

AN EXAMINATION OF THE INFLUENCE OF POWERPOINT LECTURES IN  
HIGHER EDUCATION UPON STUDENT ASSIGNED READING COMPLETION

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*In Partial Fulfillment*

*Of the Requirements for the Degree*

Doctor of Education

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by

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The undersigned, appointed by the Dean of the Graduate School, have examined the dissertation entitled

AN EXAMINATION OF THE INFLUENCE OF POWERPOINT LECTURES IN  
HIGHER EDUCATION UPON STUDENT ASSIGNED READING COMPLETION

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A candidate for the degree of Doctor of Education

And hereby certify that in their opinion it is worthy of acceptance.

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## DEDICATION

*In honor of my parents Viola and James E. Mitchell Sr. for their unwavering commitment to my educational, emotional, and spiritual well being. To my mother's consistent encouragement for obtaining degrees of higher learning and my father's enduring belief I could accomplish anything;*

*To my bride, Deborah Mitchell, for support through countless hours away from home and family, and consolation as the years dragged on which comes only from a soul mate;*

*To Mel and Noma Fanska for loving childcare through the long hours of graduate studies; for Mel Fanska's positive progressive influence on my mind and heart;*

*To my young son James, hoping in time you will understand the time dedicated to this endeavor was necessary for my career and academic growth. We will now be free to run and play;*

*To my students and fellow faculty members who continually demand the very best of me;*

*And most of all, to the great I AM, Jesus Christ, the Lord of my life and the savior of my soul. To Him be all honor and glory for forever and ever.*

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*ABSTRACT*

Abundant research and literature suggest the unreflective use of PowerPoint (PPT)-type presentations to deliver core content in higher education classes may have a negative effect on student learning (Driessnack, 2005; Kinchin et al. 2008; Maxwell, 2007). Many students rely heavily on downloadable notes from electronic delivery to the exclusion of out-of-class assigned reading in preparation for assessment (Driessnack, 2005; Kinchin et al. 2008). Concurrently a continual shift of student focus away from class preparation and self-learning (Clump & Doll, 2007; Lord, 2008; Sappington, Kinsey, & Munsayac, 2002) fosters an environment where students forgo preparation and rely on professors to distill information from texts and render appropriate content conclusions (Adams, 2006; Song et al. 2007). If students do not possess sufficient core information on a subject for class discussions and activities, conceptual change through active learning is hampered

This mixed methods research examined the influence of PowerPoint presentation as a means of delivering content in higher education courses and the influence of this instructional mode on assigned student reading completion. Participants included faculty members and students enrolled in one program discipline area using separate student and

faculty member online surveys, two student focus group sessions, a faculty focus group session, and separate student and faculty interview sessions and document analysis to collect data. Several categories of qualitative research were utilized to understand the unique characteristics of this topic: (a) case study, (b) phenomenology, and (c) grounded theory.

The study findings revealed several emerging themes from student and faculty participants through conceptual mapping: (a) an informational “sifting” generation, (b) differing faculty philosophies of teaching/learning theory, and (c) co-dependence of student motivation and teacher reflective instruction. Overall the research discovered that reflective use of PPT and other student centered learning perspectives could positively impact assigned reading and other characteristics of active learning in the classroom.



# CHAPTER ONE

## INTRODUCTION TO THE STUDY

### Background

The influence of visual technology in teaching has continued to evolve rapidly in the twenty-first century as software developers continue to supply educators and other professionals with an array of computer applications to facilitate classroom learning. Without question, the emergent dominating visual instructional software package in education is Microsoft's PowerPoint (PPT) (Adams, 2006; Cyphert, 2004; Kinchin, Chadha, & Kokotailo, 2008). Although popular with many students and instructors alike, a great debate has raged over the potential negative consequences of uninformed use of PPT and other instructional computer technology to deliver course content during class and how this process may impact student class preparation through assigned reading.

Current literature suggests the ubiquitous and injudicious use of PPT-type presentations, in particular to deliver core content in higher education classes, may have a deleterious effect on student learning (Driessnack, 2005; Kinchin et al. 2008; Maxwell, 2007). Student responses in research studies on classroom and test preparation indicate a heavy reliance on downloadable notes from electronic delivery to the exclusion of out-of-class assigned reading (Driessnack, 2005; Kinchin et al. 2008). The significance of this issue is exacerbated by a continual shift of student focus away from class preparation and self-learning (Clump & Doll, 2007; Lord, 2008; Sappington, Kinsey, & Munsayac, 2002), fostering an environment where students forgo independent research and rely on professors as the sole filtering authority for course content (Adams, 2006; Song, Hannafin, & Hill, 2007). As the development of lifelong learning and primary research

are principles embedded in the college experience, it would seem counterproductive to blindly continue a practice which circumvents educational goals of scholarship, student responsibility, lifelong learning and encouragement of free thought.

### Conceptual Theory in the Study

#### *Conceptual Change Learning as a Lens to Instruction*

Song et al. (2007) theorize that learning involves a change process which involves modifications not only in the amount or type of knowledge in the learner but beliefs about knowledge itself and cognitive relationships to other ideas within the student's conceptual ecology. Conceptual change in the learner, therefore, is a diverse and often complex learning process of restructuring pre-instructional understanding by developing new interpretations in addition to acquiring new information. This method of instruction can have deeper cognitive significance than presentation of facts or processes and reference material which Bereiter (2002) called performance perspective instruction. The perspective of conceptual change is not focused on information memorization to be retrieved from a "mental filing cabinet" (Bereiter, p. 118; Song et al., p. 29), or acquired in a knowledge withdrawal from Freire's "education bank" (Craig & Amernic, 2006 p. 152) solely for assessment agendas, but a continual process of learning and re-learning.

Within a conceptual change framework students can develop alternate viewpoints and, moreover, learn the value of various vantage points in acquiring information, in reasoning and logic, therefore generating purposeful knowledge themselves. Educators can use this lens to evaluate their instruction and effectiveness of student learning facilitating dynamic curriculum and class instruction development (Song et al., 2007).

Conceptual change theory requires instructors to identify key factors which contribute to student learning including (a) explicit communication of teacher's learning activities and student to-be learned expectations; (b) cognitive connections to other concepts and disciplines; (c) affective influences through use of metaphors, analogies, shared experiences and personal beliefs; and (d) motivation (Song et al. 2007). Within the four major theoretical conceptual change models of (a) theory of conceptual change, (b) revisionist theory of conceptual change, (c) teaching for conceptual change, and (d) processes of change, the important role of the instructor and a lack of focus and understanding of conceptual change and the dynamic relationship between teacher and student are recurring themes (Song et al.).

#### *Active Learning*

If students do not possess sufficient core information on a subject for class discussions and activities, conceptual change through active learning is hampered. According to Michael (2007), active learning requires a "building, testing, and repairing of one's model of what is being learned" (p. 42). Active learning, therefore, is difficult to accomplish and classroom time unproductive when students forgo out-of-class preparation, especially required reading (Michael; Michael & Model, 2003) which prepares them for class activities, allowing a deeper understanding and command of knowledge in a discipline. Otherwise, students are simply memorizing facts delivered in class about a subject (Michael). Novak (2002) noted that construction of meaning by learners requires an active process where students seek to learn by integrating new knowledge with previous knowledge. Novak argued "... rote learning is ineffective in

reconstructing cognitive frameworks” because it gives little opportunity for “removing misconceptions and supplanting them with valid conceptions” (p. 557).

Unfortunately, rote mode learning characterized by simple memorization of main ideas from lectures without adequate preparatory reading, class dialogue, and reflection is evolving into a process which discourages active learning (Lord, 2008; Novak, 2002). Michael (2007) and Song et al. (2007) concluded that active learning and advanced instructional activities are extremely difficult without pre-class reading and other class preparation giving students an opportunity to find a cognitive framework from which to grow their knowledge.

#### *Instructional Approaches*

Through analysis of this conceptual change process in teaching and learning, Song et al. (2007) believed theory guidelines may not always be consistent with values and approaches of instructors. Song et al. contend that content and pedagogy are closely intertwined and what and how instructors teach influences how students learn. They posit that teachers may be reluctant to modify instruction, failing to find time for reflection and cause for revision of teaching modes and methods, often oblivious to artifacts of student learning and missed opportunities for conceptual change. Instructors’ epistemic beliefs underlie everyday teaching practices, according to Song et al., because teaching and learning are inextricably linked. Stoner (2007) concurred noting “It is important that students have rich content about which to think, but equally important is understanding how our pedagogical choices and devices shape habits of mind” (p. 238).

### *New Constructivist Approach to PPT Integration and Student Reading*

According to Song et al. (2007), increased identification of teaching strategies is needed to encourage and facilitate learning, in particular the how and when of application. Within these strategies motivational sensitivity was identified as a crucial element as instructors seek novel and interesting features in the learning process. A reliance on what is popular and what is established was clearly the norm but not always the best policy. Finally, Song et al. contend that research should be conducted on how students respond to an instructor's learning strategy revisions.

#### Statement of the Problem

Literature presents overwhelming evidence suggesting many students in higher education are avoiding assigned reading and other class preparatory activities (Clump & Doll, 2007; Lord, 2008; Sappington et al. 2002). Concurrent research indicates the norm for instructors is to provide main course content during class predominantly through a PPT lecture with printed or downloadable notes which students often prefer over assigned reading to use for test preparation (Clump, Bauer, & Bradley, 2004; Craig & Americ, 2006; Driessnack, 2005; Kinchin et al. 2008; Sappington et al. 2002; Sikorski, Rich, Saville, Buskist, Drogan & Davis, 2002). If classroom dynamics are, therefore, constrained primarily to PPT delivery of basic information to prepare students for assessment, opportunities may diminish for dialogue, discussion or application, discouraging the active learning process (James, Burke & Hutchins, 2006; Maxwell, 2007; Michael, 2007; Michael & Model, 2003; Novak, 2002; Vallance & Towndrow, 2007). Additionally, if the focus and responsibility of learning shifts entirely from the learner to teacher during PPT use, as some researchers claim (Adams, 2006; Klemm,

2007; Song et al. 2007), the opportunity for a Socratic learning environment is diminished as a linear process of information presentation occurs (Adams; Craig & Americ, 2006; Kinchin et al. 2008; Klemm). If these accusations are correct, the proliferation of this instructional paradigm imposes drastic limitations to optimal learning settings.

First, it appears this current educational method of PPT usage discourages student reading and other forms of class preparation and reduces student responsibility in the education process. Instead of individual self-study preparation, current students expect the instructor not only to summarize all required content material for the class, but to integrate these key points into a PPT presentation, providing printed copies or making lecture notes available for download. Kinchin et al. (2008) confirmed this proposition after “400 structured observations in university teaching across a variety of academic disciplines” (p. 334) finding PPT was predominantly perceived by students as a content delivery tool. Many students believe they do not have the time nor should extend the effort to take extended notes when instructors can deliver main lecture points electronically (Driessnack, 2005). They also have discovered PPT bullet points are often used for test questions, so students concentrate efforts in those areas to the exclusion of other material (Maxwell, 2007). Students believe the most effective ways to secure information needed for exams are usually instructor’s lecture notes (Clump et al. 2004; Sappington et al. 2002; Sikorski et al. 2002).

Clump et al. (2004) found in their research in undergraduate courses different strategies used by students in using textbooks for class preparation are often a predictor of classroom interaction and performance. Unfortunately student reading performance

across academic disciplines has traditionally been low. Lord (2008), noting findings from the 2007 Survey of Student Engagement, highlighted that 20 percent of the 2006 freshman class spent, at most, 15 hours per week preparing for classes, approximately 50 percent of what professors believe is needed for student success. Sikorski et al. (2002), in their study of introductory psychology courses, found most students spent less than three hours per week in class preparation. Burchfield and Sappington (2000) and Clump et al. (2004) found similar decreases in required reading throughout a two-decade-long study of undergraduate and graduate students in psychology courses. Burchfield and Sappington found during their 16-year study on “Any given day, less than a third of students in this population had adequately prepared for class” (Sappington et al. 2002 p. 272). Sikorski et al. (2002) revealed from their study of two universities as many as 69 percent of students did not have the required text for their introductory psychology course.

Second, reliance on rote-mode learning secured from instructor prepared notes falls prey to an “information dump” mentality as the education process is reduced to a system where students believe they can withdraw knowledge from professors like money is withdrawn from a bank (Klemm, 2007). Klemm argued if an instructor’s epistemology of pedagogy is based on this premise, instructors can be drawn into a trap of delivering large amounts of content deemed worthy of student study by utilizing continuous streams of PPT content heavy slides. This behavior is exacerbated if instructors believe current literature which indicates a lack of student preparation though assigned readings encourages an ever larger “dump” of information in lectures. The end result is students

are discouraged from individual reading and research for classroom preparation.

Unfortunately, these are skills they will need to become lifelong learners.

Third, reliance on content delivery from PPT encourages a linearity of thought pattern. PPT lecture format used to deliver core content has often transformed pedagogical behavior from a scaffolding structure encouraging conversation and dialogue in classrooms to a linear presentation of information and materials (Turke, 2004). Usually there is one prescribed appropriate correct beginning and end with PPT allowing little opportunity for alternate views, pathways, or conclusions. Kinchin et al. (2008) noted linear teaching behavior predated PPT's emergence as an instructional computer technology delivery method but posit the software's structure and widespread use in higher education exacerbates the phenomenon.

Finally, PPT promotes the centrality of the instructor as sole authority of relevant information. Adams (2006) warned the linear pattern of PPT increases the dependence on the instructor's point of view. Naïve students tend to believe the central authority figure has the correct knowledge (Song et al. 2007). If students have no prior knowledge base and, are resistant to preparatory class reading, there is often an inevitable acceptance of the information advanced in class culminating in an increased dependence on the professor's point of view (Adams, 2006; Clark, 2008; Kinchin et al. 2008; Valance & Towndrow, 2007). Adams (2007) cautioned new instructional computer technology pedagogy has a: "...set of discursive practices in the classroom, and its formative, mediating influence on how knowledge is being represented, presented, and subsequently held by students" (p. 321). Not only is this detrimental to the classroom environment and personal academic development, but it also establishes an uneasy pattern which could be

duplicated in the other parts of public life: beliefs, relationships, social norms, governance, etc. An environment of decreased responsibility for individual student academic accountability and, therefore, decreased opportunities for a more Socratic style of learning, increases student reliance on the instructor viewpoints and perspectives (Adams 2006; Song et al. 2007).

### Purpose of the Inquiry

The purpose of this study was to examine the relationship between the pervading use of PowerPoint (PPT) by instructors to provide course content used for assessment and diminished completion rates of assigned student reading aimed at class preparation. Specifically, the research design was to ascertain student perception and behavior in preparation for tests when class core content was readily available from classroom PPT notes, handouts, and downloads. This study was performed in a program area in which professors utilized weekly reading quizzes to ascertain student reading compliance in addition to, or as a replacement for, exams.

In addition, the inquiry focused on the reasoning, rationale, and culture of student reading behavior and class preparation in an attempt to postulate an emerging theory on student reading behavior in a PPT-driven class information delivery era. Because the impetus of reading assigned material in college classes is inherently a student decision, it was paramount to examine reading completion rates as reported by students, as well as faculty perceptions accumulated over instructional history.

### Research Questions

The importance of this inquiry was grounded in several questions:

1. How do students use assigned reading for class preparation?

2. How do students use PPT lecture, notes and downloads when preparing for quizzes and tests?
3. What types of course material and process of preparation do instructors normally use in preparing electronic presentations which students may perceive contain assessment information?
4. How does the use of PPT presentations, which provide course content, affect student assigned readings and other traditional class preparation methods?
5. How can the administration of reading assessment quizzes before class discussions encourage assigned reading completion?
6. How can the use of reading assessment quizzes and informed use of PPT encourage assigned reading completion rates and active learning in higher education classrooms?

#### Focus of Previous Research

Although several empirical studies have assessed student satisfaction and test scores of students in courses using electronic delivery (Amare, 2006; Debevec, Shih, & Kashyap, 2006; Grier & Kriener, 2009; Susskind, 2005, 2008; Stark-Wroblewski, Kreiner, Clause, Edelbaum & Ziser, 2006), definitive research remains scarce on the effects of PowerPoint (PPT) use to assigned reading and other traditional class preparation methods in higher education and its impact on student learning (Stark-Wroblewski et al.). The focus of previous PPT research literature, and the majority of PPT effectiveness studies, have been student performance, particularly classroom assessment quizzes and exams. The dominant metric for evaluation of learning for the

majority of research has been student grades. Concurrently, other literature and research have been conducted to ascertain methods to increase student reading in college courses (Burchfield & Sappington, 2000; Clump et al. 2004; Ruscio, 2001; Ryan, 2006; Sappington et al. 2002; Sikorski et al. 2002). These methods, though advancing the growing knowledge of this issue, have not, however, adequately demonstrated if there is a relationship between assigned student reading completion rates for class preparation and the use of PowerPoint lectures to deliver core course content in higher education, particularly if the content is downloadable. Furthermore, inquiry has predominantly been empirical quantitative research without dialogue or discussion of how and why students respond to electronic delivery or student perceptions on reading as preparation for assessment.

#### Limitations and Assumptions

According to Merriam (1998), in qualitative studies where the primary instrument for inquiry is the researcher there are “mistakes...made, opportunities missed, and personal biases inferred” (p. 20). It is, therefore, essential to clearly acknowledge potential limitations, assumptions and other potential weaknesses in a study in an effort to develop rigorous design controls to ensure validity and reliability. These measures help facilitate inquiry which is perceived as “trustworthy” (p. 200) and results which “ring true” (p. 199).

The inquiry was characterized by the following limitations and assumptions.

1. The study occurred in one geographical location involving students in one program area of a mid-sized university in a Midwest state.

2. The study was limited to a graphic-based discipline with students who, in general, regard themselves as visual learners and may not be characteristic of all student perceptions on reading and electronic instruction.

3. The study was limited to mostly qualitative data reliant upon the skills and experience of the researcher and the openness and response of those surveyed, interviewed and in focus groups.

4. Researchers as instructors often have preconceived beliefs on student reading completion and firsthand experience with students who vocally express disdain for reading (Lord, 2008). These inherent biases are balanced by a deep concern for student success and desire to understand this phenomenon highlighted by a growing awareness of its pervasive nature in higher education.

#### Design Controls

Because this inquiry was structured to understand the holistic relationship of instructional delivery to reading response and active learning behavior akin to Merriam's (1998) description of research of "how all parts work together to form a whole" (p. 6), a mixed method research, primarily qualitative in design, was used. Because this study exemplifies some qualities found in several types of qualitative research (case study, phenomenology, etc) but not exclusively one particular type, Merriam's label "basic or generic qualitative study" is appropriate. Merriam noted this type of qualitative research... "which are probably the most common form of qualitative research in education, simply seek to discover and understand that phenomenon, a process, or the perspectives and worldviews of the people involved (p. 11).

Inclusion was also made for survey data to assess relationships of PPT use and student reading behavior as well as overall numeric significance. This method is in harmony, theoretically, as noted by Creswell (2003) as “the situation today is less qualitative versus qualitative and more how research lies somewhere on a continuum between the two” (p. 4). It also agrees with research recommendations of Bullock and Ory (2000) from their studies on electronic instructional evaluation methods and procedures, advocating an elastic hybrid mixed methods approach using a variety of information gathering techniques to determine the ‘why’ as well as the ‘what’ of evaluation.

The research design was emergent. Initial inquiry included triangulation (Creswell, 2003) of data from (a) Likert-type surveys administered to the student sample population of one area of the technology school; (b) focus groups and interviews involving volunteers from the surveyed students designed to generate student dialogue and discussion on PPT use, student reading, and weekly reading assessment; and (c) focus group and interview sessions with all faculty members from the respective technology area to examine specific questions on PPT use, amount of course content delivered using PPT, reading assessment use, perceived student reading behavior, classroom interaction, and other emerging issues. In addition, faculty documents were analyzed to further examine teaching styles and pedagogy. Member checks were utilized to verify interview and focus group comment interpretation accuracy and peer examination was employed allowing program area colleagues to comment on inquiry findings (Merriam, 1998).

## Definition of Key Terms

*Active Learning.* Learning process and/or environment characterized by a “building, testing, and repairing of one’s model of what is being learned” (Michael, 2007, p. 42) requiring some out-of-class preparation, especially required reading (Michael; Michael & Model (2003). The primary responsibility of learning belongs with the student. The teacher’s job is to facilitate or enable the learning process (Michael; Simon, 2001) in which a deeper understanding and command of knowledge occurs in a discipline.

*Conceptual Change Learning.* Predominant of four major theoretical conceptual change models of active learning which requires an active role of instructors in understanding and accommodating the learning needs of students, particularly in class instruction methods and student learning behaviors (Song, et al. 2007). Conceptual change refers to the learning process of restructuring pre-instructional understanding to develop new interpretations and acquire new knowledge (Posner, Strike, Hewson, & Gertzog, 1982).

*Instructional Computer Technology.* An amalgamation of knowledge, design, skill, expertise and equipment focused upon computer hardware, software and peripherals developed and/or integrated for instructional environments.

*Learner-Centered Classroom.* A dynamic approach to education that is responsive to the needs of the learner and produces students who are motivated for success. The learner centered approach focuses on designing instruction that is sensitive to the individual student’s needs, abilities, and interests rather than rigidly tied to the subject

matter. This unique approach emphasizes cooperation, is respectful of the learner, and trusts individuals to be responsible for their own learning (McCombs & Whisler, 1997).

*PowerPoint* (PPT). Strictly and predominantly defined as Microsoft's software application program initially developed for business applications under the name Presenter and sold to Microsoft in 1984 (Tufte, 2003). PPT is designed for public information presentations and ubiquitously used throughout business and education (Adams, 2006). PowerPoint is loosely defined to include PPT and other similarly designed software for public presentations.

*Problem Based Learning*. Problem solving learning is a teaching strategy using groups for classroom interaction often closely related to cooperative or collaborative learning (Michaelson, Knight & Fink, 2004). Most attribute the development of problem based learning to the McMaster Medical School faculty in 1960s as a means of countering an explosion of modern information technology. The process of using class content information in critical thinking exercises and to solve complex problems was soon adopted by other medical schools as the PBL teaching style became adopted by other disciplines and other institutions (Major & Palmer, 2001).

*Socratic Dialogue*. One of the oldest and most cherished methods of teaching designed to develop critical autonomous thinkers dating back to ancient Greece in the schools of Socrates, Aristotle, and Plato. Named after the philosopher Socrates, this dialogue is based on inquiry and debate often with opposing ideas and viewpoints to stimulate creative thought by removing the pretense of certainty. Adams (2006) defined modern Socratic dialogue in higher education as "a form of teaching and learning that involves the flowing juxtaposition of like and unlike ideas over time in complex

discourse” (p.403). More frequently this instructional style in many higher education classes has been simplified to exploratory questioning and subsequent dialogue on course content, application, and ethics. In its modernized form it often includes detailed lesson plans with objective based goals and a thorough understanding of accompanying assignments by students and instructors.

*Survey Monkey.* A proprietary web-based for fee software interface widely used for research allowing confidential and anonymous surveys, analysis, and document rendering using the internet.

*Team-Based Learning.* A team-based learning style attributed to Larry Michaelsen advocating four areas of potential learning impact: (a) understanding course content, (b) applying course content to problem solving activities, (c) developing skills in students for effective teams, and (d) valuing a team approach to solving complex intellectual tasks. Advocated as a preferred method of active learning, especially in comparison to traditional lecture, team based learning and instruction are a fundamentally different method of education allowing a transforming process especially through the development and use of high performance teams (Michaelson, Knight & Fink, 2004).

### Summary

Literature suggests the unreflective widespread use of PowerPoint-type presentations by instructors may have adverse effects on student learning (Driessnack, 2005; Kinchin et al. 2008; Maxwell, 2007). Research studies on classroom and test preparation indicate a heavy reliance on PPT electronic delivery to the exclusion of out-of-class assigned reading (Driessnack, 2005; Kinchin et al. 2008) as student focus continues to move away from class preparation and self-learning (Clump & Doll, 2007;

Lord, 2008; Sappington et al. 2002), circumventing active learning opportunities for student academic and leadership growth.

This study, developed through the conceptual change learning lens, seeks to understand student and faculty perspectives on assigned student reading and what influence PPT use has on student preparation for class and assessments. Moreover, this study was designed to investigate how these two concurrent phenomenon affect active learning in students according to pedagogy methods and styles of the instructor.

The importance of assigned student reading to prepare for active leaning, the often uninformed and extensive use of PPT in delivery of class content and its potential impact upon student class preparation and learning, and the use of concept change as a theoretical lens to understand this phenomenon were presented in Chapter One. Chapter Two contains a review of current literature related to the study. Chapter Three describes the actual research design and tools, method of data analysis, and description of the population and sample. Chapter Four details the results of the study. Finally, in Chapter Five, is a presentation of the findings, conclusions, and further research recommendations of this study.

## CHAPTER 2

### LITERATURE REVIEW

#### Assigned Student Reading for Class Preparation

For practitioners guiding higher education, student reading as a central tool for collegiate growth and lifelong success should be implicit (Sikorski et al., 2002). Most professors continue to find value in assigned textbook reading (Sappington et al. 2002; Young, 2002), especially in content-laden introductory courses, and anticipate students will come to class prepared for active learning (Jenson & Castell, 2004; Ryan, 2006). Ryan echoed the thoughts of many educators: "...we know intuitively that textbook reading not only enhances content comprehension, but that it improves reading comprehension in the discipline overall" (p. 135). Clump et al. (2004) concurred and believed different student strategies in using textbooks for class preparation are often a predictor of classroom interaction and performance. They maintain, however, that students often employ a strategy of minimal effort for class preparation and warned:

Thus students cannot be involved in the type of meaningful learning...in which a student must find the meaning the author presents, decide its significance, learn the meaning, relate the concept to past experiences in order to clarify it, and continue to practice and review what was learned from the textbook material...by merely reading the chapter summaries in a textbook. (p. 227)

Sikorski et al. (2002) summarized, without critical reading aptitude it is unlikely individual learning will occur in college and extend into life.

#### *Student Reluctance to Complete Assigned Readings*

Ryan (2006) argued that the expectation of students understanding the importance of reading in preparation for classes, and actually completing the assignments, is

currently unrealistic. This behavior may evidence (a) students' belief that textbooks are boring and have little value; (b) students do not perceive reading the text will improve grades; or (c) there are more effective ways to secure information needed for exams, especially instructor's lecture notes (Clump et al. 2004; Sappington et al. 2002; Sikorski et al. 2002). Sikorski et al. were particularly concerned with the lack of research findings of how students use texts in course work, especially introductory courses.

Lord (2008), noting results from the 2007 Survey of Student Engagement, highlighted that 20 percent of the 2006 freshman class spent, at most, 15 hours per week preparing for classes, approximately 50 percent of what professors believe is needed for student success. Ten percent of students in the same study commented they spent less than five hours in class preparation. Sikorski et al. (2002), in their study of introductory psychology courses, found most students spent less than three hours per week in class preparation. Burchfield and Sappington (2000) and Clump et al. (2004) found similar decreases in required reading throughout a two-decade-long study of undergraduate and graduate students in psychology courses. Burchfield and Sappington found during their 16-year study on "Any given day, less than a third of students in this population had adequately prepared for class" (Sappington et al. 2002 p. 272). Sikorski et al. revealed from their study of two universities as much as 69% of students did not have the required text for their introductory psychology course. In one of the two institutions nearly 80% of students surveyed said "they had read sparingly or not at all" (Sappington et al. p. 272). Even more alarming, Clump and Doll (2007), in their studies of psychology students, found the same phenomenon in graduate school, where primary research and

investigation are paramount. Burroughs, Kearney, and Plax (1989) called this reluctance to prepare for class a type of “destructive resistance.”

Even when students are informed certain content in readings will have a direct bearing on their future professions, many stumble in their completion rates (Clump et al. 2004). Carkenord (1994) observed this behavior in undergraduate psychology courses and concluded there was little intrinsic motivation or desire by many students to learn. With similar frustration, Lord (2008) claimed many students disdain reading, finding no value in this traditional method of preparing for class. Unfortunately, the unwillingness or inability of students to read effectively for course and career preparation often encourages professors to “dumb down” classes. Young (2002), quoting a director of a higher education student-engagement survey, found evidence of this phenomenon: “There’s an emerging compact between faculty members and students which goes something like, ‘If you don’t bother me too much, I won’t bother you too much—I’ll trade you a B if you trade me some peace of mind’” (p. 4). The director called this behavior the disengagement compact.

#### *Student’s Reliance on Instructor Notes*

This disengaging atmosphere promotes a belief that professors should be responsible for distilling course content, extracting important information, and delivering only key points which become assessment questions (Clump et al. 2004; Ryan, 2006). In extreme cases, becoming all too common, students have actually demanded “Darn it professor. Just tell the class what we need to know to pass the course!” (Lord, 2008 p. 71) In their studies, Sikorski et al. (2002) found a significant majority of students polled believed taking and studying notes without reading assigned material was the most

significant factor for their academic success. Gier and Kreiner (2009), from their research on PowerPoint (PPT) lecture notes, warned a reliance on distilled lecture notes at the exclusion of assigned readings may disadvantage students if they perceive this procedure will produce positive results on exam scores. In this classroom environment, even if students wanted to intelligently discuss opinions or theories on course content, their avoidance of preparatory reading would circumvent any meaningful dialogue (Clump & Doll, 2007).

#### *Student's Beliefs of Instructor Expertise*

Song et al. (2007) and Chan and Elliot (2004) contend students often have naïve beliefs concerning how knowledge is instinctively held by instructional authorities. Teachers have historically been viewed as holding the power position in schools and universities over how knowledge is generated and disseminated (Song et al.). With this understanding, students trust and expect the teacher to organize and summarize course content, presenting only the pertinent factual information needed.

#### *Active Learning*

According to Michael (2007), active learning requires a “building, testing, and repairing of one’s model of what is being learned” (p. 42). Active learning, therefore, is difficult to accomplish and classroom time unproductive when students forgo out-of-class preparation, especially required reading (Michael; Michael & Model, 2003). In this educational paradigm the primary responsibility of learning belongs with the student. The teacher’s job is to facilitate or enable the learning process, as learning can only occur within the learner (Michael; Simon, 2001). Only in this manner can students develop a deeper understanding and command of knowledge in a discipline. Otherwise, students are

simply memorizing facts about a subject (Michael). Novak (2002), in discussions on meaningful learning in mathematics and science, noted construction of meaning by learners requires an active process where students seek to learn by integrating new knowledge with previous knowledge. Novak explained:

... rote learning is ineffective in reconstructing cognitive frameworks, thus “removing” misconceptions and supplanting them with valid conceptions. It also recognizes that only the learner can choose to learn meaningfully and to consciously and deliberately reconstruct his/her cognitive framework. (p. 557)

Unfortunately, rote mode learning characterized by simple memorization of main ideas from lectures without adequate preparatory reading, class dialogue, and reflection is becoming the norm, evolving into a process which discourages active learning (Lord, 2008; Novak). Michael (2007) and Song et al. (2007) concluded active learning and advanced instructional activities are extremely difficult without pre-class reading and other class preparation where students find a cognitive framework from which to grow their knowledge.

#### *Active Class Discussions and Activities Require Prior Knowledge*

Students often admit on reading completion surveys an understanding that completion of the assigned preparation material is one of the most important factors in a decision to participate in class discussions. Those who have not prepared, and consequently have little base knowledge, usually remain quiet and avoid involvement (Clump et al. 2004). Based on their experience in instruction and research of undergraduate psychology courses Sappington et al. (2002) posit: “...deficiency in reading compliance diminishes the potential for class discussions, appreciation of lectures, and mastery of the subject’s content and concept” (p. 274). Jensen and Castell

(2004) warned instruction without class preparation and participation encourages students to believe information is created “in a vacuum” where they are “released from obligations to mobilize prior knowledge of a particular subject matter without having first attempted to follow a more capable other’s work” (p. 324). Song et al. (2007) added students without prior background knowledge on a subject find it is difficult not only to have meaningful dialogue but to effectively participate in instructional activities.

*Completion of Assigned Student Reading Improves Classroom Active Learning*

Conversely, students who prepare for class by reading and other traditional methods are enabled to retain and internalize the instructor’s presentations (Burchfield & Sappington, 2000), providing a framework of meaningful knowledge. Class preparation allows students to become familiar with the nomenclature or jargon used in a discipline to explore historical research and theories, as well as previous practical application, all which become mental building blocks for learning within the constraints of limited class time. This, in turn, facilitates an environment for more active learning. Advanced student preparation frees the teacher from the drudgery of reading or summarizing content allowing opportunities for dialogue and application exercises. John Ruscio (2001), concurring with Burchfield and Sappington, understood the critical importance of student preparation and maintained completion of assigned readings is paramount to productive classroom settings.

*Current Instructional PowerPoint Model May Discourage Active Learning*

Instead of individual self-study preparation, current students, refraining from assigned reading, expect the instructor not only to summarize all required content material for the class, but integrate these key points into a PPT presentation, providing

printed copies or making lecture notes available for download. Kinchin et al. (2008) confirmed this proposition after “400 structured observations in university teaching across a variety of academic disciplines” (p. 334) finding PPT predominantly perceived by students as a content delivery tool. Many students believe they do not have the time nor should extend the effort to take extended notes when instructors can deliver main lecture points electronically (Driessnack, 2005). Moreover, today’s savvy students, perceiving PPT as a primary, if not exclusive, delivery method of course content (Kinchin et al.), discover PPT bullet points are often used for test questions and concentrate efforts in those areas to the exclusion of other material (Maxwell, 2007). PPT lecture format used to deliver core content, therefore, has often altered pedagogical behavior from a scaffolding structure encouraging conversation and dialogue in classrooms to a linear presentation of information and materials. Kinchin et al. noted linear teaching behavior predated PPT’s emergence as an instructional computer technology delivery method but posit the software’s structure and widespread use in higher education exacerbates the phenomenon.

#### *PPT May Deter Classroom Interaction*

James et al. (2006) found evidence in their study and previous research indicating PPT may deter classroom interactions by minimizing spontaneous discussions and deep discussions. Because the focus of student efforts is directed to information gathering for assessment preparation, little time is available for engaging dialogue. The reluctance of students to prepare for class leaves them without sufficient background information to intelligently discuss relevant issues. Finally, the PPT script itself as the content delivery

vehicle, often with only one beginning, one preplanned course of learning, and one conclusion discourages free thought and deeper meaningful dialogue.

### *Entertaining Class Instruction vs. Constructivist Approach to Learning*

Within this scripted PPT class environment students are concurrently developing an appetite for entertaining instruction to be provided by professors to avoid the perceived tedium of traditional learning (Klemm, 2007). Students have little understanding of, or tolerance for, a constructivist approach to learning where individual class preparation is followed by a progression of challenges to learners in the instruction process (Lord, 2008). Clark (2008) explained this constructivist approach:

The constructivist learning model's aim is to encourage students not just to remember information but to engage it, work with it, take ownership of it, and understand it by adding to known knowledge and building on new knowledge by exploring possibilities. (p. 40)

### *Instructor Use of PPT as Course Content Delivery Vehicle*

A scripted PPT class is often coupled with the instructor's perceptions of PPT's innate ability to dispense course content in an efficient and effective manner. Stoner (2007) questioned this mode of learning:

The notion of instability or fluidity in communicative action is an important one that serves to reshape how one approaches any analysis of PowerPoint as a pedagogical tool. The taken-for-granted belief-in-action that instructors dispense information to students is widespread in classrooms from primary school to university and in corporate and government training courses. Underlying the approach is a belief in the stability of knowledge, that what instructors know can be reproduced in students. (p. 361)

Burke and James (2008) believed part of the misperception of instructor's viewpoint of PPT as a means to transfer knowledge to students may be due to a lack of instructional design training in traditional doctoral programs which focus on academic program

discipline areas rather than effective modes of presentation in instruction. Additionally, James et al. (2006) noted faculty vary in their use, ability, and training to develop and use PPT presentations, noticing younger tech-savvy instructors are often the most inventive and inclusive of varied visual learning activities. PPT lectures, conceptualized and designed to deliver core content, enhance student satisfaction, and increase attention, often encourage passivity in student responsibility and may inadvertently deter active learning (James et al.). Burke, James and Ahmadi (2009) advocate a mixture of active learning techniques (e.g., lecture, dialogue, discussion, video, experimental exercise, etc.) to encourage student discussion and reflectivity and reduce monotony.

#### Ubiquitous Use of PowerPoint

Craig and Amernic (2006) noted as of 2002 more than 400 million copies of PPT were in existence and 20-23 million presentations were made on the software every day. James et al. (2006), citing research from 2003, claimed the number of presentations increased to almost 30 million per day with four million daily on the web. Initially developed for business applications under the name Presenter and sold to Microsoft in 1984 (Tufte, 2003), PPT computer based technology has quickly migrated to many disciplines, with increased use in education (Bartsch & Cobern, 2003; Blokzijl & Naeff, 2004, Brown, 2007; Cyphert, 2004; Debevec et al. 2006; Gier & Kreiner, 2009; James et al. 2006; Kinchin et al. 2008; Reedy, 2008; Stoner, 2007; Young, 2004). The domination of the Microsoft Office Suite, in which PowerPoint is included, was estimated near 96% of the presentation software market in 2000 (Cyphert), as many teachers believe PPT is synonymous with information communications technology (Reedy). In most higher education disciplines instruction has moved from traditional “chalktalk” to electronic

delivery (Craig & Amernic), as PPT has become the de facto method of communication, presentations, and delivery of content (Adams, 2006; Kinchin et al.). James et al. believed many faculty use PPT for presentation under the belief that it is the only software the university or college instructional technology department supports.

### *Pedagogy of PPT*

#### *Student Satisfaction of PPT Presentations*

One reason for the increase of PPT use in higher education is perceived student satisfaction. Studies have shown students, in general, prefer electronic delivery software over traditional lecture style for numerous reasons: (a) they believe it gives organization and emphasis to key points, (b) they appreciate the visuality of the presentation, (c) they believe they take better notes, (d) they find it useful for test preparation by utilizing downloadable or printed material, and (e) overall some students believe it is more motivating than traditional lecture (Apperson, Laws, & Scepanisky, 2006; Blokzijl & Naeff, 2004; Clark, 2008; Debevec et al. 2006; Driessnack, 2005; Maxwell, 2007; Susskind, 2008).

*Digital modalities.* Part of PPT's allure to current students may be a resemblance to other digital modalities (Stonner, 2007) upon which they were raised and upon which they socially depend. The exploding proliferation of multi-tasking cell phones and texting, surfing the internet, cyberspace communities of My Space and Facebook, and the computer integration of software such as iChat, iTunes and iMovies provide visual and sonic instant gratification and entertainment. To many young students, the appeal of new technology compares starkly to traditional lecture and independent reading (Klemm, 2007). Craig and Amernic (2006) refer to this advent in education as the televisionality of

electronic presentation. Tee-shirts appearing on college and high school campuses exhibiting pictures of books with the remarks “the original laptop” oddly highlights this cultural transformation.

*Student satisfaction for PPT is not universal.* James et al. (2006) discovered in their studies of business education courses although students preferred PPT over traditional lecture in evaluations during the semester, students often reversed their position nearing final exams, believing that traditional lecture and discussion encouraged more interaction and was an important part of active learning. James et al. believed the usefulness of the PPT presentations to students was predominately driven by how instructors used the software. When student dissatisfaction with PPT increased and the loss of novelty occurred, reading slide material verbatim was usually to blame (Burke & James, 2008; James et al. 2006).

Young (2009) noted 59% of British education students surveyed in a recent study reported half of their lectures were boring and PPT was one of the dullest methods of instruction. Young, reporting on the views of Jose Brown, Dean of the Meadows School of the Arts at Southern Methodist University, believed this phenomenon was due to professors using the software as an information delivery crutch rather than a creative tool. Since lecture notes were offered online, Brown believed class time should be reserved for discussions and class interaction.

#### *Student Academic Achievement Results from PPT Prominence Questionable*

Amare (2006), after completing quantitative studies on PPT usage and test scores, was not convinced of the strong media/visual learning argument advanced by current students. Although student responses evidence a strong belief that new generations learn

better from visual stimulation, Amare contended the popularity may be due to the “eye candy aspect of PowerPoint”(p. 306). Test scores from Amare’s studies and research from Craig and Americ (2006) and Levasseur and Sawyer (2006) tend to confirm PPT usage and the novelty involved in the software’s visual presentation do not produce higher test scores or other measures of learning.

*Stimulus novelty of PPT may skew student satisfaction responses.* Citing scholarly journals and a majority of published studies, Craig and Americ (2006) argued students often favored PPT because of increased resources through handouts and the “novelty” of the software presentation method. Craig and Americ found “...little consistent evidence, however, to show that teaching with PowerPoint leads to significant better learning and significantly better grades than teaching with conventional methods” (p. 150). Burke and James (2008), from their research in business education, concurred noting “an extensive and longstanding body of research provides overwhelming evidence that novelty substantially influences the amount and depth of information processing undertaken by individuals” (p. 279-280). Burke and James contend students who believe PPT to be a novel practice will therefore believe and report PPT to be more effective in the learning process.

*Student’s self-efficacy with PPT may affect student satisfaction.* Susskind (2008), from empirical research on the effects between traditional and PPT lecture, presented strong evidence PPT increased student’s perception of efficacy and, therefore, may have been a reason students believed PPT increases academic performance. Susskind discovered students believed they were motivated to attend class more frequently, took better notes, and were more organized when involved in classes predominantly using

PPT. Susskind did not find sufficient evidence, however, that students actually performed better academically with this format, which is consistent with a large body of research (Amare, 2006; Craig & Amernic, 2006; Debevec et al. 2006; James et al. 2006; Levasseur & Sawyer, 2006; Stoner, 2007; Susskind 2005, 2008). Further, Susskind posits if the use of PPT raises self-efficacy, with no actual academic result, this may in turn encourage students to put less effort into tasks which now seem easy.

#### *No Compelling Evidence from Current Research of PPT Learning Outcomes*

Levasseur and Sawyer (2006), after conducting a thorough review of current research literature on PPT use in the classroom, could not find compelling evidence of any significant learning outcome differences between traditional and PPT instruction. In addition, Levasseur and Sawyer were disappointed, finding scant research or literature on guidance for PPT lecture design construction or use in the classroom. Stoner, (2007) in a review of Levasseur and Sawyer's research, concluded more scholastic investigation on the design and use of PPT was needed from a "conceptual point of view" allowing "systematic evaluation" (p. 355).

#### *Instructor Preference of PPT*

Students are not the only ones in higher education advocating the evolution to PPT. Many faculty have been quick to adopt this format of presentation because they believe (a) it provides a framework for notes and helps in organization and structure in content, (b) it provides efficient time management in class preparation, (c) it allows easy dissemination to students through Blackboard and other educational interfacing software, (d) it is easily revised and archived, and (e) it has the appearance of professionalism (Clark, 2008; Debevec et al. 2006; Hlynka & Mason, 1998; Susskind 2005).

*Some professors propose PPT use for student engagement.* At first glance it may appear instructors are endeared to PPT for its ease of use and appeal to students. Clark (2008) and Debevec et al. (2006), however, explained many proponents have advocated expanding the traditional classroom to adopt technology and new learning strategies to help those students who are unresponsive to traditional methods. Clark also posits this move can develop into more of a constructivist problem solving approach, facilitating processing and comprehension, indicative of higher levels of learning. Susskind (2008) agreed, adding this pedagogical expansion can help students develop visualization skills aiding conceptualization while at the same time generating interest in the learning process. PPT, according to Hynka (1998), can be a “bridge” to new technologies and modalities while “adding a technical face to validity” (p. 48).

*Some researchers propose PPT may have detrimental effects on higher order thinking.* The ubiquitous use of PPT does not justify its merit according to many scholars. Adams (2006, 2007) believed the software supports a cognitive and pedagogical style inconsistent with development of higher order analytical thinking or rich narratives and interpretive understanding. Additionally, Adams (2007) believed our understanding of the effects and side effects are not well understood.

The teacher is also surrendered to the language, imagery, framing, athandedness, sensuality, and mediation of its symbolism and materiality. We should not underestimate how new media and educational technologies affect the concrete, subjective, and pre-reflective dimensions of teachers’ and students’ lifeworlds (p. 239).

Vallance and Towndrow (2007) also warned: “When educators use PowerPoint (and similar software, supposedly) to present predigested knowledge in an indiscriminate and

unreflective manner, the risk is that interactivity and creativity will be stifled and perhaps even completely eliminated” (p. 226).

Stoner (2007) referred to this pedagogical effect from rhetorical analysis on PPT as the “logic of the tool” having profound consequences on how observers of lectures think and reason. Clark (2006) referred to the environment of PPT use, participant attitudes, and behavior demonstrated by these effects as the “Culture of PowerPoint.” Kinchin et al. (2008) and Tuft (2003) referred to this linear instructional process of amplifying highly sequential rote-learning to the exclusion of other alternative perspectives and reducing student expertise as the “Pedagogy of PowerPoint” (p. 335).

James et al. (2006) found compelling evidence that faculty overall perceive PPT’s impact and value on learning and classroom interaction as significantly higher than a student’s perception. Ironically, although students initially prefer the PPT method of lecture delivery, according to James et al., they also believe there is a decrease in cognitive learning over the semester and believe the unreflective manner in which instructors use the software may be to blame.

#### Historical Debate on the Merits of Instructional Computer Technology and PPT in Instruction

Brown (2007) and Farkas (2009) provided a sound historical synopsis of the early debate over the effectiveness and pedagogical influences of instructional computer technology in the 1980s and 1990s leading to the proliferation of PPT use in the 2000s. Brown, referencing several authors, argued the presentation software was a content delivery medium and could be controlled by the presenter. Brown cited several early researchers, beginning with Clark (1983, 1994), contending media was only a delivery

system and only instructional content could influence differences in achievement. This viewpoint was diametrically opposed to Marshall McLuhan's (1964) theories contending the medium was the message of the 1960s. Kozmo (1994) challenged Clark's premise by proposing new interactive technologies themselves can be influential in learning if they are enveloped into constructivist learning experiences to supplement content delivery. This debate continued until Edward Tufte, in response to the growing prominence of PPT, published *The Cognitive Style of PowerPoint* (2003), a pamphlet which took a scathing view of the software's bullet point format, linearity of thought patterns, and possible totalitarian influence in presentation. Because of his reputation as a scholar, Tufte became the software's most well known outspoken critic. Shwom and Keller (2003), however, believed Tufte, in his continued assault against the software, "falls prey to villainy" (p. 15). Shwom and Keller argued any flawed presentation process was not inherent in the software but the result of poor construction and control by the presenter. Brown agreed, contending PPT could be responsive to the creativity of the presentation developer and, therefore, could be a powerful cognitive tool to enhance student learning.

Farkas (2009), however, believed PPT had a detrimental effect on effectiveness of lecture presentations due to the mediation consequences of PPT structure, concurring with many of Tufte's (2003) original arguments on the software. Although Farkas acknowledged the presentation creator could have great creativity in construction of the slide show, Farkas concluded from research there are "potentially harmful mediation effects that are not design choices but rather inherent influence of PowerPoint" (p. 37).

Generally, the discussion surrounding the software's effect on education and learning have been focused in four areas: (a) cognitive issues including linearity of

content and student interaction, (b) pedagogical issues of instructor roles and authority, (c) the power and influence of technology media, and (d) how and where PPT is integrated into the learning process for best practice.

### *Cognitive Issues of PPT Use*

Adams (2006), Klemm (2007), Craig and Americ (2006), and Hlynka and Mason (1998) are concerned by the shift of power from the individual to the power of technology. They argue the utilization of the instructional computer technology and software packages traps or ensnares instructors into a lecture mode and consequently (a) reduces interaction between instructor and students, (b) negates critical reflection and discourse, (c) reduces student responsibility, (d) decreases a Socratic learning environment, and (e) revives Plato's Cave (Adams, 2006; Kinchin, 2008; Klemm, 2007).

### *Reduced Interaction between Instructors and Students*

Craig and Americ (2006) argued effective pedagogy was dependent on the intimate parts of the learning situation itself, the interchange between students and the instructor, with all the verbal and non-verbal communication in meaningful discussion and dialogue. They contend instruction in a less pre-planned structure was more human and direct. Concerned about PPT's effects on this learning environment Craig and Americ asked:

What are the implications of interposing a PowerPoint presentation between an instructor and students? When we taught without PowerPoint or led a case discussion without PowerPoint or acted Socratic-like without PowerPoint, our relationship with students was unmediated and more human, more direct, less pre-meditated and less structured. (p. 152)

Craig and Americ labeled these important elements of the learning environment "immediacy behaviors" which include such non-verbal actions as "eye contact, smiling,

movement, adopting relaxed body positions, vocal expressiveness” which have a positive effect on student learning (p. 152).

### *Reduced Critical Reflection and Discourse*

Klemm (2007) believed PPT-type presentations can encourage an “information dump” (p. 121) mentality reminiscent of Freire’s “banking education trap” (Craig and Americ, 2006) where the education process is reduced to a system in which students believe they can withdraw knowledge from professors like money is withdrawn from a bank. Klemm argued if an instructor’s epistemology of pedagogy is based on a similar premise, utilizing continuous streams of PPT content-heavy slides, they could render a slide show less effective for learning than traditional lecture. Instead of clarifying main points, encouraging motivation, and illustrating more difficult and complex ideas, instructors can be drawn into a trap of delivering large amounts of content deemed worthy of student study. This behavior is exacerbated if instructors believe current literature which indicates a lack of student preparation though assigned readings, encouraging an ever larger “dump” of information in lectures. Students, however, can be overwhelmed with the amount of information presented when slides are often read in a rapid “stand-and-deliver-mode” (p. 122). The resulting student behavior in class is often passivity, with little interaction occurring between them and the instructor. Craig and Americ (2006) contended many educators reside in a pedagogic paradigm where the lecture as completed is an “accomplishment” (p. 151); a compilation of educational setting where information is dispersed with little variation, with prescribed instructor and student roles where one dispenses and one receives, allowing differing expectations of the experience, and relationships of power.

### *Reduces Student Responsibility*

Klemm (2007) believed students responded in a detrimental manner to PPT lectures containing core class content by requesting hard copy handouts or, as in the case of many instructional computer technology softwares, having the presentations available for download. This procedure diminishes the need for taking notes during presentations and prior research or reading before class sessions because the professor has included all relevant material in the PPT. This process encourages the student to believe all relevant material is readily available, organized, and presented in the best form, and reduced to the best ideas, therefore negating any need for reflection by the student or reorganization of instruction by the instructor to fit personal learning styles. Adams (2006) explained this phenomenon:

Whether a teacher is intending it or not, PowerPoint's message of economy to students is: if it does not appear on a slide, it is probably not important because it did not warrant being pointed at powerfully. Here 'important' equates with high probability of appearing on a test. The overall effect is the devaluing knowledge presented orally or via media other than PowerPoint... (p. 399)

### *Unreflective Use Decreases Socratic Learning Environment*

Adams (2006) argued the Socratic method of teaching which involved an ever flowing mixture of differing ideas over an extended period of time in thoughtful and engaging discourse was difficult to achieve through a fixed slide format software program. The main difficulty in achieving PPT effectiveness is this type of learning would come from the subjects generated in discussion. Often these ideas and concepts could not be fully known or planned in advance since the students, as well as instructor, were part of the dialogue. Adams contended:

True dialectic occurs in process, and thus can never be wholly anticipated in advance. On the other hand, it is quite possible for a thoughtful teacher to present a series of slides purposefully to invite dialogue. PowerPoint may, thus, become a springboard to discussion rather than solely a mechanism to deliver optimally a pre-set body of text and images. (p. 403)

### *Pedagogical Issues of Instructor Roles and Authority*

One of the most disturbing theories of PPT use in the classroom is the entrenchment of pedagogy into a linear one-way delivery (Farkas, 2009; Hlynka & Mason, 1998; Kinchin et al. 2008, Tuft, 2003). As a PPT presentation proceeds there is usually only one conclusion possible at the end, often impeding development of abilities in students to reconstruct facts and ideas. This linear process of linking information only works well for “someone who knows why the chain exists and from where it came” (Kinchin et al., p. 334). Kinchin et al. were so soundly convinced of this process they advocated PPT as an excellent lens through which to study and view linearity of learning. This linearity of thought is a movement away from critical reflection and discourse (Kinchin et al.) where instructors are ensnared into a continued lecture mode (Klemm, 2007) and the presenter is further separated from others in the audience (Craig & Amernic, 2006).

### *Instructor Point of View*

Adams (2006) warned this linear pattern of PPT increases the dependence on the instructor’s point of view. The professor’s beliefs and knowledge are often perceived as significant and students are often naïve about the learning process and tend to believe the authority figure has the correct knowledge (Song et al. 2007). Because the choice of class format and the construction of the electronic presentation are at the sole discretion of the instructor, it places professors at the center of the activities (Craig & Amernic,

2006). If students have no prior knowledge base, and as noted earlier are resistant to preparatory class reading, there is often an inevitable acceptance of the information advanced in class. This culminates in an increased dependence on the professor's point of view and possible cognitive compliance (Adams, 2006; Clark, 2008; Kinchin et al. 2008; Valance & Towndrow, 2007).

Adams (2007) cautioned new ICT pedagogy is a "...set of discursive practices in the classroom, and its formative, mediating influence on how knowledge is being represented, presented, and subsequently held by students" (p. 321). Adams' caution stemmed from perceived blindness educators may have of "the phenomenology of the digital experience" (Turkle, 2004b, p. 102) which affects students and teachers. Adams was concerned over the lack of research and rich dialogue needed of the "lived experiences of teachers and students engaged in technology enriched environments" (p. 232) which could inform best practices for seasoned and novice teachers in the application of software and also help in the future design of instructional presentation applications.

#### *Effects on Student Sense of Responsibility*

As more dependence of the learning process is placed upon the instructor, less is required cognitively of the students circumventing personal academic and leadership growth. If this scenario is followed to its fateful end, students invariably will shift all responsibility of learning in higher education from self to instructor. Not only is this detrimental to the classroom environment and personal academic development, but it establishes an uneasy pattern perhaps unconsciously duplicated in the other parts of public life: beliefs, relationships, social norms, governance, etc. An environment of

decreased responsibilities for individual academic accountability and, therefore, decreased opportunities for a more Socratic style of learning with rich and meaningful discussion and dialogue, increases student reliance on the instructor viewpoints and perspectives (Adams 2006; Song et al. 2007).

### *Power of Technology Media*

In the 1960s, as television and other media forms emerged, Marshall McLuhan (1964) began a watershed of thought and research on the media, mediums of delivery, and the ultimate message intended (Craig & Americ, 2006). Adams (2006), Susskind (2005), and others have brought McLuhan's four major questions about message and medium into the discussion of electronic class content delivery: (a) What does the medium enhance or intensify? (b) What does it render obsolete or displace? (c) What does it retrieve that was previously obsolesced? and (d) What does it produce or become when pressed to an extreme?

Farkas (2009) more recently stated: "No communication technology is simply a conduit for information. Rather, every communication technology has its own mediation effects - its own way of influencing communication" (p. 28).

Susskind (2008), directly alluding to McLuhan's medium is the message, questioned what message we are sending students by the integration of multimedia, and in particular PPT. Susskind asked further, how does this technology "influence student attitudes," affect their "self-efficacy about their ability to learn material," "affect their behavior in and out of the classroom," and overall "affect student learning?" (p. 1229)

### *Integration of PPT in the Learning Process*

Vallance and Towndrow (2007) believed the best practices of PPT use result from reflective and thoughtful use by the instructor. Vallance and Towndrow contend an informed presenter, understanding the nature of PPT and best practices in education, could design a presentation for effective learning. Adams (2007), in a response to Vallance and Towndrow's 'informed use' theory, argued "However, for the most part, they seem little concerned with the deeper hermeneutical, pedagogical, and existential implications of technology integration in the classroom" (p. 229). Stoner (2007), also dismissive of the 'informed use' theory, maintained effective use of PPT is not always intuitive to instructors. Adams (2006), still adhering to earlier arguments on the potential negative effects of the software, questioned how and where PPT should be used in a lesson.

Maxwell (2007) believed PPT, because of its visual power, was best used to display imagery and supplementary information, not just a summary of lecture notes for content delivery. Debevec et al. (2006) believed new technology use should involve new learning strategies and different ways to conduct class sessions rather than conventional learning methods, including visual cues to aid students in understanding and conceptualizing information to foster processing and comprehension. Maxwell advocated PPT used in this manner provided lecture stimulation and was most effective when it complemented instead of dominated the spoken word. Driessnack (2005) agreed with this philosophy and commented:

...listening is a privilege, and it should be approached as such. People do not come with handouts. Spoken words suspend in mid-air, without the accompanying facial expressions, gestures, or postures are lifeless. When individuals tell you their stories, they need you to listen. (p. 347)

## Conceptual Change Theory/Learning as a Lens to Instruction

Song et al. (2007) posit learning involves raising and/or lowering a studied concept within the student's conceptual ecology. Conceptual change is a learning process of restructuring pre-instructional understanding by developing new interpretations and acquiring new knowledge. Methods of instruction focused on conceptual change extend cognitive understanding farther than direct explanation or process and performance perspective instruction (Bereiter, 2002), as treating knowledge as material to be retrieved from a "mental filing cabinet" (Song et al. p. 29), or as a knowledge withdrawal from Freire's "banking education trap" (Craig & Amernic, 2006 (p. 152). Michaelsen et al. (2004) agreed with this concept arguing "taking in" (p. 59) is not knowing. Instead he posits the ability to retrieve and actively use information is a better expression of knowledge. Michaelsen, through research and development of team-based instruction, discovered people learn from the memory of previous information and the establishment of new structures of understanding as knowledge is constructed through an "elaborate rehearsal" facilitating higher level thinking and learning (p. 61). Within a conceptual change framework students can develop alternate viewpoints and, moreover, learn the value of various vantage points in acquiring information, reasoning, and logic, and therefore generate knowledge within themselves.

In this conceptual change process Song et al. (2007) noted theory guidelines may not always be consistent with values and approaches of instructors. Song et al. contend content and pedagogy are closely intertwined, and what and how instructors teach influences how students learn. They warned:

Instructors may ... fail to recognize student dissonance or lack willingness to modify their teaching. Rather than reflecting and adapting to reconcile teaching differences, teaching activities may proceed as initially planned, independent of evidence of student learning, thus not fully facilitating student's conceptual change process. (p. 34)

Instructor's epistemic beliefs underlie everyday teaching practices, according to Song, et al., because teaching and learning are inextricably linked. Stoner (2007) concurred noting "It is important that students have rich content about which to think, but equally important is understanding how our pedagogical choices and devices shape habits of mind." (p. 238) Reedy (2008) warned visual technology strategy can limit reasoned learning:

Visual technologies may imply a certain type of classroom teaching. Visual technologies, though hailed as innovations to improve classroom teaching, may sometimes limit classroom discourse and focus activity on the teacher as the presenter of the information. If knowledge is presented to students as a *fait accompli* as a series of objectives to be accomplished, rather than something constructed or worked out through a demonstrable and reproducible process of reasoning, examining evidence, and use of logic, then the learning experience may inevitably be less rich and less meaningful for students. (p. 161)

Song et al. (2007) believed successful students and instructors realize the value of complementary methods but find there is often a failure in attempts to realize different approaches. The ability to reconcile beliefs and practices, however, "are teachable and learnable" (p. 35) and instructors have the capacity to design instruction to promote successful student learning and elevate or diminish status of ideas through classroom activities causing students to confront ideas in a conceptual change process (Song et al.).

Michael (2007) concurred because:

...the learning environment in the classroom is the creative product of the teacher, who has the roadmap describing where the class starts, its destination, and at least one path between the two...active learning does not mean that the teacher loses control, it just means that control is exerted differently. (p. 45)

Successful instructors, therefore, reconcile their teaching beliefs and practices with student learning practices, and students do the same to adapt to the teacher (Song et al.).

#### Views of Best Practice for Student Learning in Higher Education

Although there are numerous views and theories of effective instruction in higher education today, there appears to be consensus of some authors on a pedagogical paradigm shift occurring away from what and how instructors want to teach toward things students need to learn. Fink, an editor in Michaelsen et al. (2004), advocating small group learning, posits several familiar factors are driving instructor's reflection on teaching: (a) a lecture non-tolerant younger generation raised on TV, (b) older students desiring an educational experience more beneficial than "information dumping" (Klemm, 2007 p.121), and (c) employer feedback to colleges desiring graduates with stronger human interaction and problem solving skills. Fink maintained this understanding has encouraged some teachers to investigate instructional methods and activities to provide a more active purposeful learning environment. Whether the teaching strategy and learning experience is team-based, aimed at problem solving techniques, incorporates large dynamic lecture classrooms, or is centered on application exercises, a reflective instructor would find great value in understanding what students would do with the information or knowledge generated and also the critical concepts and reference information required to achieve what Michaelsen et al. (2004 p. 37) called the "doing" objectives.

#### *Learner-Centered Classroom*

Learner-centered classroom is defined by McCombs and Whisler (1997) as a dynamic approach to education and learning which is responsive to the needs of the learner with a goal of producing students who are motivated for success. McCombs and

Whisler propose this approach is focused on designing instruction that is sensitive to the individual student's needs, abilities, and interests rather than rigidly tied to the subject matter. It emphasizes cooperation, is respectful of the learner, and trusts individuals to be responsible for their own learning.

### *Team-Based Learning*

Michaelson, an editor in Michaelson et al. (2004), believed to be the author of team based learning in the 1970s and one of its strongest proponents, argued there is not sufficient class time to effectively cover course content in a normal lecture class. Therefore, reflecting on the usefulness of knowledge presented can enable instructors to focus activities on important areas which lead to more active learning rather than content delivery (Michael, 2007; Michael & Model; 2003; Michaelson et al.; Novak, 2002; Simon, 2001). Even though Michaelsen believed some students might prepare for class through reading and other methods, they would become discouraged and in the future reluctant to prepare if they perceive the information is not relevant or if the instructor was not utilizing their preparation toward effective learning.

Fink (2004) noted since the mid 1980s a rapid growth of team and group learning has occurred in higher education. Many professors are using some form of team-based work or activities in their classrooms. Instructors postulate learning and problem solving activities are often more interesting and of more worth to students than lecture and, therefore, can promote active learning. Although many educators believe team based learning shows great promise, even Fink warns some students and teachers can be discouraged as they encounter difficulties and significant problems related to the development and use of teams.

Michaelsen et al. (2004) argued even though problem solving and application exercises are worthy and enhance the learning process, the most important measure of successful learning is in what is learned in the experience. They contend skill development to achieve success in projects takes time and occurs in and outside the classroom. Therefore, the genesis of teaching in higher education classrooms should be developing abilities in students of how to acquire knowledge and pathways toward skills development.

Michaelsen et al. (2004) advocated four areas of potential impact from team based learning: (a) understanding course content, (b) applying course content to problem solving activities, (c) developing skills in students for effective teams, and (d) valuing a team approach to solving complex intellectual tasks. Even though Michaelsen believed cooperative and other problem solving techniques had merit, especially in comparison to traditional lecture, team based learning and instruction were a fundamentally different method allowing a transforming process, especially through the development and use of “high performance teams.”

A major key component of Michaelsen et al.’s. (2004) practice of team based learning is weekly assessment, administered first to individual students and then to student teams usually at the beginning of each class or the first class of the week. The main purpose of these regular assessments is to encourage pre-class reading to understand core content. These short assessment periods are followed by class bartering for correct answers and points with the instructor, followed by increasingly difficult team problem solving activities. These measures were devised to develop class preparatory skills and peer group desire to ensure a strong understanding of content knowledge reinforced in a

group environment to allow more dynamic interactions and active learning in classrooms. Michaelsen and other team based learning advocates argue an intense use of small groups, using activities, can produce a knowledge nurturing effect only possible through high performance learning teams. Michaelsen contended there are only two requirements for the process to be effective in most higher education classrooms: a significant body of content information and a primary goal of application and problem solving for students (Michaelsen et al.).

### *Cooperative/Collaborative Learning*

Fink (2004) outlined small group learning categories as a progression from casual use of groups in traditional lecture classes to cooperative and collaborative learning and finally team based learning. Casual use of groups requires the least preparation, often *ad hoc*, to break up monotony and increase social interaction in traditional classes. Cooperative and collaborative learning require more advanced planning than casual use but are not aimed at such a major shift in teaching and learning styles as team-based instruction. The major goal of cooperative learning is how to apply course content instead of ways for students to acquire information (Fink).

### *Problem Solving Learning*

Problem solving learning is also a teaching strategy using groups for classroom interaction, often closely related to cooperative or collaborative learning (Michaelsen et al. 2004). Most attribute the development of problem solving learning to the McMaster Medical School faculty in 1960s as a means of countering an explosion of modern information technology. The process of using class content information in critical thinking exercises and to solve complex problems was soon adopted by other medical

schools as the problem solving learning teaching style became adopted by other disciplines and other institutions (Major & Palmer, 2001).

Challenging decision based assignments are used in a similar manner to team-based learning but, according to Fink (2004), the focus of the instruction differs. In team based learning the goal is to develop in students how to learn instead of the primary focus of information application in problem-solving instructions. The difference claimed by Fink and Michaelsen (2004) is in the distinct ideas and use of the teams.

### *Socratic Dialogue*

One of the oldest and most cherished methods of recorded teaching styles designed to develop critical autonomous thinkers dates back to ancient Greece in the schools of Socrates, Aristotle, and Plato (Mannion, 2006). Named after the philosopher Socrates, this dialogue is based on inquiry and debate, often with opposing ideas and viewpoints, to stimulate creative thought by removing the pretense of certainty. Based on the dialectical method of argument made popular by Plato's Socratic dialogues, it is based on a dialogue between two or more people who hold different ideas and wish to persuade each other in a search for general commonly held truths. Historically, many philosophers have utilized this dialectic method as rules and boundaries in critical thinking (Mannion).

As in Socrates' discussion forums, questions used in modern Socratic function as a critical "inner voice" seeking knowledge with the questioner assuming a subordinate position, providing a comfortable atmosphere conducive to open and honest discussion. Adams (2006) defined modern Socratic dialogue as "a form of teaching and learning that involves the flowing juxtaposition of like and unlike ideas over time in complex

discourse” (p.403). More frequently this instructional style in many higher education classes outside of law schools and philosophy classes has been simplified to exploratory questioning and subsequent dialogue on course content, application, and ethics. In its modernized form it often includes detailed lesson plans with objective based goals and a thorough understanding of accompanying assignments by students and instructors (Adams).

### *Traditional Lecture*

Major and Palmer (2001) noted traditional lecture based instruction pre-dated the mass production of textbooks and “often involves delivering as much information as possible as quickly as possible” and was “one of the most effective and efficient ways to disseminate information” (p. 1). They contend, however, many faculty members have poor lecture abilities which, coupled with poor learning and participation skills of students, encourages passivity in the classroom. This method on instruction is therefore dependant on transcribing or acquiring lecture notes and memorizing information in a repetitious manner.

Traditional lecture, however, is still the most commonly used content delivery method in higher education. Proponents argue it is still the quickest method to delivery course content, works in large and small classes in various environments, and rewards those who have the highest scholastic abilities and who have a strong work ethic (Major & Palmer).

### Common Threads in Best Practices

Although the selected proceeding learning and instructional theories and practices differ in objective and structure, there are some significant similarities in basic

educational objectives. Every reasonable teacher wants students to learn. Moreover, they want students to be able to apply the information to problem solving allowing success in their field of study, in and out of the classroom. Opinions clash, however, when mode and method of teaching and learning differ as a result of various epistemic viewpoints.

### Reconciling PPT with Preparatory Reading

In light of the preponderance and ever-increasing proliferation of PPT use in the current literature, it would be foolhardy to believe instructors would abandon the software use any time soon. Moreover there are many authors who believe PPT can be a powerful tool for instruction (Brown, 2007; Vallance & Towndrow, 2007). Through “informed use” it may be possible to implement the best suggestions offered by some research scholars and practitioners in a reflective manner (Brown, 2007).

Regardless of whether authors embrace (Brown, 2007; Vallance & Towndrow 2007) or are wary (Adams, 2006; Farcas, 2009) of PPT use in the higher education learning environment, their findings illuminate a broad general theme of precautions and potential best practices. Foremost is an understanding that regardless of PPT effectiveness of delivery or detriments to ideal learning conditions, in general, software use is often perceived as a content delivery vehicle. Students for a variety of reasons embrace this phenomenon and avoid class preparation failing to complete assigned reading. This precipitates a cycle of content delivery in classrooms to the exclusion of more active learning activities such as discussion, dialogue, application, and problem solving exercises (Adams, 2006; James et al. 2006; Kinchin, 2008; Suskind 2008).

## *Increasing Student Reading Compliance and Class Participation*

### *Student Incentive for Reading*

Research indicates student reading completion percentage is higher when students know the content material will be on an impending exam, and, in particular, frequent quizzes (Burchfield & Sappington, 2000; Clump et al. 2004; Ruscio, 2001; Sappington et al. 2002). Clump et al. discovered even though the average student reading for class preparation percentage in their study was below 30 percent, an average near 70% could be achieved just prior to a scheduled test. In one class the percentage increased to over 90 %.

According to Michaelsen et al. (2004), Team based learning theory relies on student awareness of impending quizzes to facilitate completion of assigned reading. Perhaps this trend of student response applies to students regardless of teaching styles as has been demonstrated in lectures classes and team based learning.

### *Weekly Assessment*

Ruscio (2001) concluded when students prepare for class by completing assigned readings they are more productive on assessments and in class discussions. Research by several other authors suggests scheduled and/or random quizzes for increasing reading compliance (Thorne, 2000). Ruscio discovered a significant increase in reading compliance methods up to 85 % when using weekly assessments of assigned reading. Burchfield and Sappington (2000) found less impressive but still significant compliance levels of 25 to 31 % by administering surprise quizzes which contribute significantly to the student's grade. Reading compliance was found to be less likely if no quiz is anticipated.

Michaelsen et al.'s (2004) team based learning model depends on content assessment to encourage class preparation and facilitate class interaction. One of the main tenants of team based learning is the ability to cover large amounts of class content which would be impossible to do in class, according to Michaelsen. Student assessment each class period or at the beginning of the week is vital to validate knowledge mastery, as little content is traditionally given during class. Without a basic working knowledge of content from preparatory reading and the individual and group assessment, students would be unable to successfully complete problem solving and application exercises in class and lead to the hallmark of team based learning that Michaelsen called "high performance teams" (p. 8).

#### *Identification of Teaching Strategies*

According to Song et al. (2007), increased identification of teaching strategies is needed to encourage and facilitate learning, in particular the how and when of application. Motivational sensitivity is needed to seek novel and surprising features in the learning process. Song et al. contend research should be completed into how students respond to instructors' learning strategy revisions.

#### *Additional Research Needed*

In almost every concluding remarks section in published literature on PPT effectiveness and assigned reading compliance was an unequivocal call for more research. Regardless of which viewpoint researchers have advocated, most believe PPT, whether good or bad, is not neutral in effects but initiates certain responses. Stoner (2007) noted: "PowerPoint, as a writing and reading tool, certainly imposes on the structure of information presented, on the logic of the content's form and meaning, which

consequently requires certain kinds of responses by audiences” (p.357). Clark (2008) concluded: “It is clear from the literature on PowerPoint use in education that we still know very little about how to use it, how to overcome any inbuilt shortcomings, and how it might presuppose learning directions (p. 40). Debord, Aruguete, and Muhlig (2004) noted the advancing development and use of technology in classroom instruction is far ahead of effectiveness assessment. Adams (2007) and James et al. (2006) contend more research is needed particularly on the effects of PPT in the classroom. Although several varied studies on various effects of PPT have been conducted, the results in many studies of academic performance are inconclusive (Amare, 2006; Debevec et al. 2006; James et al. 2006; Stonner, 2007; Susskind, 2005, 2008). Students’ own perceptions vary greatly even in the same classes over the semester concerning PPT use, encouraging James et al. to call for more investigation.

Stark-Wroblewski et al. (2006) were surprised at the scant research on PowerPoint’s effect on the student learning process given the software’s widespread use. Hlynka (1998), almost a decade earlier, was calling for more research on information computer technology: “We need more connoisseurs in educational technology, individuals who are willing (and able) to stop for a moment in the mad dash to get the educational tool which is bigger, better, and faster than the last one” (p. 48).

Farkas (2009) contended the universality of the software package use and the abundance of literature of pros and cons of use requires more critical investigation. Farkas, alluding to McLuhan (1964) asks the questions “What are the consequences of this technology” and “What does PowerPoint do and what does it enable? (p. 28)

Recently, notable research has been conducted on relationships between PPT lecture and active learning. Stark-Wroblewski et al. (2006) and Gier and Kreiner (2009) contend improvement of student learning relies less on the PPT lecture and slides and more on the incorporation of the technology in the classroom. Gier and Kreiner agreed with Turkle (2004a) that PPT use can render adverse effects on classroom interaction and attendance. They posit, however, timely assessment of the content of lectures and slide construction, carefully preparing for testing, allows students time for reflection of ideas and concepts promoting active learning instead of passivity.

#### *More Research in Other Disciplines*

Stonner (2007) documented most research on PPT use in education has been in the managerial, psychological and aesthetic fields. Stark-Wroblewski et al. (2006) concurred in the call for a wider research base, as their study and many others are in the field of psychology. Debevec et al. (2006), James et al. (2006), and Burke and James (2008) note a large part of the literature review research has been in the business school, and suggested more empirical research be conducted not only in business classes, but expanded to include other varied disciplines.

#### *More Research on Student Participation and Preparation*

Susskind (2005, 2008) called for new research to measure student participation and preparation. Susskind advised future studies should focus on separate research constructs to determine if student preference or self-efficacy toward PPT instruction leads to less effort expended. Noting lecture format choice did not seem to influence students' study behavior or performance, Susskind speculates if students believe that PPT instruction allows better note and study organization, better motivations, and overall

better academic performance, this will result in students not preparing rigorously in traditional ways. Susskind also advised because there are some conflicting studies on student performance using PPT, more detailed performance studies should be conducted assessing more than simply PPT use or traditional lecture. In particular, the use of on-line notes and other factors which may enhance the use of PPT in the classroom should be investigated. Finally, Susskind points critically at numerous previous studies on PPT lecture effects on academic performance lacking a comparison group of alternative lecture formats until his 2005 research, a procedure which should be considered in any future investigation.

Stark-Wroblewski et al. (2006) noted more research was needed in a variety of areas of PPT use in the classroom, including the interaction of students. Stonner (2007) was concerned over scant research on the effects of PPT's modality and perception as a conduit for information assessed mainly by test scores (Barch & Cobern, 2003) and asked how this process interacts with the way students interpret content. Adams (2007) concurred, asking for "More patient, critical research...to better understand the mediating influences of new media and information and communication technologies in the classroom" (p. 232).

*More Research Comparing Traditional to Alternative Methods of PPT Integration*

Stark-Wroblewski et al. (2006), in preparation for studies on PPT handout effectiveness, asked why such little research had been conducted on the effect of PPT use on student learning when the software use was universal. Kinchin et al. (2008) wondered why instructors do not research how to modify PPT presentations to support a strong student construction of advanced knowledge leading to expertise instead of rote-learning. At the conclusion of their study, Stark-Wroblewski et al. (2006) contended more

empirical research was needed to assess use and techniques of PPT and the effects on student learning and other educational outcomes. Burke and James (2008) called for rethinking and investigation and a possible return to simpler, low-tech methods, especially if critical thinking, reasoning, and problem solving skills are emphasized over information “regurgitators” (Susskind 2005 p. 205).

#### *More Research with Improved Methodology*

Craig and Amernic (2006) and Susskind (2005, 2008) found methodological limitations in most current research and questioned the substance and internal and external validity of many studies. Blokzijl and Naeff (2004) contended the research thus far was “based on personal preference than on empirical studies with audiences” (p. 70). Bullock and Ory (2000), from their studies on instructional evaluation methods and procedures, contend the methodology of much of the research on the use of instructional technology is weak for a host of reasons, including a lack of reliable and valid processes which should be inherent in research design. They advocate using an elastic hybrid mixed methods approach using a variety of information gathering techniques to determine the ‘what’ as well as the ‘why’ of evaluation. In particular, Bullock and Ory cite a lack of qualitative data in current research which could underscore why a particular reading assessment differences occurred.

#### Summary

Current literature reviewed highlights two trends in higher education: a reluctance of students to prepare for class through completion of assigned reading and the ubiquitous, and at times unreflective, use of PPT for lectures to deliver core content. Students, attuned to new digital modalities in society and education, have come to expect entertaining lectures and rely on predigested content information prepared by professors

for assessment preparation. PPT's visual "eye candy" and "televisionality," backed by technological power to point to information bullets ready for easy download, meets some students' expectations perfectly. Unfortunately, research findings also illuminate potential problems with the pedagogy of PPT as some student learning and achievement results suggest reduced student responsibility in class preparation, decreased class participation and active learning, increased opportunity for cognitive compliance to predigested instructor notes, and an overall reduction in higher order thinking.

Fortunately research also points to many educators actively conducting experimentation in learning environments from many epistemological viewpoints. In these attempts, evidence of similarities of assessment and class preparation validation can be found. Many of these authors call for more research in the untapped disciplines in higher education to find student responses to best practices and the "how and why" certain educational environments encourage student reading, active learning, and knowledge generation.

## CHAPTER THREE

### RESEARCH DESIGN AND METHODOLOGY

The use of PowerPoint (PPT) software to deliver course content in classrooms is prevalent in higher education. PPT use is often defended by faculty as the only rational way to encompass the volume of new information in a technologically-filled era of increased class sizes and faculty class loads. Students expect and, at least initially, prefer this format as more instructors embrace this electronic mode of lecture delivery for its perceived benefits of information organization, visual stimulation and professional acceptance (Clark, 2008; Debevec et al. 2006; Hlynka & Mason, 1998; Susskind 2005).

#### Overview of the Problem

Students find little incentive to spend valuable personal time reading information which will be outlined by the professor later in class lectures (Klemm, 2007). Classroom learning experiences must then be formulated around information and content delivery which is imperative if students avoid reading and other forms of class preparation. The measure for educational success, being difficult to universally define, may not necessarily be the learning which occurs within this environment but the amount of preparation for assessment. Tragically, this unreflective behavior, common in higher education (Kinchin et al. 2008), may inadvertently lead to pedagogy which encourages students to believe knowledge is accrued quickly and without serious mental effort. Furthermore, it encourages students to believe authorities should define reality by deciding what information is necessary to understand and which viewpoints are correct. Many scholars have questioned the acceptance of this instruction method accruing less than optimal

results in classroom learning experiences (Amare, 2006; Craig & Americ, 2006; James, Burke & Hutchins, 2006; Levasseur & Sawyer, 2006; Stonner, 2007).

Considerable empirical quantitative research and literature is available on the use of electronic course information delivery in education and student satisfaction, test scores, attendance, note taking, and other classroom dynamics (Amare, 2006; Debevec et al. 2006; Driessnack, 2005; Gier & Kreiner, 2009; Maxwell, 2007; Susskind, 2005, 2008; Stark-Wroblewski et al. 2006). Even with a widespread use of this delivery software and a history of inquiry into this phenomenon, current research fails to fully address the possible connection between unreflective electronic PPT lecture delivery in higher education and reduced student preparation for class through assigned reading. The subsequent prescription for classroom activity in these circumstances of PPT content delivery comes at the expense of discussion, dialogue, and other activities conducive to active learning.

When instructors consistently present core course content in outline form, students assume it to be the only relevant information assessed in exams (Adams, 2006; Song et al. 2007). Professors, knowingly or not, are suggesting relevant knowledge reality is, therefore, constructed by them and contained within the PPT lecture. Students are reassured of the professors' knowledge authority in this epistemological environment of learning because the software has "power" to captivate and visually direct attentions as it effectively "points" to the information contained therein (Adams, 2006). Students then are often inadvertently encouraged to focus only on the key points of the presentation in preparation for a quiz or exam to the exclusion of thorough reading of assigned materials which could provide important reference and background material necessary for active

learning. PPT exacerbates this phenomenon because of its widespread use and powerful stimulation in a visually dominant world.

Numerous research studies conducted to understand student perceptions and preferences verify this premise (Adams, 2006, 2007; Amare, 2006; Apperson et al. 2006; Blokzijl & Naeff, 2004; Clark, 2008; Debevec et al. 2006; Driessnack, 2005; Kinchin et al. 2008; Maxwell, 2007; Susskind, 2008). Students often opt for the “visual eye candy” of electronic presentations which have become the normal established content delivery method (Amare p. 306). Oddly, the current freefall into the use of technology for dissemination of information to which students are so accustomed, and dependent, and which initially appears to quickly generate knowledge, may at times circumvent traditional methods of teaching and learning which universities hold as cherished values.

According to McCombs and Whisler (1997), change, especially educational change, has historically required a transformational or paradigm shift in the interpretation of reality, especially for leaders. If instructors simply continue to follow the current pattern of content delivery using PPT without significant dialogue or research, it appears unintended results will follow. Educators’ leadership responsibility in understanding and promoting student learning, therefore, necessitates more critical reflection. This process requires attention not only on what material is taught, but also on pedagogy which actually promotes the learning process, as reality in a classroom setting is often constructed by the modes and methods of the instructor.

Adams (2007) cautioned new instructional computer technology pedagogy has a: “...formative, mediating influence on how knowledge is being represented, presented, and subsequently held by students” (p. 321). In the research and accompanying literature

on the potential pitfalls of the ubiquitous use of PPT software and other electronic delivery in education, few people are discussing how these technologies should be used (Maxwell, 2007). Further, student views and interaction on this issue are lacking because the bulk of the research has been from quantitative methods with a central focus on student numerical data such as attendance, grades, etc. Adams cautioned educators of the perceived blindness they may have referred to by Turkle (2004b) as “the phenomenology of the digital experience” (Turkle p. 102). Finally, Adams was concerned over the lack of research and rich dialogue needed of the “lived experiences of teachers and students engaged in technology enriched environments” (p. 232) which could inform best practices for seasoned and novice teachers in the application of software and also help in the future design of instructional presentation applications.

#### Purpose of the Study

The purpose of this study was to examine the relationship between the pervasive use of PPT by instructors to provide course content used for assessment and diminished completion rates of assigned student reading aimed at class preparation. Specifically, the research design was to ascertain student perception and behavior in preparation for tests when class core content was readily available from classroom PPT notes, handouts, and downloads. This study was performed in a program area where some professors utilized weekly reading quizzes to determine student reading compliance in addition to, or as a replacement for, exams.

In addition, the inquiry focused on the reasoning, rationale, and culture of student reading behavior and class preparation in an attempt to add to emerging theories on student reading behavior in a PPT-driven class information delivery era. Because the

impetus of reading assigned material in college classes is inherently a student decision, it was paramount to examine reading completion rates and class preparation behavior as reported by students, as well as faculty perceptions accumulated over instructional history.

Because this research seeks to understand the how and why, or explanation for behavior, of student responses to choices in faculty teaching practices and the affect on active learning, a predominantly qualitative mixed-methods approach could provide meaningful data (Creswell, 2003). To this end the following questions were investigated.

#### Research Questions

1. How do students use assigned reading for class preparation?
2. How do students use PPT lecture, notes and downloads when preparing for quizzes and tests?
3. What types of course material and process of preparation do instructors normally use in preparing electronic presentations which students may perceive contain assessment information?
4. How does the use of PPT presentations, which provide course content, affect student assigned readings and other traditional class preparation methods?
5. How can the administration of reading assessment quizzes before class discussions encourage assigned reading completion?
6. How can the use of reading assessment quizzes and informed use of PPT encourage assigned reading completions rates and active learning in higher education classrooms?

Survey data from closed-ended questions were incorporated at the onset of the inquiry to assess relationships of PPT use by faculty and student reading behavior, as well as overall numeric significance within the population sample. In addition, findings of the data in this inquiry could be compared to previous research for similarities to aid in possible generalization of the surveys to other areas in the population of the college and other areas in higher education which have similar settings (Merriam, 1998). This hybrid approach is in theoretical harmony, as noted by Creswell (2003), as “the situation today is less qualitative versus quantitative and more how research lies somewhere on a continuum between the two” (p. 4). It also agrees with research recommendations of Bullock and Ory (2000) from their studies on electronic instructional evaluation methods and procedures, advocating an elastic hybrid mixed methods approach using a variety of information-gathering techniques to determine the “why” as well as the “what” of evaluation.

#### Rationale for Research

Because this inquiry was structured to understand the holistic relationship of instructional delivery to student reading response and active learning behavior akin to Merriam’s (1998) research description of “how all parts work together to form a whole” (p. 6), a mixed-method predominantly qualitative research design was used. Because this study exemplifies some qualities found in several types of qualitative research (case study, phenomenology, etc.) but not exclusively one particular type, I used Merriam’s label “basic or generic qualitative study”...which is probably the most common form of qualitative research in education” attempting to “simply seek to discover and understand

that phenomenon, a process, or the perspectives and worldviews of the people involved” (p. 11).

The study was designed using students in one geographically and academically defined discipline area bounded by the phenomenon of instructor’s PPT use and student assigned reading completion. This opportunity allowed deductive fieldwork research to be conducted in a unique natural setting designed to better understand the phenomenon in proper context, enabling rich and vivid descriptions from the close proximity of the researcher (Creswell, 2003; Merriam 1998).

Second, research was designed to be exploratory, seeking to understand student reading behavior in higher education and to add to a growing body of knowledge in concept change theory as well as suppositions concerning PPT use and effects on students. The predominant use of qualitative research encouraged the researcher to examine the students’ constructed reality of the situation, including how they perceive knowledge is created in learning and how they make sense of their world process (Merriam, 1998). The research emphasis was on generating new ideas useful for instruction methods and substantive theories with a goal of understanding particular student behavior as opposed to developing grand theories as information emerged from the data analysis (Merriam, 1998). As conceptual change is a diverse and often complex learning process of developing new interpretations in addition to acquiring new information, the open exploratory nature of qualitative research allowed comprehensive evaluation of instructional methods and effectiveness of student learning.

Third, this study has elements of phenomenology as it examines a situation as close as possible to the essence of the experience, as the researcher is daily confronted

with these pedagogical issues in instruction in higher education.. An attempt has been made through focus groups and interview delineation to display the comments of those being researched as accurately and openly as possible which would be difficult using only traditional quantitative methods (Grbich, 2007).

Qualitative research is an emerging design evolving from knowledge created in a constructivist manner through observations, interviews, focus groups and review of documents (Merriam). “Qualitative researchers are interested in understanding the meaning people have constructed, that is, how they make sense of their world and the experiences they have in the world” (Merriam, 1998, p. 6). This method allowed fieldwork where research questions could become more fully defined through examination of data collected, adjusting the tools of research as needed according to important and relevant emerging issues in a repetitious process, until no new data appears to be found (Grbich, 2007).

The researcher in this qualitative research was an insider viewing insiders (Herr & Anderson, 2005), immersed in a dynamic situation researching a phenomenon (Merriam, 1998) constantly interacting with those being researched to more fully understand the learning relationship done in a natural setting (Creswell, 2003). Although in qualitative studies researchers approach research without predetermined hypothesis, in an honest and open manner, the presence of the researcher as the main research instrument is, by participant nature, value laden with some bias (Creswell, 2003; Merriam).

#### Conceptual Change Theory Frame

Conceptual change theory requires instructors to identify key factors which contribute to student learning including (a) explicit communication of teacher’s learning

activities and student to-be-learned expectations; (b) cognitive connections to other concepts and disciplines; (c) affective influences through use of metaphors, analogies, shared experiences and personal beliefs; and (d) motivation (Song et al. 2007). As a lack of focus and understanding of conceptual change and the dynamic relationship between teacher and student are recurring themes according to Song et al., the exploratory holistic nature of qualitative research through observation, discussion in student and faculty focus groups, dialogue in selected interviews, and pedagogical history in document analysis provided an appropriate best fit method of investigation.

### Limitations

According to Merriam (1998), in qualitative studies where the primary instrument for inquiry is the researcher there are “mistakes...made, opportunities missed, and personal biases inferred” (p. 20). It is, therefore, essential to clearly acknowledge potential limitations, assumptions and other potential weaknesses in a study in an effort to develop rigorous design controls to ensure validity and reliability. These measures help facilitate inquiry which is perceived as “trustworthy” (p. 200) and results which “ring true” (p. 199).

The primary research instrument is human, therefore subject to making mistakes. Further, personal bias influences require an honest assessment of the researcher’s skills (Merriam, 1998). Researchers must have a tolerance for ambiguity, sensitivity to context and variables, and good communication skills, not only to interact, but to “explain, describe, judge, compare, portray, and evoke images” which can honestly and accurately convey meaning as well as material (p. 220).

Grbich (2007) outlined four frames of reference for which researchers should have an awareness: (a) extra-textual frames of knowledge a researcher accumulates through life from their world view; (b) intra-textual frames of a researcher's age, sex, class and other personal attributes; (c) inter-textual frames inherent in the discipline a researcher works from; and (d) circum-textual frames of the context and personal interpretation of the immediate event or phenomenon. Grbich advocates careful consideration of each frame's implication and to carefully consider the "level of contribution" (p. 19) researcher and participants bring to the study results. For example, focusing on this phenomenon from extra-textual and inter-textual frames may incur an instructor's myopic vision developed over years of teaching in one discipline and in one location without regard for many other viewpoints or variables which may have a primary or corollary effect. Researcher bias from years of research on this subject and personal desires and hopes for change can bring, at times, an unconscious stigma and premature assumptions attached to pedagogy derided in past research and literature.

Since the researcher/leader is embedded in the research group it is very possible the mere presence as an observer can alter participant behavior and contaminate the results (Merriam, 1998). This is notable and historically documented in research as in the memorable Hawthorne experiments at Western Electric facilities in work productivity studies initially designed using variations of workplace lighting levels. To the surprise of researchers at Hawthorne, workers altered their behavior not according to experimental variable changes as was expected, but attuned to whether they were being studied in an experiment and the ramifications of the study conclusions upon their work environment in the future (Roethlisberger, 2001). Because this primarily qualitative observation-based

position is indirectly opposed to rigid, empirical, quantitative research where detachment and avoidance of influencing variables is the rule, considerable efforts of the researcher for openness, fairness, and usefulness of the information will be of paramount concern.

### Design Controls

In an attempt to overcome limitations, the emergent research design used a triangulation of multiple methods of data collection (Creswell, 2003; Merriam,1998) which included: (a) Likert-type surveys administered to the student sample population and faculty instructors of one area of a technology school in higher education; (b) focus groups comprised of volunteers from the surveyed student sample designed to generate student dialogue and discussion on PPT use, student reading, and weekly reading assessment; (c) a focus group with all faculty members from the respective technology area to examine specific questions on PPT use, amount of course content delivered using PPT, reading assessment use, perceived student reading behavior, classroom interaction, and other emerging issues; (d) interviews of selected students and faculty members on emergent issues from the focus group sessions; and (e) document analysis. To address issues of validity and reliability of the data, peer review and member checking were employed (Creswell; Merriam 1998). The peer review strategy used colleagues and committee members to read and comment on the findings. Member checks were utilized to verify interview and focus group comment interpretation accuracy.

### *Appropriate Research Methods*

Qualitative research methods allow for what Grbich (2007) called a “recursive spiral” (p. 22). In this procedure the researcher defines the questions of inquiry, goes into the field and examines collecting data, and then adjusts the tools and aspects of data

collection in light of emerging issues. Then the process repeats in a spiraling manner until no new data emerges on the questions of inquiry. The sequencing of collecting data was initiated with voluntary on-line surveys to students and faculty. Focus groups were then utilized to explore research questions more fully within the student and faculty populations. Finally, individual and small group interviews provided opportunities to refine data collection on emergent themes to meet research question objectives.

Data analysis is an ongoing process concurrent with data collection utilizing continual reflection, additional questions and research, while simultaneously recording jottings and notes toward open-ended data with coding and interpretation stages (Creswell; Merriam, 1998). Qualitative observations of the researcher allow first-hand experience with participants recording information as revealed without participant embarrassment or possibility of tainted findings (Creswell, 2003). Focus groups and interviews allowed more in-depth control in the request of information in a dynamic and constructive forum where faculty and student perception on assigned readings and content delivery methods could be more fully understood. Documents including PPT lectures and weekly assessment quizzes were reviewed to uncover historical patterns of instruction and assessment (Creswell) to discern similarities and differences in instructional styles.

#### *Valid and Reliable Findings*

Creswell (2003) maintained although qualitative studies cannot provide validity in the same context as quantitative studies, validity may be established by leaders involved in research through ensuring accuracy in information gathering methods and establishing trustworthiness through multiple sources of fact-finding, member checking for accuracy

and consistency, and review of data and analysis by peers. Creswell cautioned, however, validity in qualitative studies used in determining accuracy in research is always perceived from the viewpoint of researchers. In particular, validity can result from attention to the research process steps, triangulation of data sources and congruent internal findings, the use of thick, rich descriptions of findings in a natural setting, clarifying researcher bias, prolonged time in the study, and peer debriefing (Creswell). Focus group size was optimized at 6-8 participants (Kruger & Casey, 2000). Rigor and quality in interviews suggest a minimum of 3-5 participants for a case study (Creswell, 2003). The culmination of all of these efforts is to obtain a holistic understanding of the learning phenomenon. In this manner reliability, difficult to establish in a qualitative study, is rendered by consistency leading to dependability of data (Creswell, 2003).

#### Participants

The student participant pool of 157 students included the total population of one discipline area of a school of technology in a mid-sized Midwestern university. This included all students taking courses in the program major, not just those with declared majors. All students were simultaneously contacted electronically through campus email where they were directed to a brief online survey administered through Survey Monkey. Eighty-four students completed the on-line survey. Sixteen volunteers from the survey formed the primary basis for focus groups and subsequent interviews. This purposeful sample (Merriam, 1998; Creswell, 2003) method “to discover, understand, and gain insight” originating in “a sample from which the most can be learned” (Merriam, p .61) was used to select students in the areas where PPT lectures were predominantly used to

deliver course content and where weekly assessment quizzes to verify reading were employed.

The survey group encompassed all levels of undergraduate students. The freshman class had the highest representation, as first year students often change majors. The majority of students were female, corresponding with the overall student population. All freshman students are required to be enrolled in the introductory classes which use PPT lectures and reading assessment quizzes.

Faculty participation consisted of six instructors in the program area including full-time and part-time instructors who may have served as adjunct professors. The faculty group consisted of (a) two tenured teachers, one a full professor with over 20 years of service, one associate professor, and an assistant professor; (b) one tenure-track assistant professor; (c) one non-tenure track assistant professor; (d) one non-tenure track instructor/lab manager; and (e) one adjunct instructor. The group consisted of two female and four males, all white Caucasians. All faculty members received the initial faculty survey electronically and were organized into in a single focus group. One faculty member was unable to attend the focus group session, but latter answered the focus group and interview questions in a meeting with the researcher.

#### Privacy

All measures deemed necessary and appropriate were taken to protect the rights and privacy of all participants. Surveys were clearly marked as being voluntary with the identities of those who responded through Survey Monkey remaining anonymous. Names in focus group and interview transcriptions of all student and faculty participants were replaced with fictitious student and faculty name numbers to maintain confidentiality. All

information collected was kept in a locked filing cabinet in the researcher's locked office. No one but the researcher and the research advisor had access to this information. After seven years all research data will be destroyed.

#### Data Collection

All students and faculty members who participated in the survey and volunteered for focus groups and interviews received the informed consent form (Appendix A, B, C & D). This document explained the purpose of the study and the continued voluntary nature of participation. During member checks, the researcher asked students and faculty to review and comment on the interpretation of the data to ensure that the intent of the data was captured and interpreted accurately. Approval from the department chair, the administrator responsible for the well being and administration of all students and faculty involved, was obtained prior to research design implementation. Approval of the Intuitional Review Board of the host university and the University of Missouri was obtained prior to commencing research.

#### Survey Protocol

All students in the sample population were invited to participate electronically in a brief survey (Appendix E) which provided reason and rationale for the research. The survey was clearly marked as being voluntary with the identities of those who responded through Survey Monkey remaining anonymous. The survey consisted of 10 closed-ended questions to research variable relationships. A similar survey protocol was used for faculty members (Appendix F) utilizing a 10 question survey, also conducted through Survey Monkey.

## Focus Group Protocol

### *Student Focus Groups*

Focus groups of nine and seven students each were constructed with student volunteers from those who had completed surveys, divided in a predetermined manner to include a cross section of academic rank years and a broad mix of ethnicity and gender. The student profiles of all students in the area were available to the researcher through the university network to aid in obtaining appropriate diversity of the group. Because of the consuming nature of focus groups they were arranged at times during afternoons when most classes were not in session to minimize the possibility of conflict with night jobs or extracurricular activities. Student focus group questions were developed (Appendix G) with open-ended questions that allowed dialogue and discussion enabling the researcher to gain insight into the study's fundamental questions. Each focus group was audio recorded with two tape recorders and later transcribed by the researcher. Member checking (Merriam, 2002) was used to ensure that the researcher accurately captured the remarks of participants from all groups.

### *Faculty Focus Group*

The faculty focus group was comprised of all faculty members in the department area which completed the survey. Because of the consuming nature of focus groups they were arranged at times during afternoons when most classes were not scheduled to minimize the possibility of conflict with teaching schedules, committees, parental responsibilities. Faculty focus group questions were developed (Appendix H) with open-ended questions that allowed dialogue and discussion enabling the researcher to gain insight into the study's fundamental questions. The focus group was audio recorded with

redundant tape recorders and later transcribed by the researcher. Member checking (Merriam, 2002) was used to ensure that the researcher accurately captured the remarks of participants from all groups.

#### Interview Protocol

Individual interviews were conducted with specific students and faculty on emerging issues from the focus group sessions. The scope of these questions was to ascertain student perceptions as to why faculty utilize assigned reading, PPT lectures, weekly assessments, etc. The proposed questions for student and faculty are attached in Appendix I and J respectively. This measure in the inquiry was to contrast and balance earlier student self-reporting in surveys and focus group questions utilized to determine actual student behavior and motivation in assigned reading completion and class preparation. This emerging design facilitated a more accurate, detailed and appropriate balance of research design to understand holistically the research problem and purpose. Each interview was audio recorded and later transcribed by the researcher. Member checking (Merriam, 2002) was used to ensure that the researcher accurately captured the core of the stories from all groups.

#### Document Analysis Protocol

Instructor PPTs and lectures used for instruction in the surveyed department were analyzed to determine pedagogical style of instruction. Those instructors utilizing weekly reading assessment made those documents and texts available for review. Document analysis was used to more fully understand student comments from survey questions, focus group discussions, and interview dialogue for emerging themes and relevant relationships.

## Data Analysis

Collection and analysis of data is an ongoing process conducted simultaneously throughout the study in qualitative research (Merriam, 1998; 2002). In this research design closed-end questions from surveys were used to provide comparative information to past research findings of student reading completion and PowerPoint use. Opened-end data were collected in focus groups and interviews from transcribed notes for reflection and analysis. The data collected provided a rich narrative of student beliefs and practices in assigned reading, note taking, PowerPoint presentation, and weekly assessments. Concurrent data from the faculty focus group and interviews brought a contrasting view of instructor perceptions of these same issues and discussion on appropriate instructional methods. Additionally, faculty assessment and PowerPoint documents were analyzed to ascertain any relationships to focus group and interview comments. All of the data collection methods were used to triangulate research data providing a detailed, thorough and consistent approach. All data were collected solely by the researcher for consistency, utilizing member checks for accuracy (Merriam, 1998).

### *Transcription and Coding*

All focus group and interview sessions were transcribed from two recorders to ensure accuracy. All student and faculty names were replaced with fictitious student and faculty names to maintain anonymity. Coding, the process of assigning shorthand designation to aspects of data for retrieval and review, was employed initially to identify information about the data collected (Merriam, 1998). Additionally, coding and themes were used to identify specific constructs and relationships of data. Related data were linked into large groups which Creswell (2003) called chunks. Initially, preexisting

coding was used utilized to identify information relating to research question categories of assigned student reading, PPT use, PPT downloadable notes, weekly assessment quizzes, and active learning. Similarities and relationships between these coded themes were delineated hierarchically into categories and finally into emerging themes. The use of individual and small group interviews provided continued review and discussion of content areas most pertinent to research questions. A final descriptive classification of the emergent themes provided opportunity for the researcher to determine the common issues analyzed from all data sources, both faculty and student perceptions, particularly through the concept change theory frame.

### Summary

Included in this chapter was the rationale for the use of a predominantly qualitative research study to investigate the relationship of assigned reading completion for students in higher education and the use of PPT for delivery of core course content during class. The research was framed used concept change theory.

The research questions, study limitations, design controls, sampling method, and research participants were presented. The data collection and data analysis methods followed. Chapter Four contains a detailed description and analysis of the data. Finally, a summary of the research findings, the limitations and implications of the study, and recommendations for future research are provided in Chapter 5.

## CHAPTER FOUR

### PRESENTATION AND ANALYSIS OF DATA

#### Introduction

Literature suggests the unreflective use of PowerPoint (PPT)-type presentations to deliver core content in higher education classes may have a negative effect on student learning (Driessnack, 2005; Kinchin et al. 2008; Maxwell, 2007). Many students rely heavily on downloadable notes from electronic delivery to the exclusion of out-of-class assigned reading in preparation for assessment (Driessnack, 2005; Kinchin et al. 2008). Concurrently a continual shift of student focus away from class preparation and self-learning (Clump & Doll, 2007; Lord, 2008; Sappington, Kinsey, & Munsayac, 2002) fosters an environment where students forgo preparation and rely on professors to distill information from texts and render appropriate content conclusions (Adams, 2006; Song et al. 2007). As the development of lifelong learning has always been a goal of the college experience, it seems prudent to examine this phenomenon. Presented in this chapter is a review of the study research design, data collection methods, conceptual theory, and research questions, as well as findings of surveys, documents, focus groups, and interviews.

#### Study Design

This mixed-methods was conducted at a mid-sized Midwestern state university within a school of technology. The research was focused in one program discipline area examining the influence faculty use of PPT to deliver core class content on the completion rates of assigned student reading in preparation for class. The students and

faculty participants were purposefully selected (Creswell, 2003) from a college unit traditionally utilizing PPT as a recommend delivery mode where several faculty members utilized weekly reading assessment to gauge student reading preparation.

#### Data Collection Methods

Before distribution of online surveys to faculty members and students, the researcher secured written permission from the university's School of Technology chair where the research was conducted. The researcher then completed formal application to the Human Subjects Protection Board (HS) at the institution where research would be conducted and the Institutional Review Board (IRB) at the University of Missouri which administered the doctoral program of the researcher. The applications included information about the purpose, participants, design, and scope of the study.

After HS and IRB approval (Appendix K & L respectively), electronic informed consent forms for student and faculty participants were attached to the online surveys (Appendix A & B respectively) administered by Survey Monkey. Informed written consent was obtained for student and faculty participants volunteering for focus groups and interview sessions (Appendix C & D respectively). Following the completion of focus groups and interviews, all participants were offered the opportunity to receive a verbatim transcript of their session to clarify their recorded responses following member check protocol (Merriam, 2002).

The data were triangulated through three tiers of research beginning with online surveys, from which volunteers were structured into focus group sessions, concluding

with selected additional interviews of students and faculty members of the area and additional information gleaned through document analysis from faculty members' PPT presentations and assessment quizzes and exams. All focus group and interview sessions were audio recorded with two recorders and member checked. All relevant observations were recorded in a field log and research journal (Appendix N).

Invitations to participate in the first tier information gathering, voluntary online surveys, were sent to faculty members in the area of study. Six faculty members completed the survey. Five faculty members volunteered to be involved in the focus group session. One faculty member could not attend the initial meeting date and was interviewed at a later date with focus group questions and the follow-up interview questions. Two of the five faculty focus group participants were selected for an additional interview due to their own research on student learning and strong opinions on student response to PowerPoint lectures, assigned reading completion, and purpose of weekly assessment.

The total population of 157 students in the discipline area was invited to participate in the student survey through Blackboard e-mail. An ad hoc section was constructed by Blackboard administrators to facilitate all e-mail and document storage for the student surveys, focus groups, and interviews. Eighty-four students chose to participate in the survey. Of those 84 students surveyed, 14 volunteered for focus groups. Two additional students volunteered at a later time to be included in the focus group sessions for a total of 16 focus group participants. Two student focus group sessions, one composed of nine students and another of seven students, were conducted. Three students were selected from the focus groups for additional interviews, including a visiting

international student who had previously expressed concern over the lack of class preparation and in-class dialogue of American students, a freshman in the program area, and a graduate assistant with an undergraduate degree in the program area who had experienced teaching styles of all faculty members in the study. Finally, PPT lectures, reading assessment quizzes, and other documents from instructors were analyzed to ascertain pedagogical styles of the program area.

### Conceptual Framework

Concept change theory was employed as a theoretical focus of the inquiry. This theory examines key factors which contribute to student learning including (a) explicit communication of teacher's learning activities and student to-be learned expectations; (b) cognitive connections to other concepts and disciplines; (c) affective influences through use of metaphors, analogies, shared experiences and personal beliefs; and (d) motivation (Song et al. 2007). The important role of the instructor and a lack of focus and understanding of conceptual change and the dynamic relationship between teacher and student are recurring themes in literature (Song et al.). Research surveys, focus groups, and interviews were designed and developed to illuminate successes and failures in addressing the four key factors of the concept change theory which contributes to student learning. Because educators can use this theory as a lens to evaluate their instruction, effectiveness of student learning, and to facilitate dynamic curriculum and class instruction development (Song et al.), the theory facilitated a guided approach to the interpretation of data.

## Research Questions

Research design in survey, focus group and interview parameters sought to answer the following research questions:

1. How do students use assigned reading for class preparation?
2. How do students use PPT lecture, notes and downloads when preparing for quizzes and tests?
3. What types of course material and process of preparation do instructors normally use in preparing electronic presentations which students may perceive contain assessment information?
4. How does the use of PPT presentations, which provide course content, affect student assigned readings and other traditional class preparation methods?
5. How can the administration of reading assessment quizzes before class discussions encourage assigned reading completion?
6. How can the use of reading assessment quizzes and informed use of PPT encourage assigned reading completion rates and active learning in higher education classrooms?

## Process of Data Analysis

### *Participant Codes*

Codes were applied to participants to ensure confidentiality. A list of fictitious codes from the focus group and interview transcripts was indexed with randomly selected common names to facilitate readability and listed in Appendix O. Faculty participants in focus groups and interviews were labeled accordingly: Professor Booth, Professor Taylor, Professor Patton, Professor Marx, Instructor Willoughby, and Instructor Shultz. Student

participants from focus session and interviews were given the following code names selected in a similar manner as faculty members. Focus group one included: Harold, Molly, Brandi, Lonnie, Kevin, Teresa, Caroline, Cathy, and Holly. Focus group two included: Trevor, Aaron, Kurt, Judy, Henry, Carol, and Amelia. The student interview included: Teresa, Brenda, and Henry. Teresa and Henry were participants in the focus group sessions. Brenda wanted to participate in a focus group but was unable due to scheduling but volunteered to be included in the interviews.

## Surveys

### *Faculty Surveys*

During the second week of the spring semester, online surveys were uploaded to Survey Monkey with provisions for informed consent. Survey Monkey settings initiated by the researcher assured no computer IP addresses were recorded in the question answers to maintain anonymity of the responses. Six faculty members responded and completed the survey.

### *Faculty Survey Questions/Responses*

The faculty survey (Appendix F) was comprised of ten questions developed to ascertain faculty perceptions of PPT use in their classroom, assigned student reading and percentage of completion, and success of student reading assessment to encourage student reading. Five value answers in descending order could be chosen, as well as an option not to answer. A matrix of these survey questions as they pertain to the research questions is referenced in Appendix M.

*Survey question one: Lectures in my classroom are delivered through PowerPoint or similar electronic software.* PPT use in this program area of the school of technology

is obviously the dominant electronic software used. Of the six faculty responses, one answered PPT was used to deliver lectures “most of the time” and the remaining five answered “some of the time.” These numbers become more meaningful considering the graphic-based program area from which the research was conducted. According to the faculty participants, many class sessions in the program area require large amounts of hands-on demonstration, training, studio and application exercises, and individual use of technology during a considerable amount of class time. Few of these classes would utilize PPT lectures.

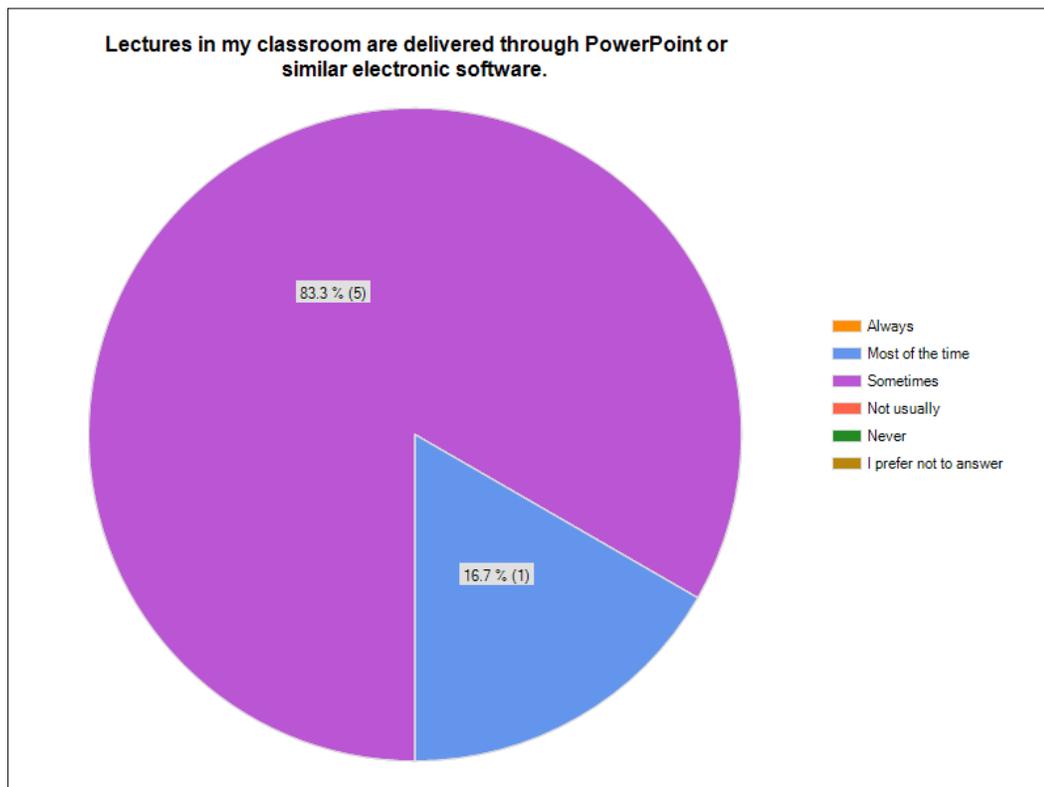


Figure 1: Faculty survey question 1 responses

Survey question two: My electronic lectures cover the major points of instructional content in the course. Four of the six (66.6%) respondents reported considerable content was delivered by electronic presentation and two (33.4%) faculty

members suggested PPT was used all the time. All six faculty participants reported some use of electronic lectures in classrooms (see figure 2).

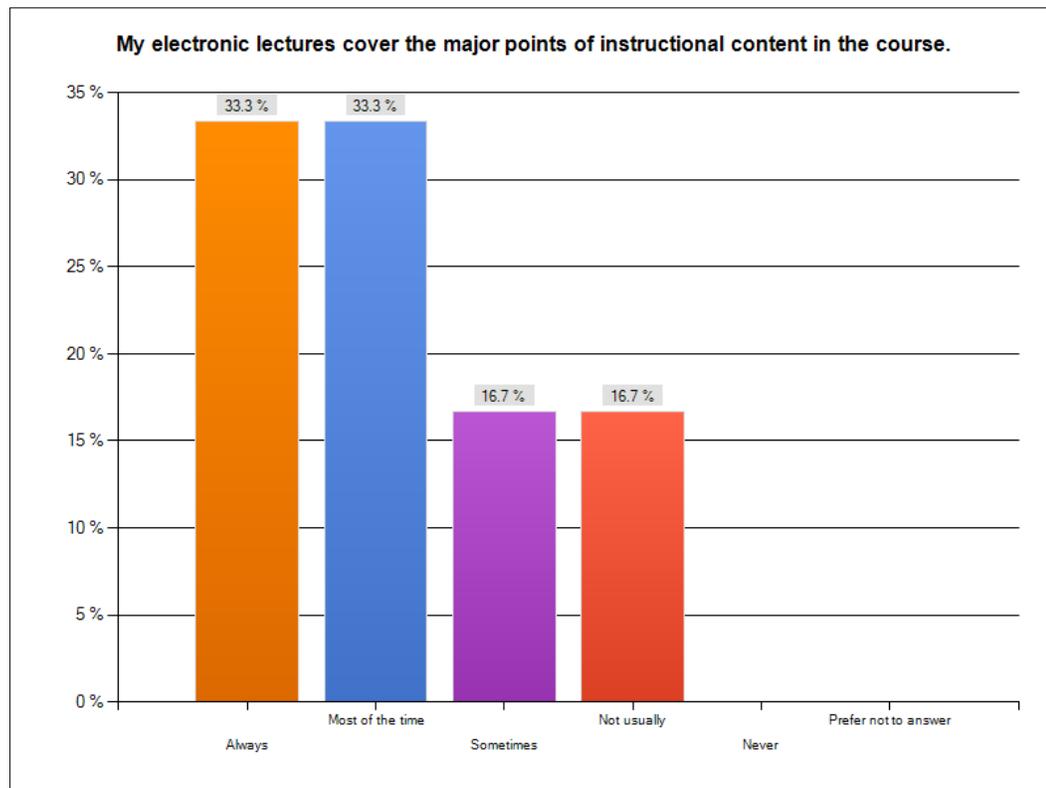
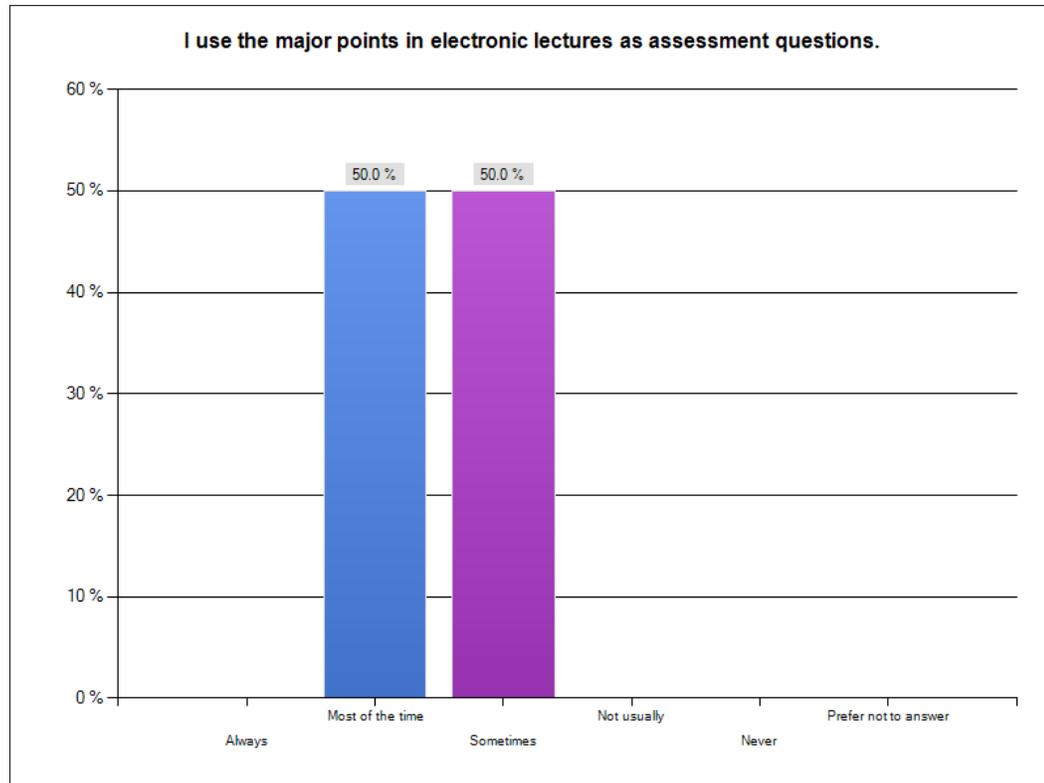


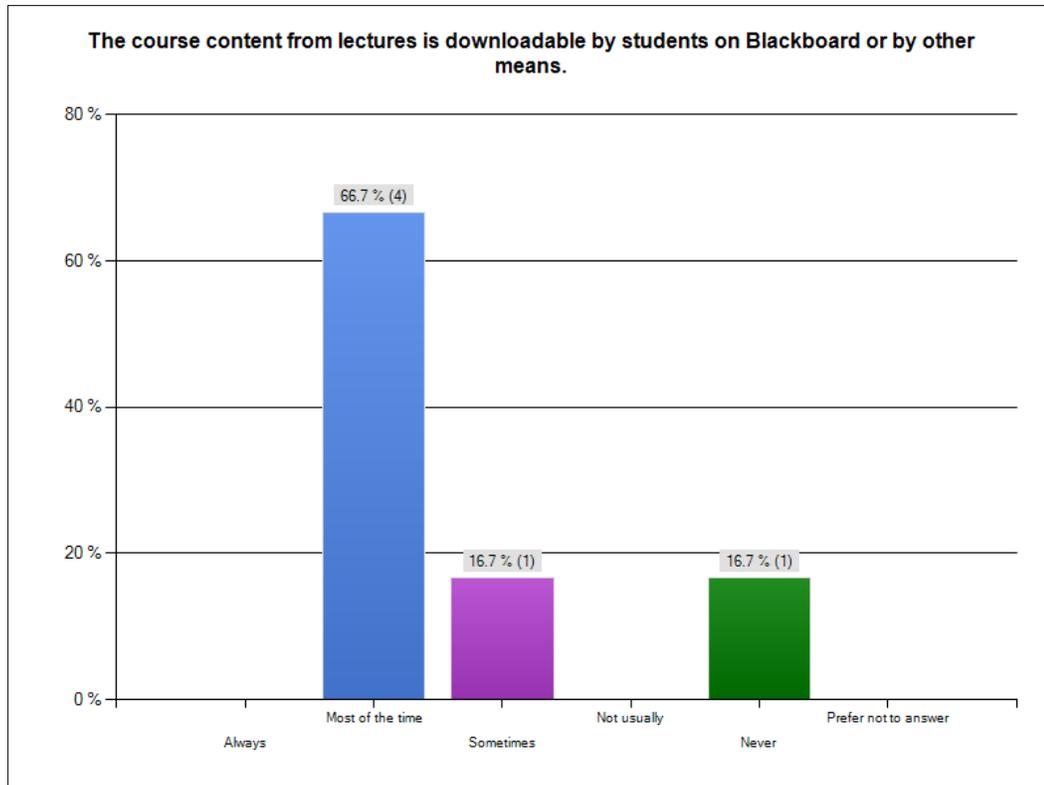
Figure 2: Faculty survey question 2 responses

Survey question three: I use the major points in electronic lectures as assessment questions. Three (50%) respondents claimed they developed assessments using major points from PPT lectures “most of the time” and the remaining three instructors responded they used major PPT points “sometimes” for assessment questions (see Figure 3). All faculty respondents used major PPT bullet type points for “some” or “most” of their assessment construction. Insight gained later in focus groups confirmed 50% of faculty members use weekly reading assessment quizzes prior to delivering the PPTs on those subject areas.



*Figure 3: Faculty survey question 3 responses*

*Survey question four: The course content from lectures is downloadable by students on Blackboard or by other means.* Four (66.6%) of the six respondents indicated they provided opportunities for lecture materials to be downloaded by students. One (16.7%) faculty member responded he provided this opportunity “some of the time” and another respondent indicated he “never” provided lecture material in a downloadable fashion by Blackboard or other means (see Figure 4). Faculty focus group comments highlighted some studio classes have few lectures that render downloadable notes which may account for the “sometimes” and “never” responses.



*Figure 4: Faculty survey question 4 responses*

*Survey question five: I use textbook or other materials from which I assign student reading to be completed prior to class.* One respondent indicated he “always” gave assigned reading. Four (66.6%) respondents answered they gave assigned readings “most of the time.” One (16.7%) professor noted he did not usually give assigned readings. One professor responded he did “not usually” assign reading from a textbook to be completed prior to class (see Figure 5).

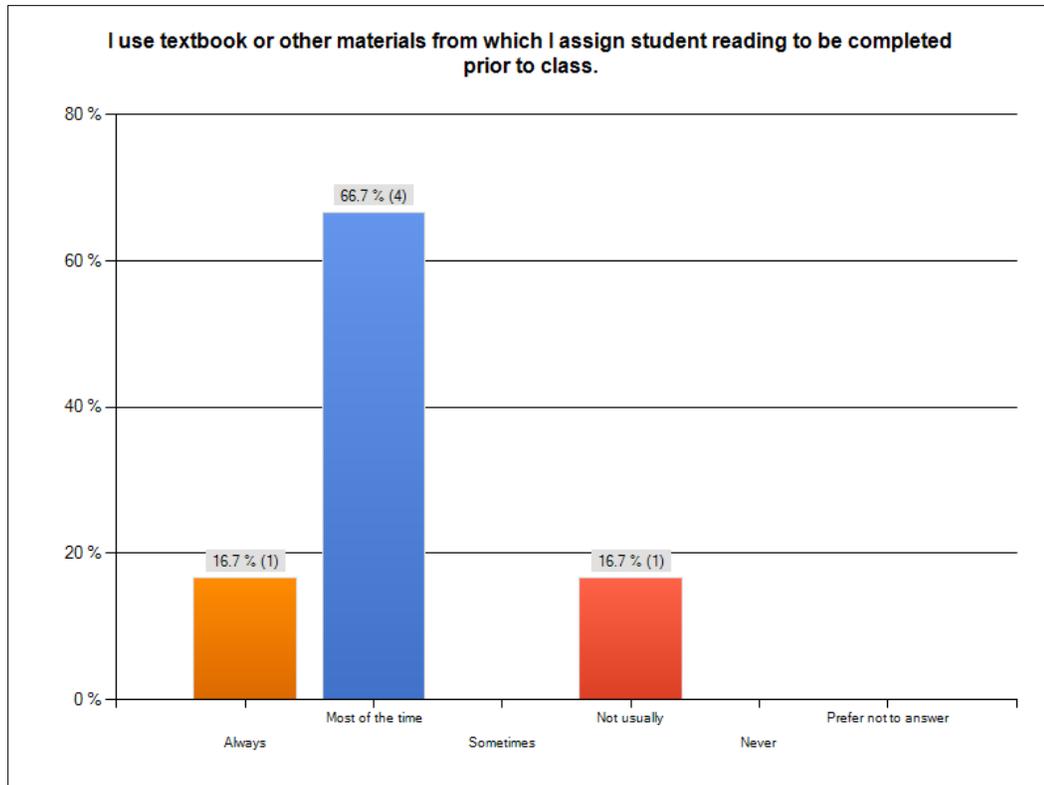


Figure 5: Faculty survey question 5 responses

Survey question six: I administer weekly reading assessment quizzes to encourage assigned reading. Three (50%) faculty responses indicated weekly assessment quizzes were used to encourage assigned reading “most of the time.” Two (33.3%) additional faculty members indicated they “sometimes” used weekly quizzes. Only one (16.7%) faculty member noted he did “not usually” administer weekly assessments to encourage reading (see Figure 6).

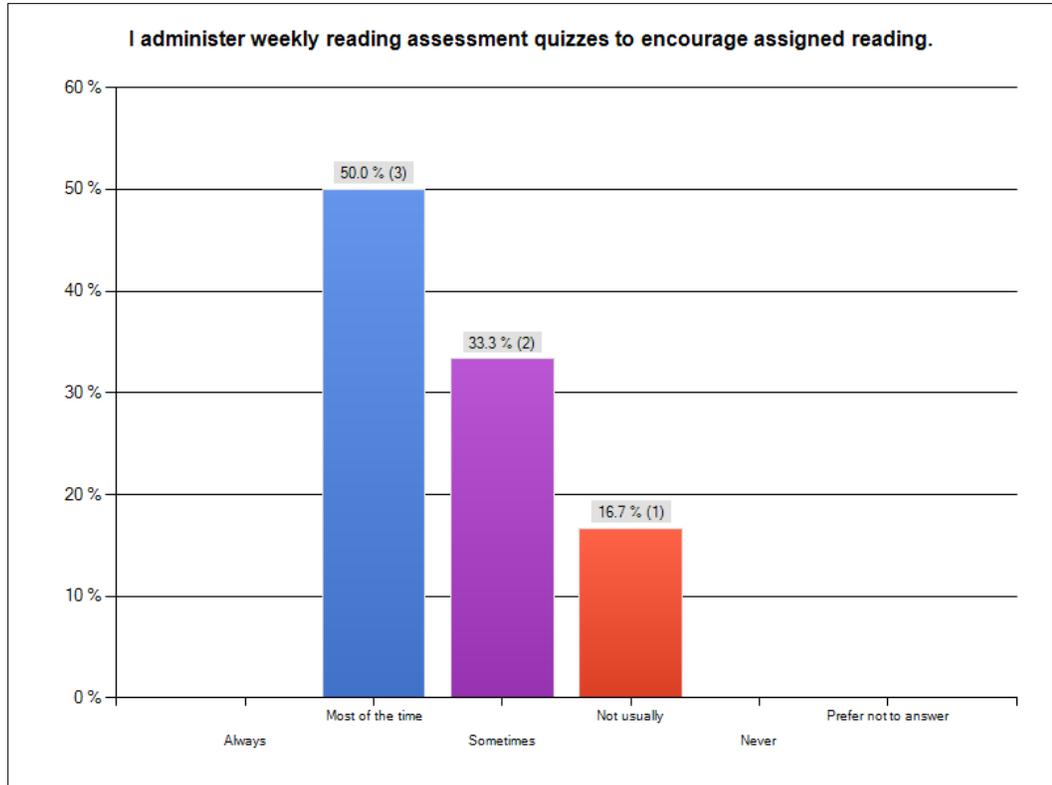
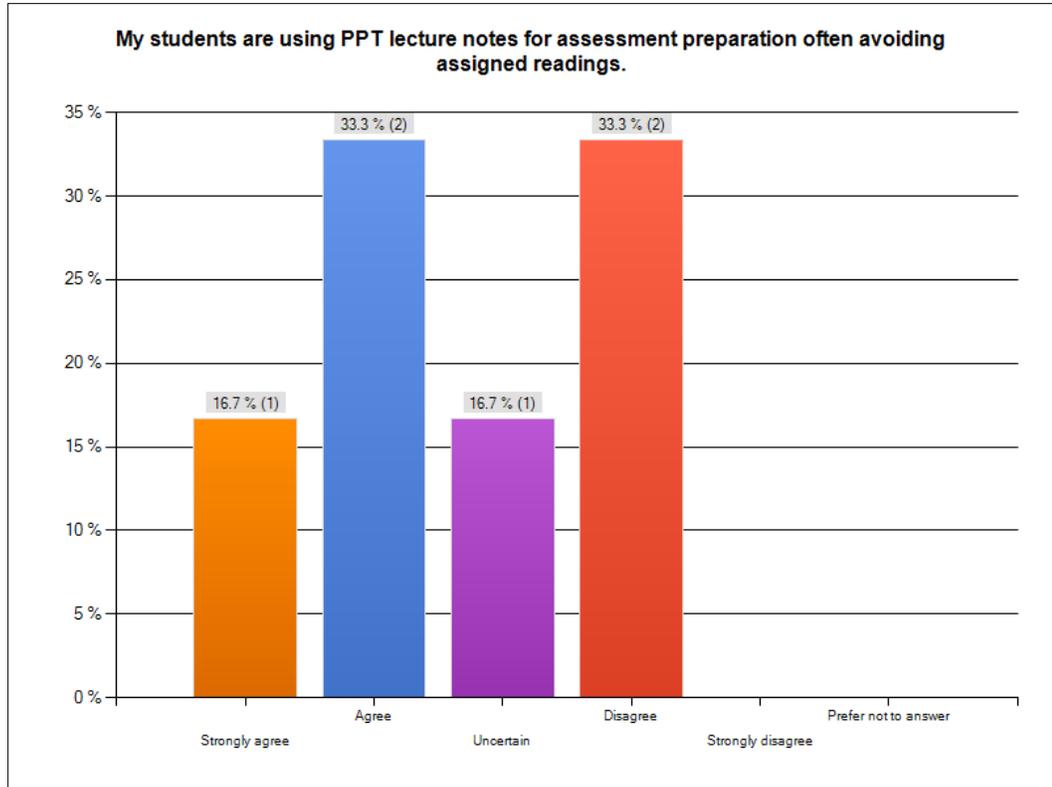


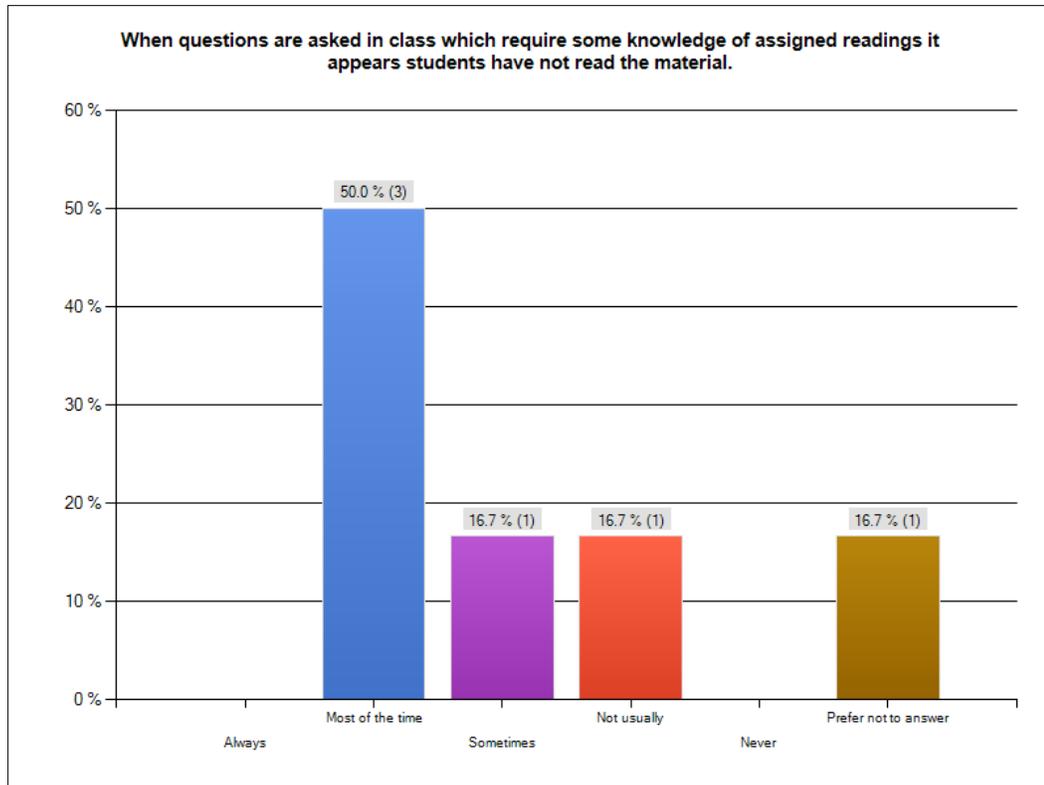
Figure 6: Faculty survey question 6 responses

Survey question seven: My students are using PPT lecture notes for assessment preparation often avoiding assigned readings. In this survey response there were mixed results. One (16.7%) faculty member believed strongly that students used lecture notes for assessment avoiding reading. Two (33.3%) faculty respondents “agreed”, one was “uncertain” and two “disagreed” (see Figure 7).



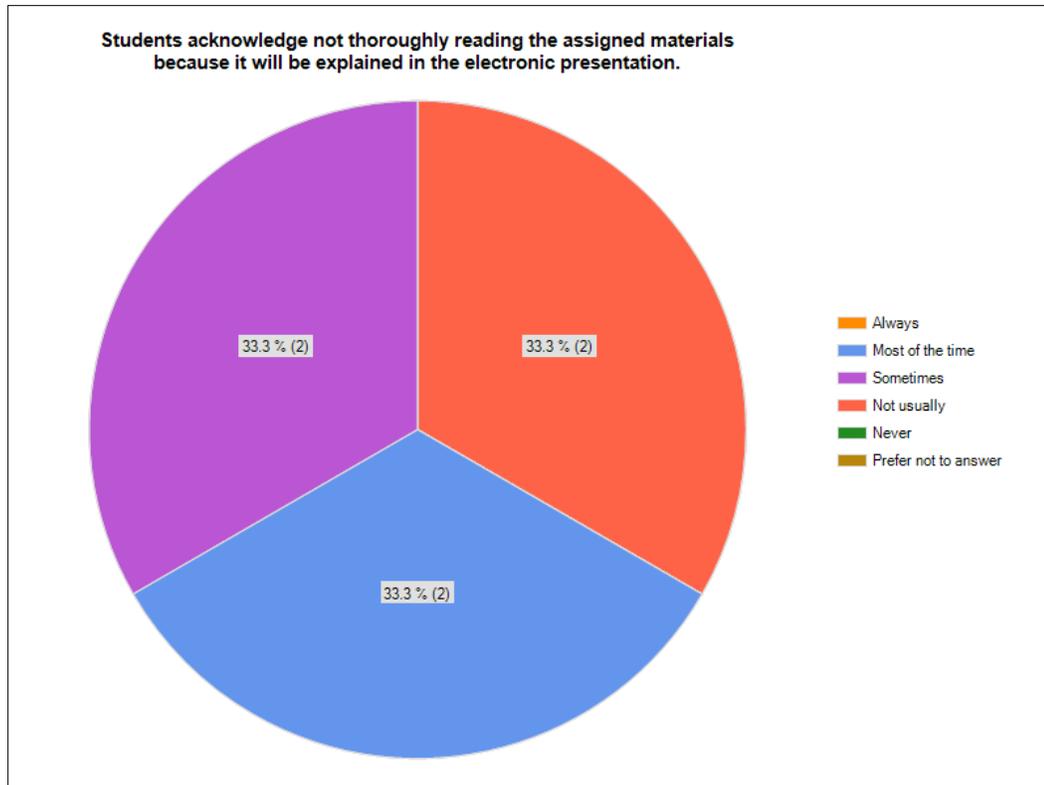
*Figure 7: Faculty survey question 7 responses*

*Survey question eight: When questions are asked in class which require some knowledge of assigned readings it appears students have not read the material. Three (50%) faculty members surveyed, when they ask students if they have completed their assigned readings, believe students are not reading the assigned material before class. One (16.7%) respondent believed they did “sometimes,” and “one not usually.” One faculty member chose not to answer (see Figure 8).*



*Figure 8: Faculty survey question 8 responses*

*Survey question nine: Students acknowledge not thoroughly reading the assigned materials because it will be explained in the electronic presentation. The results of this question were split evenly at two (50%) faculty responses each between the answers “most of the time,” “sometimes”, and “not usually (see Figure 9).*



*Figure 9: Faculty survey question 9 responses*

*Survey question ten: Active learning occurs in my classrooms.* Five of the six (83.3%) faculty believed active learning occurs in their classrooms “most of the time” (see Figure 10). One (16.7%) faculty member believes it occurs “sometimes.” Although these appear lofty perceptions and could invite skepticism that faculty members are biased toward their instructional accomplishments, student survey question ten results support the faculty viewpoint (see Figure 20).

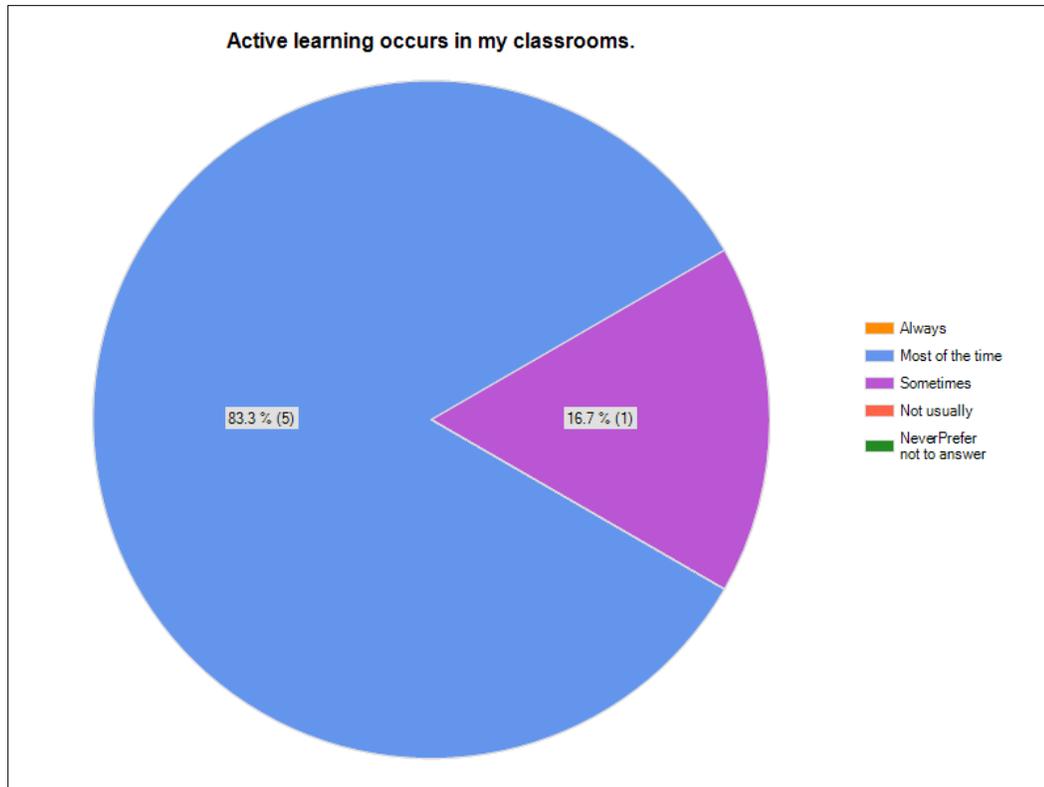


Figure 10: Faculty survey question 10 responses

### Student Surveys

During the fourth week of the spring semester, the online surveys were uploaded to Survey Monkey with provisions for informed consent. Survey Monkey settings initiated by the researcher assured no computer IP addresses were recorded in the question answers to maintain confidential responses. Eighty-four students ( $N=84$ ) out of a program population of 157 queried through a Blackboard section responded and completed the survey. Sixteen ( $N=16$ ) of those students volunteered for focus group sessions.

### Student Survey Questions/Responses

The student survey (Appendix E) was comprised of ten questions developed to ascertain student perceptions of PPT use in their classrooms, assigned student reading

and percentage of completion, and success of student reading assessment to encourage student reading. Five value answers in descending order were available as well, as was an option not to answer. A matrix of these survey questions as they pertain to the research questions is referenced in Appendix M.

*Survey question one: It is beneficial to read assigned textbook sections and other material for class.* Seventy-five (82.7%) of the student responses indicate a belief by students that there is benefit in reading assigned materials in preparation for class. Out of 84 responses, 36 (42.8%) students “strongly agreed” that it was beneficial to read assigned material before class.” Thirty-three (39.9%) selected “agree.” Five (5.9%) students choose “disagree,” one (1.2%) “strongly disagreed,” with one (1.2%) uncertain. One student choose not answer (see Figure 11).

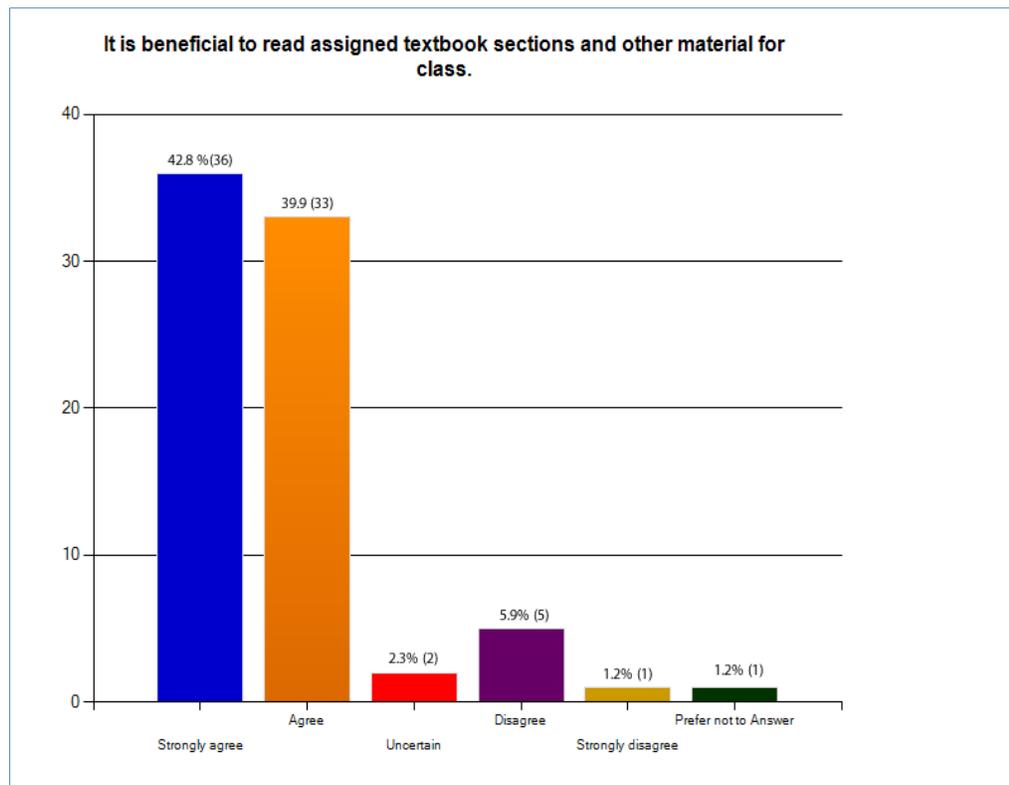
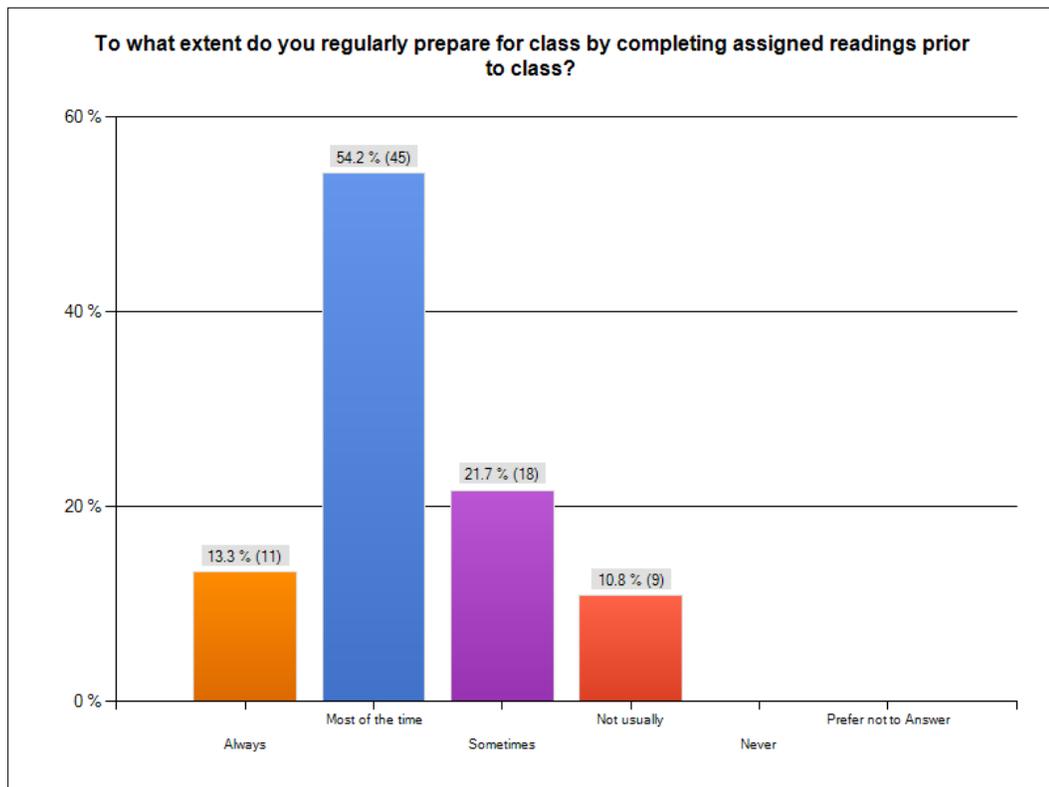


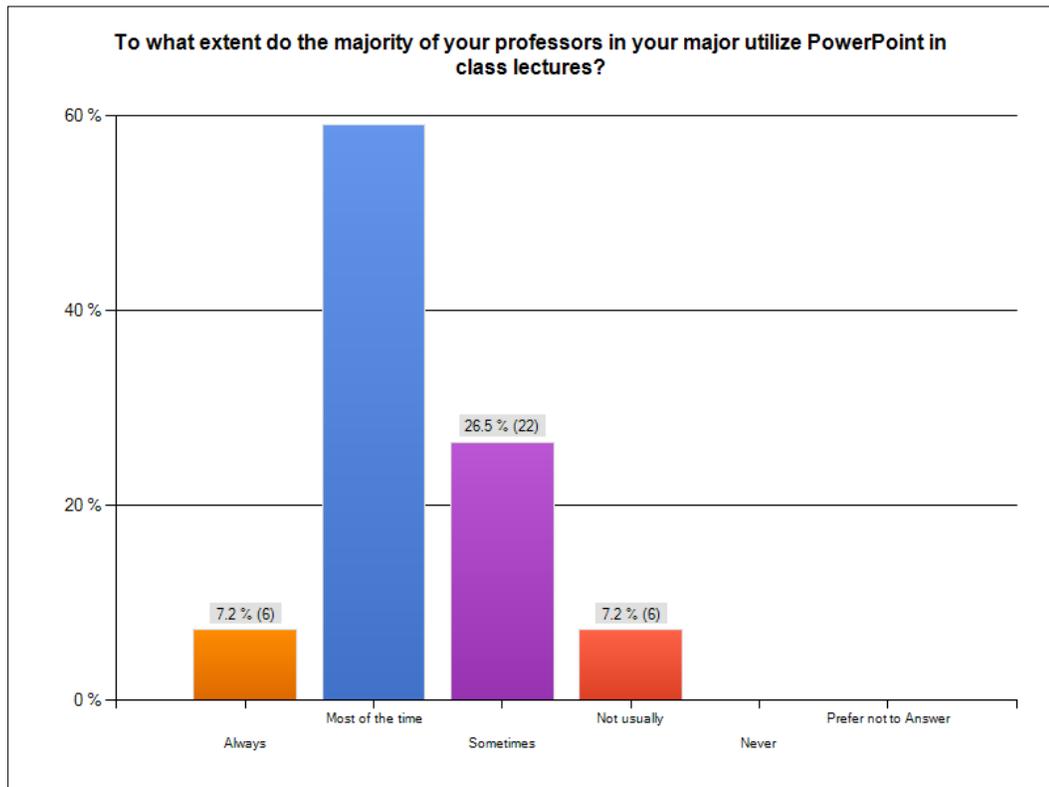
Figure 11: Student survey question 1 responses

*Survey question two: To what extent do you regularly prepare for class by completing assigned readings prior to class?* Following the trend of question one, student responses indicated that 45 (54.2%) responded they prepared for class by completing assigned reading “most of the time.” Another 11(13.3%) students believed they completed assigned reading “all the time.” Eighteen (21.7%) students indicated they prepared “sometimes.” The total of these three first responses would indicate that 89% of students believe they prepare in some manner at least a portion of the time by completing assigned reading (see Figure 12).



*Figure 12: Student survey question 2 responses*

*Survey question three: To what extent do the majority of your professors in your major utilize PowerPoint in class lectures?* A large number of students responded their professors utilize PPT in class lectures. Six (7.2%) students responded “always,” 40 (59.1%) students responded “most of the time” and 22 (26.5%) students responded “sometimes” (see Figure 13). This left only 6 (7.2%) students who responded “not usually.” It is possible these students were enrolled in studio classes in which electronic lectures were seldom used because class time is utilized in hands on activities according to faculty members in focus group discussions.



*Figure 13: Student survey question 3 responses*

*Survey question four: I assume PowerPoint lectures will contain the key information for quizzes.* Eighty-one (96.4%) of all student participants indicated they assumed PPT lectures would contain key information for quizzes (see Figure 14).

Twenty-two (26.5%) responded “always,” 45 (54.2%) students “most of the time” and 14 (16.9%) indicated “sometimes.” Only two (2.4%) students out of the entire sample believed that assessment information for quizzes would not be included in PPT lectures.

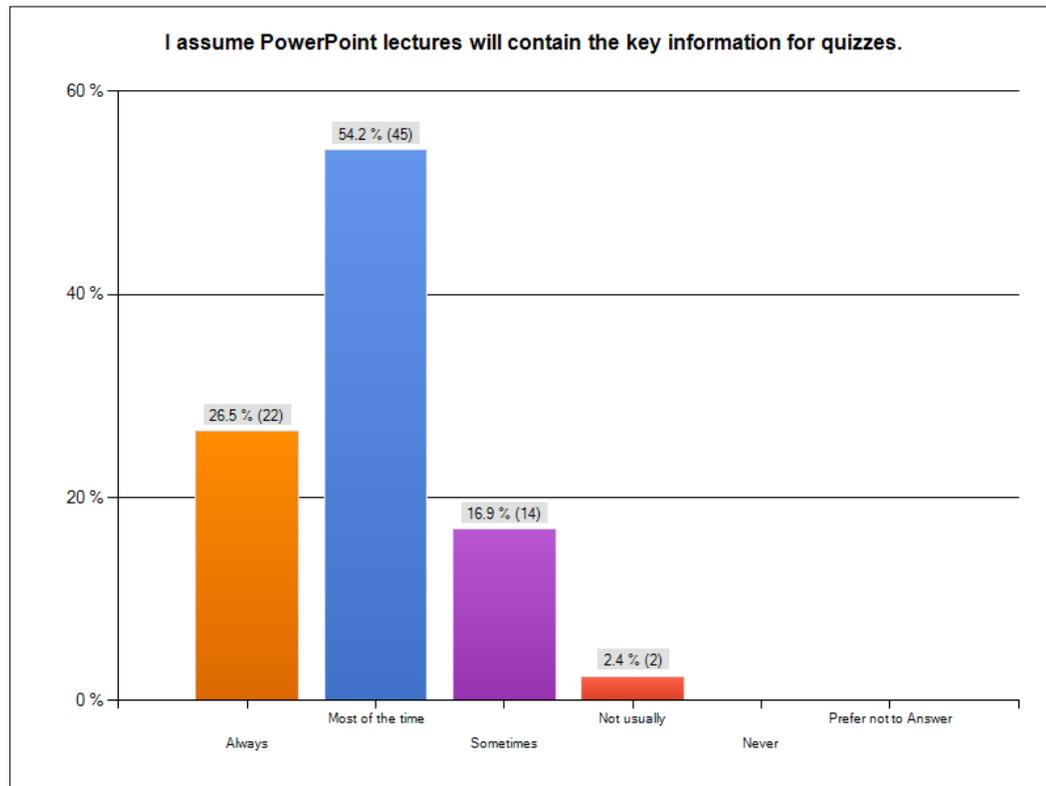
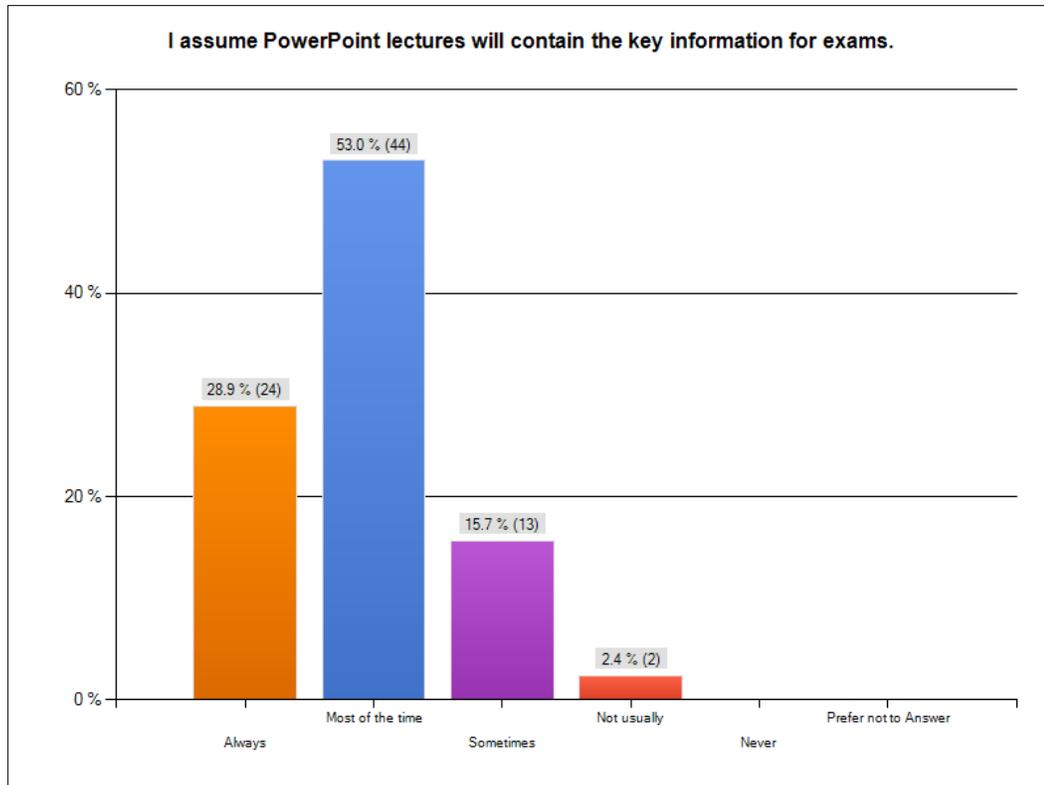


Figure 14: Student survey question 4 responses

Survey question five: *I assume PowerPoint lectures will contain the key information for exams.* The response to question five was almost identical to question four. Eight-one (96.4%) of all student participants indicated they assumed PPT lectures would contain key information for tests at some time. Twenty-four (28.9%) responded “always,” 44 (53%) “most of the time,” and 13 (15.7%) indicated “sometimes.” Only two (2.4%) students out of the entire sample believed that assessment information for quizzes would not be included in PPT lectures (see Figure 15).



*Figure 15: Student survey question 5 responses*

*Survey question six: The majority of PowerPoint lecture material is available for download or printed notes are available in class. Most of the students indicated PPT lecture material was available for download. Sixteen (19.3%) students responded this was “always” the case, 34 (39.8%) indicated “most of the time,” and 25 (30.1%) believed it was “sometimes” available. Eight (9.6%) students answered “not usually.” Only one student responded materials were “never available” for download (see Figure 16).*

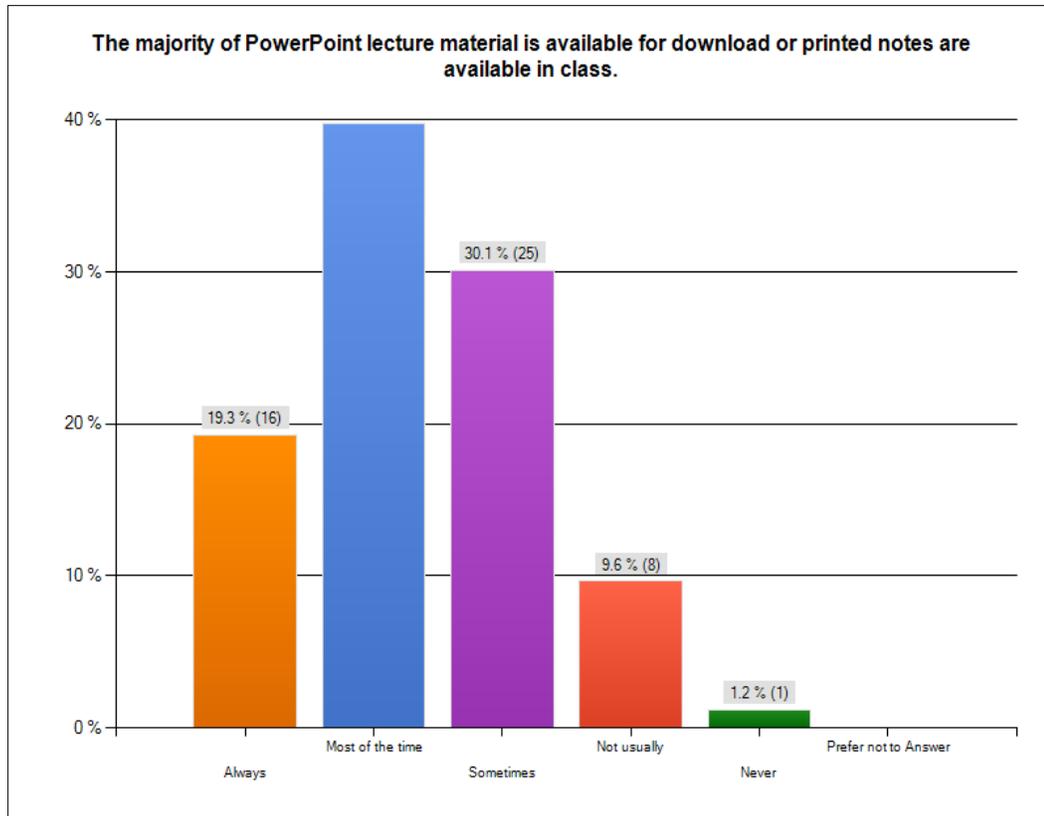


Figure 16: Student survey question 6 responses

Survey question seven: *I use PowerPoint lecture notes to study for quizzes and exams rather than reading assignments and personal notes.* Responses to this question were varied (see Figure 17). The large majority of students indicated they used PPT lecture notes instead of reading assignment and personal notes to study for assessments. Thirty-six (43.4%) students responded “sometimes,” and 25 (30.1%) students “not usually.” A significant but much smaller group of nine (10.8%) students indicated they “always” used PPT notes to exclusion of reading and 10 (12%) of the other students cited “most of the time.” Three (3.6%) students chose “never” as a response.

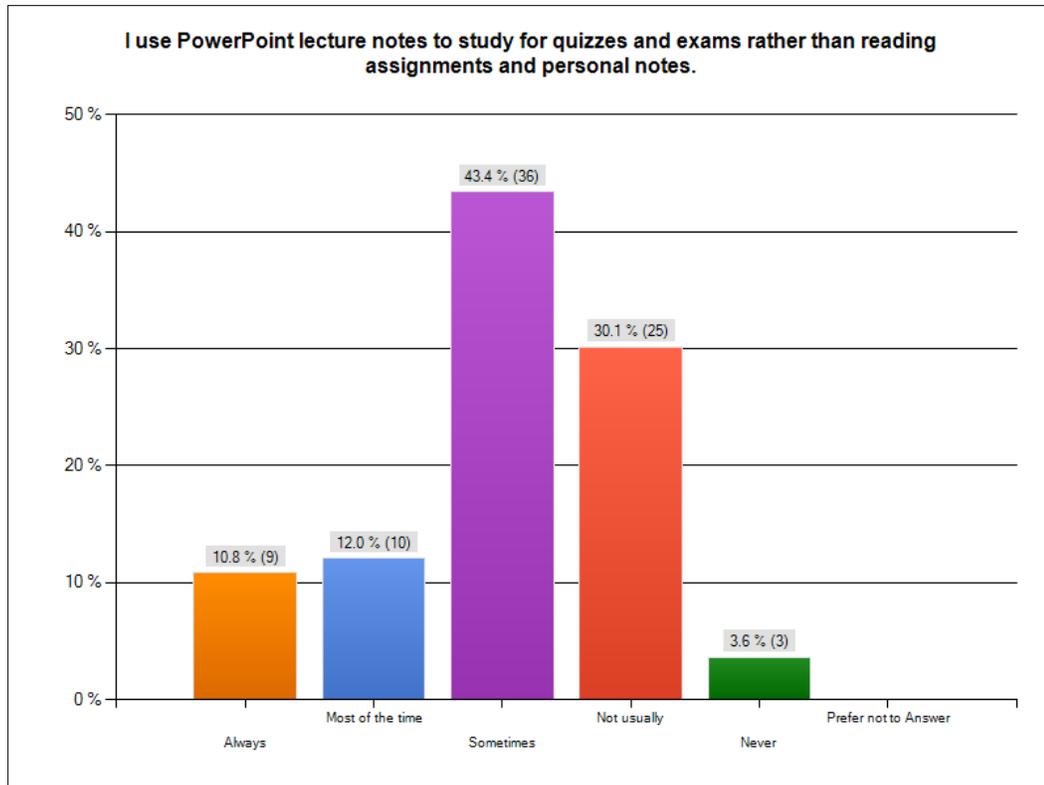


Figure 17: Student survey question 7 responses

Survey question eight: The majority of my professors in my major utilize weekly reading assessment quizzes. Sixty-six (78.5%) student responses indicated their professors utilize weekly reading assessment quizzes to some extent (see Figure 18). Thirty-three (38.3%) students believed professors used assessment quizzes “most of the time”, 6 (7.2%) responded “always,” and 27 (32.5%) students responded “sometimes.” Seventeen (20.5%) students responded “not usually.” One (1.2%) student preferred not to answer. This number is significant when coupled with faculty focus group dialogue where only three of the six professors indicated they use weekly assessment.

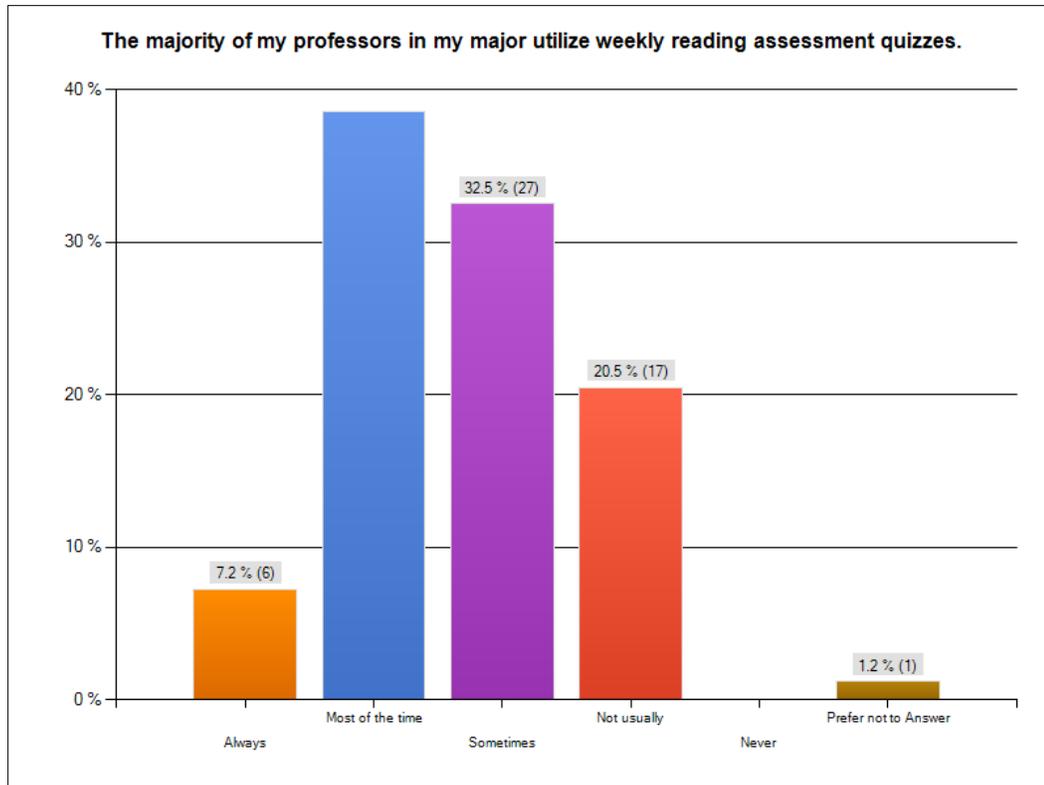


Figure 18: Student survey question 8 responses

Survey question nine: *I am more likely to read my weekly assignments if I know there is a quiz over the readings.* Seventy-one (84.5%) students in the survey indicated they are more likely to read weekly an assignment if they know that an assessment is impending. Forty-two (49.5%) students indicated they “strongly agree” with this statement and another 29 (34.9%) students “agreed.” Five (6%) students were “uncertain” and seven (8.4%) students “disagreed” with the survey statement. One (1.2%) student preferred not to answer (see Figure 19).

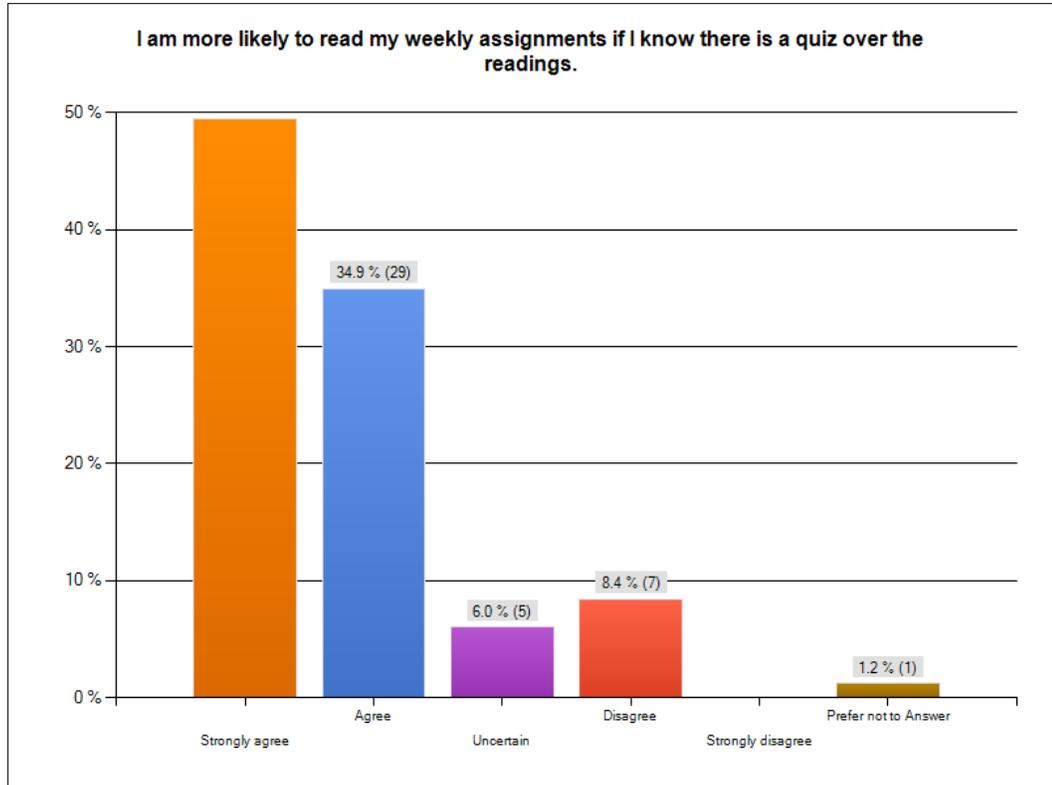


Figure 19: Student survey question 9 responses

Survey question ten: Active learning occurs in my classrooms. Eighty-three (98.9%) students believed active learning occurs in their classrooms at some level (see Figure 20). Nineteen (22.9%) students believed this “always” occurred, and 50 (59%) students believed it occurred “most of the time.” An additional 14 (16.9%) students responded it took place only “sometimes.” Only one (1.2%) student answered “not usually.” The term active learning was not defined in the survey materials and, therefore, was left to student interpretation.

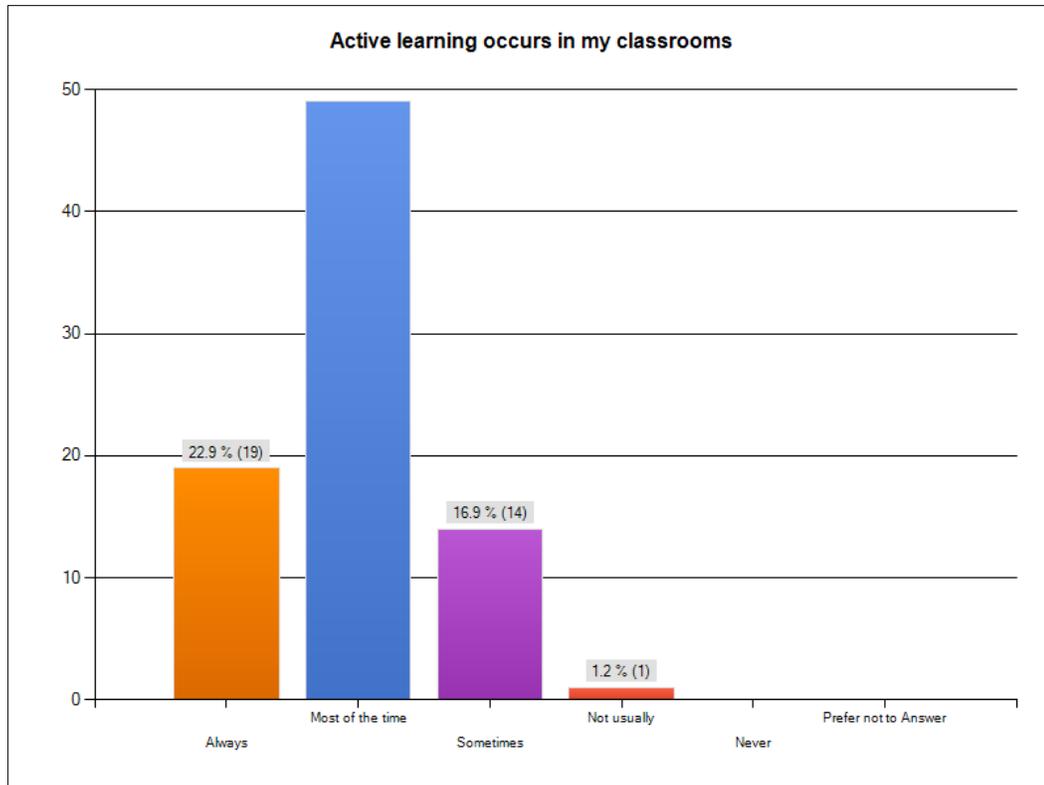


Figure 20: Student survey question 10 responses

### *Faculty Focus Group*

Although five faculty members volunteered for the focus group on a mutually agreed upon date, one member, Instructor Shultz, notified the researcher the morning of the session that he would not be able to attend due to work schedule changes. This faculty member was interviewed at a later date. All participants completed the informed written consent document (Appendix D). The meeting was held in a reserved faculty conference room where distractions could be minimized and a clear and understandable audio recording could be made for transcription.

### *Faculty Interviews*

Three faculty members were selected by the researcher for additional interview questions (Professor Shultz, Professor Taylor, & Professor Patton). The interview of the

adjunct instructor Shultz included both the faculty focus group and individual interview questions. Individual interviews were conducted in the researcher's academic office with professors Taylor and Patton.

### *Student Focus Groups*

Student volunteers for focus groups were divided into two focus group meetings scheduled approximately one week apart. Both focus groups contained a mixture of lower and upper classmen. Both sessions were in the afternoon following morning classes. The first session consisted of nine students, all Caucasian females. The second session consisted of seven students, three Caucasian males and three Caucasian females, as well as the program area's one foreign exchange student from China. One member of the focus group was a female graduate student. Both sessions were conducted in a reserved conference room to avoid distractions and allow clear audio recording for transcriptions. All students completed the written informed consent forms (Appendix C).

### *Student Interviews*

Three student participants from focus group sessions were selected purposefully by the researcher for the interviews. Teresa, a graduate student from the program area, was selected due to the number of years spent in the program, beginning as a freshman. The second student selected, Henry, an international student from China, was chosen for the interview because of comments in the focus group session and other dialogue contrasting Chinese and other foreign exchange student's views of class preparation and scholarship to American college student behavior. The third student, Brenda, could not participate in the focus groups due to schedule conflicts but volunteered to contribute in

the interview session and was the only first year freshman selected for a focus group or interview.

### Document Analysis

The researcher conducted an analysis of documents from program area instructors participating in the study. This review examined weekly quizzes, and comprehensive tests, and PPT presentation materials. An additional general overview of course delivery style and pedagogy was requested from each of the faculty participants in the form of class schedules, syllabi, etc. The review of the assessments resulted in the following information: (a) one professor, Marx, used weekly reading assessment prior to class activities continuously with no other assessment of the reading material in the course, (b) three professors, Patton, Taylor and Shultz, used weekly assessment prior to class activities at least on a partial basis, with added assessment on reading material and PPT notes on midterm and final examinations, and (c) two professors, Booth and Willoughby, utilized a mixed approach to assessment with no clear regimen for weekly assessment quizzes.

PPT lecture formats, length, visual appeal, and content varied considerably. Documents indicated all professors used PPT in almost every course taught, but three instructors in particular did not regularly utilize PPT to deliver core content with detailed bullet points. These same faculty participants stated clearly in interview and focus group sessions they refrained from using electronic presentations to deliver important information in a predigested form. The PPT collections of Professors Patton and Marx evidenced a varied and yet semi-structured approach incorporating PPT lectures at times with stories, analogies, videos, examples coupled with activity, and group participation

days. One professor in particular, Marx, utilized senior students in the area to provide tutorials, class demonstrations, and team leading in their areas of expertise on occasion. In several of these activities, PPT lectures were developed and utilized by students.

Professor Taylor was particularly driven to develop and produce numerous PPT lectures as the main class content delivery instrument. These presentations were of extremely high intellectual caliber. The PPT presentations extensively used technology, science, history, art, and culture in lengthy structures sometimes resulting in almost 80 slides for a 55 minutes classroom session. These PPT lectures were no doubt developed for delivery of tremendous amounts of core content.

#### Codes

Coding of data was used in designing research tools and methods. Initially, codes centered on research questions of (a) student assigned reading completion, (b) PPT use and effectiveness, (c) PPT downloadable notes used for assessment preparation, (d) weekly reading assessment quizzes to encourage reading, and (e) elements of active learning in classrooms were established as a framework for discussion through analysis of the literature review and the research questions. These codes were used throughout the triangulation of research data collection for student and faculty participants.

Underpinning this framework was a conscious regard to the key factors of concept change theory which include (a) explicit communication of teacher's learning activities and student to-be learned expectations; (b) cognitive connections to other concepts and disciplines; (c) affective influences through use of metaphors, analogies, shared experiences and personal beliefs; and (d) motivation of those in the learning process

(Song et al. 2007). From these a priori theme codes, a narrative thread emerged from student and faculty perceptions through in vivo codes.

#### Focus Groups and Interview Data

Questions for student and faculty focus groups were developed to ascertain opinions from their perspective on the study research questions. Questions for the interview sessions were developed to ask participant opinions of their counterparts. Students were asked why they believed professors taught the way they did, while professors were asked why they believed students responded in their current manner. This reversal of question perspective was developed to verify responses from both students and instructors, providing a more holistic view of their teaching and learning environment. The responses from all of the focus group and interview sessions were grouped according to question codes or relationship to the research questions for efficiency and clarity.

#### *Assigned Student Reading Completion*

There were several poignant comments from the students with an aversion to reading. Trevor commented, “I often don’t read, usually.” Heidi added, “Either the material isn’t my main interest in life, or the textbook is uninteresting.” Cathy stated, “I usually won’t finish it...I feel like it’s not worth my time.” Holly noted, “...usually if the reading is extremely long, I just kind of stop and skim the rest of it.” Lucy concluded her remarks with “I hardly ever read.” One freshman student, Brenda, summed up the majority of comments on the culture of student assigned reading during the student interview. “I would probably say the majority of freshman, at least in my grade, won’t do

the readings. They won't complete all of it, or they'll read some of it, but they definitely won't go above and beyond what you assign."

Most participating faculty shared a perception of student's value of reading that was similar to the students. Statistics from the faculty survey question on perceptions of students who fail to prepare for class by preparatory reading revealed 66.7 % of faculty members believe students appear to have not read their assignment. In a faculty interview, Professor Taylor stated starkly, "Students don't like to read, they don't want to read...reading requires too much effort."

Instructor Shultz concurred:

...they don't like to read...it's apparent that most of them feel that they can get the information necessary to pass the class in class and so the reading is often times viewed as external or extra work that's required. But I would say the majority of it is they just don't want to read.

Professor Patton started off interview comments with, "I don't think they [students] value the reading...I think...the broader number seems to not appreciate the readings."

Instructor Shultz estimated 20% or less of students appear to have read their assignments.

He does believe, however, those few read most of their material. Professor Patton noted this reading deficiency was evidenced in their performance:

And sometimes that comes through as they try to do the assignment how they are interpreting things and they're lacking the knowledge that they would pull out of the reading and should have brought to class, and they're not doing that, and so I can tell they are not reading the material.

#### *Aversion to Reading, a Generational Issue*

Faculty members Taylor, Shultz, and Patton, all believed the demise of assigned student reading completion is a generational phenomenon. Professor Taylor argued students from previous generations were not only accustomed to reading, but on some

level enjoyed the process. This desire in reading was believed to be paramount in the learning process. He commented:

...they would have a desire to learn to enjoy reading, just for the sake of learning and the pleasure you can extract from language, and you know, have a wide range of interests and have aspirations of functioning successfully in a dynamic world, among other people that are like minded if they're going to compete, if they want to compete, playing at the same level as the people you're going to compete with.

Professor Patton also strongly argued reading behavior for current students was generational. Patton, whose doctoral research included studies on Generation Y, the Millennials, and the end portion of Generation X and their use of digital modalities, believed students are now raised in what Craig and Amernic (2006) called the 'televisionality' advent in education. These young students are accustomed to electronic presentations in a visually fluent world filled with instant gratification viewing devices and medium such as smart phones, iPads, the internet, and Facebook. Several faculty members believe this digitally excited generation is less likely to find traditional assigned reading relevant.

Instructor Shultz was the youngest of the three instructors (Patton, Taylor, and Shultz) who believed reading attitudes were generational. Still in his mid-thirties and almost half the age of many professors in the faculty focus group, Shultz received college instruction from several of the faculty participants in the study. Shultz contended student reading today fails in part due to generational differences and the different manner current students approach learning and reading. When asked why he was different as a student he responded:

... I like to learn. I do care about my grades and wanted to succeed in the class but my over all driving force was learning the information...When I

was a student, I did things because I wanted the end result, that there was something I was getting out of it. I don't think the students are really getting much out of the process. Much of what goes on just has to do with how they derive satisfaction out of life, and they think that everything should be given to them. The idea of working for something is foreign to them.

Only one faculty participant, Professor Booth, believed her students completed the majority of their assigned readings. The basis for the belief was examination scores. Other instructors believed the rate the students completed reading assignments was at or below 50% in the focus group and interviews sessions with a belief many students are not reading at all. These numbers coincide very closely to the faculty survey question responses.

Student comments supported the awareness of this generational reading problem

Trevor commented:

I think that we turn it into a punishment, almost. Because as soon as a professor says, "Oh, we're not having a quiz this week," the cheers and the sighs of relief go through the room immediately. Because we turn it into...it's like "I have to read for this class, and it's going to suck, and I'm not going to, I'm going to watch a movie instead." It's just...I think it's our generation. We turn everything into work equals...time away from doing something else. And we always make it a bad thing.

#### *Poor Selection and Use of Textbooks*

A common theme among students in the focus group and interview sessions was how textbooks were selected and used. Even though students were not specifically asked if they liked textbooks or were questioned concerning the quality of materials selected for instruction, the issues of poor textbook selection and poor textbook use by instructors came out early in the discussion. This student perception was evident in Heidi's frustrated comments: "But there are some professors that either choose textbooks or choose

material that is so dense and convoluted that I just give up reading and play eeny, meeny, miny, moe.” Instructor Shultz believed one powerful reason students do not like assigned reading is they find the average textbook boring.

Professor Patton noted, however, that engaging and exciting relevant textbook materials, chosen with care and purpose, can have worthwhile and positive outcomes.

... in a broader sense, I think there is always going to be a few students that get into the reading. I have had one student send me a little note on Facebook telling me how much she appreciated the reading. As she put it, it exceeded any other text book offered in the photo program as far as the content. It helped her understand things on a more advanced level.

In both student focus groups students spoke openly and forcefully, repeating specific examples of courses where instructors selected textbooks that were under utilized or simply not used at all. This scenario compounds the frustration in students who are already reluctant to attempt reading. Cathy stated, “I’ve taken a course before where we’ve never opened the book.” Teresa followed with:

...and then [the teacher] says you have to have the book, but then you never actually open it...when you get to the end of the semester and find out, well, even if I would have read this book, it didn’t matter, because they didn’t do absolutely anything with it, and I just wasted my money for nothing.

Students claimed the disheartening practice of repeatedly purchasing required texts and then finding an instructor not using those texts establishes a pattern of apathy. Karen commented:

...if you find out that a certain professor does that, like, you never open the book for the first class, and then you get into another one, the likelihood of you having to read out of that, or even buying the book – it almost seems pointless to do so, because you already know that they’re not going to use it – or that they’re not very likely to.

Students complained this practice was demoralizing. They contend the whole process of researching which text is required for a course and the often long lines at bookstores to rent or purchase books is compounded by the realization that all this effort was wasted. When teachers inform students the materials are not needed, another trip and another set of lines must be endured at the bookstore to ensure returns before the buyback deadline. Cathy's comment clearly articulated a summation of lengthy discussions in both student focus groups: "I spent like a hundred and some dollars on the textbook, and we never once opened it or were required to read from it." Students complained some textbooks either assigned by the instructor, or chosen by administrative default, are so useless even some instructors of the class encourage students to avoid purchase. Heidi stated "I also have a professor this semester who told us that ...she just switched textbooks, but in her previous four semesters, she encouraged the students not even to buy the textbook because it was so poorly written."

*If Texts are Interesting and Relevant Students May Read*

Conversely, if students find textbooks or other assigned material interesting and of value to their learning process, many may read. Aaron commented:

It also depends on if I'm really interested in whatever we're – the text is covering. Even if it's something that I already know, but I think I might get even just a little hint or tip out of something that I'll use later on, I'll go ahead and read the whole thing. But if it's something that I'm disinterested in, or...I think it's going to be...inapplicable to my life in some way, shape, or form, it discourages me from reading it.

Carol also stated:

...a lot of times I found myself reading textbooks when it's not assigned. When it's – or if it's not even in the lectures, I find things that I find that pertain to what I want to learn, and I soak that up. And then sometimes I

might look back and find things later on in a chapter...it's when I find it necessary for me or productive for me.

Many students in focus group sessions echoed these same sentiments. Even though students admitted the reading was not always enjoyable, their conversation returned to the importance of reading. Teresa stated,

I would say it is, because you're going to find in life that not all the material you read is interesting. Not all the material is going to be engaging. In order to do different job aspects...you might get a manual on what you're supposed to do for your job, or you might get a manual on how to put something together or how you're supposed to do something. And it might be extremely boring, or poorly-written, and you still have to be able to comprehend and read that material to be able to do your life's task. Very much so the way on textbooks, I mean, there are some textbooks out there that are very excellently – very excellently written to where...it's very engaging and you want to read and you learn a lot. And then there's some textbooks that I've read that have just been – I read it and my mind just shuts down because it's so dry...and boring. So, I would definitely say the ability to...extract information from what you read is definitely very important.

*Some Students Believe Completion of Professor's Assigned Reading Adds Value to Class*

Although a majority of students in group sessions believed the student body often avoided assigned reading, many who volunteered for the study found value in the concept of reading preparation for class. Several students believed professors assigned readings to enhance the learning experience. Henry stated, “The professor gave us assignment reading in preparation...because it would help them to comprehend more deeply.” Kurt shared additional thoughts:

I've always found that my instructors encourage us to read for our benefit, because they know once you've read it, we're going to understand what they're talking about, and we'll be able to converse with them on a more personal level and even on a professional level. And for one, that gains the instructor's respect, because they realize you're trying to work your way

up to where they are, and trying to soak in the same knowledge that they've had to soak in. So, I personally think it's a benefit.

Teresa also commented:

The reason I think they do it is so that, when it comes to the discussion in class, the students can kind of have some input to be able to discuss. That way if they had any questions that they didn't understand...otherwise it's just the teacher up there talking, and the students are just hearing the material for the first time, and may not pick it up as much.

When participating students complete the reading assignment, several believed their understanding in and out of class was more complete. Caroline explained:

My experience is that if I read it ahead of time, and then I come to class, I get more out of it. Then, if I read something and maybe I don't grasp all of it, but then when the instructor's, you know, describing it, or teaching us more about it, then I can piece the two together – what I read, and what's been verbally told to me. And then I get a whole picture – I feel like I understand the entire content of the lesson versus just bits and pieces.

One interesting revelation from the international student participating in the study is the notion that professors in his home country do not usually assign readings. Students independently review weekly topics to be discussed in class and read textbooks and other materials to prepare for class activities of their own volition. Henry made the following point:

...in college, professor will not assign any reading and they – we all just do it by ourselves. It's kind of self-conscious...so, it's all by your choice. ..From my perspective, Chinese student read more than...more than American student by themselves. If...but if...I mean just a self-conscious...a...like a...they read by themselves...no assignment.

The expression on the faces of other students in the focus group when this comment was made was one of astonishment. There was a brief moment of complete silence. Many of these participants are well acquainted with the international student and know his study

habits, like taking dual notes in class and outlining the textbook in English and Chinese characters, and would have no reason to question the honesty or truthfulness in claims that international students prepare their own weekly reading assignments.

*Reading for Content Comprehension/Class Participation*

Professor Patton and instructor Shultz gave similar sentiments desiring students to complete preparatory reading from a faculty perspective in the interview session. Patton, in a serious and reflective tone, made this statement:

What I really wish would happen would be that they would read the stuff and have an intelligent discussion, and that happens sometimes in my advanced student class in the theory related book. And at times we were able to sit down and have an engaging conversation on issues, but it is limited to a few students that take the initiative to read, and I have a few students that do not read.

Instructor Shultz echoed many of the same concerns and desires:

...the main reason is because I want the students to be prepared to discuss or perform in class whatever topic we're covering for the day. Part of it would depend on the class but in terms of performance based classes it's more so they could perform in class. If it were a lecture based class it would be for more to discuss the topics at hand plus I think it makes it easier for the student to make connections with between topics and material if they have pre-read what is going to be covered. Hopefully they would actually observe and absorb more of the material. It might help them learn more of the material if they prepared ahead of time.

*PPT Use and Effectiveness*

The focus group comments were similar to survey results and the literature review concerning the ubiquitous nature of PPT. Student participants in dialogue sessions claimed a high percentage of professors use PPT in the classroom. Caroline began the discussion:

I think every single professor that I've had since I've been here has used it at some point. There are some that use it more frequently because it's more relevant to what they're trying to teach. And then there are others that don't but still have at some point.

Teresa added, "I would say probably 80-90% of my classes are PPT based...during their lecture times." One student in a focus group session, Cathy, was non-traditional, returning to college as a married mother after starting a career. She notices a tremendous change in classroom lecture and instructional activities with the advent of PPT presentations:

I've kind of seen this transition whereas when I went to college the first time, there were no PPTs. It was just...it was class lecture and your reading. And now when I come back, it seems like every class, almost, that I've taken, is filled with PPT. There's really been like a kind of a transitional shift away from the traditional textbook and lecture. So now I'd say probably like 95% of classes use PPTs.

Students believe this method is universally accepted as an easy way for teachers to deliver information. Molly commented: "About 80% of my classes are PPT based from science to photography and math. Teachers just find it easier to teach that way." Heidi concurred, noting "...currently about 80% of the photo classes are just straight PPT." Teresa added: "Every professor I've had here has used PowerPoint at some point. However, there are definitely a few professors that almost exclusively, or you know, a high percentage like 80-90% ..." Other students noted less use of PPT in some performance and lab classes, but all remarked electronic presentation was used at least half of the time in most of their courses.

#### *PPT Notes Used for Assessment Preparation*

Students in the focus group sessions believe PPT is an expeditious way to prepare for assessment when instructors can deliver main lecture points electronically. Students

acknowledged major content could be discovered in highlighted areas and PPT bullet points and used for test preparation, concentrating efforts in those areas to the exclusion of other materials. The statistics from student surveys indicate almost 98% of all student responses assumed PPT lectures would contain the key information for quizzes. Not surprisingly, focus group comments concurred. Judy commented:

...as a student, it's kind of engrained in our brains to assume that the PPTs are the highlights of the chapter. And so, why in the world would I waste time looking through...reading all these words when I can just...I mean, just as if I had my own personal notes, I'll do the same thing. Skim through the highlights, and that's – I mean at least seems like most of the time, that's what PPTs seem to do – is just be the highlights and what's necessary to learn, or what the teachers make it seem what's necessary to learn.

Teresa's thoughts summed up student comments:

...in some of my other classes, if everything that's going to be on their tests and quizzes that I've learned from having previous classes with them, if I know it's in the handout notes, then I feel I can look at those notes it's a lot faster, quicker way of getting the information than taking the time to read the textbook.

#### *PPT's Powerful to Point*

Students maintained they are inherently drawn to visual stimulus in classrooms and that overwhelming stimuli is PPT. Student responses support this proposition. Brenda explained why PPT was so inviting. "I definitely think that professors use PPT because the students are visual learners. Like, almost the majority of people are visual learners. And if you see it on a PPT, you'll just – you'll, you'll take it in." Henry, the Chinese international student, agreed by stating, "I think because PPT is really powerful..." then after a long pause of reflection, Henry added "...everything shows up in PPT, that means you, you have to accept that it's truth."

Student participants from focus groups expect the instructors to integrate the essential information for tests into the PPT presentations. And, not surprisingly, almost 98% of all student participants in the survey indicated they assumed PPT would contain the key information for tests. Teresa commented:

Yes. (laughs)...there are a few professors that do it otherwise, but I would say almost three out of four professors on this campus- if it's on their PPTs- that's their quiz material. Very few actually lecture over one thing and then have the reading be something completely different.

Judy agreed:

Those seem to be the most reliable notes because chances are, the professor just went and did all the bold terms – and there are always books that you can read but – I always assume that the most important stuff was what's already been reviewed in the class by the teacher.

Holly believed not only will students use the PPT exclusively to study, but will return the textbooks immediately to get the full return book price.

Usually if...people know that the PPTs are going to be on the quiz, usually to save money, they'll return their books, so they don't have to worry about having to – have - you know - only get so much back later. And that way, they're already set for the tests in the class.

One student, Amelia, claimed professors actually encourage students not to read and to simply accept the PPT delineation of the course content. Once again the student returned the textbook.

I actually have a class this semester, and we went to it the first day, and he said “This is the book that, you know, I have to suggest for the class, and the bookstore's going to hate me, but I'm going to tell you, that just from my PPTs and everything, you will get the same grade if you didn't have the book as if you did.” So every single person in my class, I'm sure, went and returned their book knowing – even though you probably could have gotten more out of the class if you kept the book, you could get your money back and just get the same grade with the PPT. You know with – with how much books cost alone, and then someone tells you ‘you

probably don't need it' – then you can get the free PPTs that you print off and follow along with in class and....absolutely, I returned my book!

Students are looking for visual stimulation and entertainment. Students believe this model helps tie together the presentation and provide interest. Judy stated, "...it's up to the professor in each class, I think, to make it entertaining." Caroline further noted:

I think delivery is a big part of it, too. If a professor is standing up there and they seem just as bored as you are, and just like it's another day, same thing over and over again, if your professor doesn't seem like they're interested by what they're talking about, how can you possibly feel like you actively learn...like you're learning something, if the teachers are bored themselves.

#### *Instructor Beliefs about PPT*

Professors in the study had mixed feelings on PPT use. Professor Taylor believed students like PPTs in general. Some of the students, the engaged and studious ones, would use PPT, especially if they could download the PDFs from their website. Taylor stated,

I use PPT about half of the classes. Of those classes, the reason I use it is primarily because it provides a guide post to what I want to cover in class, plus I give my midterm and final exams based on the material from the PPT covered in class and the PPT is available for them out on the web sites. They can download them. In fact some of the better students download the PPT prior to class and have that to take notes from so that takes pressure off note taking. Like I said, PPT is what I cover in lectures. It does not run parallel to the text, so that is 2 separate things that go on concurrently. So the PPTs are a different way to deliver text information.

Faculty participants Booth and Patton were not so enamored by the continuous use of PPT. Patton believed students may be overwhelmed with the barrage of PPTs.

Here is an interesting observation I have toyed with when I show PPT, such as in my intro class. They are supposed be going to Blackboard and viewing the PPT that I have on line as a presentation. It is not out there so they can down load it, but it's an on-line presentation, exact same slides and they're supposed to go out and review that and then we have a

discussion. Sometimes it works and sometimes it doesn't. But some weeks I decided and go ahead and run back through the same PPT in class and they are furiously trying to write it down, which tells me they didn't get the PPT on line. It is the first time they have seen it, when three fourths of the class is hurrying, trying to write down stuff and ask me to back up so they get info off the slide, that tells me they are not even utilizing the resource, the exact same thing that is there on their leisure to look at this stuff. The other thing, those particular PPTs for that class, is basically an outline of each chapter of the book, and they are not recognizing the material. So it's number one that are not reading and number two they are not looking at the PPT material on line. So there is passivity on both fronts.

Shultz, a faculty instructor, believed PPT is often a crutch for both students and faculty.

When asked if students enjoyed PPT lectures, Shultz responded:

No, they rely on the PPT, but I don't think they enjoy them. PPT, I think is a crutch [for] both the student and the instructor. I think an educational crutch. But are we talking well designed PPT or the PPT that most people use, because there is a big difference there.

#### *Students Responses: PPT and Active Learning*

Although initially it appears students can expeditiously prepare for assessment with PPT notes, a lack of preparation for class hampers efforts for active learning.

Students themselves realized the class-capturing allure of PPT could become detrimental to engaging interesting experiences. Henry stated:

...PPT...does not increase active learning because we always just see the result. We never, we didn't think by ourselves before the results come out...and...and I mean the process is really essential...more important than just the result. We need to know how it comes out and...like before the results come-out, we, we, we will – actively to think what's the next...we are searching, we are thinking that to answer. And the end,...the process is more important than just to see the result.

Faculty member Marx recalled early program area guidelines, some over eight years old, requiring all junior faculty members to read and implement teaching strategies,

volunteer for service activities, and produce scholarship. One of the first primary objectives for the teaching strategies was to convert all class lectures into PPT by the end of the second year of teaching. After searching through the documents, the instructor found no guidelines or procedures, rules, or recommendations for the reason, purpose, or method of constructing and presenting PPT lectures.

Throughout the focus group and interview process student comments continued to return to varied disparities in PPT construction and use. Teresa, the graduate student, stated:

In my mind at least, a competency of using PPT is that it's a summation of what you feel is most important with maybe a few visuals to tie it all together. And I know some professors – I don't even know why they bother using the PPT because it's just, you know, maybe one slide with the lesson chapter name of the class. And then I know other professors that have so many slides that they're flipping through them so fast and so you can't keep up. And it's like "man I can't even get the...the short version of what I'm supposed to be picking out of this because it's just flying by so fast."

Additionally, students were discouraged when professors appeared reluctant or negligent in updating their presentations or using the same PPT in several classes instead of constructing appropriate lectures germane to the class and subject. Caroline stated:

I also think that maybe a lot of times professors don't change their material and how they teach it, so by having similar things on their PPTs it just makes it easier...when they have the same class all the time – especially if it's a large group in their classrooms.

Henry agreed, noting the same problem in China:

Yea, I think it's a lot, sometimes too much. And also, the same situation in China...especially my major and...we are all graphic design major so the professors all use PPT a lot of time. There – there is a situation happened before like two different class but the same, exactly same one PPT from a different teacher. Yea. I think they just feel lazy to make the

PPT. They just borrow the PPT from the other teacher. And....it's really ridiculous.

Students complained PPT use and effectiveness often center on a lack of class interaction and hands-on activity. Caroline explained:

I think for a lot of the classes that require you to be hands on, it's a lot easier to learn things. For me, like our studio classes, when he, the professor, does a demo and then he's there to help you go along with it, it's much easier for me to come away feeling like, Wow, you know, I really learned this! I think I can go home and do this. Versus, you know, PPTs or whatever else, or reading materials, where I've read it, I understand it, but if someone was to ask me to explain it, it would probably take me a while to spit it back out to them.

Teresa agreed:

But I will agree with what others have said, that the fact that when it is more hands-on, and not just a simple lecture where you sit there and you're going to be spending the whole time zoning out, or daydreaming, or doodling, that you're more likely to come out with something at the end of the day.

#### *PPT Downloadable Notes Used for Assessment Preparation*

One of the perceived benefits students find in the use of electronic delivery of lectures is the ability to download the notes to study for exams. Student in this study believed the notes from instructor lecture PPTs are an extremely convenient method to learn class content. When asked why they believed teachers used PPT for lecture Teresa responded:

Instead of having to write on a chalkboard and erase, you have you know – if you have multiple classes you can have the same PPT to use for it over and over again without having to re-write all that information. And it gives students – just...you know as Brenda said – that visual look of “here are the points I feel are most important that we need to cover.”

Unfortunately, this ability to download information outside of the classroom, information that will most probably comprise the assessment questions, can encourage some students to avoid class. Heidi explained:

If you know that a professor posts their PPTs online, it encourages a lot of students to not attend class and to download the PPTs – if you know the teacher’s style – and can learn everything that they’re going to teach – just at home.

Several students believed the actual process of writing notes, or adding to information outlines, was a productive way of learning. Molly said: “Just if I write it down, too, like I have to re-write everything. Writing and seeing it helps me.”

Some students commented in session that several methods were beneficial in the learning process with PPT. Caroline stated:

...if I was just reading from a textbook, I wouldn’t gain as much as if there was a PPT involved also. But if we were only going off of PPTs, then I lose the opportunity to really sit and contemplate...what the text is trying to teach me. You know, when you’re at home, and you’re reading it by yourself, and you can kind of stop and think of how it applies. And when you’re going off a PPT in class, you know, you’re always so concerned about not getting stuck behind when they move or transition to the next topic. And so it’s the combination, I think, of class lecture, and PPT, and the textbook. That when a professor focuses on just one of any of those three, that you really lose something in the process.

#### *Weekly Reading Assessment Quizzes to Encourage Reading*

Student responses articulated that without weekly assessment for which the text is the primary source of information, it is less likely assigned reading will occur. Some student responses in focus groups were very blunt. Heidi openly stated as she looked me in the face, “I will not read if I know that there will not be a test.” Lucy added, “Sometimes I don’t even buy the book because I know we’re not going to test over the

material.” These comments coincide with faculty member’s claims in interview sessions that many students are generally not self-motivated to learn or inherently interested in learning for the sake of knowledge alone.

Responses to other focus group questions on assigned reading carried the same message but from a more positive curriculum building perspective. If weekly assessments are given prior to covering the material in class, students are more likely to complete assigned reading. Cathy commented, “The reading assessment quizzes are a huge motivator for me to actually read.” Heidi, from previous experience, explained why students are more likely to read: “...in my experience in this university, with most of the professors who assign quizzes over daily reading, the quizzes are straightforward from the textbook, and therefore I will read the textbook in order to do well.” Karen added, “...if I know that I’m going to have a reading quiz every Monday, well then, even if I wait to prepare for the next week’s class until that weekend, at least I’m keeping up with what we’ve covered.”

Teresa reasoned teachers understand how students will respond. She stated:

Through time, a lot of teachers have realized that if you don’t make some points assigned to it or, you know, if you don’t actually tell the students to read that...99% of them probably will not read it on their own. I mean there is always a few people that actually take initiative and will read on their own. But a majority of the students will not read if you do not tell them to.

In the student focus groups there were some differing opinions as to whether weekly quizzes or larger exams were more of an incentive to complete reading. Students cited three reasons for their preference: (a) ability to retain knowledge, (b) amount of time expended, and (c) the amount of points or weight of the assessment in the overall

cumulative grade for the semester. Heidi began the discussion with comments about knowledge retention which directly applied to program area majors:

For your majors I think it's more important to have weekly assessments...because they want you to continually retain the knowledge that you're learning. And so you should be able to carry it throughout your life...So that helps you for later on, if you continually retain and retain new knowledge and use it later on.

Brenda added comments about the progression of preparation for assessments.

“The weekly reading assessments always help better understand. And I think it's better to give a weekly assessment, and then your midterm, and then your final.”

In most instances, students who believed they would read more for exams over quizzes were not dependent on the amount of information, but the amount of points or weight the assessment had on the final grade. Kurt shared, “if I'm reading for an exam, I'm going to...probably re-read my chapters more than once – make sure that I know it pretty in-depth. Whereas, if it's a quiz, it's usually it's more like skimming than reading.”

Cathy noted the benefits of weekly quizzes:

I personally see the weekly quizzes as a benefit...Because it makes me take the time to read the text, and as I've discussed before, I get more out of it if I read it first, and then we discuss it. Otherwise I would lean towards – I have a busy life also, and just putting it off because I know I'm not going to have to use it. But if I know I need to know that knowledge because it's going to be required of me...then I'm going to take the time to set aside and commit to do it. So I don't think it's a punishment, I think it's a...extra learning tool.

One student believed the weekly assessment rhythm helped develop frequent study habits. Henry stated, “And I also think that weekly assignment kind of gives students a motivation to, to study frequently.” Students found the use weekly quizzes beneficial not

only to encourage reading, but also as a beneficial study tool in the learning process for future exams. Teresa explained:

I mean, there are some professors where they link it well enough that the reading is a benefit – that it does help encourage, so you actually get something out of the class and learn through those quizzes, just to make sure that you actually picked up what they felt was the most important. And that way if you don't do well on the quiz, you know ok for...if it is a class where they also have finals as well, you learn...

Students found this manner of review effective because it allowed test preparation in small manageable increments. Lucy stated, “You're most likely going to be able to get your quizzes back to be able to study for the test later on to where you don't need to read all the chapters...at one time for the test.” Student focus group discussions of this topic lead to a consensus that reading for assessment with a known purpose, with a known reward or consequence enabled deeper cognitive permanence. Teresa summed up the groups' thoughts:

So that hopefully by the time, whether you read before the class like you're supposed to or if you read after or if they're doing the assessment – so obviously you're going to read before the assessment - that when it comes time to discuss it in class, it's not the first time you've heard it, so that it helps it more...be more likely to stick in your brain. Because if you hear it once, you could, you know, it can just fly right out of your brain. But if you've read it somewhere, and then you're hearing your teacher talk about the same thing again, it's more likely to – to stick.

Several student responses maintained, however, that the assessment quiz grades must have sufficient weight upon grades to warrant the time expended in reading and must be scheduled. Otherwise, student focus group responses indicated insufficient motivation to complete the reading. Aaron began by sharing the importance of sufficient points:

I think it also depends on if there's a quiz, how many points the quiz is worth, and how many questions you're going to have (agreement in background). Because if you have one that's for 20 points, ok, then maybe you're going to read because you have a lot more to cover. If it's five points you're like, "Eh, you know, who knows what's going to be in this anyways."

Trevor added, "I agree with Kurt...yea, if there are 140 pages to be read (laughs) for a 20-point quiz, it's not happening (agreement in background). Carol continued:

The biggest thing is how big is the...is the quiz, or how much... percentage of our total grade does that reflect. I know some classes assign readings that are...they're the grade. And for me, that's – that's a huge factor. I'm definitely going to read for classes like that. But if it's you know – just a few percent...and it's something I feel like the book isn't going to help and I already know most of it, then I feel no need to read.

Students believed negative attitudes toward professors could result if teachers utilize pop quizzes or if in other ways quizzes are utilized as punitive measures for those who will not complete assigned reading, have infrequent attendance, or other factors.

Caroline stated:

But I do think there are certain professors who-this is kind of a bad word but- have a power trip where they feel like if you aren't doing it, you aren't dedicated to their class...you're not trying to learn. Or they make you feel bad about it even though there could be extenuating circumstances as to why you might not have read...I do think that in certain situations and for some classrooms and professors, they do use it as a punishment. Not that students feel that reading in general is a punishment, but that they can use it in certain situations.

Student perceptions of faculty understanding may be tainted by busy schedules and completion for academic preparation time for courses. Teresa shared:

Which is funny because a lot of the...that this university...and I know just from filling out for scholarships and stuff that they really want you to ...encourage you not only to be the top student, but they also want you to be active in other things. But then you start getting active in other things,

and suddenly something has to give. Whether it's your sleep, your eating, or your studying.

### *Non-aligned Reading Assignments/Assessments*

A common thread in several student group discussions was the issue of assigned reading which was not applicable to discussions or activities in class. Students claimed they were savvy enough to understand the reasoning for required reading. They expressed concern and frustration, however, when assigned readings were not connected in a perceptible way to assessment and activities. Teresa, the graduate student, once again shared:

I had other professors that...the reading has absolutely nothing to do with what's even talked about in the class, and it might tie in, it might not, it might be something completely different, and sometimes it makes me wonder why they assigned that reading in the first place. And then, I know some professors...I think they do the reading assignments just to try to get the students to read, because either the students won't read on their own...or they want to use it for – try to – points and stuff to reward those that actually took the time to read and punish those who didn't.

### *Randomness of Administering Quizzes*

Another point of concern of students encouraging negative reactions was a lack of regularity or schedule of assessments. Students believed this pattern of quiz administration was a teacher response not for encouragement but as a challenge to those who would not prepare. Teresa commented:

...there are definitely some professors where it's more [random], they might not even do a weekly assessment quiz all the time, they may just randomly decide to do a quiz because they feel that no one's been reading...Here you go, hope you read this week, because we're going to have a little pop quiz.

Even some professors feel it is a kind of regretful punishment. Faculty member

Patton stated:

...in my freshman level class, the intro to studio class, I do assign weekly quizzes. I'm not a huge fan of that because I see that as punishment. If you don't read you're going to get punished. If you do read, you're going to get rewarded by getting a good grade on your quiz.

Professor Taylor believed that using quizzes was the only incentive available and utilized the assessments, admitting this procedure was punitive and designed to force students to read. "I try, but by forcing them to take quizzes of the reading and if they don't, then they don't do well on the quizzes, that's about the only incentive I can give."

Instructor Shultz regretfully concurred:

I don't think there is anything you can do to encourage them, you know, they won't read if they don't want to read, but there are things you can do to basically force them to read. If they want to get a good score in the course, it's basically following up on the reading with some kind of assessment activity. It's you make it worth points. The idea is the student will want to do it.

Although this assessment technique to encourage student reading has merit to increase compliance, it can be seen as a demeaning behavior. Cathy's comments seem to be directed at certain instructors:

Maybe this is just me, but sometimes I feel like certain professors almost guilt you if you don't read – like they'll make comments, or kind of look at you, or say something to the whole class like "well you should have read this." And it makes you feel bad, and like you aren't a good student if you haven't, even though you might still know the material, or still be a good student.

### *Using Group Reading and Peer Assessment*

Instructor Willoughby believed when the assessment quizzes were repeated in groups, the percentage of reading increased to rates close to 100%.

In one of the classes I teach I do have assigned readings and chapters, but I have found only 50 % read those and they are honest about reading. There are quizzes, about five questions, and what I found that if you group them

up and they present the material that they read better, all the students end up reading.

Professor Booth remarked in the focus group that in some classes worksheet objectives replaced assessment quizzes with specific written criteria, some in the text, and some outside the classroom from other sources. Once again this project is often done as a group with final assessment at a later date done individually. Professor Patton also utilizes student groups to answer specific assessment questions. The groups are responsible to research and find the needed material from the readings. Subsequently, he utilizes group tests without notes or textbooks but allows groups to work together for shared answers. Student may choose to accept the best group answer or another if they believe the group is in error. This continues through the midterm exam. The final, however, is a cumulative solo event where each student is assessed on individual merit.

Professor Taylor did not agree with other faculty members, however, in the usefulness of group centered work for reading or research:

I have tried the group thing, specifically in the business class, and I didn't think it was much beneficial. It didn't improve things much. Part of the hope was the people that were slacking off, as a result to peer pressure would be forced to perform, but it didn't seem to work.

#### *Active Learning in Classrooms*

Student responses during the interview sessions indicated active learning was not a natural phenomenon in their own experience. Brenda stated:

I would have to say that most students don't actively learn- don't use this method as a – as the best means to learn. They always cram, or, I don't even think that they'll get together with students. So, although I think it's the best way, I don't think that many students actually do that.

Several students explained in the focus group how they perceived active learning, as they defined the process, sometimes occurred. In every example, completion of assigned reading material or other research was an integral part. Cathy noted:

I think active learning requires more than just what the professor delivers, or even sometimes how they deliver it. But I kind of, I kind of feel like I actively learn when the pieces come together. Like when I've been told to read an assignment ahead of time, and I read it, and then the instructor lectures on it, and you know gives examples, and then requires us to go out and actually physically do something you know, either, if it's science you've got an experiment, or you know if it's a finance class you've got to go create your own budget, not just watch the one they did on the PPT. And so then because I had done something, I had read it on my own, thought about it, done it, and then had someone else speak about it, the three of them came together. So I think that that's an important part of active learning. I don't think it's just if the instructor entertains you. I think it's – you know if they give you enough pieces of the puzzle to create a whole picture in your mind.

Students reasoned if classroom time is then consumed by one-way pre-determined presentations without discussion opportunities, learning may be stifled. One student, Brenda, posits “PPT may or may not increase active learning, but I definitely think that there are other ways that active learning is - is best achieved - through discussions, through debates.”

Faculty sentiments were akin to the student's, hoping for engaging classrooms but understanding students must make the effort to make the preparation. Professor Patton sadly, appearing quite honest in his demeanor, remarked:

What I really wish would happen would be that they would read the stuff and have an intelligent discussion and that happens sometimes in my advanced student class in the theory related book. And at times we were able to sit down and have an engaging conversation on issues, but it is limited to a few students that take the initiative to read, and I have a few students that do not read.

When students prepare for class by reading, it also prepares them for in-class learning activities and active engagement. Teresa stated:

It is having that knowledge beforehand, so that you can ask those questions that you may have picked up while you're reading. It is where you're going to have the more active engagement. If you haven't touched the material at all, and you're just listening to the teacher the first time, you might pick up a few questions that you had, but you might not think of all of the things you didn't understand.

### *Cognitive Process of Reading and Learning*

Some students discovered independent research and study provided a deeper educational experience and self learning. Molly began the discussion:

Yea, that's a big thing for me is when I have to figure it out myself. Because then I know the process I went through to get that information, and it just makes it stick in my mind more. And also... something that helps me understand concepts. And that way, some of the stuff my professors talk about, then I've already kind of experienced that, and then I can add onto that, and that makes me remember.

Caroline added:

I know for myself, particularly with photography, I research a lot of other artists and photographers to see what they're doing. I look for demos online, videos online, for different lighting, so that I can kind of give myself additional – and that's all on my effort. And every once in a while a professor will say, "hey you know this is a really good person," especially if it's geared toward something that I am particularly interested in my own photography. I'll have professors kind of take me aside and say, "You know, I think you'd like this person. Go ahead and check them out, you know, you'd learn something." So I think videos, books, even going to shows, art galleries, anything like that – you can see what else is out there.

### *Groups and Teaching Assignments*

Another area of learning, not anticipated in the student comments, was a strong belief in the worth of group reading, research, and assessment. A major component of

this belief was some autonomy in student activities and decision making facilitating self-learning. Heidi shared:

We have groups where we set up a certain still life or whatever, and that kind of gives us our own twist, kind of the way we want things to be run, instead of the professor always being in charge. I think that it helps for everybody to get a different learning experience than just for the professor to be lecturing and talking all of the time.

Caroline added:

This is something that I know a lot of people are not that fond of – but in some of my classes, we have been required to teach a unit ourselves, like with a group or maybe [on] our own or like up in front of class. And sometimes it doesn't work because people aren't dedicated to it. But for those who are, at least for me, I always have been, and I don't, you know, want to let anybody else down by being lazy. So, with myself having to learn it first, and then trying to put it into words that students and people who are in the same level of education that I am in, it makes it easier and helpful, I think.

Student responses to focus group questions indicted a belief that PPT presentations could promote active learning under the right conditions. Teresa said, “I think it's possible, even with having a PPT, to have active learning. It just – I think a lot of it depends on the teacher.” Trevor added that some types of interactive elements were needed:

There has to be some kind of interaction between the professor and the students, or there's no retention at all. And demonstrations, images...If there's just words and a little clip art, then I'm just going to pretend like I'm writing when really I'm doodling you on the board. I don't know, my mind wanders really quickly, and I'm in my own little world all the time, but if someone's like – lecture for a little bit, and then we'll talk about that like in a discussion, I'm far more interactive than just being fed information.

If, however, PPT is utilized in the classroom as a rigid dispenser of knowledge, with little change for dialogue, debate, or alternate viewpoints, students contend PPT can encourage a linear way of thinking. Kurt noted:

I like to be actively engaged in the classroom. When I'm being spoon-fed information, I'm thinking, ok, well am I allowed to challenge this or not? And a lot of times I do want to challenge the information because I disagree with it, whether it's actually not – you know – based off of either personal experience or knowledge, or just you know, an opinion. I think it's healthy to have debates in college. That's kind of how I was trained to think growing up, was college is where you can actually start sharing your opinions. And a lot of times I still sit there and hear a lot of that challenge, and it still feels like you're being told "this is just how things are going to be." And PPTs are kind of that – it's along those lines.

#### *PPT Construction and Use for Best Practice*

Although students in general responded favorably to many presenters in their college experience, some professors were known to produce rapid fire presentations. Teresa complained: "But then, there's also the professors who give you a PPT that's 80 slides long, and it just keeps going and going and going – and I think we all know who that is."

Another common response from students was a belief in the positive aspects of recording some of the notes by hand instead of having all of them included in PPT presentations: Trevor shared:

I can't actually think of a class in college that I haven't had a PPT presented to me at some point with information. But I know the only PPT that I've actually stayed with and paid attention to, and not started drawing something else on the paper, was my psychology professor who would just put up ...she'd put up three letter words, and little things. And she would give us more information afterwards. So you're just writing the entire time trying to make sure you get what she was talking about because it's going to be on the test. So her notes were like interactive PPTs, and that was the only way I've ever been attached to a PPTs presentation.

Several students mentioned in focus group discussions the effectiveness of PPT with minimal notes. Their justification for sparse outlined PPTs was too much information in slides required considerable verbatim copy work activity during the presentation instead of rephrasing, note taking, and contemplation. Caroline shared, “I think a lot of the times I work better when there is a PPT just for reference, if I’m writing notes and they’re talking too fast, I can refer back to it.”

Students also believed pared down outline PPT presentations would encourage teachers to utilize more time in explanation, discussion, and answering questions. This process allows the teacher connection in the session. Molly explained:

And it helps me when, if they are using a PPT, it’s very minimal, like, just key words and bullet points. And they will add much more in their discussion because then...we’re not always scrambling to write down what’s on the board. And the most important thing to me is getting it firsthand from someone who knows most about it. So if you pair that with what you read, then it helps me...the most.”

The desire of students for professors to distill information and provide downloadable PPT outlines for study had been established. In addition many students request notes be made available in a hard print version to negate the need to retrieve the information themselves. Many claim they will forget to go back and print the material finding it more efficient if faculty print the notes for them. Caroline shared:

I kind of feel often if things are located online with PPT or BlackBoard and I don’t have a physical copy of it, I’m less likely to look back at it because I get lazy and I think oh I’ll go download that link later, and print it out and study it. But, other things happen and I just kind of forget about it, and so I feel like, when I actually have a physical copy rather than having everything online, sometimes it’s easier for me to be more organized.

### *Internet Distractions*

Because of student's proclaimed visual stimulation addiction, they claim they experienced distractions as they went online to find and study PPT information from their courses. They admit their study prowess is weakened by more entertaining material and often spend time on other interests. Because of this sentiment, many students in student group sessions argued printed notes for study outside of the internet environment would be used more for productive ends. Kurt commented:

I never took the time to go online to find the PPT because...unfortunately the internet is filled with so many distractions, by the time you get on there, you don't want to go look for that! Students are distracted by everything else that's out there versus their education. Whereas, if it's presented in front of us, and we have it in a physical hand...format, I'm more likely to read it, to open it, to review it. So, I don't think online PPTs do anyone any good unless you actually, say, print them off at the beginning of the semester and have them ready to go and be highlighting.

Another suggestion by students was to integrate a large portion of visuals to supplement the text. Students in focus groups and interviews repeatedly claimed they were visual learners: Holly exclaimed:

I'm a visual learner, and with the book...it helps with pictures since that's mainly what I look at all the time. And I like it when the PPTs follow the book, and then he adds on to it, to include like comparing photos and things to actually give you an idea to actually see what you're looking for. To give it a lot better of a visual.

Students additionally suggested other activities outside of the PPT delivery verbatim to engage students, such as using the white board, etc. Molly commented, "Visuals help me a lot too. And if, instead of a PPT, the professor writes on the white board, and does a map of what he's talking about, then it really helps, and that sticks in my mind, more than just, letters."

Even professors in the study who were not enamored by the use of PPT, or believed all students appreciate PPT per se, found evidence students are drawn to the visual nature of the software and need the visual stimulation to stay engaged in the classroom activities. Instructor Shultz stated:

They like visual aids, PPT is the one most people use. Do I think they like PPT? No, but they like visual aids and that's the one most people use. They would prefer that you're just talking to them. They need something to keep them engaged.

Students claim they have a vital need to be tied to their digital modality devices and connections. Henry stated the mainstream source of information for students is, without question, the internet. "I think the preferred method is internet...to find information nowadays. And it's becoming more and more."

Teresa agreed:

In this day and age, it's the internet. People are going through – they're using Google. They're looking up tutorials on YouTube, they are...a lot of its all online now. I know, even myself, I have gotten lazy to the fact where, if I actually physically have to go over to the library, egads! That seems so primitive now, compared to getting online and looking up the journal articles through the online databases, and looking up the magazine articles on the magazine's websites, and the newspaper's websites. And you know it's – everything being in electronic form it's just gotten so much easier to pull information from almost anywhere that ...and it's so easy!

The internet is not the only source of visual stimulation and information gathering.

Television and other media are also popular places students habitually visit to find news and world information: Brenda commented:

I think also other than the internet – because that's definitely the preferred way for most students – all of students basically these days – but it's any type of media, I would think, is preferred. Not only the internet, but maybe the TV. That's where we like to get our information about the news. I

don't necessarily see people looking up the news like Fox.com. But they'll turn on the TV if they want to see what's going on in the world. So, I wouldn't say it's all technically on the internet, but [agreement]...any type of media. Yea...definitely.

### *Generational Differences in Teaching*

As students discussed effectiveness of teaching styles utilizing PPT, recognition of generational differences became evident. Some students sought to explain why they react to reading assignments and PPT and how their educational experience in high school developed into a different college experience. Kurt began by sharing:

I know that in high school, a lot of times, we were taught that the PPTs had the key points of the chapter, but they encouraged us to read in high school because it's easier to read than it was [is] in college. And the further we got in high school the more we thought 'well, we don't need to do this...they're teaching us everything out loud.'" And so we stopped reading by the time we got to college. And we're being taught just the opposite – that the chapters are more important than the PPTs.

If this statement is representational, the mediation effect of the use of PPT may have pedagogical effects on the study and learning behavior of today's college students. A preference for distillation of information by teachers into PPT, instead of reading for comprehension and class preparation, is appealing to busy students where research and study must compete with other life matters.

### *Generational Sifting*

The acceptance of a generational mode of learning may be partially attributed to college students' daily method of connectivity. Students themselves understand this phenomenon as noted by Teresa:

And this upcoming generation has had the internet, technology, all at their fingertips since – almost since birth. If not, for some of the people coming in, their whole lives. And so they've gotten used to how simplified it is to

do stuff that way. You know it's – they've got this instant gratification issue where they're used to, you know, they want their high-speed internet, they're going to have their phones that have the internet on – they can look up anything, you know. They have the world at their fingertips, and they've gotten so used to...they've been spoiled by having everything done for them.

Aaron, in particular, spoke of the characteristic of “sifting information” at a faster speed than ever before:

Another thing is, this generation's – we were brought up to sift through information so fast. You know, and that's – any kind of medium or presentation – we're sifting. And I think we do it differently than generations in the past. And so, yea, if nothing catches your attention, then it's out.

Professor Patton, who has been engaged in the study of generational issues for several years, was critical of the educational system for a lack of college preparation:

There is a huge education deficit with school, not just our students, I'm talking about this generation, that there not coming out of high school prepared to take on some of these readings. We are an older generation, and our generations, our teachers, were task masters to some extent. We have learned how to read and write and arithmetic and all that. I don't know what they are doing in school these days. I have students that are asked to find square root of 2 so they can find F stops and they have that stare sign. All twenty of them go into a panic. I think there are just deficits that it all goes back to their reading, or lack of reading. They are so used to instantaneous gratification.

### *Generational Entitlement*

Faculty participant responses in all three interviews sought to attach at least partial blame for lackluster student performance in class preparation to generational entitlement beginning in childhood. Instructor Shultz stated:

The entitlement issues, started in grade school, and a lot of it has to do with this idea. I don't think they're doing it as much in grade school, but this idea of the wide positive reinforcement that you just give positive

reinforcement, no matter what the student did, that everything is a good job, which is fine. I do the same think for my son, but it does the student a disservice they don't, I don't think they develop a sense of accomplishment for themselves, that they don't do things because they derive some personal satisfaction or accomplishment. It's because they are waiting for somebody to tell them they done a good job. And that's a problem. I think there has been a shift it grade school, so they are not doing that as much anymore, but, that's what produced the students we are seeing right now, and they don't do things because they want to do them, they do it because they are required to or they think it's necessary to get whatever it is out of life. Unfortunately they aren't doing it for themselves and that makes a big difference between when at least I was a student in the students now. I did things because I wanted the end result that there was something I was getting out of it. I don't think the students are really getting much out of much that is what goes on and it just has to do with how they derive satisfaction out of life, and they think that everything should be given to them. The idea of working for something is foreign to them.

Student comments in the focus groups and interview mimic the faculty accusations. Sadly, the students believe the situation is getting worse. Teresa, the graduate student, began by sharing:

I think what I've seen in the younger generations coming in...but I know a lot of the younger students in this program and just in general don't see the purpose in it. They don't. I would say they're academically lazy, and I was. I think that over the years it's slowly gotten worse and worse. I know people that have went to school, you know, ten years before me talking about how they had to do so much stuff. And now, you know, and I think "Oh man, my work load's hard" ...but nothing compared to what they had to do. You know, especially with the computers helping a lot. And now I watch the other people coming in, having been here for the last five years, and it's – you know, they'll complain about something with me sitting here going "You've got it easy compared ...to what I had."

It's astounding. It's...I mean I – I know I'm only, from the freshmen, I'm only ...five to six years older than them. But there's definitely, even with that just short amount of time, there's a – there's definitely a generation gap on terms of values, on how they think an academic setting should work.

Brenda, a freshman, sees the same problem:

I definitely agree. I think ...the fact that we do have the world at our fingertips with our phones and laptops and you know library packed with computers. That you would go to the library to get on the computer. Not to like, go in and actually get a book.

*Differing Faculty Philosophies on Teaching/Learning Theory*

Instructor Shultz strongly advocated the belief that there are multiple learning styles and moreover they are generational, constantly in flux:

...it [the way students learn] varies by student, there's a lot of learning styles and even outside of the learning styles there's a lot of differences in how different generations learn so it's hard to say students learn best thru X, even if there was one methodology. It's a moving target and will continually change and consistently evolve and society changes.

Shultz uses lecture and demonstration. He believes lecture can be effective:

It depends on the subject but I do think it is effective, it's not effective by itself, the traditional. I'm writing on the chalk board and I'm going to talk to you for an hour, is not effective. Coupled with other things it's very effective. So it is a component of the classroom experience, but I don't think it could be the only component.

*Learner Centered Classroom*

Professor Patton, as strong proponent of learner centered instruction, commented:

I think one of the most effective ways a student learns is certainly more the what we call learner centered, or student centered activity and I found that the majority of our... students since they are visually oriented, that when we physically get up to do something, it seems to stick with them a little better, so I often times am introducing new material to class, I will have them break out in groups...so they can see instead of me talking about differences...they can physically see what is going on, and they seem to respond well to that.

Patton believed traditional lecture and teacher centered instruction was less effective in his experience:

There's really a couple schools of thought, teacher centered and you have learner centered learning. Lecture is kind of the standard paradigm, and just tend to do it. However, research shows that is the least effective ways to learn. I use it probably at least 50% of the time, sometimes a little more, but I also recognize through that training the value Socratic learning, posing certain questions and evolving to questions. I also do fair amount of learner centers, such as the groups. Let them work as group to find those answers. Brain storming session, there is a whole boat load of techniques. I do try to match activities to the type material that needs to be delivered. Often times students step into my class room and they are not sure what we are going to be doing. I'm not predictable, I try other things.

### *Teacher Centered Classroom*

Many instructors in the department generally hold to a more traditional lecture based classroom for delivering content. For them, the instructor is a deliverer of content information, a bank of information from which willing students make a withdrawal; the more information, the better. Professor Taylor typifies this position in his remarks:

...ultimately all learning is self learning, so you have to be motivated to learn, and I can't force anybody to learn. All I can do is create an environment which provides accelerated, direct learning and I try to do that in a way that benefits motivated students, because I don't think the unmotivated students, doesn't matter what I do. There will remain unmotivated, no matter what I do, so that's why I try to provide a lot of information, because it benefits a few that are here to learn....The common thread is...the ability to retract from the depository storehouse the warehouse...ability to read and being able to comprehend what you're reading. That's the most concentrated information is, and also the desire to continue. to learn new things; the more you know the more that you can understand.

### *Ability of Students to Learn*

An alarming trend discovered in the discussions was the belief by several faculty members that a majority of the students in the program area were sub standard. When all three faculty participating (Patton, Taylor & Shultz), who were interviewed separately,

were asked of the quality of current students and their ability to function at a college level there were disparaging answers. Professor Taylor commented:

In general, not good, most of them aren't college level students; perhaps if we had actual enrollment standards the enrollment would be better.... I fail to believe that even 5% want to learn and their getting the grade is the byproduct of learning...Assuming that they are going to participate, there is not many that participate, the few that do participate, most of the few that read, I don't have a lot of active participation. Just drift from class to class...They can only learn so much.

Professor Patton remarked:

I would say though, over half of my students are just not there. I don't think they are, and this is talking about my freshmen level class, and I've seen this consistently. I don't think they are coming prepared to college to my school, they don't have the reading skills, they don't have the writing skills they don't have the grammar skills, they certainly don't have the math skills. And I stand every year, seeing those skills dropping, as we go along. I'm shocked when I have students that can write intelligently as well as grammatically correct, and get both in the same person is real rarity.

One of the most positive responses came from instructor Shultz, "College level is a bit subjective. College level in terms of, probably, 60% I would wager; I think there is 60% capacity to learn at a college level. As far as percentage of students to function at a college level, probably the same 60%."

Shultz makes another statement in his focus group interview which shows a clearer image of his thoughts:

I think everyone has the capacity to learn. I don't think everybody has the desire to learn. And I think that is the biggest key to student's success is the desire to learn. The sense of entitlement the students have especially. This generation the desire to learn is not there. They think they are entitled to an education. They don't want it, they just think they just need it and they should be given the education.

Professor Taylor took a stronger stance in the focus group: “Yea I don’t think they like to read, they don’t want to read, and some of them can’t read. So that’s just what we got.”

Instructor Willoughby, commenting in the focus group agreed:

I do feel with this question, some of the students feel like it is a punishment that they shouldn’t have to read they should be able to deliver it on PPT and should be able to filter out what’s going to be on the test and stuff. There are those students that enjoy the reading and stuff. And to follow up on what Professor Taylor says, “we have students that can’t read.” I don’t know what you do with that.

### *Student Perceptions of Faculty Integrity*

Students during interview sessions gave their thoughts on instructors. Brenda, the freshman student, began the comments by saying “I personally trust all my professors. I feel like if they are a professor, if they did what it took to be a professor in that field, then they know the basics [at least] of whatever question I have for them.” Teresa, the graduate student, cautiously agreed to Brenda’s response:

On a whole, you go into college trusting that that’s – you know – this is the professor’s job. That they’re going to bestow this knowledge that they have upon you. They’ve been in this field. They’ve done, you know, studied this material you know...this might be what they got their master’s or their doctorate. That they have studied this, they are knowledgeable in this. That is what you go in hoping.

Sadly students may find the inevitable truth, not every situation and not every learning experience is positive. Teresa, appearing to turn a bit more pessimistic continued:

Sometimes you might have professors that you’d eventually learn that maybe aren’t as – as credible...as credible as they probably should be. But there’s no way – I mean, unless you’ve had that professor before, or there’s no way for you to know. So you go in and you assume that every professor is, and ...whether though the experiences in the class or later knowledge, or from other students, you find out what their...you know what they’re saying is the truth or whether it’s a load of B.S.

Beyond the initial trust and belief, however, students contend they will desire to retain the freedom to challenge, to discuss and debate. Henry, the international student, summed up a short discussion in one of the focus groups:

There's trust, all or not – it, it will improve as you pass through time. And at the very beginning I will assume they're all trustful. And even though ...I trust I will trust...professor, but I will never give up the chance to argue with him.

### Conclusion

A summary of the data collection methods and data from surveys, focus groups, interviews, and document analysis as well as process of data analysis, were discussed in Chapter Four. In addition, a description of the program area and the construction of the focus groups and those chosen for interviews were included. Initial participant name coding was employed for all participants to ensure confidentiality and finally rendered as fictitious common names for readability. Responses to focus groups and interviews were arranged along research question themes of student assigned reading, use of PPT, PPT downloadable notes, weekly reading assessments, and elements of active learning from. Discussed in Chapter Five are the research findings, emergent themes of the research and conclusions. In addition, Chapter Five includes limitations of the study, implications for educational leadership, and recommendations for future study.

## CHAPTER FIVE

### SUMMARY, CONCLUSIONS, AND RECOMMENDATIONS

#### Introduction

This qualitative study examined the influence of PowerPoint (PPT) presentation as a means of delivering content in higher education courses and the influence of this instructional mode on assigned student reading completion. The data were triangulated using separate student and faculty member online surveys, two student focus group sessions, a faculty focus group session, and individual student and faculty interview sessions. Finally, document analysis of instructors' PPT lectures, weekly reading assessment quizzes, and other course materials was employed to supplement faculty and student responses.

Preexisting coding was used in designing the research tools and methods of (a) PPT use, (b) PPT downloadable notes, (c) student assigned reading completion, (d) weekly reading assessment quizzes, and (e) active learning in arranging data and answering research questions. Emergent themes from the research were developed through a "block and file" approach (Grbich, 2007 p. 32) from student and faculty participants and through conceptual mapping: (a) student "sifter" generation from visual dependence on digital modes, (b) differing faculty philosophies of teaching/learning theory, and (c) co-dependence of student motivation and teacher reflective instruction.

Research findings will be discussed in Chapter Five. In addition, answers to the research questions, limitations, implications for best practice, and recommendations for future inquiry will be discussed.

## Conceptual Framework

Throughout the study the concept change theory was employed as a theoretical focus of the inquiry to understand the relationship of instructional method and key factors which contribute to student learning including (a) explicit communication of teacher's learning activities and student to-be-learned expectations; (b) cognitive connections to other concepts and disciplines; (c) affective influences through the use of metaphors, analogies, shared experiences and personal beliefs; and (d) motivation (Song et al. 2007). Instructors, with inherent responsibilities and power in the classroom, have a pivotal role in the choice and implementation of student learning experiences. The literature review highlighted a lack of focus and understanding of conceptual change and the dynamic relationship between teacher and student (Song et al.). Research surveys, focus groups, interviews, and document analysis procedures were designed and developed to illuminate successes and failures in addressing the four key factors of the theory which contribute to student learning. Because educators can use the concept change theory as a lens to evaluate their own instruction and effectiveness of student learning and facilitate dynamic curriculum and class instruction development, the theory facilitated a guided approach to the interpretation of data.

## Summary of Findings

The main question guiding this study was, given the current ubiquitous and unreflective use of PPT for classroom instructional delivery found in the literature, what influence does visual electronic delivery have upon assigned student reading completion and other forms of student class preparation? The broad influence and complications of

electronic delivery and reluctance of students to read assigned material required six main research questions.

### *Research Questions*

Research design in survey, focus groups, interviews, and document analysis sought to answer the following:

1. How do students use assigned reading for class preparation?
2. How do students use PPT lecture, notes and downloads when preparing for quizzes and tests?
3. What types of course material and process of preparation do instructors normally use in preparing electronic presentations which students may perceive contain assessment information?
4. How does the use of PPT presentations, which provide course content, affect student assigned readings and other traditional class preparation methods?
5. How can the administration of reading assessment quizzes before class discussions encourage assigned reading completion?
6. How can the use of reading assessment quizzes and informed use of PPT encourage assigned reading completion rates and active learning in higher education classrooms?

### *How Do Students Use Assigned Reading for Class Preparation?*

Through analysis of surveys, focus groups, and interviews, there is convincing evidence that many students generally avoid thorough reading of preparatory materials before class. Although 69 of 84 (82.7%) students in survey responses indicated a strong belief that completion of assigned reading would benefit them, in student focus groups

and interview sessions, students readily admitted it was unlikely most students would expend much effort to read without some type of encouragement. These numbers strongly correlate with studies in the literature review which consistently reported students understood the value of reading in preparation for class even when they failed to complete the preparations (Clump et al. 2004).

Students in general, it appears from respondents, are not enamored with textbooks. In focus group sessions, when students were asked about reading completion rates, they began with competing comments of how much students loath reading textbooks and how the practice of preparing for class by reading is not a high priority. Several of the more poignant student comments with an aversion to reading included Trevor's comment, "I often don't read, usually." Heidi stated: "Either the material isn't my main interest in life, or the textbook is uninteresting." Cathy added, "I usually won't finish it...I feel like it's not worth my time." These findings are in agreement with the literature review providing overwhelming evidence many students in higher education are avoiding assigned reading and other class preparatory activities (Clump & Doll, 2007; Lord, 2008; Sappington et al. 2002).

Some student participants were quite adamant in their comments that they rarely read, and if they do, they skim material and seldom finish the sections assigned. Student survey responses which indicate 45 (54.2 %) of the students completed reading "most of the time" and 11 (13.3%) students "always" completed assigned reading resembled the percentage faculty members perceived are reading.

Student survey question two answers indicating 74 (89.2%) students who reported preparing for class by completing reading assignments in some manner are underscored

by two factors. First, students, as noted by student participant Aaron in the second focus group, are “sifters of information.” Students are trained to this mentality by the speed of information transfer in a new generation of visual modality learners. Other student comments confirm this notion declaring only a portion of the material is read, the portion (a) deemed important to the specific topic relevant to the class or assessment, (b) perceived as exciting by them, and (c) presented in a medium they choose, often electronically. Although this method of researching and understanding information may appear adequate through the student lens, if it circumvents the content framework fundamentally established by class instructors, this “sifting” cultural behavior may be construed by teachers as symptoms of what Burroughs, Kearney, and Plax (1989) referred to as “destructive resistance” by not fully preparing for classroom learning. Sappington et al. (2002) warned this behavior can have negative results as a “...deficiency in reading compliance diminishes the potential for class discussions, appreciation of lectures, and mastery of the subject’s content and concept” (p. 274).

Second, researchers in the literature believed a more complete and thorough reading than what is currently observed is needed to prepare for engaging class activities. Clump et al. (2004) warned:

Thus students cannot be involved in the type of meaningful learning...in which a student must find the meaning the author presents, decide its significance, learn the meaning, relate the concept to past experiences in order to clarify it, and continue to practice and review what was learned from the textbook material...by merely reading the chapter summaries in a textbook. (p. 227)

All but one of the six instructors reported utilizing textbooks or other material with assigned reading prior to class, with four of the six faculty answering they used this method most of the time and one responding all the time. Although there was a mixed

response on whether participating faculty could perceive how many students had completed reading, three of the instructors believed many students were neglecting assigned reading. Instructors confirmed some students openly acknowledged not reading materials in preparation for class.

Professors Taylor and Patton, and instructor Shultz, believed students do not value reading as a means of class preparation in part because of generational differences in methods and modes of obtaining information. Instructor Shultz observed in students a general disdain to traditional reading preparation:

...they don't like to read...it's apparent that most of them feel that they can get the information necessary to pass the class in class and so the reading is often times viewed as external or extra work that's required. But I would say the majority of it is they just don't want to read.

Unfortunately, this behavior often impacts the classroom learning environment. Professor Patton explained:

And sometimes that comes through as they try to do the assignment how they are interpreting things and they're lacking the knowledge that they would [have] pulled out of the reading and should have brought to class. And they're not doing that, and so I can tell they are not reading the material.

Poor quality textbooks, unused textbooks, and unrelated reading assignments were common detractors to reading in student group conversations. Negative reactions to uninteresting textbooks, thought worthless even by some faculty members, encouraged apathy within students already reluctant to read. In addition, if professors assign readings over material which is unrelated to class discussion and activities, students claim they will become apathetic to the entire reading and assessment process.

These are discouraging comments when viewed through the conceptual change theory lens (Song et al. 2007). A fundamental requirement of successful conceptual

change is the explicit communication of learning activates from teachers and the expectation of students over what is to be learned. Song et al. noted instructors have a powerful pivotal role in this motivational process. If students' perceived worth of textbook assigned reading completion is marred by the poor choice or poor utilization of required material which students are required to purchase, responses indicate a pattern of behavior devoid of positive reading motivation. Any chance of class dialogue or discussion facilitated by fresh information which might lead to active learning may be circumvented. Without adequate preparation before class activities, there can be little of Michael's (2007) "building, testing, and repairing of one's model of what is being learned" (p. 42).

An interesting discovery in the focus group and interview sessions was the revelation that international students, as reported by the Chinese student, inherently read on their own volition for class through self-assignment, choosing areas deemed necessary for class preparation. Teachers in these cultures rarely assign reading for class preparation.

*How Do Students use PPT Lecture, Notes and Downloads when Preparing for Quizzes and Tests?*

Eighty-one (97.6%) students in the survey reported considerable use of PPT to cover major instruction points and 76 (89.2%) respondents indicated a majority of the information is either downloadable to students through Blackboard or available online. These numbers support the contention of authors in the literature review that college students are savvy and understand PPTs contain key information for assessment (Kinchin et al. 2008). Focus group and interview responses mimicked these statistics.

The analysis of documents, in particular PPT notes on Blackboard and instructor websites of at least three of the instructors, as well as faculty survey responses, confirm the contention PPT lecture notes containing core course content are generally accessible to students. This sampling supports the trend indicated in the literature that students expect the instructor to provide printed copies or make lecture notes available for download from PPT presentations (Kinchin et al. 2008). Student survey question #5 responses indicate 81(97.6%) students believe PPT lectures may contain the key information for exams with 72 (81.9%) answering the PPTs contained the information “always” or at least “most of the time.” Student survey question #7 responses indicate 55 (66.2%) students admitted using PPT lecture notes at least “sometimes” to study for assessment rather than reading assigned materials and personal notes. Universally students in the focus groups and student interviews revealed that PPT notes and handouts were often used to the exclusion of assigned reading. Teresa, the graduate student, after four years experience in the program area, summed up student comments:

...in some of my other classes, if everything that's going to be on their tests and quizzes that I've learned from having previous classes with them, if I know it's in the handout notes, then I feel I can look at those notes it's a lot faster, quicker way of getting the information than taking the time to read the textbook.

This is a significant finding as Gier and Kreiner (2009) maintained students who believed using these notes in the exclusion of reading may be disadvantaged in assessment opportunities.

Several students believed the actual process of writing notes by hand in class, as they read or adding to information outlines was a more productive way of learning than

using instructor prepared notes containing all the content. Several students advocated a mixed approach to assessment preparation, including Cathy:

...if I was just reading from a textbook, I wouldn't gain as much as if there was a PPT involved also. But if we were only going off of PPTs, then I lose the opportunity to really sit and contemplate...what the text is trying to teach me...And so it's the combination, I think, of class lecture, and PPT, and the textbook. That when a professor focuses on just one of any of those three, that you really lose something in the process.

If, however, the handouts or PPT lectures contain all content material deemed important for the course assessment and are readily available online or in handouts, many students believed class attendance would suffer especially if the class time was utilized for content delivery to the exclusion of activities. Heidi stated:

If you know that a professor posts their PPTs online, it encourages a lot of students to not attend class and to download the PPTs – if you know the teacher's style – and can learn everything that they're going to teach – just at home.

*What Types of Course Material and Process of Preparation do Instructors Normally Use Preparing Electronic Presentations which Students May Perceive Contain Assessment Information?*

Four of the six faculty survey responses indicated electronic lectures were often used in class to cover the main points of instructional content. Two of those respondents reported they used the major points in PPT lectures for developing assessment “most of the time” or “always” with the remainder of faculty using this method less frequently. An astounding 81(97.6%) students, responding in the survey assumed, at least in part, PPT lectures will contain the key assessment information. Teresa, in a student focus group, noted a similar trend:

...there are a few professors that do it otherwise, but I would say almost three out of four professors on this campus– if it's on their PPTs– that is

their quiz material. Very few actually lecture over one thing and then have the reading be something completely different.

As noted in the literature review, students; often looked to the areas that are bolded or PPT bullets for main ideas rendered by instructor distillation (Maxwell, 2007). According to Judy, from the second focus group, this proposition is correct:

Those [PPT notes] seem to be the most reliable notes because chances are, the professor just went and did all the bold terms – and there are always books that you can read but – I always assume that the most important stuff was what’s already been reviewed in the class by the teacher.

Amelia, also from the second focus group, claimed professors actually encouraged students not to read the textbook to prepare for class and to simply accept the PPT delineation of the course content for assessment preparation:

[He said] I’m going to tell you, that just from my PPTs and everything, you will get the same grade if you didn’t have the book as if you did...someone tells you ‘you probably don’t need it’ – then you can get the free PPTs that you print off and follow along with in class and...absolutely, I returned my book!

Course documents examined by the researcher confirmed that most of the faculty participants in this study utilized PPT for class lectures. For two instructors, course content delivery was clearly the main objective. It appears, at least with these two instructors, weekly assessment and/or exam questions come directly from main highlighted items or bullet points from electronic lectures.

Professors Patton and Marx evidenced a varied approach of instruction, constructing PPT lectures interlaced with stories, analogies, videos, and examples coupled with activity and group participation days. Senior students in the program area were sometimes utilized by Professor Marx to provide tutorial materials, class demonstrations, and software problem solving assistance in lab sessions.

Other examples of faculty PPT development and utilization evidenced core class content delivery in lengthy presentations. Professor Taylor explained:

... I give my midterm and final exams based on the material from the PPT covered in class and the PPT is available for them out on the websites, they can download them...PPT is what I cover in lectures does not run parallel to the text, so that is two separate things that go on concurrently, so the PPT are a different way to deliver text information.

Some faculty respondents believed the construction of PPT for classroom content delivery could be counterproductive to learning, with the deciding factor being whether or not instructors utilized reflective design. Instructor Shultz believed “(PPT) is a crutch, (for) both the student and the instructor, I think an educational crutch. But are we talking well designed PPT or the PPT that most people use, because there is a big difference there?”

*How does the Use of PPT Presentations, which Provide Course Content, Affect Student Assigned Readings and Other Traditional Class Preparation Methods?*

When students were asked in the survey if they used PPT notes instead of assigned reading to prepare for assessment the results were mixed. According to student survey question #7, 20 (22.8%) students said they used the notes “always” or “most of the time.” Another 36 (43.4%) students said “sometimes,” and the remainder of the respondents believed otherwise. Faculty survey responses were also mixed on generally the same levels.

But focus group responses clearly articulated a much stronger response. As in the literature review where a number of researchers evidenced a trend of students preferring instructor notes over assigned reading completion for test preparation (Clump et al. 2004; Ryan, 2006), students acknowledged an almost universal agreement for utilizing

instructor prepared notes instead of reading for preparation for assessment. Judy's comment is representative:

...as a student, it's kind of engrained in our brains to assume that the PPTs are the highlights of the chapter. And so, why in the world would I waste time looking through...reading all these words ... most of the time, that's what PPTs seem to do – it's just the highlights and what's necessary to learn, or what the teachers make it seem what's necessary to learn.

The graduate student participating in the study has completed courses with every faculty member in the program area. After completing a four-year undergraduate degree the efficient way to success is explained by Teresa "... I know it's in the handout notes, then I feel I can look at those notes it's a lot faster, quicker way of getting the information than taking the time to read the textbook."

Just as reported in the literature (Maxwell, 2007), students perceive the teachers will highlight all of the material worth considering in the textbook, illuminating these in PPT lectures for test preparation. Unfortunately, students accept this efficient and time-saving system as a normal way of learning and disregard reading as an effective method of acquiring information. Openly and candidly, the students in focus group sessions explained the process. Holly stated:

With PPTs, I feel it highlights exactly kind of what you need to know for the most part. And sometimes, with some professors, they usually use those for test questions...for the most part; they usually highlight what's important from the text. And so that really helps, so I don't read after that.

With no intrinsic reason to read, students return their books and rely entirely on the instructor throughout the remainder of the course to deliver predigested information to memorize for assessment. Again, Holly stated:

Usually if...people know that the PPTs are going to be on the quiz, usually to save money, they'll return their books, so they don't have to worry

about having to – have - you know - only get so much back later. And that way, they're already set for the tests in the class.

*How can the Administration of Reading Assessment Quizzes before Class Discussions Encourage Assigned Reading Completion?*

Student responses in focus groups were very blunt. If they perceived assigned reading for class preparation was not followed by significant assessment affecting their grade, reading was unlikely. Heidi said “I will not read if I know that there will not be a test.” Lucy agreed, stating, “Sometimes I don't even buy the book because I know we're not going to test over the material.” These comments coincide with faculty member's claims in interview sessions that many students are generally not self-motivated to learn or inherently interested in learning for the sake of knowledge alone.

If, however, scheduled weekly reading assessments are given prior to discussion in class, students reported they are motivated to complete assigned reading. Student responses confirm an understanding if professors utilize weekly assessments to verify reading completion, and therefore a measure of understanding of main ideas and terms, appropriate answers are usually taken straight from the readings. Heidi explained, “...in my experience in this university, with most of the professors who assign quizzes over daily reading, the quizzes are straightforward from the textbook, and therefore I will read the textbook in order to do well.”

In student survey question #9, 71(84.9) students indicated they were more likely to read weekly assignments if they knew an assessment was scheduled. Even though there was some variance on the degree of agreement in those responses, 42(50%) indicated they “strongly agreed” they were more likely to read assigned materials if there were a quiz. These statistics coincide with research statistics from the literature

(Burchfield & Sappington, 2000; Clump et al. 2004; Ruscio, 2001; Sappington et al. 2002).

Even though survey results indicate students believe reading is important for classroom understanding and participation, as well as important for learning and growth in their professional field, the belief was not enough encouragement for students to read on their own. They are motivated by the assessment points. Teresa confirmed, “Through time, a lot of teachers have realized that if you don’t make some points assigned to it or, you know, if you don’t actually tell the students to read that...99% of them probably will not read it on their own.”

Research by several other authors in the literature review suggests scheduled and/or random quizzes are best for increasing reading compliance (Thorne, 2000), as weekly assessments are given over smaller manageable amounts of information. Three of the six faculty participants maintained they regularly use weekly assessment in all of their classes.

Michaelsen et al.’s (2004) team based learning model depends on similar content assessment to encourage class preparation and facilitate class interaction. One of the main tenants of team based learning is the ability to cover large amounts of class content through preparatory reading which would be impossible to cover effectively in class. According to Michaelsen et al, student assessment each class period or at the beginning of the week is vital to validate knowledge mastery, as little content is traditionally given during class time.

Some students viewed weekly assessments as motivational learning tools understanding the reason and rationale of teachers who utilize the quizzes to encourage reading. Carol stated:

I personally see the weekly quizzes as a benefit...Because it makes me take the time to read the text, and as I've discussed before, I get more out of it if I read it first, and then we discuss it. Otherwise I would lean towards – I have a busy life also, and just putting it off because I know I'm not going to have to use it. But if I know I need to know that knowledge because it's going to be required of me...then I'm going to take the time to set aside and commit to do it. So I don't think it's a punishment, I think it's a...extra learning tool.

Furthermore, students found the use of weekly quizzes beneficial, not only to encourage reading but also as a beneficial study tool in the learning process for future exams. Teresa shared:

I mean, there are some professors where they link it well enough that the reading is a benefit – that it does help encourage, so you actually get something out of the class and learn through those quizzes, just to make sure that you actually picked up what they felt was the most important. And that way if you don't do well on the quiz, you know ok for...if it is a class where they also have finals as well, you learn...

Students found this manner of review effective because it allowed test preparation in small manageable increments utilizing quizzes as chapter reviews. Student focus group discussions of this topic lead to a consensus that reading for assessment with a known purpose with a known reward or consequence enabled a chance for deeper cognitive permanence. Teresa, the graduate student, summed up the group's thoughts: "... when it comes time to discuss it in class, it's not the first time you've heard it, so that it helps it more...be more likely to stick in your brain."

Several student responses maintained, however, that the assessment quiz point values must have sufficient weight upon grades to warrant the time expended in reading.

Also the schedule of quizzes must be known by the students. Otherwise, student focus group responses indicated insufficient motivation to complete the reading.

According to students, negative attitudes toward professors could result if teachers utilize pop quizzes or weekly assessment as punitive measures to garner a “power trip” against those who will not complete assigned readings, have infrequent attendance, or other factors. Students claimed they were savvy enough to understand the reasoning for required reading. They expressed concern and frustration, however, when assigned readings were not connected in a perceptible way to assessment and class activities.

Two faculty participants, instructor Willoughby and Professor Patton, often utilized group assessment in a similar manner to Michaelson et al.’s (2004) team based learning weekly exams. Willoughby observed that when the assessment quizzes were repeated in groups, the percentage of reading compliance is extremely high. Professor Patton also uses student groups to answer specific assessment questions where student groups are responsible to research and find the needed material from the readings. These activities are followed with group assessments without notes or textbooks, but groups are allowed to work together for shared answers. The final examination, however, is a cumulative solo event where each student is assessed on individual merit.

*How can the Use of Reading Assessment Quizzes and Informed Use of PPT Encourage Assigned Reading Completions Rates and Active Learning in Higher Education Classrooms?*

Although initially it appears students can expeditiously prepare for assessment with PPT notes to the exclusion of assigned reading, a lack of preparation for class

hampers efforts for active learning. Students themselves realized the eye-capturing allure of PPT could become detrimental to engaging interesting experiences. Henry, the Chinese international student, stated:

...PPT...does not increase active learning because we always just see the result. We never-we, we didn't think by ourselves before the results come out...and...and I mean the process is really essential...more important than just the result. ...the process is more important than just to see the result.

Cathy added:

And so then because I had done something, I had read it on my own, thought about it, done it, and then had someone else speak about it, the three of them came together. So I think that that's an important part of active learning. I don't think it's just if the instructor entertains you. I think it's – you know if they give you enough pieces of the puzzle to create a whole picture in your mind.

Student responses during the interview sessions indicated active learning, requiring a scholarly process of research and reading before class activities, was not a natural phenomenon for most of their own experience and often required external motivation. Students believed preparation for class by reading encourages discussion and dialogue and it also prepares them for in-class learning activities and active engagement.

Teresa shared:

...having that knowledge beforehand, so that you can ask those questions that you may have picked up while you're reading, is where you're going to have the more active engagement. If you haven't touched the material at all, and you're just listening to the teacher the first time, you might pick up a few questions that you had, but you might not think of all of the things you didn't understand.

Sometime students discovered independent research and study provided a deeper educational experience leading to self learning. Molly stated:

Yea, that's a big thing for me is when I have to figure it out myself. Because then I know the process I went through to get that information, and it just makes it stick in my mind more. And also... something that helps me understand concepts. And that way, some of the stuff my professors talk about, then I've already kind of experienced that, and then I can add onto that, and that makes me remember.

Several students discussed in the focus group how they perceived active learning, as they defined the process, sometimes occurred. In every example, completion of assigned reading material or other research was an integral part. Clump et al. (2004) found similarities in reading completion surveys to the following student testimonial by student participant Cathy:

I think active learning requires more than just what the professor delivers, or even sometimes how they deliver it. But I kind of, I kind of feel like I actively learn when the pieces come together. Like when I've been told to read an assignment ahead of time, and I read it, and then the instructor lectures on it, and you know gives examples, and then requires us to go out and actually physically do something to you know, either, if it's science you've got an experiment, or you know if it's a finance class you've got to go create your own budget, not just watch the one they did on the PPT.

Vallance and Towndrow (2007) believed the best use of PPT resulted from informed use of the instructor utilizing the strengths of the software to help develop constructivist learning. A good example of this reflective thought is Gier and Kreiner's (2009) study of content based question use with PPT, believing that it is possible to incorporate active learning into the learning environment. Maxwell (2007) believed the strength of PPT was in visual appeal, a contention noted by students in this research.

Trevor noted:

There has to be some kind of interaction between the professor and the students, or there's no retention at all. And demonstrations, and images.... If there's just words and a little clip art, then I'm just going to pretend like I'm writing when really I'm doodling you on the board. I don't know, my mind wanders really quickly, and I'm in my own little world all the time,

but if someone's like – lecture for a little bit, and then we'll talk about that like in a discussion, I'm far more interactive than just being fed information.

Adams (2006) argued the Socratic method of teaching utilizing engaging discourse over an extended period of time was difficult to achieve using PPT but believed presentations could be constructed and utilized purposefully with reflective thought:

...it is quite possible for a thoughtful teacher to present a series of slides purposefully to invite dialogue. PowerPoint may, thus, become a springboard to discussion rather than solely a mechanism to deliver optimally a pre-set body of text and images. (p. 403)

If, however, PPT is utilized in the classroom as a rigid dispenser of knowledge, with little chance for dialogue, debate or alternate viewpoints, students contend PPT presentations can encourage a linear course of thought from beginning to end.

Kurt explained concerns on PPT:

I like to be actively engaged in the classroom. When I'm being spoon-fed information, I'm thinking, ok, well am I allowed to challenge this or not? And a lot of times I do want to challenge the information because I disagree with it, whether it's actually not – you know – based off of either personal experience or knowledge, or just you know, an opinion. I think it's healthy to have debates in college. That's kind of how I was trained to think growing up, was college is where you can actually start sharing your opinions. And a lot of times I still sit there and hear a lot of that challenge, and it still feels like you're being told "this is just how things are going to be." And PPTs are kind of that – it's along those lines.

Student warnings of unreflective PPT use have been echoed by several in the literature.

Reedy (2008) warned visual technology strategy can limit reasoned learning accomplished through dialogue and discourse:

Visual technologies may imply a certain type of classroom teaching. Visual technologies, though hailed as innovations to improve classroom teaching, may sometimes limit classroom discourse and focus activity on the teacher as the presenter of the information. (p. 161)

Burchfield and Sappington (2000) posit students who prepare for class by reading and other traditional methods are enabled to retain and internalize the instructor's presentations, providing a framework of meaningful knowledge. If classroom time is consumed, however, by one-way predetermined presentations without discussion opportunities for developing deeper understandings and cooperative reasoning, learning may be stifled. One student, Brenda, stated "PPT may or may not increase active learning, but I definitely think that there are other ways that active learning is - is best achieved - through discussions, through debates."

Faculty sentiments were akin to the students', hoping for engaging classrooms but understanding students must make the effort to make the preparation. Professor Patton shared:

What I really wish would happen would be that they would read the stuff and have an intelligent discussion and that happens sometimes in my advanced student class in the theory related book. And at times we were able to sit down and have an engaging conversation on issues, but it is limited to a few students that take the initiative to read, and I have a few students that do not read.

Student motivation to read assigned preparatory materials for classroom active learning is a central theme of this inquiry. If the aim of PPT design and construction is to deliver the vast majority of course content in identifiable highlighted bullets, as shown in the literature and in this study, students will often ignore the assigned reading, concentrating on assessment preparation through downloadable PPT notes. If, however, weekly reading assessment is utilized to verify compliance, student responses have indicated a propensity to complete readings. Additionally, weekly assessments can help instructors ascertain student knowledge levels and modify learning activities. PPT presentations can then serve a visually powerful function directing attention to key

concepts with “power to point” integrating stories, videos, exercises, activities and other modes of visually stimulated learning.

### Conclusions

According to Merriam (1998), qualitative research seeks to define meaning as socially constructed by individuals in interaction with their world, with multiple interpretations of reality. Since the primary actors in classrooms of higher learning are principally the faculty instructors and students, arriving at a mutually co-productive construct of both participant perspectives for learning would seem a reasonable course of action. In this research, it was therefore necessary to analyze “how all parts work together to form a whole” (Merriam, p. 6).

Based on the literature and research results it would seem unrealistic to believe the ubiquitous use of PPT or other electronic delivery software used by professors for lectures will significantly decline in the near future. It is also dangerously naïve to believe students will magically become more responsible in their scholarly efforts to prepare for class through completion of assigned reading without sufficient motivation. What is evidenced in this study is the reasonable belief that thoughtful, informed, reflective use of PPT and other effective classroom activities, coupled with well designed and effectively timed assessment to encourage interesting and related assigned reading, can encourage active learning in the classroom.

### Emergent Themes

Through the process of data collection and initial coding, consciously and unconsciously, the researcher became acutely aware of three emerging themes. Survey data, comments from focus group and interview sessions, and the document analysis all

contributed and confirmed to themes of: (a) generational information “sifting,” (b) divergent theories of teaching and learning espoused by faculty, and (c) co-dependence of student motivation and reflective teaching practices in active learning environments.

*Generational “Sifting” of Information from Digital Modes”*

The first theme to emerge from the data was the notion of generational “sifting” of information. In the second focus group, a unique discussion occurred concerning how and why today’s college students read. Aaron commented:

It also depends on if I’m really interested in whatever we’re – the text is covering. Even if it’s something that I already know, but I think I might get even just a little hint or tip out of something that I’ll use later on, I’ll go ahead and read the whole thing. But if it’s something that I’m disinterested in, or...I think it’s going to be...inapplicable to my life in some way, shape, or form, it discourages me from reading it.

Thus began an emerging theme in this research, the idea of a generation of information “sifters.” Other students agreed; declaring only a portion of assigned material is read, the portion (a) deemed important to the specific topic relevant to the class or assessment; (b) perceived as exciting by them, and (c) presented in a manner and mode they choose, often through some type of digital delivery. Carol, a student focus group participant, explained students may actually read or study content based material on their own, but only if they perceive its importance.

Carol stated:

...a lot of times I found myself reading textbooks when it’s not assigned. When it’s – or if it’s not even in the lectures, I find things that I find that pertain to what I want to learn, and I soak that up. And then sometimes I might look back and find things later on in a chapter...it’s when I find it necessary for me or productive for me.

Use of current visual technology is quickly learned and employed by students and has become an embedded part of their learning phenomenon. Teresa, the graduate student, talked considerably about this issue:

And this upcoming generation has had the internet, technology, all at their fingertips since – almost since birth. If not, for some of the people coming in, their whole lives. And so they've gotten used to how simplified it is to do stuff that way.

Aaron, in particular, spoke of the characteristic of “sifting information” in a digital age with faster speed and more options than ever before. And if the information is not packaged in a manner appealing to these students, there is little chance for learning:

Another thing is, this generation's – we were brought up to sift through information so fast. You know, and that's – any kind of medium or presentation – we're sifting. And I think we do it differently than generations in the past. And so, yea, if nothing catches your attention, then it's out.

There is an apparent consequence to this “sifting” in student learning styles.

Teresa talked about the tendency for millennial speed in information technology to encourage generational instant gratification:

You know it's – they've got this instant gratification issue where they're used to, you know, they want their high-speed internet, they're going to have their phones that have the internet on – they can look up anything, you know. They have the world at their fingertips, and they've gotten so used to...they've been spoiled by having everything done for them.

### *Differing Faculty Philosophies of Teaching/Learning Theory*

The second emergent theme was differing philosophies of teaching and learning among faculty. Regardless of the epistemological views teachers espouse, if theory and function cannot develop synergy to provide motivation and engaging classroom activities for a significant portion of students to learn, the educational system suffers. Song et al.

(2007), referring to guidelines of the concept change theory, maintained class content and pedagogy are closely intertwined and what and how instructors teach influences how students learn. They warned:

Instructors may...fail to recognize student dissonance or lack willingness to modify their teaching. Rather than reflecting and adapting to reconcile teaching differences, teaching activities may proceed as initially planned, independent of evidence of student learning, thus not fully facilitating student's conceptual change process. (p. 34)

Faculty participants in focus group and interview sessions often despairingly complained of the weak and apathetic responses from students to learning opportunities preparing for and during class. And yet few of the professors' comments during interview sessions or document analysis of teaching materials showed evidence of reconciling the effective worth of the current mode of instruction which is PPT lecture driven.

#### *Divergent Learning Theories and Approaches*

In this study of PPT use and assigned student reading, evidence of two divergent teaching and learning theories emerged: teacher centered learning and student centered learning. These and other related learning theories were examined in the literature review.

*Learner Centered Classroom.* The goal of the dynamic approach of the learner-centered classroom is to respond to the needs of the learner attempting to produce students who are motivated for success. McCombs and Whisler (1997), early pioneers of this theory, proposed this approach focuses on designing instruction which is sensitive to the individual student's needs, abilities, and interests. It emphasizes cooperation between teacher and learner, is respectful of the learner, and trusts individuals to be responsible their own learning. Professor Patton, as a strong proponent of learner centered instruction, commented:

I think one of the most effective ways a student learns is certainly more what we call learner centered, or student centered activity and I've found that the majority of our... students, since they are visually oriented, that when they physically get up to do something, it seems to stick with them a little better.

Patton understood traditional lecture and teacher centered instruction was less effective in his experience: "There's really a couple schools of thought, teacher centered and you have learner centered learning. Lecture is kind of the standard paradigm, and many just tend to do it; however, research shows that is the least effective way to learn." Instead of traditional classroom lecture, Patton utilized many elements of a more learner centered pedagogy seeking to reconcile instructional modes to the interests, abilities, and needs of current students in that particular class;

...but I also recognize...the value of Socratic learning, posing certain questions and evolving to questions, I also do a fair amount of learner centers, such as the groups, let them work as groups to find those answers. Brain storming sessions, there is a whole boat load of techniques. I do try to match activities to the type material that needs to be delivered. Often times students step into my classroom and they are not sure what we are going to be doing. I'm not predictable. I try other things.

Student centered learning has attributes centered on the goal to motivate and engage students. In this model both teacher and student are responsible for weaving an atmosphere of learning. Instead of relying on student motivation alone, which is often erratic and inadequate, or teacher motivation, which is sometimes misdirected, a synthesis of the two theoretically can provide dynamic learning environments. This model often has three pivotal reflective steps; (a) informing the student through student reading, other research, and weekly assessments to motivate reading; (b) student learning experiences through informed and judicious use of PPT, class discussions, dialogue and active learning exercises; and (c) the engagement of students in applied assignments in

and out of class utilizing group activities and projects. Figure 20 illustrates this education rhythm as an ever changing dynamic learner-centered and teacher-driven process weaving multiple modes and methods to activate learning.

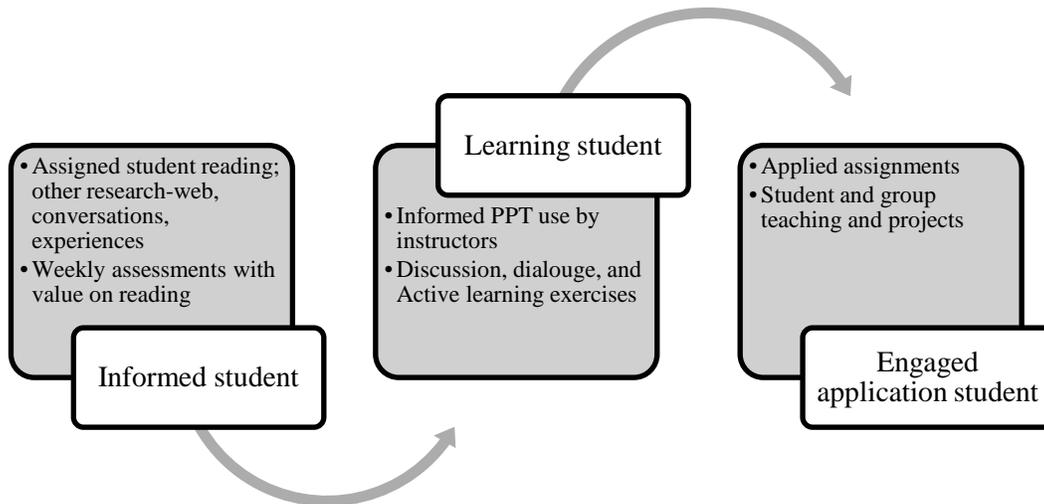


Figure 21: Learner centered teaching – Activating learning

*Teacher Driven Classroom.* The perspective of several faculty participants that many students in the surveyed area were not motivationally or cognitively capable of learning was troubling. The following response deeply illustrates the frustration of Professor Taylor and embedded teacher centered perspective when asked about the quality of current students in the area:

...most of them aren't college level students...They can only learn so much. They will remain unmotivated, no matter what I do, so that's why I try to provide a lot of information, because it benefits a few that are here to learn...Ultimately all learning is self learning.

These comments may be symptomatic of a dysfunctional pedagogical style in which learning is inherently a student responsibility and failure to learn is a student problem. The instructor in this paradigm is relieved from any responsibility other than delivering massive amounts of content information, usually through PPT presentations.

Operating as a central bank of vital information from which students either choose to make a withdrawal or apathetically refrain, instructors adherent to this philosophy in this study appear unreflective to generational cultural change and intolerant of perceived underachievers.

After considerable research and review of concept change theory and literature Song et al. (2007) believed instructors, without reconciliation and alignment between teaching and learning, often inadvertently place blame on students:

In such cases, instructors might attribute failed student performance to lack of prior knowledge and motivation, blaming them for failing to engage in their teaching activities rather than to the misalignment of expectations or their teaching. (p.34)

Throughout the faculty group discussions and interviews teacher bias toward new generations who seem to espouse different values and modes of learning was a common theme even by the most reflective professor interviewed, Professor Patton:

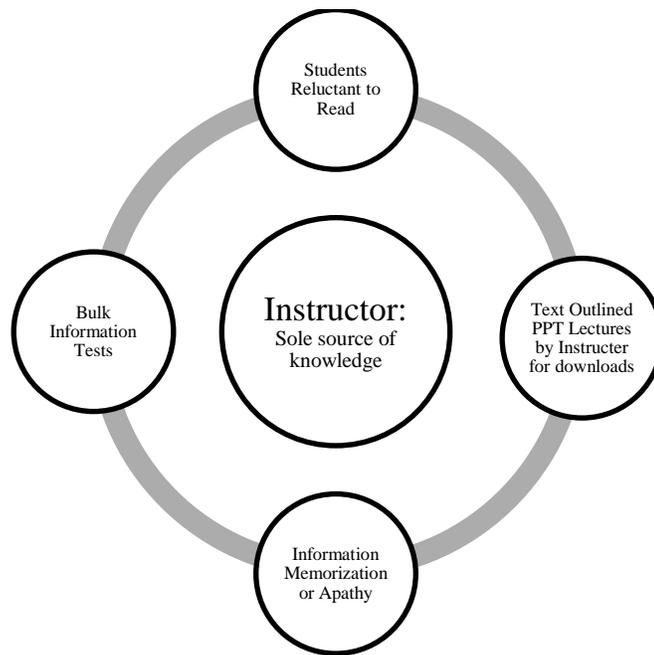
Unfortunately they aren't doing it for themselves and that makes a big difference...When I was a student ...I did things because I wanted the end result that there was something I was getting out of it. I don't think the students are really getting much out of what goes on and it just has to do with how they derive satisfaction out of life, and they think that everything should be given to them. The idea of working for something is foreign to them.

The contention of Major and Palmer (2001) was traditional lecture based instruction for “delivering as much information as possible as quickly as possible” (p. 1) was often ineffective due to poor classroom delivery and engagement skills. This study does not imply that this traditional method is without merit, or that teachers who employ this type of instruction do not care about students or learning. Quite the opposite, the volume of information delivered through PPT presentations viewed in the document analysis and the diligence of instructors with hard core teacher centered activities

observed in this study may evidence a determined approach by teachers using the only method they understood and have mastered. Even the comments of strong proponents of Professor Taylor, a strong supporter of teacher centered learning from this study, support this premise: “I can’t force anybody to learn. All I can do is create an environment which provides accelerated, direct learning.” The consistent learning environment problem appears not to be if professors are involved and determined in their efforts, but if those efforts are reflective and informed by research in the literature and directed toward activities conducive to active learning for today’s students.

Unfortunately, student comments on instructor centered teaching in this study tend to confirm a cyclical pattern of information merry-go-round with the teacher centered in the learning process controlling, not only the type or style of the teaching experience, but also the speed of the information delivery ride. The missing component of the success of this theory, as noted by Professor Taylor, is student motivation. Motivation, the fourth axiom of the conceptual change theory framework, is vital to student learning. The review of literature, the student surveys, and student comments in discussions, plainly illustrate a generation lacking strong student self-motivation for taking control of their learning experience. Interestingly, most professors are aware of this lack of motivation and the devastating impact it has on student success. If teacher centered instructors, such as Professor Taylor, intrinsically believe all learning is self-learning and it is not the responsibility or within the power of teachers to motivate students, there is a mismatch in teacher’s learning activities and students to-be learned expectations.

Figure 20 highlights a cycle of class information content movement from (a) the reluctance of students to read necessitating (b) professors to distill all the relevant information in the course and integrate into powerful visual lectures in an attempt to entertain and engage students who will (c) download PPT highlighted information as an effective way to memorize information instead of reading to (d) regurgitate the same predigested information from the teacher bank of valuable information for memorization recall exams which encourages students in the future to repeat the pattern of (a) reluctance to read, etc.



*Figure 22: Teacher centered learning-Concentration on delivering content*

*Concept Mapping to Understand Divergent Teaching and Learning Styles*

Central to both styles of teaching and learning in higher education explored in this study are: (a) assigned reading for class preparation, (b) weekly assessment to determine level of content understanding, (c) PPT presentation delivering core content,

(d) downloadable PPT highlights and distilled notes, and (d) how these activities affect active learning in classrooms. A concept map (see Figure 23) was developed to visually illustrate how the two divergent teaching and learning styles of teacher centered and student centered learning impact the main areas of the study. Data analysis provided the emergent themes and concepts highlighted on the diagram. The concept map utilizes a Venn diagram with two vertical ovals. The left oval highlighted in blue encompasses characteristics and effects of teacher centered learning from the literature and as perceived and articulated by survey answers and comments from the focus group sessions in this study. The right vertical oval, highlighted in red, surrounds the characteristics and effects of learner or student centered learning theory from this study. The intersection of the ovals highlighted in yellow comprises the key points of the research germane to both educational approaches.

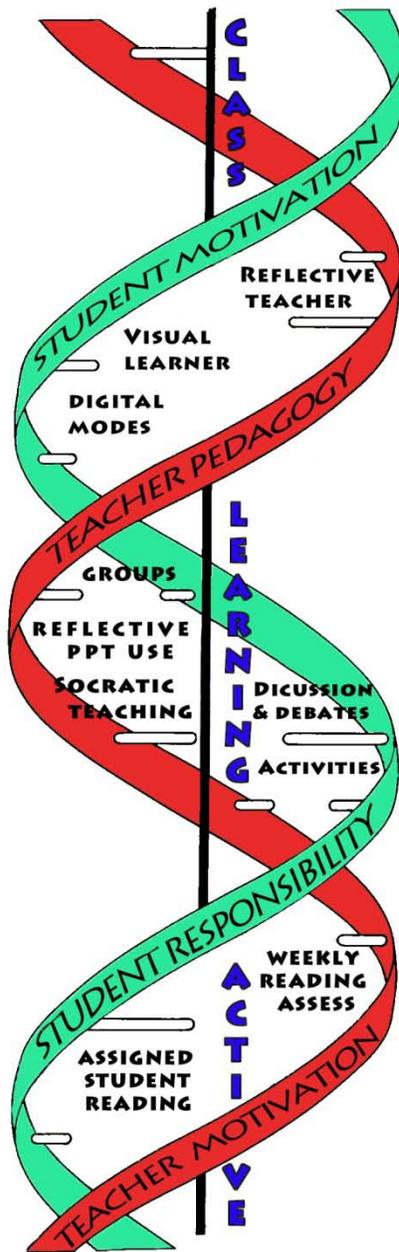
#### *Co-Dependence of Student Motivation and Teacher Reflective Instruction*

The third theme that emerged in the study was a unique co-dependence in the active learning process of student motivation and teachers' reflection when developing and directing instruction. Song et al (2007). posit "learning is a shared enterprise" (p. 27) involving teachers and students where teachers have the "capacity to perceive and respond to students, as well as to design instruction to promote successful student learning" (p. 33). Effective learning relies on mutual respect between students and teachers. Without respect, there is little hope of cooperation to motivate and engage students. In this educational mode, both teacher and student are responsible for weaving an atmosphere of learning. Song et al. explained:



It is important to examine the co-dependencies of a shared teaching-learning enterprise to help instructors understand student needs, identify teaching strategies that help facilitate learning, and determine how and when to accommodate them. Concurrently, it is important to examine how students adapt and accommodate their learning strategies based on awareness of the beliefs and practices of the instructor. In effect, each might be able to better identify when and how to reconcile their beliefs and strategies to align their efforts and promote learning success. (p.37)

This reflective process is illustrated in a simple graphic model illustrating the relationship of student and instructor responsibilities toward the goal of active learning. In Figure 24 the co-dependence of student and teacher responsibility and motivation is represented like strands in the genetic DNA double helix model. Spiraling together around the central goal of active learning, students and teachers are continually linked by the learning modes and activities they both share in a dynamic learning classroom experience. These activities, whether PPTs, discussion, debates, or application exercises, are, by necessity, reflectively planned and modified by the instructor. It is crucial, as Song et al. (2007) explained, for teachers to reconcile their pedagogical practices to student learning expectations through examination and alignment of teaching and learning expectations and beliefs. Student motivation to respond to assigned student reading, for example, is often driven by the pedagogy of instructors. The reasons for reading, selection of materials, the worth of weekly assessment, and the informed use of PPT are all entwined in the classroom experience. The development of a teaching paradigm encouraging discussion, debate, and activities, spurred on by Socratic teaching and dialogue, can be effective as verified in the literature and in research participant responses. However; development of a new learning paradigm requires instructors to be reflective of their teaching styles and willing to modify instruction to accommodate



**DOUBLE-HELIX  
ACTIVE LEARNING MODEL**

*Figure 24: Double-Helix Active learning model*

student needs. Likewise, student responsibility to respond to teacher initiatives requires a measure of respect and integrity.

### Limitations

Creswell (2003) advanced it is difficult to identify and define all the weaknesses in a study at inception. It is important, however, to be aware of limitations “...of design and research methods of data collection and analysis” (p. 148.). Grbich (2007) noted several areas of consideration, three of which, frames, position and power of the researcher, and research design approaches, warrant specific declaration in this study.

#### *Frames and Framing*

The researcher was subject to the “influences of their life experiences” and the “frame” of the “choice of design and more importantly...individual choice of the data” (Grbich, 2007 p.18). The researcher in this study was the primary instrument for data collection and analysis, the interpreter of observations and interviews (Merriam, 2002, p. 25). The study was limited relative to the qualitative research skills and experience of the researcher. Researcher bias and personal assumptions were assumed to be a limitation (Creswell, 2003). Pre-conceived notions of the reasons and results of student reading were present because the researcher is actively involved in researching and teaching as a faculty member in higher education utilizing many of the modes questioned in the inquiry. Grbich (2007) warned of this influence noting “how we come to see the world the way we do” and how our pre-conceived notions...“influence our participation in and understandings of the world” (p. 18).

### *Position and Power of the Researcher*

The researcher interacted and was integral in the data collection stage allowing first hand observation. Grbich (2007) noted the close proximity of observation required a researcher to “get as close to the essence of the experience being studied while displaying the comments of those being researched in their own voices...” (p. 19). There was always the possibility students may have been influenced in focus groups and interviews to respond more favorably because the researcher was a faculty member. It was observed, however, through open, and at times candid, answers, a willingness to share which suspended any suspicion of the research participant answer truthfulness.

### *Research Design Approaches*

This mixed design study approach was limited in design through the use of self reporting data from surveys, focus groups, and interviews from a select group of students who may perceive their class preparation actions are more productive and noble than in actuality. The researcher relied on a belief that students volunteering for participation were generally truthful. There was a possibility the students who responded were more academically active students and also those who read more often. This might have created a higher percentage who believed in reading and active participation.

Another limitation of a qualitative design is the issue of validity and reliability (Creswell, 2003) in comparison to quantitative design. The researcher used triangulation of data through multiple forms of data collection including surveys, focus groups, interviews, and document analysis designed to bring findings and conclusions which “ring true” (Merriam, 1998. p. 199). Member checks and peer reviews further ensured a reliable process (Merriam, 2002).

Finally, the unique nature of the graphic-based program area of the study in a Midwestern university is a limitation compared to other disciplines and colleges. Qualitative research was not, however, utilized to generalize the findings to other populations, but to interpret the setting and phenomenon of those participating to add to existing theory. Explicit external validity or transferability of the study was not a goal of this research. The purpose of these efforts was to add to a mostly historically quantitative body of information in the literature, understandings as to the “why” as well the “what” of the phenomenon (Bullock & Orr, 2000).

#### *Other Limitations*

The faculty was limited to only six members of the school of technology, a numerically small group and possibly not representative of a larger faculty population. Faculty member responses may be biased to believing in their ability to teach, feeling comfortable with their own method of instruction and assessment.

Student responses concerning faculty use of PPT and weekly assessment correlated to each instructor and student grade level were not possible, limiting a fuller understanding of the research questions. Further, the type of classes referred to in surveys and discussion groups was not delineated. Many classes meet in studios and are run more like work centers than classroom lecture halls. Finally, the absence of a defining notion of active learning for student and faculty before surveys and discussion groups limited a fuller understanding and dialogue of cognitive responses, active participation, and other learning concepts.

## Implications for Practice

The study findings indicate the importance for teachers to be reflective, not only in the design and use of PPT in the classroom, but of teaching and learning theories and practice overall. The findings underscore the impact an instructor has on the learning process from choice of textbook and use, to curriculum and assessment design, classroom activities, and student relationships. In this entire process the positive motivation of students in the learning process is crucial if learning is to occur. In all of these facets of teaching and learning, teacher integrity, reflection, and response are central.

Song et al. (2007) advised to acknowledge epistemic beliefs about teaching and learning explicitly both to students at the beginning of courses and in conversations with peers and colleagues. Additionally, reflective instructors would allow discussion time in class for students to make their beliefs explicit, providing a framework for mutual understanding.

Observation and research into current teaching and learning can provide a useful lens to examine our everyday practices as teachers and administrators avoiding a myopic view, which seems natural to our epistemic eyes. In this manner, we may be able to recognize the ways and means reconciliation occurs between teaching beliefs and instructional practice.

Song et al. (2007) noted sadly that even though “successful instructors and students recognize the value of, and employ complementary methods, some neither fail to recognize nor deploy complementary approaches” (p. 28). Hence, Song et al. argued the “importance to examine the co-dependencies of a shared teaching-learning enterprise” (p. 28) requiring teachers to identify teaching strategies based on an understanding of student

needs to facilitate learning. This study emphasizes that no longer can instructors teach what and how they want exclusively if they desire interaction and response from generational “sifters” toward active learning experiences. This may require teachers to reconcile their pedagogical beliefs and practices. For some in this study, and possibly in the larger field of higher education in general, this would appear a challenging task.

Teachers, when implementing the strategies found in this research, should be positive with purpose for the goal of active learning in the classroom, but not naïve in believing every student will respond. Even after all the efforts of dedicated and reflective instructors Song et al. (2007) were concerned with expectations that some students, for a variety of reasons, would not respond:

Alternatively, they [students] may lack the motivation or determination to invest the needed effort. In some cases, however, student beliefs, expectations, and strategies differ from those of the instructor. Unsuccessful students may resist efforts to learn and withdraw from the instruction, minimizing conceptual change and attributing failure to instructor. (p. 34)

Varied instructional delivery and active learning activities come at a price. Faculty schedules are many times fully loaded with requirements for service, research, and scholarship, as well as teaching. Continued competition for university resources can often incur an increase in faculty teaching load. Teachers will have to carefully balance the tremendous worth of reflective course design and modification to a reasonable workload. Weekly assessment can be daunting to those instructors not accustomed to preparing quizzes and the class time required for administration and grading. Many instructors, such as the researcher, utilize electronic online assessment through BlackBoard allowing assessment to be given over a period of time prior to class with all calculation of grades and posting of results automatically rendered to student Blackboard

pages. This researcher has found this system to be efficient and requires no in-class time for individual assessment.

Constructing interactive PPT with opportunities for imagery, stories, and activities often requires new technology and interpersonal skills for successful class presentations. Socratic questioning and dialogue can be daunting to some and requires a measure of vulnerability as students query and question into often uncharted concept areas. And yet, these activities, affective influences on students through use of metaphors, analogies, shared experiences and personal beliefs, are fundamental to the framework of conceptual change and active learning (Song et al. 2007).

Student centered learning has attributes centered on the goal to motivate and engage students. In this model both teacher and student are responsible for weaving an atmosphere of learning. Instead of relying on student motivation alone, which is often erratic and inadequate, or teacher motivation alone without critical reflection, a synthesis motivation and pedagogy with purpose theoretically can provide dynamic learning environments. This model often has three pivotal reflective steps: (a) informing the student through student reading, other research, and weekly assessments to motivate reading; (b) student learning experiences through informed and judicious use of PPT, class discussions, dialogue and active learning exercises; and (c) the engagement of students in applied assignments in and out of class utilizing group activities and projects.

For adventurous teachers willing to experiment with a plethora of visual media and activities of this digital age, come great opportunities for student engagement. Coupled with informed reflective pedagogy, and an understanding of student learning

requirements, instructors can remain relevant to student information “sifting” while maintaining rigor in their disciplines.

### Recommendations for Future Research

The results of this study should contribute to the current body of research and literature on the relationship of PPT use in higher education instruction in delivering course content and the reluctance of many students to complete assigned reading and other forms of preparation for class. A majority of the implications of the study are directed to teachers. Research into other modes and means of student motivation would be appropriate, as well as practical application of reconciliation efforts between teaching and learning. Additionally, continued research into new digital modalities and implications for a new generation of information “sifters” would be appropriate for leaders desiring to remain relevant.

Further qualitative research could examine other program discipline areas which are not graphically based to ascertain if the visual learning argument is as strong in non-graphic based courses. Qualitative and quantitative studies could examine a greater number and more diverse population of instructors to provide a broader spectrum of comments and statistics to build a more universal understanding of teacher pedagogy prerogatives. Due to the response of students and faculty in discussion sessions on group assessment, research akin to Michaelson et al.’s (2004) team based learning and other small group learning theories should be conducted.

Finally, the popularity of e-books and other on-line resources for students who often prefer digital media, and cost cutting desires of college administrators desperately trying to balance shrinking academic budgets are incentives for research into digital

reading as a delivery mode for class preparation. Teachers might discover reviewing and updating digital text information easier than traditional texts, and utilization for on-line courses and assessment more efficient. Additionally future research on student reading online could be easier to quantify utilizing student log on statistics to help track assigned reading completion.

### Concluding Overview

These qualitative study findings strongly underscore the importance of student preparation for classroom activities and instructor modes of content delivery in higher education. Without some method of motivation to complete assigned reading allowing students to gain a command of course content, class time will unavoidably be filled with content based lectures, most delivered with PowerPoint and available for download by students. Findings in the literature, supported by this study, indicate students will then rely on professor's distilled notes for their learning experience to the exclusion of assigned reading. Opportunities for active learning through discussion, debate, and other activities will diminish as class time is occupied with content delivery.

Moreover, this research highlighted an understanding and realization of the co-dependence of student motivation and reflective instructor teaching and learning activities which provide a framework conducive to active learning. Teachers, as leaders, have intrinsic power from their position in the classroom to reconcile instructional methods to learning styles cultivating opportunities for active learning supported by student reading preparation. Hopefully, these measures will enable instructors in higher education and new generational information "sifting" college students to find common ground in the continuously changing culture of learning.

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## Appendix A

### STUDENT SURVEY INFORMED CONSENT

#### **Dear UCMO student Participant:**

Thank you for considering involvement in the research for the study *An Examination of the Influence of PowerPoint Lectures in Higher Education upon Student Assigned Reading Completion*. My name is Tom Mitchell. This study is part of my dissertation research for a doctoral degree in educational leadership and policy analysis from the University of Missouri-Columbia. The information gathered should aid the development and implementation of active learning environments at the university. This study has been approved by the Chair of the School of Technology.

#### **PURPOSE**

The purpose of this research is to examine whether PowerPoint use to deliver course content in class sessions has an effect on the completion of assigned reading. Additionally, this research examines the use of weekly assessment quizzes by instructors to verify reading completion.

#### **EXCLUSIONS**

You must be at least 18 years of age and currently enrolled in a class in the School of Technology.

#### **PROCEDURES**

If you choose to participate in the project, you will complete a short questionnaire and be invited to take part in a one-hour audio recorded focus group, if you volunteer. The focus group will be conducted on your campus in a preapproved, designated classroom at a convenient time after daytime classes end. In the event that significant new findings develop during the course of the study, the researcher may ask you to participate in additional audio recorded interviews. In addition to being recorded, all focus groups will be transcribed verbatim for use by the researcher. All participants will be allowed to review the transcripts to ensure accuracy.

#### **PARTICIPATION**

**Participation in the study is completely voluntary. You may withdraw from participation at any time you wish without penalty, including in the middle of the sessions or after they have been completed. Your consent to participate or refusal to participate will not affect your standing in the university in any way.** You may also decline to answer any questions you believe are too uncomfortable. Please do not hesitate to contact me with any questions or concerns about your participation. You can email me

at mitchell@ucmo.edu. In addition, you also are welcome to contact the dissertation advisor for this research study, Dr. Sandy Hutchinson, at hutchinson@ucmo.edu.

### **CONFIDENTIALITY AND DISCLOSURE**

Tapes and transcripts will remain confidential and separate from any identifying information. A fictitious name for all participating will be used during the data analysis and reporting. You will have the opportunity to verify the transcribed interview for accuracy of what was stated and what was intended. Edits, deletions, and clarifications will be made immediately to the transcript to comply with your right to voluntarily release data. Only the researcher and the dissertation supervisor will have access to identifiable data. Collected data will be kept in a locked file cabinet in the researcher's locked office and will be destroyed seven years after the completion of this study.

Your identity will be confidential in the reporting of results. I will not list any names of participants in my dissertation or any future publications of this study. In addition, I will not reveal your name or any identifying information to any university official. This research has been preauthorized by the Institutional Review Board of the University of Missouri-Columbia and the University of Central Missouri.

### **RISKS AND BENEFITS**

The risk of your participation is minimal. The information gathered should be beneficial to college and university faculty members in designing and implementing effective instruction.

### **COSTS TO STUDY PARTICIPANTS**

There will be no cost to participate in the study other than your time.

### **COMPENSATION**

The researcher will provide no compensation. If you choose to participate in this study, please complete the information below. A copy of this letter and your written consent should be retained by you for future reference.

### **QUESTIONS**

If you have any questions about this study, please contact Dr. Hutchinson. She can be reached at [hutchinson@ucmo.edu](mailto:hutchinson@ucmo.edu) or at 660-543-4720. If you have any questions about your rights as a research participant, please contact the Institutional Review Board at the University of Missouri at (573)882-9585 [www.umcresearchcirb@missouri.edu](mailto:www.umcresearchcirb@missouri.edu) or the Human Subjects Protection Program at UCM at (660)543-4621.

If you would like to volunteer for possible inclusion in further small group discussions with related questions to the ones enclosed please mark the appropriate box below.

- Yes, I would like to have an opportunity to be involved in one of several student focus groups. I understand this brief meeting will last less than an hour and will be held on campus in a convenient place and at a convenient time, and food will be provided afterwards.
- No, I decline the opportunity to participate in any student focus groups

Please copy the above paragraph adding your name and send a campus email to my address:

[mitchell@ucmo.edu](mailto:mitchell@ucmo.edu)

If you have chosen to participate further, I will contact you again by email as to the date and time of focus group sessions from which you may choose convenient.

Your participation in this survey constitutes your consent in this research.

Thank you so much for your willingness to join me in this important research into student learning practices.

Tom Mitchell  
mitchell@ucmo.edu

## Appendix B

### FACULTY SURVEY INFORMED CONSENT

#### **Dear UCMO faculty member participant:**

Thank you for considering involvement in the research for the study *An Examination of the Influence of PowerPoint Lectures in Higher Education upon Student Assigned Reading Completion*. My name is Tom Mitchell. This study is part of my dissertation research for a doctoral degree in educational leadership and policy analysis from the University of Missouri-Columbia. The information gathered should aid the development and implementation of active learning environments at the university. This study has been approved by the Chair of the School of Technology.

#### **PURPOSE**

The purpose of this research is to examine whether PowerPoint use to deliver course content in class sessions has an effect on the completion of assigned reading. Additionally, this research examines the use of weekly assessment quizzes by instructors to verify reading completion. The researcher will primarily use a qualitative study approach to explore this phenomenon.

#### **EXCLUSIONS**

You must be a faculty member in the School of Technology.

#### **PROCEDURES**

If you choose to participate in the project, you will complete a short questionnaire and be invited to take part in a one-hour audio recorded focus group, if you volunteer. The focus group will be conducted on your campus in a preapproved, designated classroom at a convenient time after daytime classes end. In the event that significant new findings develop during the course of the study, the researcher may ask you to participate in additional audio recorded interviews. In addition to being recorded, all focus groups will be transcribed verbatim for use by the researcher. All participants will be allowed to review the transcripts to ensure accuracy.

#### **PARTICIPATION**

**Participation in the study is completely voluntary. You may withdraw from participation at any time you wish without penalty, including in the middle of the sessions or after they have been completed. Your consent to participate or refusal to participate will not affect your standing in the university in any way.** You may also decline to answer any questions you believe are too uncomfortable. Please do not hesitate to contact me with any questions or concerns about your participation. You can email me

at mitchell@ucmo.edu. In addition, you also are welcome to contact the dissertation advisor for this research study, Dr. Sandy Hutchinson, at hutchinson@ucmo.edu.

### **CONFIDENTIALITY AND DISCLOSURE**

Tapes and transcripts will remain confidential and separate from any identifying information. A fictitious name for all participating will be used during the data analysis and reporting. You will have the opportunity to verify the transcribed interview for accuracy of what was stated and what was intended. Edits, deletions, and clarifications will be made immediately to the transcript to comply with your right to voluntarily release data. Only the researcher and the dissertation supervisor will have access to identifiable data. Collected data will be kept in a locked filing cabinet in the researcher's locked office and will be destroyed seven years after the completion of this study.

Your identity will be confidential in the reporting of results. I will not list any names of participants in my dissertation or any future publications of this study. In addition, I will not reveal your name or any identifying information to any university official. This research has been preauthorized by the Institutional Review Board of the University of Missouri-Columbia and the University of Central Missouri.

### **RISKS AND BENEFITS**

The risk of your participation is minimal. The information gathered should be beneficial to college and university faculty members in designing and implementing effective instruction.

### **COSTS TO STUDY PARTICIPANTS**

There will be no cost to participate in the study other than your time.

### **COMPENSATION**

The researcher will provide no compensation. If you choose to participate in this study, please complete the information below. A copy of this letter and your written consent should be retained by you for future reference.

### **QUESTIONS**

If you have any questions about this study, please contact Dr. Hutchinson. She can be reached at [hutchinson@ucmo.edu](mailto:hutchinson@ucmo.edu) or at 660-543-4720. If you have any questions about your rights as a research participant, please contact the Institutional Review Board at the University of Missouri at (573)882-9585 [www.umcresearchcirb@missouri.edu](mailto:www.umcresearchcirb@missouri.edu) or the Human Subjects Protection Program at UCM at (660)543-4621.

If you would like to volunteer for inclusion in further small group discussions with related questions to the ones enclosed please mark the appropriate box below.

- Yes, I would like to have an opportunity to be involved in the faculty focus group. I understand this brief meeting will last less than an hour and will be held on campus in a convenient place and at a convenient time.
- No, I decline the opportunity to participate in the focus group.

Please copy the above paragraph adding your name and send a campus email to my address:

[mitchell@ucmo.edu](mailto:mitchell@ucmo.edu)

If you have chosen to participate further, I will contact you again by email as to the date and time of focus group sessions from which you may choose convenient.

Your participation in this survey constitutes your consent in this research.

Thank you so much for your willingness to join me in this important research into student learning practices.

## Appendix C

### **FOCUS GROUP/INTERVIEW INFORMED CONSENT FORM**

#### **Dear UCMO student Participant:**

Thank you for considering involvement in the research for the study *An Examination of the Influence of PowerPoint Lectures in Higher Education upon Student Assigned Reading Completion*. My name is Tom Mitchell. This study is part of my dissertation research for a doctoral degree in educational leadership and policy analysis from the University of Missouri-Columbia. The information gathered should aid the development and implementation of active learning environments at the university. This study has been approved by the Chair of the School of Technology.

#### **PURPOSE**

The purpose of this research is to examine whether PowerPoint use to deliver course content in class sessions has an effect on the completion of assigned reading. Additionally, this research examines the use of weekly assessment quizzes by instructors to verify reading completion. The researcher will primarily use a qualitative study approach to explore this phenomenon.

#### **EXCLUSIONS**

You must be at least 18 years of age and currently enrolled in a class in the School of Technology.

#### **PROCEDURES**

If you choose to participate in the project, you will complete a short questionnaire and be invited to take part in a one-hour audio recorded focus group, if you volunteer. The focus group will be conducted on your campus in a preapproved, designated classroom at a convenient time after daytime classes end. In the event that significant new findings develop during the course of the study, the researcher may ask you to participate in additional audio recorded interviews. In addition to being recorded, all focus groups will be transcribed verbatim for use by the researcher. All participants will be allowed to review the transcripts to ensure accuracy.

#### **PARTICIPATION**

Participation in the study is completely voluntary. You may withdraw from participation at any time you wish without penalty, including in the middle of the sessions or after they have been completed. Your consent to participate or refusal to participate will not affect your standing in the university in any way. You may also decline to answer any questions you believe are too uncomfortable. Please do not hesitate to contact me with any

questions or concerns about your participation. You can email me at [mitchell@ucmo.edu](mailto:mitchell@ucmo.edu). In addition, you also are welcome to contact the dissertation advisor for this research study, Dr. Sandy Hutchinson, at [hutchinson@ucmo.edu](mailto:hutchinson@ucmo.edu).

### **CONFIDENTIALITY AND DISCLOSURE**

Tapes and transcripts will remain confidential and separate from any identifying information. A fictitious name for all participating will be used during the data analysis and reporting. You will have the opportunity to verify the transcribed interview for accuracy of what was stated and what was intended. Edits, deletions, and clarifications will be made immediately to the transcript to comply with your right to voluntarily release data. Only the researcher and the dissertation supervisor will have access to identifiable data. Collected data will be kept in a locked file cabinet in the researcher's locked office and will be destroyed seven years after the completion of this study.

Your identity will be confidential in the reporting of results. I will not list any names of participants in my dissertation or any future publications of this study. In addition, I will not reveal your name or any identifying information to any university official. This research has been preauthorized by the Institutional Review Board of the University of Missouri-Columbia and the University of Central Missouri Human Subjects Review Board.

### **RISKS AND BENEFITS**

The risk of your participation is minimal. The information gathered should be beneficial to college and university faculty members in designing and implementing effective instruction.

### **COSTS TO STUDY PARTICIPANTS**

There will be no cost to participate in the study other than your time.

### **COMPENSATION**

The researcher will provide no compensation. If you choose to participate in this study, please complete the information below. A copy of this letter and your written consent should be retained by you for future reference.

### **QUESTIONS**

If you have any questions about this study, please contact Dr. Hutchinson. She can be reached at [hutchinson@ucmo.edu](mailto:hutchinson@ucmo.edu) or at 660-543-4720. If you have any questions about your rights as a research participant, please contact the Institutional Review Board at the University of Missouri at (573)882-9585 or visit

<http://www.research.missouri.edu/cirb/index>, or the Human Subjects Protection Program at UCM at (660)543-4621 or visit [humansubjects@ucmo.edu](mailto:humansubjects@ucmo.edu).

Thank you for your time and consideration.

Sincerely,

Thomas M. Mitchell

Doctoral Candidate

**SIGNATURES**

A signed statement of informed consent is required of all participants in this project. Your signature indicates that you understand and voluntarily agree to the conditions of participation described above, and that you have received a copy of this form.

I agree to take part in this study. I have had a chance to ask questions about being in this study and have those questions answered.

\_\_\_\_\_

Printed Name of Subject

\_\_\_\_\_

Signature of Subject

\_\_\_\_\_

Date

Using language that is understandable and appropriate, I have discussed this project and the items above with the subject.

\_\_\_\_\_

Printed Name of Investigator

\_\_\_\_\_

Signature of Investigator

\_\_\_\_\_

Date

## Appendix D

### **FOCUS GROUP/INTERVIEW INFORMED CONSENT FORM**

#### **Dear UCMO faculty member participant:**

Thank you for considering involvement in the research for the study *An Examination of the Influence of PowerPoint Lectures in Higher Education upon Student Assigned Reading Completion*. My name is Tom Mitchell. This study is part of my dissertation research for a doctoral degree in educational leadership and policy analysis from the University of Missouri-Columbia. The information gathered should aid the development and implementation of active learning environments at the university. This study has been approved by the Chair of the School of Technology.

#### **PURPOSE**

The purpose of this research is to examine whether PowerPoint use to deliver course content in class sessions has an effect on the completion of assigned reading. Additionally, this research examines the use of weekly assessment quizzes by instructors to verify reading completion. The researcher will primarily use a qualitative study approach to explore this phenomenon.

#### **EXCLUSIONS**

You must be a faculty member in the School of Technology.

#### **PROCEDURES**

If you choose to participate in the project, you will complete a short questionnaire and be invited to take part in a one-hour audio recorded focus group, if you volunteer. The focus group will be conducted on your campus in a preapproved, designated classroom at a convenient time after daytime classes end. In the event that significant new findings develop during the course of the study, the researcher may ask you to participate in additional audio recorded interviews. In addition to being recorded, all focus groups will be transcribed verbatim for use by the researcher. All participants will be allowed to review the transcripts to ensure accuracy.

#### **PARTICIPATION**

Participation in the study is completely voluntary. You may withdraw from participation at any time you wish without penalty, including in the middle of the sessions or after they have been completed. Your consent to participate or refusal to participate will not affect your standing in the university in any way. You may also decline to answer any questions you believe are too uncomfortable. Please do not hesitate to contact me with any questions or concerns about your participation. You can email me at [mitchell@ucmo.edu](mailto:mitchell@ucmo.edu).

In addition, you also are welcome to contact the dissertation advisor for this research study, Dr. Sandy Hutchinson, at [hutchinson@ucmo.edu](mailto:hutchinson@ucmo.edu)

### **CONFIDENTIALITY AND DISCLOSURE**

Tapes and transcripts will remain confidential and separate from any identifying information. A fictitious name for all participating will be used during the data analysis and reporting. You will have the opportunity to verify the transcribed interview for accuracy of what was stated and what was intended. Edits, deletions, and clarifications will be made immediately to the transcript to comply with your right to voluntarily release data. Only the researcher and the dissertation supervisor will have access to identifiable data. Collected data will be kept in a locked filing cabinet in the researcher's locked office and will be destroyed seven years after the completion of this study.

Your identity will be confidential in the reporting of results. I will not list any names of participants in my dissertation or any future publications of this study. In addition, I will not reveal your name or any identifying information to any university official. This research has been preauthorized by the Institutional Review Board of the University of Missouri-Columbia and the University of Central Missouri

### **RISKS AND BENEFITS**

The risk of your participation is minimal. The information gathered should be beneficial to college and university faculty members in designing and implementing effective instruction.

### **COSTS TO STUDY PARTICIPANTS**

There will be no cost to participate in the study other than your time.

### **COMPENSATION**

The researcher will provide no compensation. If you choose to participate in this study, please complete the information below. A copy of this letter and your written consent should be retained by you for future reference.

### **QUESTIONS**

If you have any questions about this study, please contact Dr. Hutchinson. She can be reached at [hutchinson@ucmo.edu](mailto:hutchinson@ucmo.edu) or at 660-543-4720. If you have any questions about your rights as a research participant, please contact the Institutional Review Board at the University of Missouri at (573)882-9585 or visit <http://www.research.missouri.edu/cirb/index>, or the Human Subjects Protection Program at UCM at (660)543-4621 or visit [humansubjects@ucmo.edu](mailto:humansubjects@ucmo.edu).

Thank you for your time and consideration.

Sincerely,

Thomas M. Mitchell

Doctoral Candidate

**SIGNATURES**

A signed statement of informed consent is required of all participants in this project. Your signature indicates that you understand and voluntarily agree to the conditions of participation described above, and that you have received a copy of this form.

I agree to take part in this study. I have had a chance to ask questions about being in this study and have those questions answered.

\_\_\_\_\_

Printed Name of Subject

\_\_\_\_\_

Signature of Subject

\_\_\_\_\_

Date

Using language that is understandable and appropriate, I have discussed this project and the items above with the subject.

\_\_\_\_\_

Printed Name of Investigator

\_\_\_\_\_

Signature of Investigator

\_\_\_\_\_

Date

## Appendix E

### STUDENT SURVEY

The following survey usually takes 5-10 minutes to complete. For the following statements/questions please select only one of the six possible responses. If you prefer not to answer any question please note there is an option to 'prefer not to answer'.

1. It is beneficial to read assigned textbook sections and other material for class.
2. To what extent do you regularly prepare for class by completing assigned readings prior to class?
3. To what extent do the majority of your professors in your major utilize PowerPoint in class lectures.
4. I assume PowerPoint lectures will contain the key information for quizzes.
5. I assume PowerPoint lectures will contain the key information for exams.
6. The majority of PowerPoint lecture material is available for download or printed notes are available in class.
7. I use PowerPoint lecture notes to study for quizzes and exams rather than reading assignments and personal notes.
8. The majority of my professors in my major utilize weekly reading assessment quizzes.
9. I am more likely to read my weekly assignments if I know there is a quiz over the readings.
10. Active learning occurs in my classrooms.

Questions 1 & 9 had answers of: strongly agree, agree, uncertain, disagree, strongly disagree, and prefer not to answer.

Questions 2-8 and 10 had answers of always, most of the time, sometimes, usually not, never, and prefer not to answer.

## Appendix F

### FACULTY SURVEY

The following survey usually takes 5-10 minutes to complete.

For the following statements/questions please select only one of the six possible responses. If you prefer not to answer any question please note there is an option to 'prefer not to answer'.

1. Lectures in my classroom are delivered through PowerPoint or similar electronic software.
2. My electronic lectures cover the major points of instructional content in the course.
3. I use the major points in electronic lectures as assessment questions.
4. The course content from lectures is downloadable by students on Blackboard or by other means.
5. I use textbook or other materials from which I assign student reading to be completed prior to class.
6. I administer weekly reading assessment quizzes before class to encourage assigned reading.
7. My students are using PPT lecture notes for assessment preparation often avoiding assigned readings.
8. When questions are asked in class which require some knowledge of assigned readings it appears students have not read the material.
9. Students acknowledge not thoroughly reading the assigned materials because it will be explained in the electronic presentation.
10. Active learning occurs in my classrooms.

Questions 1-6 and 8-10 had answer options of: always, most of the time, sometimes, not usually, never, and prefer not to answer.

Question 7 had answer options of: always, most of the time, sometimes, usually not, never, and prefer not to answer.

## Appendix G

### STUDENT FOCUS GROUP

#### AN EXAMINATION OF THE INFLUENCE OF POWERPOINT LECTURES IN HIGHER EDUCATION UPON STUDENT ASSIGNED READING COMPLETION

Date: \_\_\_\_\_

#### Introduction:

Welcome. Thank you for taking the time to be a part of this discussion concerning the influence of PowerPoint lectures and student assigned readings. I appreciate your willingness to complete the online survey and volunteer for this session. I will be audio taping the discussion period for my research with the intent of formulating student concerns for the best possible methods of utilizing electronic lectures and ways to encourage student reading for future learning experiences here at the university.

I am open to any relevant answers which represent your honest feelings or assessment whether your point of view agrees or differs from what others have said. This is an open forum for discussion among yourselves. I am here only to direct and moderate your conversation. You can ask questions if you are at any time unsure of my meaning. I only request that we allow time and opportunity for everyone to share freely because I am interested in hearing from each of you. Please remember to speak up so your comments will be heard and recorded. Please remember to talk one at a time.

Our session will last about an hour. If, for any reason, you need to leave please feel free to do so.

No names will appear in the report. You may request a printed copy of this session. Although many of you may be well acquainted, let us begin our discussion by going around the table and introducing ourselves.

## Questions

1. How often do you complete assigned readings before class?
2. What encourages you to read these assignments? Discourages you from reading?
3. What is the value of reading assignments in preparation for class?
4. Does your preparation make class time more productive for learning? If so, in what ways?
5. If your professors use PowerPoint and hand out notes or allow them to be downloaded does it discourage reading of the assigned material?
6. If your professors did not use PowerPoint, how would you prepare for class and quizzes or exams?
7. Do students generally perceive important content for quizzes and tests is contained primarily in PowerPoint lectures and notes? Why do you think students think this way?
8. Would you prefer the instructor lecture using PowerPoint and spend class time delivering information? Why or why not?
9. What percentage of your class instruction time is delivered through PowerPoint?
10. Have you experienced active learning in your classrooms? Can you describe some of those activities?
11. If so, what can you attribute to those situations where active learning occurred?
12. In what way does reading assessment quizzes encourage you to prepare for class by reading? Why or why not?

13. Do you believe these weekly reading assessments are for your benefit as do you see these as punishment for those who choose not to read? What additional comments would you have?
14. What other ways or means can you prepare for class other than assigned reading?

Appendix H

FACULTY FOCUS GROUP

AN EXAMINATION OF THE INFLUENCE OF POWERPOINT LECTURES IN  
HIGHER EDUCATION UPON STUDENT ASSIGNED READING COMPLETION

Date: \_\_\_\_\_

Introduction:

Welcome. Thank you for taking part in this discussion concerning the influence of PowerPoint lectures and student assigned readings. Your willingness to take time from your busy schedules for this session is appreciated. I will be audio taping the discussion period for my research with the intent of formulating ideas for the best possible methods of utilizing electronic lectures and ways to encourage student reading for future learning experiences at the university.

I am open to any relevant answers which represent your honest feelings or assessment whether your point of view agrees or differs from what others have said. This is an open forum for discussion among yourselves. I am here to direct and moderate this conversation. You can ask questions if you are at any time unsure of my question's meaning. I only request that we allow time and opportunity for everyone to share freely because I am interested in hearing from each of you. Please remember to speak up so your comments will be heard and recorded. Please remember to talk one at a time.

Our session will last about an hour. If, for any reason, you need to leave please feel free to do so.

No names will appear in the report. You may request a printed copy of this session. Let us begin.

## Questions

1. Do you usually assign readings from the textbook or other material in preparation for class time? Why or why not?
2. How much of the assigned reading do your students complete before class?
3. What encouragement, if any, do you employ to foster completion of assigned readings?
4. Do you believe assigned reading material helps students participate in class?
5. To what extent do you employ PowerPoint or other electronic lectures in class?
6. How do you use PowerPoint to deliver course content from the reading material?
7. Do you perceive or have evidence students are avoiding assigned readings believing PPT lectures contain assessment information?
8. To what extent is the content given out in handouts available for download?
9. What are your perceptions of student preference of the PowerPoint lecture type format?
10. How would you rate traditional lecture using PowerPoint? Is an effective method of teaching and learning?
11. In what ways do you use active learning in your classroom?
12. What can you attribute to those situations where active learning occurred?
13. Do you employ weekly reading assessment quizzes to encourage assigned reading? Is it beneficial?
14. How do you think students perceive these weekly reading assessments? For example, do you believe they see it is for their benefit or do they see these as punishment for those who choose not to read?

## Appendix I

### Proposed Scope of Student Interview Questions

From a student's perspective:

1. Why do professors give assigned reading in preparation for class?
2. Do professors have your best interests in mind when they give reading assignments for texts? Explain.
3. Is the ability to traditionally read and comprehend information from textbooks important?  
If so, why?
4. What are the preferred methods for students to find information?
5. Why do professors use PowerPoint to deliver information in class?
6. What is the level of competency of your professors in their use of PowerPoint?
7. Does the use of PowerPoint lectures increase active learning in the classroom? In what ways?
8. Why do professors give weekly reading assessment?
9. What is the best method or process to prepare for a quiz or test?

## Appendix J

### Proposed Scope of Faculty Interview Questions

From a teacher's perspective:

1. Do the majority of your students value assigned reading? If not, why?
2. Are there ways to encourage college students to read?
3. Where do students find information needed for classroom participation?
4. Do students search for information needed to be successful in their academic or professional fields? What methods do they employ to conduct this search?
5. Do students enjoy PowerPoint lectures?
6. Do students prefer PowerPoint notes or downloadable files containing core course content for study?
7. Is their major objective in using these notes or files to prepare for assessment or for application? Are there other objectives?
8. What is most effective way students learn?
9. What is the capacity of your students to learn at the college level?

## Appendix K

### Human Subjects (HS) Approval, University of Central Missouri

From: Janice Putnam Tuesday - January 4, 2011 1:06 PM

To: Mitchell, Tom

Subject: human subjects

Dear Mr. Thomas Mitchell,

Your research project, 'An Examination of the Influence of Powerpoint Lectures in Higher Education Upon Student Assigned Reading Completion', was approved by the Human Subjects Review Committee on 12/16/2010. This approval is valid through 12/16/2011.

Please note that you are required to notify the committee in writing of any changes in your research project and that you may not implement changes without prior approval of the committee. You must also notify the committee in writing of any change in the nature or the status of the risks of participating in this research project.

Should any adverse events occur in the course of your research (such as harm to a research participant), you must notify the committee in writing immediately. In the case of any adverse event, you are required to stop the research immediately unless stopping the research would cause more harm to the participants than continuing with it.

At the conclusion of your project, you will need to submit a completed Project Status Form to this office. You must also submit the Project Status Form if you wish to continue your research project beyond its initial expiration date.

If you have any questions, please feel free to contact me at the number above.

Sincerely,

Janice Putnam Ph.D., RN

Associate Dean of The Graduate School

putnam@ucmo.edu

cc: Sandy Hutchinson

## Appendix L

### Campus Institutional Review Board

University of Missouri-Columbia

483 McReynolds Hall

Columbia, MO 65211-1150

PHONE: (573) 882-9585

FAX: (573) 884-0663

IRB # 1184097

Project Title

An Examination of the Influence of PowerPoint Lectures in Higher Education Upon Student Assigned Reading Completion

Approval Date Jan 19, 2011

Expiration Date Jan 19, 2012

Investigators Mitchell, Thomas Matthew

Project Status Closed - Project Completed

Dear Investigator:

Your research proposal involving human subjects was approved by the Campus IRB. Your project falls under the following Expedited category(s), unless it was reviewed and approved by the convened board:

45 CFR 46.110.a(f)(6)

45 CFR 46.110.a(f)(7)

Your IRB approval for this project will expire on January 19, 2012. If you intend to continue research activities after the expiration date, you must complete and submit a Continuing Review Status Report for review at least 30 days prior to the expiration date. If the project is completed prior to the expiration date, you must complete and submit the Completion/Withdrawal Report.

The Campus IRB Approval is CONTINGENT upon your agreement to:

(1) Adhere to all University of Missouri IRB Policies.

(2) MODIFICATIONS: Submit an Amendment Form for any proposed changes to a previously approved project prior to initiation of those changes.

(3) RECORD INSPECTION: The Campus IRB reserves the right to inspect your records to ensure compliance with federal regulations. You are expected to maintain copies of all pertinent information related to the study, included but not limited to, video and audio tapes, instruments, copies of written informed consent agreements, and any other supportive documents for a period of seven (7) years from the date of completion of your research.

(4) REPORTING: Promptly report to our office any unanticipated problem, deviation, or noncompliance.

(5) CONSENT: Use the IRB approved consent document unless the consent process was waived. This can be found in document storage and labeled as approved with the approval date in the footer.

Type of Consent Approved:

Written Consent

Written Consent with Electronic Signature

If applicable: Child Category:

If you have any questions or concerns, you may call the IRB office at 573-882-9585 or e-mail us at [umcresearchcirb@missouri.edu](mailto:umcresearchcirb@missouri.edu).

eIRB 3.7 <https://irb.missouri.edu/eirb/letter/53442>

1 of 2 4/4/2011 11:34 PM

Thank you,

The Campus Institutional Review Board

eIRB 3.7 <https://irb.missouri.edu/eirb/letter/53442>

## Appendix M

### Research Question/Research Tool Question Compatibility Matrix

#### **Research Question 1:**

#### **How do students use assigned reading for class preparation?**

Student survey:

1. It is beneficial to read assigned textbook sections and other material for class?  
(agree, disagree, etc.)
2. To what extent do you regularly prepare for class by completing assigned readings prior to class? (always, never, etc.)

Student focus group:

1. How often do you complete assigned readings before class?
2. What encourages you to read these assignments? Discourages you from reading?
3. What is the value of reading assignments in preparation for class?
4. Does your preparation make class time more productive for learning? If so, in what ways?

Faculty survey:

8. When questions are asked in class which require some knowledge of assigned readings it appears students have not read the material. (always, never, etc.)
9. Students acknowledge not thoroughly reading the assigned materials because it will be explained in the electronic presentation.  
(always, never, etc.)
10. Active learning occurs in my classrooms. (always, never, etc.)

Faculty focus group:

2. How much of the assigned reading do your students complete before class?
3. What encouragement, if any, do you employ to foster completion of assigned readings?

## **Research question 2:**

### **How do students use PPT lecture, notes and downloads when preparing for quizzes and tests?**

Student survey:

4. I assume PowerPoint lectures will contain the key information for quizzes. (always, never, etc.)
5. I assume PowerPoint lectures will contain the key information for exams. (always, never, etc.)
6. The majority of PowerPoint lecture material is available for download or printed notes are available in class. (always, never, etc.)

Student focus group:

6. If your professors did not use PowerPoint, how would you prepare for class and quizzes or exams?
7. Do students generally perceive important content for quizzes and tests is contained primarily in PowerPoint lectures and notes? Why do you think students think this way?
8. Would you prefer the instructor lecture using PowerPoint and spend class time delivering information? Why or why not?

Faculty survey:

2. My electronic lectures cover the major points of instructional content in the course. (always, never, etc.)
3. I use the major points in electronic lectures as assessment questions. (always, never, etc.)
4. The course content from lectures is downloadable by students on Blackboard or by other means. (always, never, etc.)
7. My students are using PPT lecture notes for assessment preparation often avoiding assigned readings. (strongly agree, disagree, etc.)

Faculty focus group:

5. To what extent do you employ PowerPoint or other electronic lectures in class?
6. How do you use PowerPoint to deliver course content from the reading material?
8. To what extent is the content given out in handouts available for download?

Document Analysis

### **Research Question 3:**

**What types of course material and process of preparation do instructors normally use in preparing electronic presentations which students may perceive contain assessment information?**

Student survey:

3. To what extent do the majority of your professors in your major utilize PowerPoint in class lectures. (always, never, etc.)
4. I assume PowerPoint lectures will contain the key information for quizzes. (always, never, etc.)
5. I assume PowerPoint lectures will contain the key information for exams. (always, never, etc.)

Student focus group:

7. Do students generally perceive important content for quizzes and tests is contained primarily in PowerPoint lectures and notes?
8. Would you prefer for the instructor to lecture using PowerPoint and spend class time delivering information? Why?

Faculty survey:

1. Lectures in my classroom are delivered through PowerPoint or similar electronic software. (always, never, etc.)
2. My electronic lectures cover the major points of instructional content in the course. (always, never, etc.)
3. I use the major points in electronic lectures as assessment questions. (always, never, etc.)

Faculty focus group:

5. To what extent do you employ PowerPoint or other electronic lectures in class?
6. How do you use PowerPoint to deliver course content from the reading material?

Document Analysis

#### **Research Question 4:**

**How does the use of PPT presentations, which provide course content, effect student assigned readings and other traditional class preparation methods?**

Student survey:

7. I use PowerPoint lecture notes to study for quizzes and exams rather than reading assignments and personal notes? (always, never, etc.)

Student focus group:

5. If your professors use PowerPoint and hand out notes or allow them to be downloaded does it discourage reading of the assigned material?
8. Would you prefer for the instructor to lecture using PowerPoint and spend class time delivering information? Why?

Faculty survey:

3. I use the major points in electronic lectures as assessment questions. (always, never, etc.)
7. My students are using PPT lecture notes for assessment preparation often avoiding assigned readings. (strongly agree, agree, etc.)

Faculty focus group:

7. Do you perceive or have evidence students are avoiding assigned readings believing PPT lectures contain assessment information?

Document Analysis

### **Research Question 5:**

#### **How can the administration of reading assessment quizzes before class discussions encourage assigned reading completion?**

Student survey:

8. The majority of your professors in your major utilize weekly reading assessment quizzes. (always, never, etc)
9. I am more likely to read my weekly assignments if I know there is a quiz over the readings. (Strongly agree, disagree, etc.)

Student focus group:

12. In what way does reading assessment quizzes encourage you to prepare for class by reading? Why or why not?
13. Do you believe these weekly reading assessments are for your benefit as do you see these as punishment for those who choose not to read? What additional comments would you have?

Faculty survey:

6. I administer weekly reading assessment quizzes before class to encourage assigned reading.

Faculty focus group:

13. Do you employ weekly reading assessment quizzes to encourage assigned reading? Is it beneficial?
14. How do you think students perceive these weekly reading assessments? For example, do you believe they see it is for their benefit or do they see these as punishment for those who choose not to read?

Document Analysis

**Research Question 6:**

**How can the use of reading assessment quizzes and informed use of PPT encourage assigned reading completions rates and active learning in higher education classrooms?**

Student survey:

10. Active learning occurs in my classrooms. (always, never, etc.)

Student focus group:

9. What percentage of your class instruction time is delivered through PowerPoint?
10. Have you experienced active learning in your classrooms? Can you describe some of those activities?
11. If so, what can you attribute to those situations where active learning occurred?

Faculty survey:

10. Active learning occurs in my classrooms. (always, never, etc.)

Faculty focus group:

9. What are your perceptions of student preference of the PowerPoint lecture type format?
10. What can you attribute to those situations where active learning occurred?
11. Do you employ weekly reading assessment quizzes to encourage assigned reading? Is it beneficial?

Document Analysis

## Appendix N

### Research Field Journal Notes

1-23-2011

1. IRB approval finally granted from University of Missouri. (UCM Human Subjects granted 1-16-2011)
2. Faculty survey uploaded to Survey Monkey, attached informed consent form, set survey not to record IP address of responses.

1-26-2011

1. Faculty members completed survey (6) and I received e-mails from all surveyed indicating willingness to be involved in the focus groups. Several faculty members remarked on how clear and concise the documents and survey appeared.
2. Requested student class to be set up in Blackboard (12-20-2011) of all students in the discipline area still on hold pending IS current list of students. If list is delayed further, surveys will be sent from individual class e-mails.

1-31-2011

1. Blackboard section for all students taking classes in discipline area was constructed by Blackboard administrator allowing e-mails and attachment of informed consent forms, etc. Survey for students was activated and all e-mails sent to 157 students at noon with a 2 week window to respond.
2. By day's end 35 students had completed the survey and 6 students returned the e-mail volunteering for focus groups.

2-1-2011

1. One student after having taken survey notifies me of a program fault in the first question rendering two axis of answer bubbles instead of one for the 6 possible answers. Only one student marked bubble outside the intended 6 answers and correct answer could easily be verified.
2. I attempted to correct the error but Survey Monkey required a restart of the survey and I believed the 35 initial students to respond would hesitate to take the survey again. I added a note at the beginning of the survey page to clearly explain the question error and how to mark only the first row of answer bubbles. No other comments have been made by students.
3. A massive snow storm hit the Midwest including the university where the research was occurring. This seems to slow student response to the survey.

2-4-2011

1. Due to the snowstorm 3 days of classes at the university were cancelled. I reopened the survey and gave student until the eighth of the month to take the survey an volunteer for focus groups.
2. Checking the survey results I found no other students were confused by the question 1 error as there were no marks in the bubbles other than the first column.
3. Surprisingly over half of the total population of students had responded and a dozen students had volunteered for focus groups.

2-9-2011

1. Student survey closed with an astonishing 84 respondents out of 157 and 14 volunteers for focus groups.
2. Focus group formations began with intended first session on the 11<sup>th</sup> of February. Several students who volunteered will be off campus for several weeks due to military exercises facilitating a rapid formation of the first focus group.

2-11-2011

1. Student focus group #1 was completed with nine student participants.
2. Second focus group (6-7 students) date set for 16th of February.
3. Faculty focus group date mover several times to accommodate schedule until final date set for February 18<sup>th</sup>

2-22-2011

1. Two student focus groups and the faculty focus group (5 members) completed. The last faculty member who could not attend on the 18<sup>th</sup> was interviewed separately with both the focus group questions and the follow-up interview questions.
2. Invitations sent out for the students and faculty interviews this week.
3. IRB certificate for MU ends Saturday the 28<sup>th</sup> of February

2-27-2011

1. Second faculty interview completed in researcher office.
2. Last faculty participant interview completed.

2-28-2011

1. MU IRB certificate for research on human subjects expired

3-05-2011

1. Initial codes and comment balloon font colors. All initial coding stemmed from themes from initial a priori codes.

Assigned reading	Yellow
Reading compliance because of weekly assessment	Black (type)
PPT % of use	Amber
PPT (PPT notes, test questions downloads, effectiveness,)	Red
Active learning (includes hands on, interactive, etc)	Green

2. Secondary emergent theme codes emerged as comments from students and faculty participants were compared and analyzed with survey results and document analysis in retrospect to the review of literature.

Teacher centered theory	Dark blue
Lecture	Rose
Self-learning/Information 'bank' theory	Light Blue
Poor student academic quality/low capacity/spoon fed	Purple
Grades	Blue

Learner centered theory	Dark Green
Visual learning	Brown
PPT design	Deep Red
Student collaboration	Gray
Generational differences (digital modalities, evolving)	Light Gray
Stages of intellectual/age growth	Light Gray

## Appendix O

### Participant Codes/Fictitious Names

#### Faculty participants:

STF – Professor Booth

TF – Professor Taylor

TTF – Professor Patton

NTTF – Professor Marx

IF – Instructor Willoughby

AIF – Instructor Shultz

#### Faculty interviews:

AIF – Instructor Shultz

TTF – Professor Patton

TF – Professor Taylor

#### Student participants:

##### Student focus group one

H- Heidi

M - Molly

B- Brandi

L- Lucy

K-Karen

T- Teresa

CE - Caroline

CA-Cathy

HY– Holly

##### Student focus group two:

TR – Trevor

A – Aaron

KR – Kurt

J – Judy

HL – Henry

CH – Carol

AA – Amelia

##### Student interview:

T – Teresa

BR – Brenda

HL – Henry

## VITA

Thomas Mitchell was born and raised in Independence, Missouri, graduating from the University of Missouri–Kansas City with a double major BA in Communication and Political Science in 1982. During a decade of employment as a planner for a defense contractor, he returned to college to pursue art and photography studies at Avila College.

In 1992 Tom began a career in photography experimenting in portrait, editorial, professional sports, commercial, and public relations event imaging. He joined the University of Central Missouri (UCM) Public Relations Department staff as the Manager of Photography in 1996 remaining in that position and concurrently teaching as an adjunct instructor until the fall of 2002. Tom accepted a full-time teaching position in spring 2003 in the photography area of the School of Technology at UCM where he currently serves as an Assistant Professor. He completed his Master's degree at UCM in 2000 with focused studies in adult vocational education and visual technology. He continued graduate studies for several years in photography studies and is currently a candidate for the Doctorate in Education in Educational Leadership and Policy Analysis from the University of Missouri.

He is a general member of several national photography organizations and is the current Membership Chairman of the American Society of Media Photographers (ASMP) Kansas City/Mid-America Chapter. He is professionally qualified in all formats of traditional film and digital imaging maintaining a fine-art lab and studio, Eastern Light Images @easternlightimages.com. His current academic research areas include large format traditional film/silver gelatin photography, panoramic digitally stitched imaging and pinhole lens less photography.

Tom is an Elder, an ordained Christian minister, with a history of three decades of service and involvement as a teacher, internship director, youth minister and church pastor in several congregations and non-profit organizations. He continues to study and research principles and processes of church and neighborhood cooperation and community building. He is an Eagle Scout.