Lecturing Themes for the 21st Century: A Literature Review

Aubrie Adams

Esther Hauser

Antoinette Manuel

Morgan Murphy

Brenda Paredes

Communication Studies 222

California State University Sacramento

Abstract

This research examined the literature available on the topic of lecturing over the past decade. Through an expansive review of 28 scholarly articles dating from 2000 to 2011, it was found that four prevalent research themes have been widely studied across the instructional communication field: 1. traditional lectures; 2. effects of lecturing styles; 3. computer mediated lectures; and 4. innovative lectures. For each emergent theme we additionally reported upon 3 consistent concepts: 1. a summary of the most recent literature; 2. the current research methodologies; and 3. best practices within instructional communication. From our analysis, a pedagogical shift seems apparent; no longer is lecturing only available through traditional means using a Cartesian approach, in the modern era, lecturing can take place through technological and innovative methods which enhance the teaching and learning process.

Keywords: instructional communication, traditional lectures, effects of lecturing styles, computer mediated lectures, innovative lectures.

Introduction

Throughout history, innovative instructors have used the art of lecturing as a tool to open minds and create shared knowledge. From ancient Greece to modern America, creative and passionate lecturers have served a profound role; in fact, "the lecture platform represents an important form of force…serving to unite sections of the nation, to enlighten millions of persons who would probably have had few other means – at least as efficient – until the turn of the century" (Hance, 1944, p. 270). However, lecturing has often been associated with negative stereotypes. Perceived as long, impersonal, uninterrupted talks by a single individual (Kougl, 1997), one begins to question the effective utilization of lectures in the teaching and learning process. Nevertheless, "lecturing can be the most effective way that a teacher can impart information to a class…it is through the lecture that a professor can synthesize all the disparate ideas and knowledge" (Major, 2011, para. 4). Clearly, the concept of lecturing has caused mixed scholarly reactions and controversial discussions throughout academic research.

Within the last decade of instructional research a diverse body of literature has revealed numerous studies on topics relating to the lecturing process. Through a review of these collected works, four re-occurring themes have emerged: 1. traditional lectures; 2. effects of lecturing styles; 3. computer mediated lectures; and 4. innovative lectures. These four domains appear to be the most commonly researched lecture related topics of the decade.

While reviewing these four topics, the following question became of scholarly concern: do communication researchers pay attention to the central notion of communication within the instructional literature? Because the topic of communication is of paramount importance within the teaching and learning process, this question was of critical concern throughout our research analysis.

Method

The methodology of this examination utilized a literature review of 28 articles with dates ranging from 2000 to 2011. During the review process, our team of 5 researchers attentively approached each article from an evaluative angle in which we questioned the role of communication displayed within learning processes. Assuming each article would propose best practices, we also evaluated what types of methods were the most conducive to learning.

Although there is a diverse body of literature on the topic of lecturing, we narrowed our focus and specifically sought out articles which highlighted the four previously specified emergent themes. As we evaluated the research in each theme, we sought to uncover the following key components: 1. a summary of the research; 2. the methodology; and 3. best teaching practices. Using this structure as our guide, we analyzed the relevant articles.

Literature Review

As mentioned, the following four themes represented the most researched areas within lecturing topics: 1. traditional lectures; 2. effects of lecturing styles; 3. computer mediated lectures; and 4. innovative lectures. Each theme was dissected and evaluated in the below report.

1. Traditional Lectures

The traditional lecture approach often consists of a teacher centered methodology in a face to face capacity (Berry, 2008). Numerous college professors practicing the traditional lecture strategy fall into a pattern of talking at their students rather than inviting them into the conversation. Smit (2009), Kahl, and Venette (2010) all emphasize that the traditional role of an instructor is to stand in front of their students and recite a broad range of information without engagement or allowing for active learning.

Given the prevalence of this prescribed lecturing, there has been a shift in student motives to attend lectures; in the past, students attended with the intention of gaining new and meaningful knowledge, however, the incentive in attending lectures now is to get the current information needed to pass the assessment (Rolfe, 2002, Dolnicar, 2005). In these types of lecture environments, the formal style of lecturing alone is not proven to be effective.

However, researchers have instead found that combining traditional methods of lecturing with learner centered methodologies can be a more productive approach. When instructors allow for a brief traditional lecture followed by discussions, group work, or application, students demonstrate a better understanding of the material (Wulff & Wulff, 2004). Knight and Wood (2005) additionally sought to replace some lecture time with "interactive engagement and cooperative work" (Knight & Wood, 2005, p. 298). Indeed, as instructors have labored to accommodate learners, the structure of lectures has taken on more innovative techniques.

Traditional lecture research methodologies. Through this investigation it was found that researchers have used both quantitative and qualitative measures separately and collaboratively. One study in particular looked at using communication as a platform for course design. In this example, researchers examined the effects of using communication to "align the content and the students…through lectures and, problem solving activities" (Wulff & Wulff, 2004, p. 94). This is one demonstration in which the role of communication was given a spotlight in the learning process. In fact, the literature generally tends to acknowledge the role of communication in some way; scholars found that when instructors were able to communicate effectively, they were able to create important opportunities to enhance learning. When instructors used more dialogic techniques (rather than monologic), better results were produced (Knight & Wood, 2005).

Traditional lecture best practices. It was common among the literature that a combination of lecturing and student involvement was necessary in the classroom. As mentioned, traditional lectures can be an efficient and valuable tool if used correctly. Cavanagh (2011) found that: "students valued the mix of traditional lecturing and cooperative learning tasks, particularly the variety of activities…and the authenticity of the tasks" (Cavanagh, 2011, p. 23). Therefore, traditional lecturing should not have a negative stigma attached to it. Instead, if lecturing is supplemented with alternative teaching styles, it can be positive and effective.

2. Effects within Lecture Research

The second predominant theme which emerged in the lecture literature focused on a more experimental body of research. This literature sought to examine how specific teacher skills and methods affected various student learning outcomes. For example, Chesebro and McCroskey (2000) examined teacher clarity to understand the impact this skill had on student recall of lecture material. These researchers' findings concluded that students recalled more significant information when they perceived that their teachers practiced a higher level of clarity. In a similar study, Titsworth (2004) examined the effects of teacher behaviors on student outcomes by assessing cognitive learning during lectures. In this study it was hypothesized that teacher immediacy and clarity affected note taking which subsequently affected students' overall performance in the class. Validating Chesebro and McCroskey's claims, Titsworth also found that teachers who utilized clarity in their teaching strategy affected student note-taking and course goals positively. However, what was notable was that highly immediate teachers were found to negatively affect learning outcomes. When teachers were ranked low on the immediacy scale, the students seemed to produce better notes and had better learning outcomes (Titsworth 2004).

The research literature surrounding the effect of teacher behaviors on student outcomes not only discusses monologic lectures, but also dialogic. For example, Goodboy and Myers (2008) stated that lecturing styles should encourage student participation. These researchers found that when teachers engage in confirming behaviors (such as recognition of individual existences, awareness of student worth, etc.), that these behaviors engage their students and motivate them to participate (Goodboy & Myers, 2008). Therefore, teacher behaviors during lectures have the ability to positively or negatively affect students' learning.

Effects of lectures research methodologies. Quantitative approaches seem to be the dominant methodology when researchers are examining lecturing effects. For instance, Chesebro (2000) and Titsworth (2004) both utilized a 2x2 experimental design where teacher clarity and immediacy were manipulated in order to assess student outcomes. Both studies also measured student perceptions using Likert type scales. Goodboy and Myers (2008) also conducted their research by manipulating a series of live lectures and used Likert scales. Each scale aimed at measuring students' perceptions of teacher confirmation and students' motivations to engage in participatory behaviors during lecture.

What seems apparent is that these studies brought in to light notions of communication. For instance, teachers who utilize clarity are utilizing better communication strategies. Both studies conducted by Chesebro and McCroskey (2000) and Titsworth (2004), found a positive relationship between teacher clarity and student outcomes. Goodboy and Myers (2008) also found a positive relationship between teacher behaviors and student outcomes. When students are able to communicate and participate, this leads to greater opportunities for students to make meaning of lecture materials.

Effects of lectures best practices. Teachers who attain and maintain a high level of clarity throughout a lecture produce better student learning outcomes than those who are disorganized. Furthermore, teachers who make an effort to emphasize significant points in a lecture have better chances of transmitting valuable information to students. Positive teacher behaviors (including clarity, organizational cues, and confirmation) invite students to engage in lecture topics, thereby increasing the overall learning experience of a lecture setting. However, research on immediacy is contradictory and may or may not lead to better learning outcomes of students (Chesebro & McCroskey, 2000).

3. Computer Mediated Lectures

Another theme within instructional research is that of the computer mediated classroom. The differences between traditional lectures and computer-mediated lectures were explored in Carrell and Menzel's research (2001). This study examined a traditional live lecture, a videotaped version of the live lecture, and an audio recording of the lecture with an accompanying PowerPoint (PPT) presentation. Results indicated that students perceived that they learned the most from the traditional lecture, while measures reporting on perceived/actual learning showed that there was no significant difference across the three methods of lecture.

Relatedly, there has been a recent proliferation of the use of PPT within lectures (Grabe & Christopherson, 2007). However, Amare (2006) acknowledged an important issue with PPT usage in the classroom: although this study revealed that students had a preference for professors to utilize PPT, results of the study demonstrated that a traditional lecture format instead yielded higher scores on assessments. Additional research brings to light students' perception of PPT novelty: results indicate a tendency for students who view PPT as less novel to attribute less

positive outcomes to their learning and to perceive traditional lectures as more effective at eliciting classroom discussion (Burke, 2008).

As demonstrated research on teacher immediacy is at a variance, and its effect on student learning is still under examination. The introduction and increased adoption of Course Management Systems (CMS) throughout college campuses may be partially to blame for this variance. The shift to online lectures is occurring through CMS (Grabe, 2007). Lecture resources such as, PPT slides, transcripts, podcasts, videos, and notes are being added to courses' CMS in an effort to supplement or replace traditional lecture. In a study focusing on the supplementation of lecture, Marsh and Sink (2010), report that providing access to lecture slides prior to a lecture allows students to take notes more effectively without diminished test scores. Present in the literature is a discrepancy regarding diminished attendance when lecture replacements are offered through a CMS. While Nast, Schäfer-Hesterberg, Zielke, Sterry, and Rzany (2009) report that providing a replacement does not decrease course attendance, Weatherly, Grabe and Arthur (2003) present evidence to the contrary.

The effectiveness of lecture replacement is also under discussion. Dey, Burn, and Gerdes (2009) reported that student responses indicate that online video lecture segments are beneficial, but cannot serve as a valid replacement for traditional lectures. This is in contrast to the research of O'Bannon, Lubke, Beard, and Britt (2011) who find that podcast lectures are as effective as a traditional lecture. However effective or ineffective video and audio formats may be, Grabe (2007) found that the actual usage of podcasts was minimal, and that textual representations of a lecture were more often utilized.

Computer mediated methodologies. The preponderance of research involving computer-mediated lecture is quantitative. Of the research surveyed, only Dey et al. (2009)

employed the use of focus groups to gather qualitative data regarding lecture replacement. The research is overwhelmingly focused on the aspects of student outcomes and perception of medium effectiveness. These foci create a body of research that zeros in on the medium through which communication occurs and not the actual communication that is taking place.

Computer mediated best practices. Historically, lecturers' individual perceptions of computer mediated classrooms have varied dramatically: "from those who refused to use it, to passionate advocates of PowerPoint presentations" (Sutherland & Badger, 2004, p. 277). While valuable, Burke & James, (2008) warn that the novelty of PPT may wear off and that effectiveness will decrease. This concept gains support from Dey et al. (2009) through their statement that incoming students are often more technologically advanced than instructors. Burke suggests that a focus on "*how* PPT is used" (Burke, 2008, p. 290) will prevent current troubles with the technology from being passed onto the next 'novel' lecture aid. Research by Mayer (2001, 2009) suggests ways of improving multimedia learning that attempt to reduce the cognitive load for processing audio, video, and text simultaneously. Inclusion of these types of improvements will enhance computer mediated lectures.

4. Innovative Lectures

As communication education progresses and learners evolve, the need and use of innovative lectures in the classroom has exceedingly increased. This growing theme within the literature showcased the innovative ways professors and students alike are using new and advanced methods to improve learning. For example, Trees and Jackson's (2007) researched the topic of clicker classrooms and student engagement. These researchers found that, "even this basic interactivity has the potential to significantly transform the classroom experience of large enrollment courses" (Trees & Jackson, 2007, p. 22). Through the use of innovative tools such as

clickers, students have greater opportunities to not only interact, contribute, and actively respond, but clickers give instructors a way to assess immediate student understanding.

In another demonstration of innovative lecture styles, Coller and Shernoff (2009) looked at video games usage in a mechanical engineering course to test student engagement. These researchers stated that students who played a specifically designed video game in their homework were more engaged in the course than doing homework in their other engineering courses. These researchers' found that: "students experience higher intellectual intensity, intrinsic motivation, and overall student engagement" when working with these games in their learning process (Coller & Shernoff, 2009, p. 315). Relatedly, Brom, Preuss, and Klement (2011) also looked at computer games in the classroom to assist in engagement and learning. Rather, games would reinforce and be integrated into the lecture versus replacing the lecture. Brom et al. (2011) found that the computer games did help reinforce the lecture. Maskikunis, Panaylotidis, and Burke (2009) noted the same findings in their research on technology in the classroom to enhance engagement. They found that, "interactive lectures that are supported by technology, but that are driven by educational ends, can enhance students' learning" (Maskikunis, Panaylotidis, & Burke, 2009, p. 199).

Innovative lecture methodologies. In this branch of research it seems as if methodologies utilize both quantitative and qualitative methods. However, what seems to be absent is a clear focus on communication in innovative practices. Rather than examining what or how instructors are communicating, this literature mainly focuses on unique ways to improve engagement and active learning; examples where highlighted above in the reports such as the studies which examined gameplay and interactive formats to enhance traditional lecture content (Coller & Shernoff, 2009).

Innovative lecture best practices. Innovative lecturing techniques can take place in a variety of formats, but what seems clear is that these practices are aimed to enhance lecturing through unique tools such as clickers or video games. However, as mentioned previously, Cavanagh (2011) found that when lecturing is mixed with cooperative tasks, discussions, and activities, that lecturing is more effective. Additionally, Berry (2008) sought to combine "the efficiency of lecture with the effectiveness of active learning" (Berry, 2008, p. 149) in new ways to enhance learning outcomes. In these examples it appears that students appreciate and learn from innovation of all types; it does not necessarily have to be related to technology. Students enjoy interacting with one another and doing activities to manage meaning of the lecture content.

Conclusion

In summary, the four emergent themes (traditional, effects, computer mediated, and innovative) reveal the direction that research has shifted throughout the past decade. Despite the prevalence of the Cartesian method as the dominant technique of instruction within early institutions, lecturing in innovative ways is becoming a more prevalent option. Communication is generally a key concept within instructional research and as communication methods in the classroom improve, learning also increases. As lecturers continue to educate the current and next generation of learners, strategies to improve teaching and learning will likely continue on this path of innovation; understanding the role of communication in that process will be of pivotal importance to future researchers.

References

Amare, N. (2006). To slideware or not to slideware: Students' experiences with powerpoint vs. lecture. *Journal of Technical Writing & Communication, 36*(3), 297-308.

Berry, W. (2008). *Surviving lecture: A pedagogical alternative*. College Teaching, 56,149-153.

Brom, C., Preuss, M., & Klement, D. (2011). Are educational computer micro-games engaging and effective for knowledge acquisition at high-schools? A quasi-experimental study. *Computers & Education, 57*(3), 1971-1988. doi: 10.1016/j.compedu.2011.04.007

Burke, L., James, K. (2008). Powerpoint-based lectures in business education: An empirical investigation of student-perceived novelty and effectiveness.*Business Communication Quarterly*, 71(3), 277-296.

Carrell, L. J., & Menzel, K. E. (2001). Variations in Learning, Motivation, and Perceived Immediacy between Live and Distance Education Classrooms. *Communication Education, 50*(3), 230-240.

Cavanagh, M. (2011). Students' experiences of active engagement through cooperative learning activities in lectures. *Active Learning in Higher Education, 12* (1), 23-33. doi: 10.1177/14 69787410387724

Chesebro, J., McCroskey, J. (2000). *The relationship between students' reports of learning and their actual recall of lecture material: A validity test.* Communication Education, 49(3).

Coller, B. D., Shernoff, D. J. (2009) Video game based education in Mechanical Engineering: A look at Student Engagement. *Journal Engineering Education 25(2)*, 308-317

Dey, E.L., Burn, H.E., Gerdes, D. (2009). Bringing the classroom to the web: Effects of using

new technologies to capture and deliver lectures. *Resource of Higher Education, 50*, 377-393. DOI: 10.1007/s11162-009-9124-0

Dolnicar, S. (2005). Should we still lecture or just post examination questions on the web: the nature of the shift towards pragmatism in undergraduate lecture attendance. *Quality in Higher Education, 11*(2), 103-116. DOI: 10.1080/13538320500175027

Goodboy, A. K., & Myers, S. A. (2008). The Effect of Teacher Confirmation on Student Communication and Learning Outcomes. *Communication Education, 57*(2), 153-179. doi: 10.1080/03634520701787777

Grabe, M. & Christopherson, K. (2007). Optional student use of online lecture resources: Resource preferences, performance and lecture attendance. DOI: 10.1111/s.13652729.2007.00228.x

Hance, K. G. (1944). The American lecture platform before 1930. *Quarterly Journal of Speech, 30*(3), 273-279.

Kahl, D.H., Vennette, S. (2010). To lecture or let go: A comparative analysis of student speech outlines from teacher centered and learner centered classrooms. *Communication Teacher, 24*(3), 178-186.

Kougl, K. (1997). *Communicating in the Classroom.* Prospect Heights, ILL: Waveland Press.

Knight, J. K., Wood, W. B. (2005) Teaching More by Lecturing Less. *Cellular Biology Education.* 4(4): 298-310.

Major, D. W. (2011). The art of the lecture. *Rutgers Magazine.* Retrieved from http://magazine.rutgers.edu/features/fall-2011/the-art-of-the-lecture

Marsh, E.J., Sink, H.E. (2010). Access to handouts of presentation slides during lecture: Consequences for learning. *Applied Cognitive Psychology, 24*(5), 691-706. DOI: 10.1002

/acp.1579

Maskikunis, G., Panaylotidis, A., Burke, L. (2009). Changing the nature of lectures using a personal response system. *Innovations in Education and Teaching International, 46*(2), 199-212.

Mayer, R. E. (2001). *Multimedia learning: First Edition*. New York: Cambridge University Press.

Mayer, R. E. (2009). *Multimedia Learning: Second Edition*. Cambridge University Press. Retrieved October 01, 2011, http://csus.eblib.com/patron/FullRecord.aspx?p=424624

Nast, A., Schafer-Hesterberg, G., Zielke, H., Sterry, W., Rzany, B. (2009). Online lectures for students in dermatology: A replacement for traditional teaching or a valuable addition? DOI: 10.1111/j.1468-3083.2009.03246.x

O'Bannon, B. W., Lubke, J. K., Beard, J. L., & Britt, V. G. (2011). Using podcasts to replace lecture: Effects on student achievement. *Computers & Education, 57*(3), 1885-1892. doi: 10.1016/j.compedu.2011.04.001

Rolfe, H. (2002). Students' Demands and Expectations in an Age of Reduced Financial Support: the perspectives of lecturers in four English universities. *Journal of Higher Education Policy & Management, 24*(2), 171-182. doi: 10.1080/1360080022000013491

Smit, T.C. (2009). The academic lecture: Learn to listen or listen to learn? *Nawa Journal of Language and Communication, 3*(1), 1-19.

Sutherland, P., Badger, R. (2004). Lecturers' perceptions of lectures. *Journal of Further & Higher Education, 28*(3), 277-289.

Titsworth, S. (2004). *S*tudents' notetaking: The effects of teacher immediacy and clarity. *Communication Education*, 53(4), 305-320.

Trees, A. R., Jackson, M. H. (2007). The learning environment in clicker classrooms: student processes of learning and involvement in large university-level courses using student response systems. *Learning, Media & Technology, 32* (1), 21-40, doi: 10.1080/17439880601141179

Weatherly J.N., Grabe M. & Arthur E.I.L. (2003) Providing introductory psychology students access to lecture slides via Blackboard 5: a negative impact on exam performance. *Journal of Educational Technology Systems* 31, 463–474.

Wulff, S. S., Wulff, D. H. (2004). "Of Course I'm Communicating; I Lecture Every Day": enhancing teaching and learning in introductory statistics. *Communication Education, 53*(1), 92-103.