# Designing online management education courses using the Community of Inquiry framework

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ABSTRACT

Online learning has grown as a program delivery option for many colleges and programs of business. The Community of Inquiry (CoI) framework consisting of three interrelated elements - social presence, cognitive presence, and teaching presences - provides a model to guide business faculty in their online course design. The course design of an online undergraduate management course is analyzed using the CoI framework for evidence of social, cognitive, and teaching presence.

Keywords: Community of Inquiry, Online Learning, Management Education
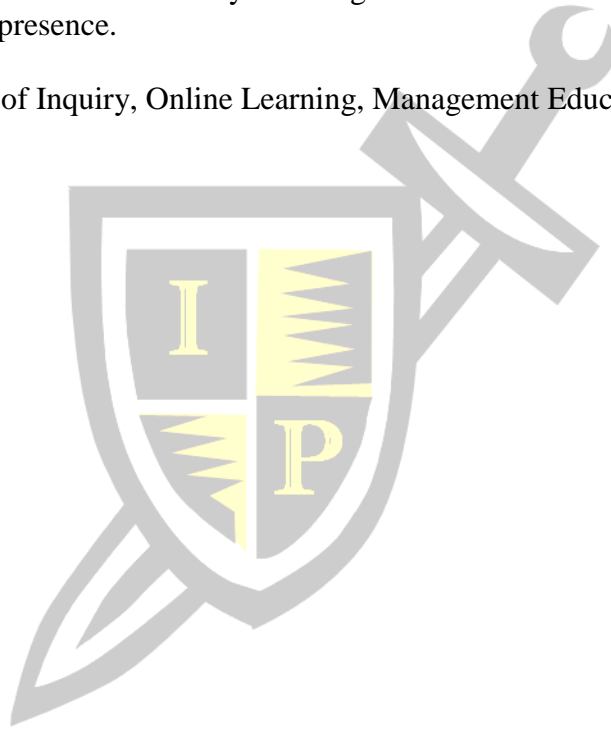
INTRODUCTION

Online learning (OLL) has become a viable option for many post-secondary institutions. From 2000-2008 the percentage of undergraduates enrolled in at least one distance education course rose from 8% to 20% (Radford, 2011). The 2006-2007 academic year saw nearly 9 million individuals enrolled in postsecondary online courses (Parsad & Lewis, 2008). During the same time frame 60% of all 2 and 4-year colleges offered online courses with nearly a third offering hybrid courses (Parsad & Lewis, 2008). Hybrid, or blended learning, courses combine both face-to-face (F2F) and online delivery using synchronous and asynchronous communications (Palloff & Pratt, 2007). In the seven year period 2002 to 2009 the number of students taking at least one online course grew at nearly a 20% growth rate from 1.6 million students in 2002 to 5.6 million in 2009 (Allen & Seaman, 2010). Furthermore, undergraduate business students enrolled in online classes or degree programs at a higher rate, 24% and 6% respectively, than the national average of 20% and 4% respectively (Radford, 2011).

Colleges of Business accredited by The Association to Advance College Schools of Business (AACSB) show similar increases in OLL. Using annual survey data from 277 AACSB member schools, online business programs grew from 1% in 2001-02 to 3% in 2008-09 with the greatest growth at the Masters of Business Administration (MBA) level ("AACSB Member Schools", 2010). This specific study focused narrowly on programmatic delivery by instructing schools "to select 'online' only if their program may be completed in full by students enrolled only in courses taught online". ("AACSB Member Schools", 2010, para. 4).

As colleges in general, and business schools in particular, add OLL options faculty will need an appropriate pedagogy. Students entering college today have lived primarily in a digital world where accessibility to anything is a click or a tap away on a portable device such as an iPhone or iPad (Tapscott, 2009; Wilen-Daugenti, 2009). For this generation of students the web is a warehouse of documents and a location to collaborate with others using Web 2.0 tools such as blogs, wikis, and, social media (i.e., Facebook, Flickr, Twitter) (Beldarrin, 2006; Kupetz, 2010; Richardson, 2009; Wilen-Daugenti, 2009). These students consider multitasking, customization, collaboration, and speed as norms (Oblinger, 2003; Oblinger & Hawkins, 2005; Tapscott, 2009; Tapscott & Williams, 2008). Others describe the characteristics of this generation as "special, sheltered, confident, team-oriented, achieving, pressured, and conventional" (Williams, Beard, & Tanner, 2010, p. 44). They dislike "lecture-based, information-dated, responsive-deficient silos of learning comprised of outdated technologies from the mid-20th century" (Pletka, 2007, p. 13). These changes require educators "to acknowledge that learning can happen anywhere, whether in the formal classroom or the coffee shop; it should not be bound by time limits; and it must always yield measurable learning outcomes" (Gautsch & Griffy-Brown, 2010, p. 32).

Business faculty needs a pedagogical model to guide their OLL course design. Specifically, faculty need an e-pedagogy that focuses on the spatial and temporal challenges of OLL and an e-pedagogy that focuses on the skills necessary to create a collaborative learning environment for a community of learners, or community of inquiry. (Garrison, 2011; Paloff & Pratt, 2007). This paper describes the community of inquiry (CoI) model and its instructional design application in an undergraduate management course.

LITERATURE REVIEW

The CoI framework posits that the educational experience is achieved through three interrelated elements - social presence, cognitive presence, and teaching presence (Garrison, 2011; Garrison, Anderson & Archer, 2000). Garrison et al.'s (2000) original study was based on a text-based environment of computer-mediated communications and computer conferencing. Garrison's (2011) latest iteration of the CoI model as shown in Figure 1 (Appendix) captures the decade of research conducted by him and others in developing an understanding of OLL. For example in the current model social presence is defined as the "the ability of participants to identify with a group, communicate purposefully in a trusting environment, and develop personal and affective relationships progressively by way of projecting their individual personalities (Garrison, 2009b)" (Garrison, 2011, p. 23). Cognitive presence is defined as "the extent to which learners are able to construct and confirm meaning through sustained reflection and discourse in a critical community of inquiry (Garrison, Anderson, & Archer, 2001, p. 11)" (Garrison, 2011, p. 24). Finally, teaching presence is defined as "the design, facilitation, and direction of cognitive and social processes for the purpose of realizing personally meaningful and educationally worthwhile learning outcomes (Anderson, Rourke, Garrison, & Archer, 2001)" (Garrison 2011, p.24).

Initially investigators examined the archival postings of students and teachers threaded discussions for evidence of each presence. Discussion boards are electronic forums that allow "the user to post a message for others to read and to which others can respond (i.e., threaded discussion)" (Weisskirch & Milburn, 2003, p. 216). This asynchronous communication tool offers online educator's several advantages. Discussion boards support the spatial and temporal separation of learners and instructors with a permanent record of the ensuing topic discussion (Lightfoot, 2005), "facilitate inquiry, discovery, and creativity" (Ajayi, 2010, p. 4), and support a collaborative learning environment (Cox and Cox, 2008). Garrison et al. (2000) used this research methodology to develop a set of categories and indicators for each presence that could be used as a coding template in the research effort and an instructional design template for online course designers. Like the model itself, a decade of research has led to modifications in the indicators with the current iteration as shown in Table 1 (Appendix). This qualitative approach limited samples to single institutions thereby limiting the ability to generalize and explore the interrelationship presence with other variables (i.e., satisfaction, learning outcomes) (Arbaugh, 2008, Arbaugh et. al., 2008). A quantitative methodology using a valid survey instrument was needed to overcome these barriers.

Garrison, Cleveland-Innes, and Fung (2004) provided an early approach to quantitatively examine the elements of the CoI model with other variables. Specifically, they focused on the role adjustment online students encounter compared to F2F learning environment. According to the authors online learners have the normal roles of any learners plus posses the skills to use technology, manage vast amounts of communications from peers and instructors, develop a self directed learning perspective, and design an anytime, anywhere learning mindset. Garrison et al.'s (2004) goal was to develop a validated instrument "to assess role adjustment in an online asynchronous community of inquiry" (p. 62). Using 65 graduate students the authors developed a 28 question survey based on the CoI framework (i.e., social presence, cognitive presence, teaching presence). The questionnaire consisted of two identical forms with the exception of perspective. One form asked students to rate their anticipated online learning experience with their previous F2F learning. The other form asked students to rate their anticipated online

learning with experience online learners. Using factor analysis, the questionnaires showed the CoI structure was validated but the order of the factors differed. Garrison et al. (2004) concluded "a face-to-face learning experience is viewed as more externally oriented (i.e., social and teaching presence), while online learning is viewed as more cognitive or internally oriented. Thus, online learning would be perceived as requiring greater individual responsibility" (p. 70).

Stodel, Thompson, and MacDonald (2006) examined the perceived lack of presence in an online course when compared to a F2F course. Their sample consisted of 23 students in graduate education course. While the course design included several F2F components, the course was perceived by the university community as an online course and not a hybrid, blended course. About half of the students wrote in their final course discussion posting that they missed, or would like to have more, F2F contact in the course. These individuals were contacted for a follow-up interview and identified the five items perceived missing in an online course. These included "robustness of online dialogue, spontaneity and improvisation, perceiving and being perceived by others, getting to know others, and learning to be an online learner" (Stodel et al, 2006, p. 5). Analysis of the interviews suggested cognitive presence was hindered by the time lag associated with asynchronous communications. This delay inhibited student's desire to address "interesting and learner-generated problems and issues; a process that they believed was more easily enabled in a F2F class" (Stodel et al., 2006, p. 11). While social presence was evident, students perceived a weaker social bond than achieved in F2F classes. The authors suggest online learners view online learning as convenient, efficient with "the goal as learning, not idle conversation and developing social relationships" (p. 13). Finally, the authors found evidence of teaching presence through faculty posting weekly documents, providing assignment feedback, and participating in the class discussion. Yet, some students perceived "they were not receiving the full advantage of the professors' expertise" (Stodel et al., 2006, p. 17).

The search for a valid survey instrument was extended when Arbaugh et al. (2008) used a survey instrument with a multi-institutional sample. Their 34 question CoI framework survey was administered to 287 graduate students at 4 institutions across the United States and Canada. Factor analysis supported the CoI instrument as a valid measure for the social, cognitive, and teaching presence. Akyol, Garrison, and Ozden (2009) analyzed nearly 1000 discussion board postings from the online and blended courses, interviewed student participants, and surveyed students using Arbaugh et al.'s (2008) questionnaire. Akyol et al. (2009) found that the course design allowed for the successful development of each CoI element. However, their results are tempered by the small sample size (30 students in both courses).

Shea, Hayes, & Vickers (2010) focused on the teaching presence component of the CoI framework. They felt previous teaching presence research was narrowly focused on discussion threads and not on the entire course design. In their sample of two upper-level online management courses taught by two different instructors, they examined the content of the entire course including such items as class discussion boards, small-group discussion boards, individual student/faculty communications, and assignment instructions. The results indicated teaching presence occurs throughout the entire course not such threaded discussion areas. For example, both instructors participated heavily in the initial discussion threads and then declined throughout the remainder of the course. One instructor maintained some level of discussion board participation throughout the course, but one instructor's participation dropped to zero. By considering the entire course design for evidence of teaching presence, this instructor demonstrated more teaching presence activity in areas outside the discussion board threads. This

wider view of online teaching presence demonstrates the individual teaching style of online instructors.

APPLICATION

The current study analyzes the course design of an online undergraduate management course using Garrison's (2011) framework. Specifically, this study focuses on this author's undergraduate human resource management (HRM) course at a Northeastern United States regional comprehensive university. This course is presently offered every fall and spring semester with at least one section offered online. The 15-week Fall 2012 online section, consisting of 24 students, delivered through the university's Desire2Learn (D2L) course management system serves as the basis for this analysis.

Social Presence

Garrison (2011) expands the three elements of social presence into interpersonal communications, open communications, and cohesive communications. Per Garrison (2011), interpersonal communications "creates a climate and sense of belonging to the group and its educational goals" (p. 37). One indicator of interpersonal communications is self disclosure which according to Garrison (2011, p. 38) allows online participants to present "biographies, details of personal life outside of class, or expresses vulnerability". An application of this interpersonal communication is a "Student Introduction" Discussion Board during week 1 of a course. In this assignment students are asked to provide an introductory profile, or brief biography. The instructor participates in this activity by making the initial profile posting using both text and audio files as an example and to establish social presence with the students. As each student posts his or her profile, the instructor replies to each introduction with a personal welcome to the class and sometimes comments about the student's introduction. These comments range from commenting on favorite sports teams, to work experiences, to military service, and to asking students about their career aspirations. During the Fall 2012 semester, several students replied to each other acknowledging a similar interest or the fact they were glad to see someone they knew in the class.

Garrison (2011) describes open communications as being "built through a process of recognizing, complimenting, and responding to the questions and contributions of others, thereby encouraging reflective participation and interaction" (p. 39). During the Fall 2012 semester, the course design include 11 Discussion Boards dispersed throughout the semester. Each student was expected to make one initial discussion board posting and a minimum of two comments on other students postings. These discussion boards were graded using a rubric that assessed the quantity of initial postings, timeliness of initial postings, quantity of peer response postings, timeliness of peer response postings, and knowledge of course content expressed through the postings. Throughout these assignments, students and instructor participated in the communication activities. Students were encouraged to include other resources such as websites, articles, or videos to support their content postings.

In cohesive communications, the learner "identifies with the group and perceive themselves as part of a community of inquiry, the discourse, the sharing of meaning" (Garrison, 2011, p.39). One indicator of this type of communication is vocatives or "addressing or referring to participants by name" (Garrison, 2011, p. 39). During the Fall 2012 course, students

were expected to make comments on other students' Discussion Board postings. The instructor provided no format requirements on these postings rather the students developed their own culture by acknowledging each other by name when replying to a posting.

Cognitive Presence

Cognitive presence is associated with learning and critical thinking (Garrison, 2011, 43). One approach to achieving this in an online environment is through case studies which "focus discussion from a real-world perspective that students can relate to" (Garrison, 2011, 90). The Fall 2012 course used the HRManagment web-based simulation from Interpretive Simulations. In this simulation students working in pairs manage a HR department for a medium-sized company of 660 employees (Smith, Golden, & Schreier, 2008). The simulation required the students to make a total of 8 quarterly decisions covering a 2-year time span. The assignment required each team to write a quarterly report after each decision period. The quarterly report asked the students to write a report that addressed specific goals for the decision period, specific action plans to accomplish those goals, the results achieved during the decision period, and changes for the next decision period. This report was posted in a Dropbox designated for the particular decision period and graded using a rubric that assessed their goals, plans, results, and grammatical structure of the report. The rubric was created using the Rubrics tool in D2L and associated with the specific weekly decision report. The rubric was scored, the grade automatically entered in the D2L gradebook, and the students received a copy of the rubric through the Dropbox Feedback section of D2L. During the final three weeks of the course, specific groups created an online presentation of their quarterly decisions in addition to the required written quarterly decision report. Students were encouraged to to create a narrated PowerPoint presentation, but this was not a requirement.

Teaching Presence

Garrison (2011) describes teaching presence as the combination of instructional design, facilitation, and instruction of the social and cognitive processes to achieve learning outcomes (pp. 55-56). Per Garrison (2011) the instructional design provides the "macro-level structure and process" (p. 56). The instructor needs to address how to organize the course content for the learner. The author chose a thematic and weekly organizational pattern for the online HR course as shown in Figure 2 (Appendix). In this pattern, the instructor created thematic modules such as Getting Started, Resources, HRManagement Simulation for general course information. Additionally, the instructor chose to use a weekly pattern for learning content specifically associated with the learning objectives for a week.

Per Garrison (2011) instructional design includes setting the curriculum (e.g., preview the week's discussion) p. 57). During the Fall 2012 course, the instructor used the News tool of D2L to publish weekly previews. Figure 3 (Appendix) shows the weekly announcement for Week 9 of the course. As another indicator of instructional design, Garrison (2011) describes designing methods such as "I am going to divide you into groups, and you will debate . . ." (p. 57). The Fall 2012 HR Management course used a web-based simulation by Interpretive Simulations, HRManagement, as an integral course element. The simulation instructions posted by the instructor under the HRManagement Simulation content area of D2L stated:

The simulation will:

    a. be a group based graded activity with each group consisting of two students. One student will be designated the team leader to finalize the simulation decisions. The instructor reserves the right to adjust group membership during the simulation.

    b. consist of two Practice Decisions and review discussions

    c. consist of eight Decision periods (representing 2 years) and review discussions.

Throughout the Fall 2012 course, the author applied another indicator of instructional design per Garrison (2011) - establishing time parameters. The course calendar maintained on the course D2L site included the due dates and times for quizzes, exams, discussion boards, and HRManagement simulation activities. Additionally, the general information documents for the Discussion Boards and the HRManagement Simulation listed the time parameters for these activities.

Teaching presence also involves direct instruction and facilitating discourse per Garrison (2011). The course included a combination of non-narrated presentations, screencasts, self-produced videos, and embedded videos from numerous web sources for direct instruction. Additionally, the course used 11 topical Discussion Boards to facilitate peer-to-peer learning and student-to-faculty learning. During the first week of class, the author posted a News item on D2L stating that he would participate in the forums but do not expect his comments on every student posting. This News item also established that any instructor replies were not directly specifically to the student author of the posting, but rather as general comments for all of the students. Discussion Boards provided a way to clarify topics such as the misconception that recruitment and selection activities are the same HR function.

CONCLUSION

As OLL becomes a greater option for post-secondary business education, faculty will need a pedagogical model to guide their online course design. The CoI model with its focus on presence - social, cognitive, teaching - may be a pedagogical framework for online educators. For example, researchers have developed a rubric for scholarly guidance and a template for online course designers (Garrison, 2011). Recent studies suggest course designers can achieve presence by focusing on the entire course design, not just threaded discussions (Shea et al., 2010). Other research supports the CoI framework is applicable in blended learning environments (Akyol et al., 2009; Arbaugh et al., 2008). The development of a validated questionnaire expands the opportunities for research across institutions and disciplines (Arbaugh et al., 2008; Garrison et al., 2004).

This study analyzed a completed online management course taught by the author for evidence of the CoI framework. While the specific course analyzed was not designed using the CoI framework, the course does show a preponderance of evidence supporting social, cognitive, and teaching presence as described by Garrison (2011). Descriptive studies on a single course at one institution makes any generalization difficult at best. Yet, there is an implication from this case that the CoI framework could serve as an instructional design tool for online courses.

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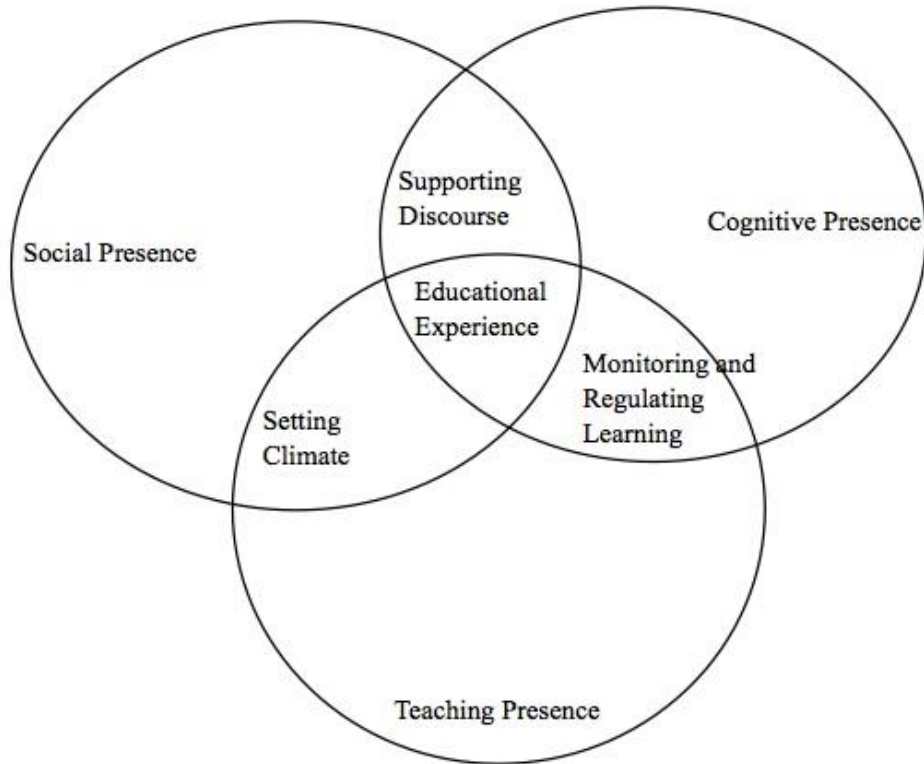
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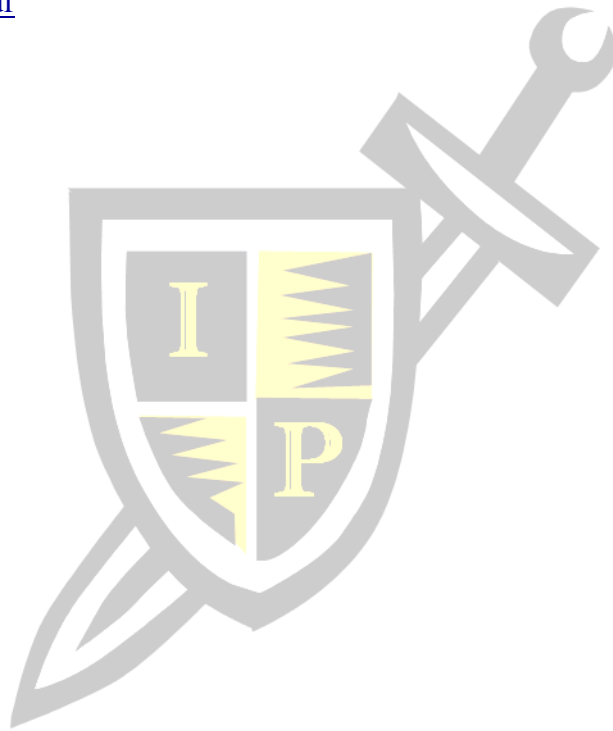
APPENDIX

Figure 1: Community of Inquiry

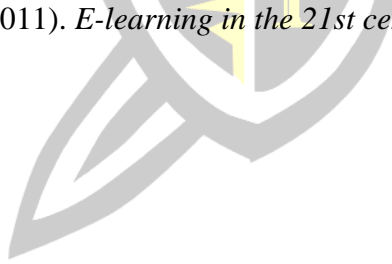Note: Garrison, D. R. (2011). *E-learning in the 21st century (2nd ed.)*. New York: Routledge, p.23

Table 1
Community of Inquiry Categories
and Indicators

Elements	Categories	Indicators
Social presence	Interpersonal Communications	Self projection/expressing emotions
	Open Communications	Learning climate/risk-free expression
	Cohesive Communication	Group identity/collaboration
Cognitive presences	Triggering event	Sense of puzzlement
	Exploration	Information exchange
	Integration	Connecting ideas
	Resolution	Applying new ideas
Teaching presence	Design and organization	Setting curriculum and methods
	Facilitating discourse	Shaping constructive exchange
	Direct instruction	Focusing and resolving issues

Note: Garrison, D. R. (2011). *E-learning in the 21st century (2nd ed.)*. New York: Routledge, p.25, 38
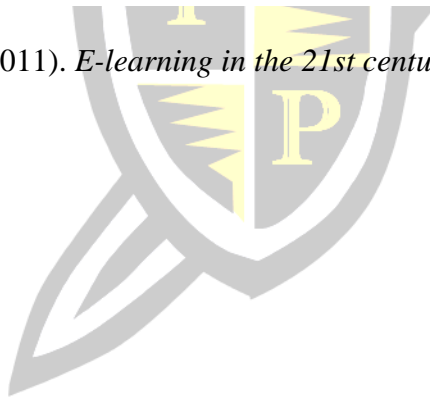
Figure 2: Partial HRM Course Content

Figure 3: Week 9 Notes

Week 9: Oct 22-28 ▾   Oct 22, 2012 8:00 AM   -   Published

This week begins a new unit - Compensation and Benefits. We start by focusing on direct financial Compensation. Individuals are paid either on an hourly basis (i.e., wages) or a block of time basis (i.e., salary). Per the Fair Labor Standards Act (FLSA), employees are classified as either exempt or non-exempt. Exempt employees (i.e., managers, professionals, outside sales) are not paid overtime for hours worked beyond 40 hours per week. Non-exempt employees are paid overtime at the rate of 1.5 times their base hourly pay for hours worked beyond 40 hours oer week. One area of confusion is whether or not a salaried employee can receive overtime. The answer is yes if the job being performed is classified as non-exempt.

For the week, we will have a quiz (chapter 9), a discussion board, HRManagement Decision 5, HR Management Decision 5 Review (group drop box), and HR Response 1 (individual drop box).