online teaching, Quantitative methods course.*

1. INTRODUCTION

During the COVID-19 pandemic, a growing number of online courses have been developed and become accessible to students. Specifically, most Chinese universities changed their teaching from on-campus to online in 2020 spring (Ministry of Education of PRC, 2020). At the beginning stage, many instructors did not have much experience in online teaching, which brought obstacles for their adaptation to not only new technologies, but also changes of instructor roles and pedagogies for online teaching as well. For students, too, it was a difficult acculturation process from offline to online learning environments. In the current study, therefore, we aim to explore ways to improve instructor-student interaction in online teaching. Specifically, we aim to examine effects of instructor's image on students' learning effectiveness and experience in online quantitative methods course.

Literature has discussed a few aspects of new media technologies' influence on the instructor-student interaction. For example, Shuter et al. (2018) examined how the use of ICTs changed classroom power dynamics between students and instructors in India and US. Alwehaibi (2015) studied how the use of YouTube could contribute to foreign language teaching and learning. Prensky (2011) discussed how characteristics

of students as digital natives would bring challenges to traditional teaching. However, there are not many discussions on instructor's image as an information cue in online teaching and its effect on students' learning effectiveness and experience.

In the current study, we apply the media richness theory to explore this under-studied topic. Media richness theory is developed by Daft and Lengel (1986) to examine effectiveness of different communication channels in organizations. According to Daft et al. (1987), media richness depends on four aspects: the abilities to transmit multiple cues simultaneously, give quick feedback, have personal focus, and use of natural language. For example, face to face communication is considered to be "richer" than email correspondence because it carries more information cues (e.g., intonation and facial expression) and enables quicker feedbacks in general. In the context of online teaching, instructor's image is an information cue and an instructor oftentimes has a choice of whether showing it on the screen. However, some instructors chose not being richer for the concern that the image would be a distraction, rather than an informative cue, for student's learning.

The question of "to show or not to show" becomes more complicated when it turns to online quantitative

method course. Quantitative methods course covers statistical concepts (e.g., central tendency and dispersion) as well as statistical analysis procedures (e.g., analysis of variance and regression) and their manipulation with software (e.g., SPSS). As a methodology course, it is structured with clear and progressive logic that requires high and continuous focus from students. On one hand, showing instructor’s image may contribute to a more vivid class and enhance delivery of messages. On the other hand, however, the instructor’s image may distract students from focusing on the main content of the screen, and interrupt with student’s thinking because of the extra information cues like wearing, gesture, facial expression, and so on. There should be more exploration on both positive and negative influence when instructors showing themselves during online teaching. Therefore we propose two research questions in this preliminary study.

RQ₁: How does instructor’s image influence students’ learning effectiveness in online quantitative methods course?

RQ₂: What are students’ positive and negative learning experiences associated with showing instructor’s image in online quantitative methods course?

2. RESEARCH DESIGN AND RESULTS

To explore the first research question, we employed two different conditions on two classes enrolled in an undergraduate-level quantitative methods course in 2020 spring. Participants come from a large public university in west China, with an average age of 19.78 (*SD* = .84). They were all sophomores majored in journalism and communication. While teaching online, the instructor had the camera on (i.e., showing self-image) for class A (*n* = 63) and camera off (i.e., not showing self-image) for class B (*n* = 67). Student’s attendance, mid-term exam, and final exam scores were recorded. GPA was employed as a covariate. Each used a 100-point scale (i.e., 0-100). Assumptions (e.g., homogeneity) were examined before the analysis.

Table 1. Analysis Results on Learning Effectiveness

	<i>df</i> ₁	<i>df</i> ₂	<i>F</i>	Partial η^2
Attendance	1	127	12.42**	.09
Mid-Term Exam	1	127	4.54*	.03
Final Exam	1	127	6.81*	.05

Note. **p* < .05. ***p* < .01. ****p* < .001.

Multiple analyses of covariance (ANCOVA) were performed. The independent variable was instructor’s image during online teaching (1 = showing, 2 = not showing). The dependent variables were students’ attendance, mid-term and final exam scores. Results indicated significant higher scores for class A (i.e., with instructor’s image) for attendance, mid-term exam, and final exam (see table 1), controlling for student’s GPA. Showing instructor’s image when teaching online

quantitative methods course tends to improve students’ learning effectiveness.

We used focus group interview to explore the second research question. Four groups of students were recruited. Each group included 5-6 undergraduate from a large public university in west China who had experiences of taking online quantitative research methods courses. The majority of students majored in business, communication, and social science. Interviewees were asked to provide answers regarding positive and negative learning experiences when their instructors were (not) showing their self-images during online teaching, such as “what are the advantages if you see the instructor’s image during online teaching” and “during online teaching, would it be better if the instructor turn the camera off? Why?”. Each focus group interview lasted 40-60 minutes. Participation was voluntary, and each interviewee received monetary rewards. Answers yielded 16 items (8 each) regarding student’s learning experience in online quantitative methods course (see table 2). When the instructor’s image was shown as an information cue during online teaching, students reported having positive experiences such as (it made the lecture) more vivid, as well as negative experiences like (the instructor’s image is a) distraction.

Table 2. Positive and Negative Experiences

Positive Experience
1. more vivid (e.g., “seeing the instructor is more like in a genuine lecture”)
2. easier to follow (e.g., “I could tell from his facial expression that this is a key point”)
3. more information cues(e.g., “when listing points he could use hand gestures”)
4. more attractive (e.g., “I would like to see the instructor, otherwise it would be too boring”)
5. more credible (e.g., “appearance gives more trust and credibility”)
6. easier accommodation (e.g., “I felt there was no difference”)
7. quicker feedback (e.g., “if his voice stops, I could know what is going on”)
8. more motivated (e.g., “if the instructor is good looking, I will try to get an A”)
Negative Experience
1. distraction (e.g., “I could not focus on the content”)
2. redundant information (e.g., “the instructor’s image took a large space on the screen”)
3. hard to multitask (e.g., “I had difficulty focusing on both parts”)
4. discomfort (e.g., “I felt like being “watched” by the instructor in class”)
5. interruption (e.g., “I was thinking hardly but interrupted by instructors’ movements”)
6. overemphasizing appearance (e.g., “the instructor’s appearance would affect my learning”)
7. bias (e.g., “from appearance I could tell if he/she is a good instructor”)
8. entertainment (e.g., “tired of the instructor’s face after several sessions and want sb. new”)

3. CONCLUSION

In the current study we explored how instructor's image could affect student's learning effectiveness and experience in online quantitative methods course. We found that showing instructor's image associated with higher attendance rate and exam scores. Student's learning experience, however, tended to be more complicated, as both positive and negative perceptions have been addressed. The current study served as a preliminary exploration on effect of instructor's image on online course which, we hope, could contribute to more discussions and knowledge about how technologies influence the instructor-student interaction in the future.

ACKNOWLEDGMENTS

We gratefully acknowledge the helpful comments and suggestions from all the reviewers, which help improved the presentation.

REFERENCES

- [1] China Ministry of Education, Organization and management of online teaching in Colleges and universities during the period of COVID-19 Pandemic, 2020. Retrieved from http://www.moe.gov.cn/jyb_xwfb/gzdt_gzdt/s5987/202002/t20200205_418131.html
- [2] H. O. Alwehaibi, The impact of using Youtube in EFL classroom on enhancing EFL students' content learning, *Journal of College Teaching & Learning (TLC)*, 2015, 12(2), pp. 121-126.
- [3] M. Prensky, Digital natives, digital immigrants, *On the horizon*, 2001, 9(5).
- [4] R. L. Daft, R. H. Lengel, Organizational information requirements, media richness and structural design, *Management science*, 1986, 32(5), pp. 554-571.
- [5] R. L. Daft, R. H. Lengel, L. K. Trevino, Message equivocality, media selection, and manager performance: Implications for information systems, *MIS quarterly*, 1987, pp. 355-366.
- [6] R. Shuter, U. Dutta, P. Cheong, Y. Chen, J. Shuter, Digital behavior of university students in India and the US: Cultural values and communication technologies in the classroom., *Western Journal of Communication*, 2018, 82(2), pp. 160-180.