Virtual Teaming and Digital Learning Strategies: Preparing Students for a Global Workplace

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Abstract

Many organizations use technology and social media as the cost-effective, even the preferred, rapid communication and teaming modality. University students must consequently be more than just Facebook ready to meet the greater business needs. They must possess fluency in the selection and use of computer mediated communication and virtual teaming applications. The paper examines the changing role of technology in teaching group principles, concepts, and theories to students competing in the global/virtual realities of teaming and group projects. The contribution presents a comprehensive online/on-ground (i.e., hybrid or blended) course design that accelerates team and group theory beyond the traditional live team application. The paper describes how students taking a teams class fully explored the variety of ever-expanding computer mediated communication platforms. They used action-learning labs to test and apply the use of a variety of face-to-face, computer mediated communication, and a blend of the two learning platforms to complete group assignments and discover the application of group theory as it relates to group project planning, group development, and conflict resolution.

Keywords: Virtual interaction design, online group work, virtual group work, virtual team building, differentiated learning, computer-mediated communications

Introduction

"*Why is Classroom Learning a Problem?*" is the title of the first chapter of the summative work on teaching theories by Bigge and Shermis (1992). Teachers have engaged in the analysis of student learning and content delivery at least since Socrates and certainly before technology amplified rapid, mass communication worldwide. Technology has increasingly dominated organizational communication since its advent (Wankel, 2010; Fisher & Fisher, 2011). Properly used, technology is cost effective when contrasted to travel and it is time efficient when contrasted to face-to-face interactions. It can accelerate

learning (Wankel, 2010) and support virtual workplace teaming (Fisher & Fisher, 2011; Wankel, 2010). So, the questions remain, to what extent are students technology-capable beyond Facebook? Are university students adequately prepared to use technology to enhance their own learning? Can students apply technology and extract its greatest advantages for the global and virtual realities of group project work and teaming? The questions are especially relevant today, as there are generational differences among student-learners in the comfort, ease of use, understanding, application, and desirability of computer-mediated communications (CMC) in both the classroom (on-ground or online) and workplace. The issue lies in how universities currently utilize instructional designs to assimilate virtual modalities and expand application or creative learning and consequently prepare students to meet the needs of their future CMC-intense work environments.

The goal of the following paper is twofold. First, it reviews the pedagogical literature that explains the design and delivery of a self-organizing *Teams & Group Processes* (T&GP) undergraduate management course that utilized several technological modalities. The course design engaged students in extensive project creation opportunities that allowed for applied, spontaneous, and situated learning (Lave & Wenger, 1990); focused online discussion (Brookfield, 2006); social development (Vygotsky, 1978); and social learning (Bandura, 1969). The T&GP course had a learning objective to prepare students for the transfer of acquired knowledge and abilities suitable for application in the contemporary face-to-face *and* virtual workplace. The original T&GP course was taught strictly online and included CMC exercises that produced student proficiency in the virtual teamwork and group communications necessary to succeed in the global business world about which all profit, not-for-profit, and government organizations are concerned. The successive generations of the course design featured numerous opportunities for spontaneous exploration to apply the ever-changing and most current multi-modality CMC resources and current business communication platforms. The course challenged students to field-test newly discovered CMC options and spontaneous learning through situated learning (Lave & Wenger, 1990), social learning (Bandura, 1969), and peer-to-peer coordination by applying online tools. The course provided a sound virtual teaming experience for students. What was discovered from the first online course iteration may seem counterintuitive to many faculty members. It became apparent that with the use of technology in the course design, on-ground classroom or live interaction is not necessary to teach and learn teamwork. Further, embedding the use of multi-modality technology increases spontaneous exploration and serendipitous student learning, as is detailed in the manuscript. The original course and subsequent online versions of the course design (see Appendix A) increased students' ability to thrive in the virtual, global work environment and become seasoned consumers of the full array of business e-platforms. The important course design variable is the online virtual group project that supports applied learning to meet the course learning competencies of team learning (Kasl, Marsick, & Dechant, 1997; Ubell, 2010), cohesiveness (Ehsan, Mirza, & Ahmad, 2008), collaboration (Siebdrat, Hoegl, & Ernst, 2009), collective action (Gundlach, Zivnuska, & Stoner, 2006), conflict resolution (Tekleab, Quigley, & Tesluk, 2009; Siebdrat, Hoegl, & Ernst, 2009), and communication in geographically dispersed team situations (Kandola, 2006).

Second, the paper reviews the iterative online/on-ground course design and development process and offers a look at the course screens and the variety of online interactions that students experienced. A primary aim of the course design review is to provide other faculty members the opportunity to consider the creation of a learning environment that facilitates serendipitous erudition to promote vicarious exploration of information and exploratory student learning in a multi-media, CMC, and technology-driven world with the goal of preparing students for the world beyond Facebook.

In designing courses, professors can provide opportunities for any contingency that may accelerate learning. What this manuscript will initially call "serendipitous learning" is a chance learning moment that is liable to happen as an adjunct to or because of a conversation in a learning environment, actually morphed. The T&GP course enhancements increased learner serendipity, redefining serendipitous learning as an element of teaching that will occur when there is strong student interaction and exploratory learning. Educators should incorporate serendipitous learning through purposeful course and program design that facilitates student interaction. The results can have significant effects on management education.

Generational Learner Characteristics

Student-learner generational differences have garnered much press and public attention lately. The often-heard sentiment that individuals *are who they are based on the time in which they were raised* denotes that all generations are largely shaped by the major events occurring during their time (Raines, 2013). The introduction, utilization, and ease-of-technology use is one of those generational differences. The resulting generational profiles within this paper identify collective and shared values that generally pertain to the respective generational groups currently in university. Of note is that the term generation is from the same word family as *general*. Student generational age is thus paramount when assimilating appropriate course design and attendant classroom and course technologies. Faculty generational age is also paramount, as it serves as the foundation for design and course delivery.

Gibson (2009) addressed the predominant inter-generational issues that mitigate the differences between professor and student course expectations, technology competencies, and learning styles. Four generations currently make up the university community: Traditionalists (Veterans), Baby Boomers (Boomers), Generation X (Xers, Nexters), and the Millennial Generation (Millennials or Gen Y). Boomers currently account for 45% of the workforce. Xers currently account for 40% of the working population and potential university students. Millennials account for only 10% of the workforce, but represent the majority of traditional undergraduate students. Generational identification is not concise across the literature and Table 1 (see Appendix B) offers the range of birth years used to identify the category in which each student may be identified.

As discussed above, current university students encompass more than just the traditional post-secondary students, and the current university faculty is generationally diverse. According Masterson (2010, ¶ 3), the American professoriate is aging. Six years ago, the last time the National Study of Postsecondary Faculty was completed by the Education Department, the average age for full-time professors was 49.6 (54 for tenured faculty members). In 1993, the average age was 48 (51.9 for tenured professors). Today, it is not unusual for colleges to have faculty members teaching and working in their 70s, or even 80s.

The statistics verify that Boomers (augmented with Traditionalists and fewer Xers) are demographically the most likely on university faculties (Masterson, 2010), and the most likely professors teaching T&GP courses. Although faculty members enjoy well-developed content knowledge, portions of the faculty may remain digitally ill-at-ease or under-skilled thereby potentially causing a generation gap. The insufficiencies are supported by Georgina and Olson (2008), who ranked the mean summary for classroom software proficiency (1–5 with N=236), as shown in Table 2 (see Appendix C). The low ranking associated with the higher-end technology is noteworthy. Griffin-Famble (2006) offered a congruent voice:

> It almost goes without saying that without adequate knowledge or skills in technology, the professor is in peril when it comes to preparation for utilizing today's 'smart classroom.' Standard tools of technology such as accessing Hyper-links, Blackboard shells, platforms, webBoards, e-attachments, and public folders can become formidable challenges for even the most diligent professor. (¶ 3)

Other research focused on the struggle with both distance learning technology and standardized terminology (King, Young, Drivere-Richmond, & Schrader, 2001). Digital-based media "design is increasingly being recognized as a key source of competitive advantage" for vocational and higher education sectors (Doloswala, Thompson, & Toner, 2013, ¶ 1). If student competitive advantage rests on engaging digital and virtual media then faculty competitive advantage rests on the ability to deliver that advantage to meet student needs. Teaching experience with the T&GP online course shows that in actuality, Xers and Millennials students are Facebook ready and possess social networking savvy, but need to learn to resource and apply cutting-edge media to gain the full competitive advantage of CMC.

Current University Student-Learner Characteristics

Competent teachers know that it is imperative to identify one's audience when teaching, and that teaching is a complex exchange (Bigge & Shermis, 1992; Knowles, Holton, & Swanson, 2005). Understanding the educational process and the demographic and psychographic characteristics of a learner is arguably central to facilitating effective instruction. While Bigge and Shermis (1992) summarized the major learning theorists and categorized the theories of learning into three major categories (a) *Mental Discipline* mind substance theory; (b) *Stimulus-response* conditioning behavioral theories; and (c) *Integrationists* theories of cognitive development (pp. 8-9). Pedler's seminal work (1991) expanded and

advanced the student's need to learn beyond just mental discipline and stimulus response. Pedler placed a greater importance on direct, actionable application and coined the term *action learning*. In an extraordinary expansion of action learning, Mitra's (2010) experiments revealed how self-education flourishes spontaneously with little to no teacher intervention. Mitra uncovered how illiterate learners can self-organize and self-educate. This research offered the genesis of the expansion of the TG&P course design.

To describe this further, Mitra's *Hole in the Wall* project placed computers in the walls of some of the poorest communities in India. Illiterate children used the computers to spontaneously self-educate and conquer their nascent use of the technology. Mitra's later research discovered that unilingual Italian children were able to answer English-offered questions spontaneously through computer translation and inquiry without prompting (Mitra, 2010). Early learning theories appear as more mechanical when compared to the spontaneity and serendipitous learning Mitra obtained in his data population. Conversely, Mitra's research reaffirmed the natural, self-organizing qualities of young learners. The TG&P course design exploited Mitra's research as described later in this manuscript.

Further, Pringle (2013) surmised that innovation flourished in early humankind: "New evidence of ancient ingenuity forces scientists to reconsider when our ancestors started thinking outside the box" (p. 57). Mitra's (2010) project and its resultant spontaneous learning reaffirm human ingenuity and uphold students' ability to move beyond the basic lessons and lecture delivery to technology as the medium for self-exploratory growth and vicarious learning. These elements are necessary additions to the design of traditional university online and on-ground experiences.

Tapscott (1998) considered these occurrences and their ramifications early in the technological revolution:

> For the first time in history, children are more comfortable, knowledgeable, and literate than their parents about an innovation central to society. And it is through the use of digital media that the N-Generation [Millennials] will develop and superimpose culture on the rest of society. (p. 2)

Armstrong (2011) spoke to the need for all classrooms to be an "incubator . . . [or] microenvironments for social interaction" (pp. 53-54). Though Armstrong's pedagogical foci were traditional diversities (e.g., race, sex, color, religion, natural origin), digital diversity is now necessary to include and engage all students.

Additionally, Guterl (2013) summarized a survey of leaders showing a growing concern regarding the consequences of science *and technology*. The survey looked at 50 risks of global significance and the number two item was unforeseen consequences of new life science technologies, while the number four was the mismanagement of population aging—perhaps related to a lack of ability to exploit technological opportunity by all working generations (p. 82).

Bandura (1973) rationalized that people could learn from one another by imitating observed behavior called *modeling*. Lave and Wenger (1990) believed that learning is normally occurring and embedded in activity. Vygotsky (1978) argued that cognition and consciousness are the products of social interaction. The TG&P course aligns with these basic theories but exploits Mitra's findings and outcomes concerning spontaneous exploratory learning.

Educators should pay attention to the pedagogical implications since these implications will determine the success of students in their studies (Juhary, 2005) and their future occupations. Among the forerunners of teaching and researching online classes were Gibson, Tesone, and Blackwell (2001). Their university created the first electronic classroom in 1985 and began offering online programs in 1983 (SCIS, 2013). From the outset, the researchers felt that it was essential for instructors to shift their thinking from a teacher-focused approach to a learner-focused approach when designing an online course (Gibson, Tesone, & Blackwell, 2001).

Today, no matter if pedagogy includes directing, discussing, or delegating (Thornton, 2013); it is most likely to reach its next iteration with the inclusion of organically integrated and applied digital media or CMC. Higher education courses should be more revealing, more open to spontaneous and serendipitous learning, more exploratory, more interactive. Most importantly, higher education should be more suited to the pedagogical needs of the active digital generation (Raines, 2013).

Past learning theories offer a good foundation but as Mitra's (2010) uncompromisingly opined, a teacher who can be replaced by a machine, should be. Technology can successfully replace teachers and it

allows teachers to place time on things that CMC cannot supply (Robinson, 2007, 2010a, 2010b). Pedagogy should be more than a one-size-fits-all lecture. With technology, students become greater masters of the pedagogy and control of the learning moments (Mitra, 2010). The use of digital technology naturally engages students in self-exploration, spontaneous lively networking opportunities, and active peer-to-peer tutoring across geographic sites. This is the new pedagogy of the digital age (Wankel, 2010; Tapscott, 1998), allowing self-organizing systems where the system structure appears without explicit intervention from outside the system (Mitra, 2010). This is the foundation for the design and delivery of the case TG&P course that is fully described in this manuscript.

The TG&P Course Design

The T&GP course design comingles individual learning and group learning with the use of technology throughout the entire course (see Appendix A). Each module is self-contained and offers discrete access to the specific links needed to complete the progressive course work. Students self-direct learning about how to use a variety of CMC and open-access technologies/media through viewing videos followed by the completion of individual online exercises. The self-taught skills were then applied to complete simpler group activities and then the comprehensive final group project.

Students taking a university traditional T&GP course will most likely cover general textbook topics that include:

- Team Definitions Types of Teams in Organization
- Team Development and Team Emotion
- Team Leadership, Self-management, Self-direction, and Self-governing
- Team Performance and Team Decision-making
- Team Dynamics; Team Identity; and Team Networking, Social Capital and
- Integration
- Team Communication, Use of Technology/CMC
- Virtual Teaming and Global Teamwork (Thompson, 2011; Bell & Smith, 2011)

The virtual teaming topic, and the use of CMC modalities, remain underrepresented and largely unintegrated into the standard course textbook topics (e.g., Thompson, 2011; Bell & Smith, 2011; Adams & Galanes, 2011). The course topics have stabilized while the classroom audience is changing noticeably. The majority of current aged college students are globally exposed (Williams, Beard, & Tanner, 2011). This begs the questions, are students prepared for only a fraction of the team interaction occurring in the global and virtual workplace (Fisher & Fisher, 2011)? The issue is even more significant as geographic dispersion can occur when teams are only two building floors apart.

None of the early learning theorists could likely fathom the rise of the digital generation, shortened information shelf life phenomenon, massive spontaneous information flood, and a student who is a consumer of mass gathered data, information, and new knowledge—all at their digitally capable fingertips. These variables caused Mitra's work to be incorporated into the TG&P course and (a) the course learning objectives, (b) the online learning platform design, (c) the design of the sample modules offered via screenshots, (d) the course homework and project, and (e) the variety of CMC and virtual modalities discovered and used by the faculty and students.

Past research confirms that Internet and electronic-based delivery of course content is a fully acceptable medium to augment or replace classroom instruction (Ahern & El-Hindi, 2000; Alavi, Yoo, & Vogel, 1997; Arbaugh, 2000 & 2005; Bower, 2003; Rahm & Reed, 1997; Ponzurick, France & Logar, 2000; Shrivastava, 1999). The T&GP accepts online can replace classroom and embraces it. The specific TG&P design pressed students to: (a) self-organize in terms of teamwork (Mitra, 2010), (b) individually and collectively explore the potential for the creation and implementation of the work group project (Lave & Wagner, 1990), (c) share and complete an online project (Bandura, 1969, 1973; Mitra, 2010), (d) network and field test cutting-edge technology as a course learning objective (Mitra, 2010; Thursby, Fuller, & Thursby, 2009; Wankel, 2010), and (e) spontaneously support individual and peer-to-peer learning (Mitra, 2010).

The T&GP learning objectives were: (a) " to define the importance of teams in business and in the global society," (b) [to] "understand the impacts of geographic dispersion and group work – including issues of

diversity, cultural differences, ethical understandings, and environmental characteristics,"(c) "formulate and solve team development problems using a systems approach," (d) "describe and utilize team communication models and technologies" and (e) apply team building theories and models to the formation and management of virtual and non-virtual working groups (i.e., TG&P Course Syllabus).

As students entered the T&GP online course, each are randomly assigned to one of six course project teams and asked to post a personal introduction and photograph (see Appendix D).

Students receive instructions upon signing into the T&GP course to begin pre-coursework by viewing a video on the functions of "Angel," which is the online learning platform used by the university. Angel offers a limited group-to-group communication forum enabling synchronous Live Chat and an asynchronous group folder for sharing electronic files between students (see Appendix E). Resultantly, the use of additional CMC technology is encouraged and explained in this manuscript.

Beginning in module one, students learn how to also use Google Docs as the central repository for all group documents (Google Docs is now in its next iteration and called Google Drive). Google Docs allows students to synchronously or asynchronously edit online document(s) and Microsoft PowerPoint presentations (Google Docs Tutorial, 2013). Students receive a link to YouTube tutorials to self-tutor, and learn the functions and features of Google Docs. Student's completion of the mandated assignments to self-tutor (e.g., learn Google Drive) are authentic activities resulting in genuine student learning measured by the student's ability to utilize the new technology in the group work (see Appendix F).

Sixteen modules encompass the course designed (see Appendix A) and begin with a class-wide "Question & Answer" module allowing students to communicate with all other members of the course and receive synchronous and asynchronous Q&A responses from both the instructor and from other classmates. This feature builds the learning community in which class members exist.

Rosenshine (2012) offered 10 research-based principles of instruction, which were derived from (a) research in cognitive science, (b) research on master's teachers, and (c) research regarding cognitive supports. Instructional design should encompass the following research-based principles:

1. Begin a lesson with a short review of previous learning
2. Present new material in small steps with student practice after each step
3. Ask a large number of questions and check the responses of all students
4. Provide models
5. Guide student practice
6. Check for student understanding
7. Obtain high success rate
8. Provide scaffolds for difficult tasks
9. Require and monitor independent practice
10. Engage students in weekly and monthly review. (Rosenshine, 2012, p. 1)

Rosenshine's principles find application in the progressive nature of the discreet modules, student assignments, and group projects. Resultantly, each module opens with a talking Voki (see Figures 3 and 5). Vokis are animated avatars that are visually interactive with the students' mouse movements over the picture and speak the module instructions (see Figure 5). The free technology provides 1-2 minutes of audio recordings, adding a unique dimension to the online learning experience (Voki, 2014). A module may have one or more Vokis to cover the module's introduction and instructions. Vokis can be replayed allowing students to review instructions. Voki instructions augment the module's written "Introduction," learning "Objectives," "Readings/Resources," and "Reminders" (i.e., announcements of items due or future assignments). Active links allow students immediate access to necessary course materials (e.g., video links, research articles).

Students view module materials on one page (e.g., a continuous flow of the top and bottom screen in). As shown in Appendices D, E, and F, students even take quizzes online within the discrete module. To protect the integrity of online testing, quizzes are timed and questions randomized.

Throughout the course, students read and discuss CMC research articles that cover: (a) understanding geographically dispersed teams (Ehsan, Mirza, & Ahmad, 2008), (b) virtual group project management (Siebdrat, Hoegl, & Ernst, 2009), (c) team learning (Gersick, 1989; Ubell, 2010), (d) team conflict

resolution (Alper, Tjosvold, & Law, 2000; Zimmermann, 2011), and (e) team leadership. Discussion Forums are available for interactive student dialog. Student groups were encouraged to use ooVoo or Skype for group project interaction (these platforms are described later).

A range of online videos are offered within each module that expand team and group work course topics and expose students to application examples (e.g., a video on the Google or SAS workplaces).

The final course project enlists student project groups to design an online intervention and present a wholly-virtual intervention (i.e., a sequence of interactive communication and online interactions). The fictional case intervention project connects and purposely enhances interaction among five, geographically dispersed fictional vice presidents (VPs) (see Appendix G). The project goal (through CMC) is a *team formation [that] results and the group collectively generates a plan to increase the effective and efficient communication between and among the geographically dispersed group*. Thursby, Fuller, and Thursby (2009) espoused that technology is not just simply an intervention for standard organizational use but a driver of workplace knowledge transfer. The T&GP case course project relied heavily on collective action learning as described by Pedler (1991) and Andragogy as expressed by Knowles, Holton, and Swanson (2005). In Pedler's (1991) action learning model, student move through seven steps: (a) problem identification, (b) ownership, (c) building and action and learning system, (d) reconstructive learning or re-framing over time, (e) conflict and tension and the application of power, (f) in significant learning, the shift of identity, and (g) the group and the problem are transitioned to the next problem.

In the early semester, assigned groups began with students collectively discussing and then authoring a *group charter* statement that identified the team purpose, project goal, and agreed upon communication norms/procedures (see Appendix H). The statement also specifies the desired and approved group behavioral norms. Groups then move towards the creation of a Gantt chart or project action plan, and researched the use of Gantt charts and sample templates (see Appendix H). Groups viewed YouTube tutorials on using Excel to create a group Gantt chart. The finished Group Charter and the Group Gantt chart were posted on the working group's Google Docs site. This exercise engaged students in proactive online research and spontaneous discovery of the use of technology and software to complete course work. As the course progressed, drafts of group projects were beta-tested by other course groups via an online forum to virtually field-test the design and the selected technological components. The early individual group chart and Gant chart work provided the basis for the needed understanding and skills applied to the final group project.

The final project's goal was twofold. The first goal was to create an intervention that would gain strong communication, build trust and cohesion, and promote effectiveness among virtual team members (the VPs as well as the actual working group). The second goal was to create an action plan for future improvement in communication among the geographically dispersed team of senior VPs.

Course Multi-Modalities

Educators desirous of effecting virtual and global group project work and teaming simulations are advised to offer a variety of available online modalities. The online learning platform *e-volution* has produced several tools that provide robust experiences outside the traditional classroom. According to Tesone, Alexakis, and Platt (2003)

> In an asynchronous online format, there is no collective audience in a classroom, no eye contact, no chalkboard . . . . no auditory communication . . . and no real control by the professor. All instructional techniques usually practiced in the classroom must be built into the course design using text and images. This requires advanced planning and longer preparation time, as the instructor must visually project into the future of the class . . . The virtual professor is not just a facilitator, but also a coach of the course technology. (p. 6)

Determining communication patterns of students may allow instructors to adjust personal communication patterns to better meet student needs (Skramstad, Schlosser, & Orellana, 2012).

This was the case with the T&GP course. Students were asked to resource and experience new technology that included

1. *Google Docs* (now Google Drive) is a central platform allowing students to create, share, and collaborate on the Web with documents, spreadsheets, and presentations (Google Apps for Business, 2013).

2. *Google Drive* is the next iteration of Google docs and now allows face-to-face conferencing. The platform's tagline is "Get stuff done, together, with apps in Google Drive" (Google Apps for Business, 2013).

3. *ooVoo* is a one-to-many online face-to-face conferencing system that allows up to 12 people to have a face-to-face CMC chat. This is free software that students can download and utilize. The company claims to add the human experience into communicating online (ooVoo, 2012).

4. *Skype* is a one-to-one face-to-face CMC communication tool. It now has a fee-based one-to-many feature (Skype, 2013).

5. *GroupMe* is a free, smart phone download that allows users to call one number and enjoy a private chat room for the small group. The application allows groups to connect all members of the group to a conference call. Users can also send documents with one-button ease. It works with native apps for iOS, Android, Blackberry, and Windows Phone Groups (GroupMe, 2013).

6. *Second Life* is a free virtual platform that offers participants a virtual world to explore. It includes classrooms, conference places, and other features for virtual meetings and interactions (Second Life, 2013).

7. *PhotoSphere* is Google's launch of a viewing widget called Photo Sphere, allows embedded images in any website. This is a significant development, as it means 360° panoramic images taken with Android devices are no longer limited to just Google's services (Protalinski, 2013).

8. *Yammer* is a leading enterprise social network used by more than 200,000 companies worldwide. It is usable by any group of people who have the same stringer ending their e-mail address (e.g., xxxx@abccompany.com). (Yammer, 2013)

9. *Vokis.* "Create fun and unique Voki characters that speak in many languages." These free moving avatars can be customized by appearance and what they communicate orally (Voki, 2014).

Other free learning platforms include *Moodle*, *Caroline.Net*, *Udemy*, *RCampus*, *Learnopedia*, *eDhii*, and *Peer 2 Peer University* (Byrne, 2011). Unique technology-accessible elements of the T&GP course included MS PowerPoint enabled avatars (Avatars, 2013). Students in T&GP were free to resource any new online CMC platform and materials to create the online group project/intervention. They spontaneously explored open source CMC platforms that could strengthen their projects. Course teams centralized the intervention on such platforms as Facebook, Second Life, and Yammer.

The class teams built progressive intervention through online open-source versions of tools such as *MBTI*, *Colors Personality Surveys*, *DISC Personality Profiles*, and other related personality profile materials. Teams accessed conflict tools, team building exercises, communication enhancement tools, and an assortment of online team building games. Final course intervention projects offered multi-modalities. Most significantly, students and teams spontaneously explored the Web. They expansively shared information. They experienced wide-ranging online learning. They applied how CMC can build networks of experts and teams.

However, the visual aesthetics, touch-screen, "high-octane" smart devices are more than just modalities. As futurist Alvin Toffler said, "The illiterate of the 21st century will not be those who cannot read and write, but those who cannot learn, unlearn, and relearn" (Sturmberg, O'Halloran, & Martin, 2012, p. 1). The rapid emergence of contemporary technologies brings up the issue of learning and changing for students and teachers alike who are compelled to adapt and learn.

Course Assessment Methods

The researchers conscientiously worked through the process of standardizing and perpetually measuring learning against the sometimes unsystematic but important process of classroom spontaneity that often leads to enriched and accelerated learning moments. According to Tesone, Alexakis, and Platt (2003),

> Through testing, educational institutions are in essence sending a message to students that all that is required of them is rote learning, primarily based on memorization, rather than impressing them with the significance of knowledge in the service of utility. (p. 6)

The major question is then, how does one actually measure serendipitous learning (Mitra, 2010), situated learning (Lave & Wegner, 1990), and social learning (Bandura, 1969 & 1973)? Ravitch (2012) warned about the ubiquitous American educational culture that increasingly includes an enmeshing of standardized testing and "*outcomes-based funding* that would reward state universities for graduating more students" (p. 12), while the United States "once the global leaders in the production of a most singular source its talent of college graduate is losing ground to emerging nations" (p. 11). Baldwin, Pierce, Joines, and Farouk (2011) argued, "The present results suggest that traditional academic success, which emphasizes mastery of facts (i.e., conceptual knowledge), is not highly predictive of applied performance" (p. 596).

The issue of pertinence raises more questions: Is all learning measurable? Is CMC a substandard delivery system for rigorous and serendipitous learning? Research by Tesone, Alexakis, and Platt (2003) compared an experimental group of online students with a traditional classroom setting (control group) for a *Principles of Management* course. The course instructor maintained the dataset for both groups with updates concerning course grades throughout the semester. There were only two attributes of difference between the groups (online and traditional classroom). One conclusion evident in the study is that an instructor may positively influence student satisfaction levels by maintaining a "teaching oriented" approach in the classroom while shifting to a "learner centered" methodology with those students in the online environment (Tesone, Alexakis, & Platt, 2003). Similarly, Juhary (2005) asserted that with e-learning, the education system is challenging students to become more independent and responsible for their own learning. In fact, e-learning options have the potential to provide for individual needs in a manner not possible in more rigid classroom situations (Juhary, 2005). The Tesone, Alexakis, and Platt (2003) article concluded that there existed no difference in student performance outcomes when comparing online learning to classroom performance.

T&GP students were assessed for course *knowledge* using two course exams that were worth 20% each (for a total of 40%), and using individual homework and quizzes that were worth 10% in total. Students' *skills and transfer of knowledge* were assessed using (a) the collective authoring of the Group Charter (previously discussed) (5%), (b) the creation, and use of a group Gantt chart (their action plan) (5%), (c) Group-to-Group project feedback postings (10%), and (d) the design and implementation of the virtual group intervention (20%). Finally, student abilities and attitudes were assessed using a mid-term examination and a final peer review of fellow group members that were worth 5% each (for a total of 10%). The course included a "Termination for Free Riding" expulsion form. If removed from a team, the individual would receive a zero for the peer grades, and that zero accounted for 10% of the student's overall course grade. Any student dismissed from a group would have to complete the entire group project independently. No student was terminated from a T&GP course project group. However, the same faculty member's Principles of Management on-ground course utilized the same peer review system and many were removed.

Wilson (2006) cautioned that grading rubrics systematize the mechanics of learning. Another way to assess the value of a course is through student workplace success. One student received a position in his firm as the Director of Social Media based on sharing with his manager the skills and knowledge gained in the T&GP course. The same individual became a student speaker helping other students to develop a greater understanding of the course's learning potential and skills application post-course.

Summative data were gathered to assess the T&GP course's serendipity. Students completed a self-perception form offering their top "*five major learnings*" from the course consistent with Kirkpatrick's level two schema, and the top five "*things they will do differently"* as a result of the course learnings, which is

congruent with evaluation per Kirkpatrick's level three schema (Kirkpatrick & Kirkpatrick, 2007). Kirkpatrick's level 4 assesses post-session *results*. That was obtained when one student gained employment as his firm's "Director of Social Media" from the knowledge and skills gained during the T&GP course.

Kohn (2012) stated that standardized and quantitative assessment measures are "uninformative and misleading" (¶ 1). The authors found quizzes and exams spurred course content reading by students and served as a useful tool for testing the comprehension of that reading. While serendipity has clearly occurred in this course, it is still more difficult to measure. Nonetheless, it remains important to the future design of the T&GP course.

Traditional classroom teachers often have difficulty explaining the moments where robust conversational interactions lead to important learning moments. That was the experience of the T&GP faculty. Quinn (2005) spoke to this engagement and educational synergy in the book appropriately titled, *Engaging Learning: Designing e-Learning Simulation Games*. Quinn devoted an entire chapter to the awareness and explicit design to induce educational synergy. The online T&GP course design offered Discussion Forums, Live Chats, and other interactive modalities (previously mentioned). However, simply offering synchronous and asynchronous communication would provide limited effect if not for the opportunities to exploit vicarious learning and educational serendipity through *inquiry*. Virtual platforms expand the potential for "serendipitous" learning moments.

An anecdotal observation of the T&GP on-ground iteration found that students reverted to performing online course exercises in-person for the ease and speed of completion. This lessened student learning related to CMC and the inquiry. It was interesting to see how completing the online exercises in-person reduced these learning experiences to a mere group deliverable. The result was that it severely reduced group exploration, serendipity, and chance learning.

Quinn explained that course design prompts these moments through synergy that is a result of the combination of *engagement* and *learning* so that the "whole is greater than the sum of the parts: aligning engagement and education creates synergy to make compelling and effective experience [and that] learning can, and should, be hard fun*"* (p. 53). King, Young, Drivere-Richmond, and Schrader (2001) held this view of serendipity, "Serendipity is our acknowledgment that sometimes there is chance learning. There are no goals associated with this type of learning. This is learning something simply because the individual 'stumbled across' the information" (p. 8). This serendipity further distinguishes "distance education" from "distance learning" (Moore & Kearsley, 1996). Learning environments need a design that enhances the potential for serendipitous learning. McCay-Peet and Toms (2011) surmised that serendipitous information retrieval as perhaps the inevitable consequence of immersion in an information-rich environment and offered five components that have a positive relationship for increasing serendipitous learning. These components include (a) enable connections between topics and exploration, (b*) introduce the unexpected* or encountering unexpected topics or content, (c) *present variety* and facilitate diverse behaviors such as exploration and browsing, (d) *trigger divergence* or sparked attention and initiate divergent thinking and behavior, and (e*) induce curiosity* or a deeper exploration or consideration of information encountered (¶ 24). These elements of the student learning are beyond standard measurement but are observable.

The T&GP course design rendered the unexpected serendipity and vicarious learning when students moved past confusing e-mails and unorganized face-to-face meetings to a sophisticated use of Google Drive to centralized documents, GroupMe, and ooVoo to communicate between in-person meetings. The greater use of virtual technologies streamlined communication and prompted a greater focus on project-innovation, which increased serendipitous learning moments. The evidence of this is the amplified sophistication of student projects during the span of several successive re-developed T&GP classes. Succeeding student projects displayed a greater application of basic team building theory and models with each semester. Benjamin and O'Reilly (2011) related the concept, stating that students "not only develop new knowledge (rigor), but also to ensure that this knowledge can be applied (relevance) . . . to succeed at this [business faculty] . . . need to understand at some level of granularity the specific problems our student struggle with as young managers" (p. 470).

The virtual intervention group project applied transfer of knowledge and allowed teams the opportunity for exploration and inquiry. Constructing an online intervention caused students to utilize information systems

and self-interact with new content. Student groups also selected fictional companies on which to base the virtual intervention. This deliverable gave students the opportunity to seek and engage in online research content, select domains of focus and create an intra-team and inter-team mini-communities of learning.

The T&GP course design provided a fluid and amorphous nature to the course experience. The group assignment caused intra- and inter-group interactions, with the instructor. The course offered a mutual exchange of information and experiential learning among students and professor. The course's evolution had several benefits for the faculty member: knowledge of digital modalities, engaging cutting-edge platforms, and expanding CMC exponentially. Goswami and Stillman (1987) said it best "that very lesson should be for the teacher an inquiry, some further discovery, a quiet form of research, and that time to reflect, draw inferences, and plan further inquiry is also essential" (p. 15). The course offered a mutual exchange that energized all concerned. This is the highest level of action learning (Pedler, 1991) and perfect student-teacher serendipity.

Recommendations and Avenues for Future Research

Although researchers have developed and tested several instructional design models, relatively less research has been done on models that incorporate the current technologies available to educators. More emphasis is needed on the quickly emerging technologies that allow instructors to choose from a wider selection of modalities and e-learning options to optimize learning time and facilitate more serendipitous learning moments. Attention also needs to be paid to team-centered and project-centered activities that utilize CMC as opportunities for inquiry and accelerated learning. While management education has clearly advanced quickly to embrace the technological revolution, there still exist opportunities for further refinement.

Conclusions

At delivery, most faculty members believed that teamwork could not be effectively taught online. Yet, several iterations of the course showed just the opposite. Khan (2011), founder of the online Khan Academy, indicated that just about anything could effectively be learned online. The T&GP course outcomes confirmed Khan's premise, as it created self-organizing system with student learning emerging similar to the phenomenon of the Hole in the Wall project (Mitra, 2010. Taken collectively, the literature coveys the potential for growth in online pedagogies and explicates the value of technology in course design and delivery with today's Millennial and Xer student-learners. The knowledge gained from the TG&P course design further prepares faculty for the ultra-technologically oriented Generation Z (i.e., born 2000-2020) students (Raines, 2013). The original T&GP course edified the organic course design and implementation. The ensuing iterations strengthened student's serendipitous technological shrewdness and preparation for the global and virtual world in which each will work.

Several implications and conclusions manifested from the above experiences. First, the "one size fits all" approach to curriculum and program design may be appropriate for teaching basic principles. However, these vary greatly among business disciplines and the professions. Designs can even differ among courses offered within one discipline. However, most courses will gain value when configured to support self-inquiry, serendipity, and expanded use of CMC. A lot of sophisticated programs and software applications have emerged in the e-learning platform market but not all subjects can be taught effectively by exclusively using e-learning (January, 2005) without inclusively designing circumstances for serendipitous learning. Therefore, one has to be measured and cautious in applying proactive course design.

Second, sound pedagogical principles can be further expressed but not replaced by technology. As Mitra (2010) put it, a teacher who can be replaced by a machine, should be. Third, not only is learning electronically about teams and group processes possible but it is worthwhile. The TG&P online course diminished passive learning. Students resourced contemporary technological modalities to augment class work. Fourth, measuring learning will always be a challenge.

In sum, organizations have increased their reliance on technology as a mode of communication—that much is self-evident. The current workplace emphasis on teamwork, technology, and globalization make these core ideas ripe for researching and advancing management education.

The online T&GP course allowed the faculty member to grow. The journey fully challenged the traditionalist approach of learning theory-based content with the instructor as central to the processes and delivery, towards the rediscovery and expansion of organic, student-centered learning more in keeping with Mitra's (2010) findings. Greater focus was placed on the works of Bandura (1969), Lave and Wenger (1990), and Vygotsky (1978). None of the aforementioned traditionalist learning theorists could likely fathom the rise of the digital generation, shortened information shelf life phenomenon, massive spontaneous information flood, and a student who is a consumer of mass gathered data, information, and new knowledge—all at their digitally capable fingertips.

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Appendix A

Teams & Group Processes Course Design Outline

Class-wide Focus Agenda Items	Team-focused Agenda Items
1. **Introductions** Review Angel Tutorial Review Google Docs Tutorial READ: Chapters 1 & 2 LISTEN TO VOKI: Welcome to the course Review: course supply list *HOMEWORK: Complete Quizzes 1 & 2 Complete: Pre-Course Learning Contract Quiz (Assigned to Angel group upon check-in)	2. **Small Groups as the Heart of Society** Intro posted to team site Review: Editing and Uploading Photos Instructions VOKI: Group Project Overview POWER PONT SLIDES: Training Technology READ ARTICLE #1: Impact of Computer-Mediated Communication on Virtual Teams' Performance; an Empirical Study Review: Handout titled "Groups v Teams" *HOMEWORK: Post Introduction to TEAM FORUM
3. **Communication and Becoming Group** Chapters 3 & 4 VOKI: chapters 3 & 4 lecture Review: Past Project Discussion of ARTICLE #1 *HOMEWORK: Complete quizzes chapters 3 & 4 Complete course reflection survey	4. **Writing the Group Charter & Gantt Chart** Chapter 5 LISTEN TO VOKI: Chapter 5 Podcast on writing a charter READ ARTICLE #2: The Psychology of Effective Business Communications in Geographically dispersed Teams Review Sample GANTT Charts (link) Review: Gantt Chart construction using Excel Spreadsheet *HOMEWORK: Submit GROUP CHARTER AND GANTT CHART to Team Forum
5. **Planning, Organizing and Presenting in Small Groups** Chapter 10 LISTEN TO VOKI: Chapter 10 READ ARTICLE #3: How to Manage Virtual Teams Discussion of ARTICLES 2 and 3. *HOMEWORK: Complete quiz for chapter 10.	6. Setting up Site Review Google Docs web link: http://www.youtube.com/watch?v=qhWwml-g4Tc Review Google DOCS Tutorial PDF: http://www.davemayit.com/googledocs.pdf *HOMEWORK: Complete website set-up and membership log-ins Complete the *individual* portion of the GREEN VEGETABLE EXERCISE
7. **Creative & Critical Thinking in Small Groups** Chapters 6 & 7 Webinar on Adobe Connect *HOMEWORK: Complete quizzes for chapters 6 & 7.	8. **DESERT SURVIVAL** READ ARTICLE #4: Go(con)figure: Subgroups, Imbalance, and Isolations in Geographically Dispersed Teams *HOMEWORK: Post DESSERT SURVIVAL Team results/lessons learned paper. Complete and post the MID-TERM PEER REVIEW of team members.
9. **Team Learning** READ ARTICLE #5: Virtual Team Learning FIRST COURSE EXAM Discussion of ARTICLES 4 and 5. *HOMEWORK: complete FIRST COURSE EXAM (Covering chapters 1, 2, 3, 4, & 10).	10. **Exchange Presentations** Group 1 and Group 3 Group 2 and Group 5 Group 4 and Group 6 *HOMEWORK: Post TEAM PRESENTATION Complete course reflection survey
11. **Managing Conflict** Chapter 8 VOKI: Chapter 8 *HOMEWORK: complete chapter 8 quiz.	12. **Presentation Feedback** Group 1 receives feedback from Group 3/Group 3 receives feedback from Group 1 Group 2 receives feedback from Group 5/Group 5 receives feedback from Group 2 Group 4 receives feedback from Group 6/Group 6 receives feedback from Group 4 Groups will provide feedback to other groups and address:

	(1) What worked and what didn't work? (2) What was liked about the intervention? (3) What should be changed to enhance the entire intervention? (4) Was the learning objective stated and then accomplished? (5) Specifically, what did the group learn from participating in the exercise? (6) Specifically list what the feedback group discovered that could be applied to their team experience. (7) List any useful information the group wishes to provide as feedback. *HOMEWORK: Post Group-to-Group Feedback on posted intervention.
13. **Applying Leadership Principles** Chapter 9 LISTEN TO VOKI: Chapter 9 *HOMEWORK: complete chapter 9 quiz Discussion Forum posting.	14. **Post Final Presentation** The final presentation should incorporate the feedback from reviewing group. *HOMEWORK: Each group will post the **FINAL GROUP PRESENTATION** and ALL STUDENTS will review the posted presentations and provide feedback.
15. **Post Course Learning Evaluation** *HOMEWORK: Post POST-COURSE LEARNING CONTRACT FORM Post Final PEER ASSESSMENT of team members.	16. **Exam Week** Second & Final Exam – Online HOMEWORK: Complete second course exam (covering chapters 6, 7, 8, & 9).

Appendix B

Table 1

Generations in the Workplace

Generation's Name	Variances in Generational Time Frames	Workforce Percentage
Traditionalists	*Roaring Twenties* of 1920 – 1929 *Depression Babies* of 1939 – 1949 *World War II* Group of 1940 – 1946	5% of the workforce
Baby Boomers	1943 -1960 (17 years) or 1946 -1964 (18 years) 1943 -1964 (21 years) *Different sources offer different timeframes*	45% of the workforce
Generation X	1960-1980	40% of the workforce
Millennials	1980-2000 Born on or after 1982 *Different sources offer different timeframes*	10% of the workforce

Note. Adapted from "Preparing for the Impact of the Multi-generational Workforce!" by R. J. Dwyer, 2009, *Transforming Government People, Process and Policy, 3*(2), p. 101; "Leading by Recognizing Generational Differences," by B. Frandsen, 2009, *Long-Term Living, 58*(2), p. 34; "Understanding Generational Leadership Styles," by V. Winzenberg and R. Magnus, 2007, *Design Intelligence*; "Gen X Will Change Work Culture," by R. Williams, 2007, *Financial Post,* p. WK3; "Age-related Differences in Work Attitudes and Behavior: A Review and Conceptual Analysis," S. R. Rhodes, 1983, *Psychological Bulletin, 93*(2), p. 328; "Developing the Next Generation of Leaders," by B. Tulgan, 2004, *ABA Bank Marketing, 36*(10), 49.

Appendix C

Table 2

Faculty Classroom Software Proficiency

College/University e-mail 4.86	Photo Shop (iphoto) 2.96
Web browsers 4.70	Teaching e-portfolios 2.68
Creating, sending, opening e-mail attachments 4.68	Teaching with online discussion groups 2.67
	Microsoft Publisher or similar 2.43
Online searches 4.66	Hypertext linking 2.38
Microsoft Word or similar 4.55	Teaching with online chat rooms 2.34
Microsoft PowerPoint or similar 4.18	Microsoft Access or database 2.32
Library's research tools 4.17	Microsoft MovieMaker or imovie 2.21
Microsoft Word tables 4.12	Web page creation software 2.18
Microsoft Word graphs 3.70	Integrating web pages with word processing 2.11
Excel or similar 3.65	Integrating other web sites with web pages 2.04
Installing/removing software 3.63	Web logging (blogs) 1.91
Device transfer of digital information 3.33	Art studio graphics or similar software 1.77
Excel graph creation 3.17	Breeze or similar presentation software 1.66
Subject specific software 2.97	Teaching with My Space or similar personal webs 1.61

Note. Adapted from “Integration of Technology in Higher Education: A Review of Faculty Self-perceptions,” by D. A. Georgina and M. R. Olson, 2008, *Internet and Higher Education, 11*, ¶ 6.

Appendix D

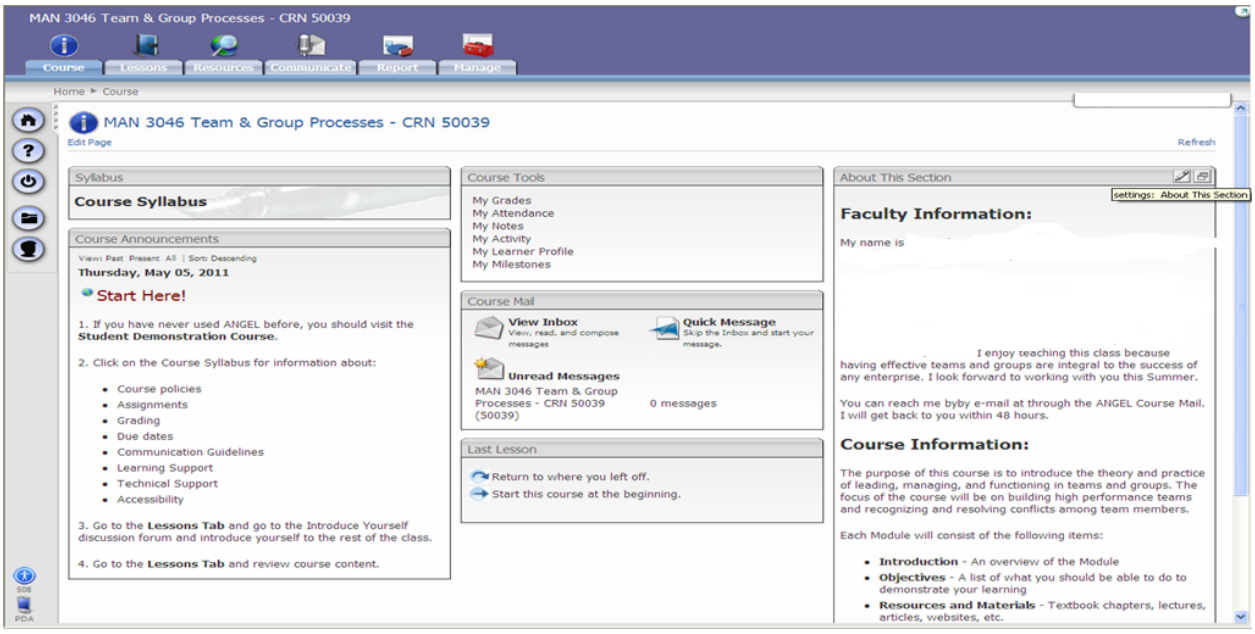

Figure 1. Primary Angel course screen for T&GP.

Appendix E

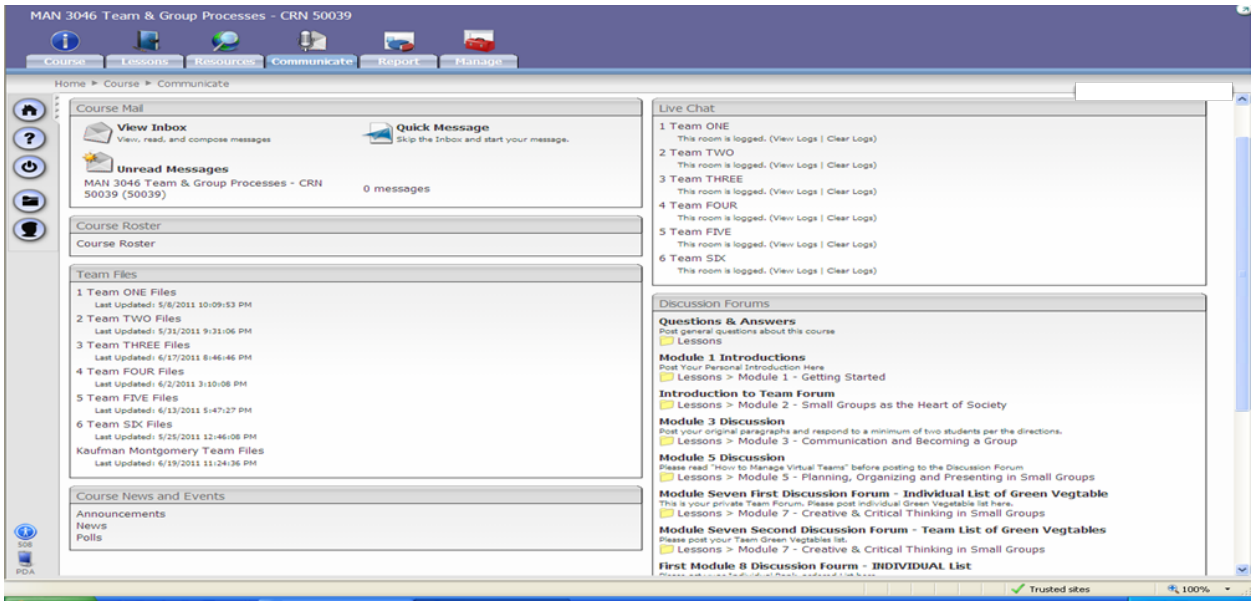

Figure 2. Screenshot from the online Angel learning management system group communication forums for T&GP course.

Appendix F

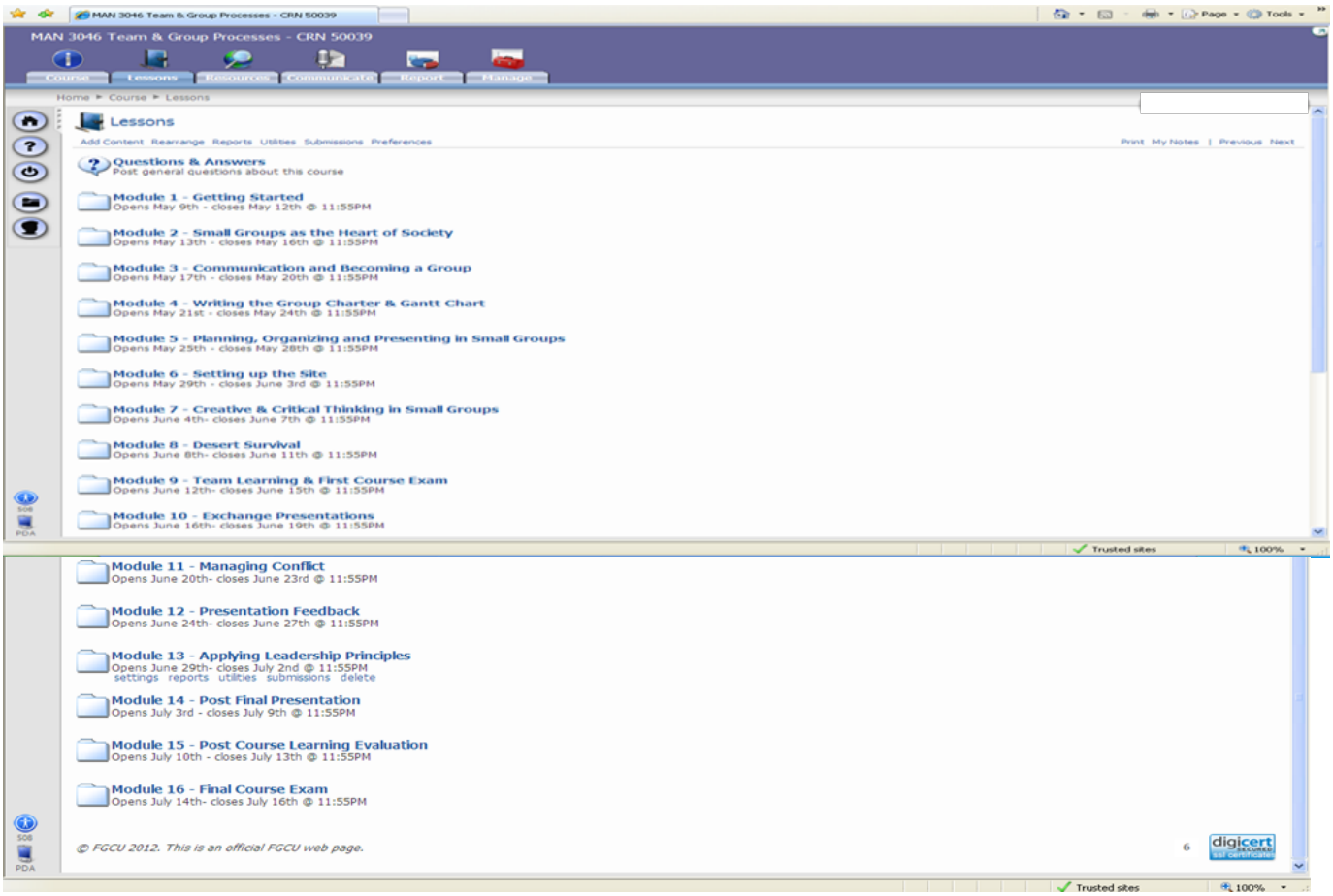

Figure 3. Sample class module for T&GP course.

Appendix G

Team Course Full Assignment Instructions

DIRECTIONS and Focus of the Interactive Group Exercise/Presentation:
You will work with your group to design an experiential online MANAGEMENT DEVELOPMENT intervention to AN AUDIENCE OF five (5) senior Vice Presidents.

GOAL: The goal is to use online media and exercises to aid a geographically dispersed team of Vice Presidents' to gain communication efficiency and effectiveness, build trust, and gain team cohesion and effectiveness.

The Intervention will end with the VP's collective creation of an action plan for future improvement.

Your intervention for the Vice Presidents should include a series of exercises that development the individual and collective and results in better understanding and use of CMC/F2F tools and applications among and between these Vice Presidents.

GROUP ROLE: To complete this project, the group will assume the identity of an outside consultant **or** the in-house design team assigned to aid the Vice President of a corporation. You may select a specific company name or identity.

AUDIENCE: These Vice Presidents are talented, senior managers whose divisions are located throughout the United States. - But the geographic distance is negatively affecting the group.

ADDITIONAL BACKGROUND: With the current difficult economic times, your firm has decided **not** to fly these managers to one location for continuous training. Therefore, the managers need to have a well-developed, multi-phase (or multi-module), virtual intervention THAT INCLUDES FACILITATORS NOTES (in the "Notes" section of each power point slide) that helps the FACILITATOR understand the timing, materials, and resources/research concepts needed to deliver /understand the module.

Please be clear so the Vice Presidents also understand the reason for each exercise, the desired outcome from each exercise, the timing, and the outcomes obtained by those who complete the whole intervention.

Just a reminder, the project should include the creation of an action plan for improvement.

As a group:
(1) Please discuss and determine in writing the specific LEARNING OBJECTIVES for the entire project an each individual module or exercise. Your group needs to make sure that the managers learn something they will be able to apply to improve their virtual connection (the learning objectives will drive the project plan as outlined on the Gantt chart).
(2) Clearly identify the characteristics of your participating VP group (position, perceived level of knowledge, skill-level). For example, past groups have accomplished this with starting with an Introduction Letter from the firm's CEO.
(3) Specify the size of this group (number of people needed to complete each step) and how participants will know when all participants are present to begin working on a designated task/exercise.
(4) Specify the time required for each individual and/or group exercise(s) as well at the entire intervention.
(5) List any and all materials needed to conduct your exercise. Since this is a virtual intervention, specify any electronic specs or applications need to fully participate.
(6) Offer clear participant instruction that introduce each exercise and help the VPs understand how to complete the entire exercise.
(7) Offer a discussion to the Vice President of the exercise(s) that help this individual understand the main points of the exercise.
(8) ALSO, describe the **research used as the basis for the creation of this group intervention**

exercise(s). Add full citations *to each slide* to support the research that supports that portion of the intervention. **Add a REFERENCE page at the end of the intervention**.
(9) Offer any other information that is important or unique to your specific exercise and cite the sources(s).

HOW TO BEGIN THE GROUP PROCESS:
(1) Begin by reading the case and identifying the specific exact audience and individual & group learning outcomes the group must address. Answer the question "what is your group trying to accomplish"; and "what objectives are important; how can the group make this learning intervention interesting using the Internet as the delivery medium"? You may wish to resource the "Examples of Exercises" folder on Angel.
(2) Brainstorm a list of exercises that could move participants along a learning path that helps to achieve the objective. Then ask, how should our group position the participants to complete the action plan for improvement?

The TEAMS & GROUP PROCESSES working group will also need to visit the library (in-person or virtually) and locate research articles that help the group understand the needs and realities of virtual teaming and virtual delivery methods (several peer reviewed articles are also posted on Angel).

The group will need to know with certainty that the created exercise has been tested and that it will work effectively with virtual teams. These resources citations should appear on the appropriate slide with narrative in the FACILITATOR'S NOTES at the base of each slide.

THE FIELD TEST
Your group will eventually field test the intervention exercise on another assigned class group. Angel resources will be made available for your needs. After groups administer the test exercise, the participating group will provide feedback regarding the exercise, please share:
(1) What worked and what didn't work;
(2) What was liked about the exercise;
(3) What should be changed to enhance the exercise clarity and timing;
(4) Was the overall objective accomplished;
(5) Specifically what did the group learn from the participating in the exercise;
(6) Did the intervention meet (or exceed) the class standards and requirements;
(7) A list of any additional useful information the group wishes to provide as feedback.

The final power point submission must contain:
(1) Your group name
(2) The first and last name for all members of your group.
(3) The cover sheet noting that exercise was created as a group.
(4) Facilitator/Vice President notes explaining the rational for the exercise.
(5) The identity of the group who provided your feedback and the date of the feedback.
(6) The background information/research used to support the design (cited on each slide)
(7) A reference page in APA format that supports all citations.
(8) The actual feedback/comments your group received from the peer group.
(9) A clear outline or description of the changes made to your group exercise based on the group critique or any rational if the group rejects specific or all comments – deciding not to make changes.
(10) The background information/research the group utilized as the basis for creating the specific exercise. This section should include concepts contained in the textbook, regarding group decision-making, group formation, group norms and roles and more.

Appendix H

Group Charter and Gantt Chart Assignment Instructions

IV. GROUP CHARTER: This is worth **5%** of your grade.
The group charter is worth 5% and the Group Gantt Chart is worth 5%. See Angel for samples and additional instructions.

WRITING A GROUP CHARTER: DEVELOPING GROUP NORMS
Class work will begin their group work by authoring a Team charter. Angel offers examples and additional support information. The charter describes the desired behaviors, structural and process norms the group's wishes to enact.

Definition of Norm: Standard for certain group; type, model, behavior or pattern.

Rationale for Formal Norming: Effective groups realize that one of their first tasks should be to develop norms and that the norming process in not "fluff." Group norms can be the glue that binds the group as difficult tasks are undertaken, or they can be the cause of ineffectiveness and dissolution. A significant amount of conflict, confusion, and polarization that can lead to group dysfunction can be avoided or minimized by using a formal norming process.

Formal Norming Process:
1. Set the stage by creating a relaxed atmosphere with sufficient time to begin and end the process.
2. Make sure that group members understand the norming process and the rationale for engaging in the process.
3. Review rules of formal brainstorming: set a time limit, no discussion, no judgment, record a key phrase of each idea presented, use flip chart paper or other method that allows for public recording.
4. Brainstorm a list of possible norms. These questions may stimulate responses:
   *How do we want to operate/work together to make the group an effective team?
   *How do we want to interact as human beings (not as positions)?
   *What group rules will allow us to accomplish our tasks?
5. At the end of the listing of possible norms, review each item listed for clarity. Consider each item Individually, then, combine ideas where appropriate.
6. Work toward consensus on whether or not to accept each norm listed.
7. Each member should verbally agree to accept or reject each norm.
8. Post the norms each time the group meets; check with the group for any needed modifications.

Maintaining Group Norms:
The problem and/or joy of having formalized norms is that each member of the group is responsible for maintaining/revising the norms. External forces may modify the group's tasks, but the group has the power to determine how it best functions.

Norms may change more dramatically when:
(a) new members join or old members leave the group,
(b) the task (reason for the group's existence) changes, or
(c) there is a change in external factors that influence the group.

V. GANTT CHART: This is worth **5%** of your grade.
DEVELOPING GROUP GANTT CHART

Groups will also author a written **plan** of action known as a Gantt Chart. Angel offers examples and additional support information is offered below.

Description of Gantt Charting Process:

A Gantt chart is the group's primary planning tool that outlines the group's actions so all members can coordinate efforts. The Gantt Chart contains the following information:

(1) a comprehensive list of the all specific steps needed to complete a project – in the order each will be executed,
(2) the starting and ending timeframe for each of the listed steps,
(3) the name(s) of the responsible party(ies) assigned to complete each step, and
(4) all anticipated meeting dates/times.

Each presentation group will submit a GANTT CHART that clearly outlines:

(1) the group's presentation strategy and learning objectives,
(2) the full list of all known activities to be completed, and
(3) the specific group member(s) responsible to complete each of the identified tasks.
(4) the specific timeframes for completion of each step from the beginning of the intervention design to the delivery of the final product.