

THE IMPACT OF ONLINE EDUCATION ON ACADEMIC PERFORMANCE  
FOR LPGA TEACHING AND CLUB PROFESSIONALS

by  
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## ABSTRACT

Ladies Professional Golf Association Teaching Professionals are scattered throughout the country, many of whom are self-employed. There was not a review session for Class A written test preparation prior to this study. The focus of this research, thus, was to assist first time test takers in their preparation of the LPGA Class A written evaluation through an online medium.

The study was conducted between July and November, 2005, and was offered to LPGA T & CP Class B first-time test takers. Components of the online review session included self-evaluations, discussion postings involving test-related content, and practice quizzes. The study compared the pass rate percentage of the participants in the online review session with the pass rate percentage of those who did not participate in the online review session. A test of proportions determined there was not a significant increase in the pass percentage rate of the online review session participants when compared to the test takers who did not receive intervention. However, pass rates and average test scores were higher for online review session participants.

Suggested uses of this study include the future development of online review sessions for LPGA Class B and Apprentice written evaluations, with the goal of improving academic performances. Future research should include replication of the present study, but with a larger sample size. Future research should also involve Class B and Apprentice test takers and not be limited to first time test takers.

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## CHAPTER 1

### INTRODUCTION

#### The Problem

The Ladies Professional Golf Association Teaching and Club Professional (LPGA T & CP) Membership is dedicated to the advancement of golf through teaching, managing golf facilities, and coaching. The LPGA T & CP members serve throughout the golf industry as Head and Assistant professionals, teaching professionals, directors of golf, owners of golf schools and facilities, golf administrators, and coaches.

The LPGA T & CP offers certifications in order to require high quality professional standards of its teaching and club professional members. The certification process and testing programs are aimed to better prepare members for teaching, coaching, and club professional opportunities. The certification process features three levels of classification, culminating with a Class A credential. A LPGA T & CP member is eligible for Class A testing when the member successfully completes the two year cycle as a Class B member, completes the required in-person National Education Program (NEP) Series, and is an “active” Member. The NEP Series provides course content not only to serve all students of golf but also to transmit test material to the membership for teacher certification/re-classification. A LPGA T & CP member must test for the Class A written evaluation within twelve months of becoming eligible for re-classification. It is possible that a testing date could be up to three years from attendance at an NEP series.

The study focused on the seemingly high proportion of LPGA T & CP members who do not pass the Class A written evaluation on the first attempt. Pass rates slightly



increase with second and third attempts. Finding methods to improve pass rate on future LPGA T & CP Class A written evaluations is needed. Offering an additional educational opportunity for Class A written test preparation, such as a review session, would seem justifiable. An educational intervention is needed to strengthen the LPGA T & CP member's understanding of the content for the Class A evaluation and to potentially improve academic performances on the Class A written evaluation. The online review session was developed for this study.

Approximately 1200 LPGA teaching professionals are scattered throughout the country, many of whom are self-employed. Attendance of a review session could be costly due to related travel expenses and, in many cases, a loss of income. Financial hardships and the changing economy, unfortunately, may limit the LPGA T & CP member's ability to attend educational seminars, thus, increasing the demand for alternatives to traditional face-to-face (FtF) instruction.

There is an option to resolve such hardships and inabilities. Technology and the World Wide Web (WWW) have afforded opportunities that were not available in the past, such as online education. Distance education can provide benefits apart from the traditional FtF settings without sacrificing instructional effectiveness. LPGA T & CP members, thus, will have a feasible alternative for Class A preparation that will hopefully improve pass rate percentages on the Class A written evaluation.

The online review session may also benefit participants who have experienced a time gap between attendance at their last NEP series and their Class A test date, a possible reason for low academic performances. Specht and Sandlin (1991) studied retention of accounting material following a traditional lecture format. Academic

performance on a quiz taken immediately following the lecture was compared to the student's academic performance on a six week delayed quiz. Results indicated a significant loss of retention after the six week interval. Gillham (1999) studied a high school four-by-four block schedule because of up to a 4-month delay a student experienced between school instruction and testing. Results showed academic performance decreased with the interval time lapse. Gillham (1999) also found performance increased only slightly for students who participated in a review session during the 4-month interval. Rohrer et.al. (2005) found low recall of geography facts following a nine week delay in testing.

### Significance of the Problem

Online education increases access and interactivity with geographically distant experts and resources that are feasibly inaccessible through traditional FtF learning environments. There are many potential influences impacting academic achievement. Such influences have been researched in academic environments other than the LPGA T & CP Membership, as will be shown in the review of literature, to determine the impact of each on academic performance. Thus, a deficiency in the literature is that a review session of any kind has not been developed or studied for its impact on academic performance on the LPGA T & CP Class A written evaluation.

The primary reason for developing the online review session is to assist students in preparation of the Class A written evaluation. The study will compare the pass rate percentage of the participants in the online review session with the pass rate percentage of those who did not participate in the online review session. If the pass rate percentage

of the online review session participants is higher than the pass percentage rate of the test takers without the educational intervention, online education and review sessions should be seriously explored for future educational opportunities for the LPGA T & CP Membership.

### Research Question

Will the participation in an online review session, designed for the LPGA T & CP Class A written evaluation, significantly increase the Class A written evaluation pass rate when compared to the pass rate of test takers with no intervention?

### Definition of Terms

Asynchronous communication: Communication that takes place in different time frames and is accessed at the participant's convenience, such as electronic mail and voice mail. Interaction between participants is time-delayed, that is, separated by minutes, hours, or days.

Attributions: The causes individuals generate to make sense of their world.

Motivation: "The process whereby goal-directed activity is instigated and sustained". It is a process that underlies behavior and is inferred from such actions as choice and persistence. It involves both mental and physical activity (Pintrich & Schunk, 1996, p. 4).

Online education: A domain of learning that delivers instruction and course materials over the Internet and other computer-mediated communication tools.

Self-efficacy: “The belief in one’s capability to organize and execute the courses of action required to produce given attainments” (Bandura, 1997, p.3).

Self-regulation: Three phases of self-regulation: forethought, performance control, and self-reflection. Forethought includes such cognitive processes as goal settings, self-efficacy beliefs, and strategic planning. Subprocesses of performance control include attention focusing, self- instruction, and self-monitoring. Self-reflective subprocesses are self-evaluation, attributions, and adaptivity (Zimmerman, 2002).

Synchronous communication: Communication that takes place at the same time, such as an Internet chat room, live face-to-face video conference, and telephone teleconference conversation. It occurs between participants at the same time, although not necessarily in the same place.

### Limitations of the Study

The following were recognized as limitations of this study:

1. The study was limited to Class B LPGA T & CP members who were eligible to take the Class A written evaluation between September, 2005 and November, 2005.
2. The study was limited to 30 Class B LPGA T & CP members who were first time test takers for the Class A written evaluation.
3. The sample size was limited by the number of students volunteering to participate.
4. Generalizations are limited to Class A LPGA T & CP first time test takers.

## Assumptions of the Study

The following were recognized as assumptions of this study:

1. The participants of this study completed the online review session and activities designed for the LPGA T & CP Class A written evaluation.
2. The participants of this study possessed sufficient computer proficiency for effective class participation.
3. The participants tested for the LPGA T & CP Class A written between September 25, 2005 and November 13, 2005.
4. The participants in the LPGA T & CP online review session were not substantially different from Class A LPGA T & CP first time test takers who did not participate in the online review session.
5. The instructor of the LPGA T & CP online review session had the knowledge necessary to guide the online review session.

## Contributions of the Study

The present study had at least three areas of potential significance for the LPGA T & CP Membership; personal and professional growth, reduction in financial expenditures and loss of income, and increased collaboration efforts among members.

Personal and professional growth opportunities are possible with online education. An increase in LPGA T & CP members achieving Class A status, for example, will not only bring exposure to the LPGA T & CP Membership but potentially

open pathways to more elite job opportunities. This, in turn, will hopefully correlate to increased financial rewards for the members as well as job security.

Attendance at educational seminars can be costly due to travel related expenses and potential loss of income during such absence. Flexibility in learning times coupled with lack of travel would reduce interferences related to work and family obligations. Travel expenses and time away from work would be eliminated.

Finally, the LPGA T & CP members are scattered throughout the country. Distance and time zone variations between members may decrease collaboration and interactivity among members. Online education and asynchronous communication modalities may overcome such time and place constraints.

## CHAPTER 2

### REVIEW OF LITERATURE

The purpose of this study was to determine if the LPGA T & CP Membership online review session impacted academic performance on the LPGA Class A written examination. There had never been a study conducted pertaining to academic performances of the LPGA T & CP Membership. Thus, the review of literature focuses on variables known to influence academic performances. Such research will aid in the development and implementation of the online review session. The first section of the review of literature addresses the review session contents as related to academic performance. The following influences on academic performance are addressed: effectiveness, communication, learner-responsibility, self-evaluation, discussion postings, and practice tests. The second section of the review of literature addresses the student characteristics that may influence academic performance such as self-efficacy, attributions, and self-regulatory activities.

#### Review Session and Academic Performance

##### *Effectiveness*

Distance education gained popularity, due in part, to its academic effectiveness. Pedagogy, according to Markel (1999), should not have to be compromised based upon instruction mode. Various educational fields have studied the effectiveness of distance education and can be referenced for the development of the LPGA T & CP online review session. Spooner, Jordan, Algozzine, and Spooner (1999) focused on creating practical

and productive personnel preparation programs for the special education field. Lack of direct contact between participants in a distance education format was one concern. Results, however, indicated no cognitive difference between the distance education and traditional class participants. Mann, Henderson, and Guffy (2002) also focused on the special education field. They felt traditional teacher preparation programs could not effectively and efficiently produce enough educators to meet the growing needs of qualified special education educators. Their project delivered Internet-based professional development and special education courses to students as an alternative certification program. Results indicated alternative certification program students scored higher competency ratings than their FtF counterpart. Steinweg, Davis, and Thomson (2005) reported no significant difference in academic results between online and face-to-face venues for an introductory special education course.

Dellana, Collins, and West (2000) compared the effectiveness of a virtual undergraduate management science classroom and its FtF counterpart. Components of the Dellana et al. (2000) study were similar to the design of the proposed LPGA T & CP online review session; exams were given in a physical classroom setting to ensure academic integrity, a threaded discussion provided collaboration on specified topics, and email was an optional source of communication between classmates. There were no differences in academic performance between the two modalities. Buzhardt and Semb (2005) compared academic performances between students using online study guides versus students using pen and paper study guides. Results from this college classroom study indicated students using online study guides reported higher satisfaction but did not differ in academic performance. Contrary to the Buzhardt and Semb (2005) study's



satisfaction level, however, Allen et al. (2002) reported a lower level of satisfaction with distance education classes when compared to its FtF counterpart. Allen et al. (2002) expressed concern that low satisfaction could influence completion and/or drop out rates.

One of the major barriers the LPGA T & CP Membership faces is their widespread location throughout the country, making in person attendance to seminars challenging. Fortunately, online educational environments can close the distance gap and be a social space where a community of learners congregate and participate in a shared learning environment. Knowledge building results when learners interact with their peers, collaborate, discuss their ideas, form arguments and negotiate meaning (Harasim, 1996). Fullan (2000) contended there is a ceiling effect as to how much we can learn if we keep to ourselves. Glahn and Gen (2002) identified research showing students who engage in collaborative learning and group study perform better academically, persist longer, improve communication skills, feel better about their educational experience, and have advanced self-esteem (p. 782).

### *Communication*

Communication is vital in distance education as the traditional face-to-face contact is either minimal or absent. Thus, instructors need to develop deliberate communication strategies for enhancing interactions. Important to online education, and a responsibility of the instructor, is the interaction between learner and instructor, learner and learner, and between the learner and content (Boaz, 1999). Creating a non-threatening learning environment will enhance approachability and interaction among all parties (Dillon & Walsh, 1992). Unity among classmates generally produces high quality

results and should be facilitated (Boaz, 1999). Learner-to-learner interactions, however, are quite different in online environments as compared to traditional classroom settings. Whiteneck (2004) stresses the importance of respect towards one another in online communications.

Asynchronous communication is an option for online formats and chosen for the present study. Asynchronous communication allows students a choice of when they participate in online learning, allows the student time to reflect on postings, and affords the student an opportunity to respond to each discussion topic. Such benefits are not common in FtF settings. Self-reflection, according to Bandura (1986), enables people to make sense of their experiences, engage in self-evaluation, and recognize self-beliefs. A benefit of online assessment is that learners have the ability to respond to every question/issue the instructor generates (Robles & Braathen, 2002). The asynchronous format of communication will benefit LPGA T & CP members who are located in different time zones with varying personal and professional responsibilities. Allen et al. (2004) found no significant difference in academic performance between synchronous and asynchronous technology.

### *Learner-Responsibility*

Online education typically offers learners more control over their study level, involvement, and time on task. Such benefits allow for professional and career development while juggling responsibilities between family and work. Williams, Goldstein, and Goldstein (2002), however, noted that minority and adult populations are at a greater risk of underachieving than traditionally-aged students because they most

likely have external responsibilities. Thus, it would seem reasonable that distance education for non-traditional populations need sound study habits and good time management skills to succeed in the learner-controlled environment. Additionally, it would be improbable to assume that online education results in success for every student who engages in such modality. Brown (2001) found that employees did not wisely control their learning time commitment. Learners skipped vital practice areas critical for building understanding of the material. Learners also moved quickly through training, possibly to return to personal or professional obligations. Results indicated that some of the lowest academic performers completed less than 70% of the recommended practice and spent less than 50% of the recommended time commitment.

Assessment is important in any learning environment. However, the LPGA T & CP online review session will not award a grade to the participants nor will the student receive a pass/fail assessment. Assessment in the LPGA T & CP online review session will be learner-generated throughout the course. Self-evaluation, discussion, and practice tests were components of the present online review session and served the learner assessment. Each has been linked to academic performance.

### *Self-Evaluation*

A self-evaluation form, filled out by the participants during the LPGA T & CP online review session, included submission of goals, expectations and concerns, and personal study strategies to enhance their academic success. Schunk (1991) reported that self-evaluation of one's learning progress enhances a student's self-efficacy and motivation to continue working on the task.

### *Discussion Postings*

Discussion postings for the present study were developed to incorporate topics of time management, study tips, and Class A written test course-related content. Tuckman (2002) used a hybrid instructional model combining web-based and FtF instruction, similar to the proposed study. The participating LPGA T & CP members had FtF instruction for course content and voluntarily participated in the online review session. Tuckman (2002) was encouraged that online education requires students to perform, rather than just listen. In addition, Tuckman (2002) favored the frequent assessments and feedback common for online education. Results from his 10-week course showed students achieved a higher grade point average using the hybrid format and reported more student involvement in the learning process.

### *Practice Quizzes*

Practice quizzes, the third component of the LPGA T & CP Membership online review session, helped students critique their knowledge of content while previewing how exam questions may be presented. Shuey (2002) characterized this type of assessment as selected response. Selected response questions are the easiest to have graded electronically and provides immediate performance feedback to the learner. Carlson (1987) reported that similarity of test questions between field and real tests aid in predicting performances on certification exams. Practice tests have also been shown to positively influence academic outcomes. Glenberg et al. (1987) found practice tests

improved college students' accuracy of predicting their future performance on similar tests. They concluded practice tests increase self-assessment accuracy and may influence future study habits to improve the test taker's subsequent test performance. Balch (1998) studied the performances of students in a college psychology class who were given both a practice test and answers to assess their comprehension of material. There were significant improvements on standardized test performance. In addition, students commented that the practice exam was very helpful in final exam preparation and helped motivate them to adjust their studying. Dihoff et al. (2004) found academic performances on examinations were elevated due to the immediate feedback on practice tests.

According to Schunk (1983), oral or written feedback links performance outcomes with effort. Likewise, effort can positively impact motivation (Weiner, 1985). But simply engaging in test preparation activities does not always guarantee increased academic performances. Scholes and Lain (1997) researched ACT assessment scores and test preparation. They discovered practice tests showed only a small impact on improved academic performance. In addition, test anxiety may be a contributor to lower than expected academic performance. Burns (2004) defined test anxiety as "the set of phenomenological, physiological, and behavioral responses that accompany concern about possible negative consequences or failure on an exam or similar evaluative situation (p. 119).

## Student Characteristics and Academic Performance

The second part of the literature review, as noted previously, relates to student characteristics that may influence academic performance. Self-efficacy, attributions, and self-regulatory activities is addressed. Implementation strategies and the change process are also discussed.

### *Self-Efficacy*

Self-efficacy, as defined by Bandura (1997), is a person's belief in his or her capability of being successful. Graham and Weiner (1996) concluded self-efficacy is a consistent predictor of behavioral outcomes, especially for psychology and education settings. Furthermore, they stated that it is not how capable a person is, rather, how capable a person believes one could be. Kitsantas (2002) reports that high efficacious individuals are more likely to set goals, self-monitor, and persist in face of difficulties than those with self-doubt.

Research on Social Cognitive Theory of career choice and development link the impact of self-efficacy beliefs on decisional behavior. Bandura and Locke (2003) found persons with high-perceived self-efficacy for fulfilling educational requirements and/or occupational roles explore a wide range of career options, have a great interest in their career, have an increased desire to prepare educationally, and pursue mastery of educational requirements. However, Keogh and French (2001) state that in a test-conscious environment, individuals are affected greatly by their test performance. Tests

determine whether the student retakes courses, graduate, gain future employment, or go on for further education.

Academic self-efficacy refers to subjective convictions that one can successfully carry out academic tasks at designated levels (Schunk, 1991). A student's present academic knowledge may have influenced their optional participation in the LPGA T & CP Membership online review session. Lee and Witta (2001) found self-efficacy of both course content and technology use. Interestingly, Lee and Witta (2001) found that students who were not efficacious with online technologies performed better than those who were efficacious. Dellana et al. (2000), however, found no significant difference in academic performances based on the student's initial computer proficiency. According to Bandura and Locke (2003), a person has the power to produce desired effects; otherwise, one has little incentive to act or persevere in the face of difficulty.

### *Attributions*

Attributions such as ability, effort, and task difficulty can affect expectations and behaviors (Weiner, 1985). People who succeed at a task and continue to work hard are likely to expect future success and be motivated to expand the effort (Schunk, 2003). Completion of a structured review session, thus, may increase self-efficacy. Cheung and Kan (2002) studied an online business communication course and reported academic performance correlated to tutorial attendance. Mann, Henderson, and Guffy (2002), under the direction of the Division of Education at West Texas A & M University in 2001, reported Internet courses were well conceived but rigorous. Students completing

the technology-based courses reported they had never worked harder and had never learned more content.

### *Self-regulation*

The distance learner faces challenges apart from traditional face-to-face classroom learners. The learner must accept that they are responsible for their learning. Hardy (1999) discusses characteristics that will enhance a learner's success in online education. Online students should demonstrate focus and time management skills. Students should be able to work both independently and collaboratively with classmates. Students should be motivated to succeed and possess the skills and abilities to engage in self-regulated learning strategies. Zimmerman (2001) identified self-regulated learners as a metacognitively, cognitively, motivationally, and behaviorally active participant in their own learning process to improve their academic achievement (p. 5). Self-regulated learners set goals, self-monitor and evaluate their progress consistently, approach tasks with diligence and complete them on time, and report high motivational beliefs (Zimmerman, 2000, Zimmerman & Kitsantas, 1999). Kitsantas (2002) found the successful students in a college psychology class used self-regulatory processes and strategies to prepare for examinations.

Goal setting is an integral part of self-regulation and was also a part of the self-assessment exercise in the online review session for the LPGA T & CP Membership. Achievement motivation can be understood in terms of the different goals individuals bring to the achievement context (Elliott & Dweck, 1988). Goal orientation theory (Dweck, 1986) has been used in training settings to promote outcomes such as learning,



self-efficacy, skill retention, and generalization, and to help employees better deal with complex work situations. Locke and Latham (1984) stated work-related goals improved persistence, intensity, and direction. To do so, however, goals must be committed to, employees must receive feedback on their progress, and the goals must be challenging and specific to motivate increased performance. In the original goal models, two classes of goals were identified; performance goals and learning goals. Performance goals “seek to gain favorable judgments of their competence or avoid negative judgments of their competence (Dweck, 1986, p. 1040). Pintrich (2000) states that students with mastery goals exhibit higher levels of efficacy, assignment value, interest, and positive effect. Thompson et. al (2002) found self efficacy and practice should be positively correlated for performance-oriented learners. Learning goals “seek to increase competence, to understand, or to master something new” (Dweck, 1986, p. 1040). Locke and Latham (1990) state that allowing students to set learning goals can enhance their commitment to attaining them, which is necessary for goals to affect performance. Students facing the same educational goal, however, may express different views on the task difficulty, reasons for engaging in learning, and beliefs regarding causes of success (Dweck, 1986, Farr et al., 1993).

### *Implementation Strategies and the Change Process*

Various influences on academic performance have been reviewed as they relate to online education, and more specifically, to an online review session. Two additional variables may also influence academic performance; implementation of the online review session and understanding the change process. The following literature review on

implementation strategies and the change process will be instrumental for the development of the inaugural online education program for the LPGA T & CP Membership.

Motivation, according to McLaughlin (1991), is key to successful implementation. McLaughlin and Berman (1997) concluded that the best educational products in unmotivated hands are unlikely to fulfill their promise.

Implementation strategies should focus on engaging, not overwhelming, the online learner. It cannot be assumed that all learners have acquired appropriate learning strategies for online learning. Most, if not all, learning occurs independent of the instructor in online educational environments. Cognitive load should be referenced when producing the curriculum and implementation strategies for the LPGA T & CP Membership online review session. Hedberg, Harper, and Brown (1993) identified cognitive load strategies in online environments; learners must be able to locate the online information and corresponding tools, identify where all is stored, and how to retrieve and navigate material as well as how to acquire technical services. The ultimate goal of the curriculum and subsequent implementation, thus, should be for the working memory to absorb relevant information for long-term storage, reduce the chance of cognitive overload, and minimize the technological distractions.

Manner (2003) offered suggestions to enhance student successes in online education. One method is to require students to post a brief background about themselves. This module will not only offer introductions of online classmates but may also enlighten the instructor as to the student's motivations for enrolling in the class. In addition, and sometimes unknowingly, the student discloses potential barriers to their

success. Fears are common in online classes and if expressed, the instructor can appropriately tend to them. An instructor can also enhance mastery of on-line navigation by introducing new assignments with varying capacities. Before long, students have become more comfortable with the course protocols and tools, thus, increasing their chance for successful completion of their online class. Lastly, students need to be reminded that technical issues may arise and are solvable but deadlines and timetables are the student's responsibility.

The implementation of the online review session for the LPGA T & CP Membership will create a change atmosphere among participants. Fullan (2002) believes that a change leader should exhibit an understanding of the change processes, have the ability to build relationships, and help facilitate the sharing of knowledge. Building relationships and professional learning communities are essential to foster this process (Fullan, 1996).

Fullan (2000) lists motivation as a key variable attributing to successful change efforts. Unfortunately, there is no ready-made model of change and no shortcut to success (Fullan & Watson, 2000). Change is hard work, intellectually and emotionally. Each participant will learn, express, and react differently to online education. Change is a journey and cannot be accurately forecasted. As previously mentioned, motivation is key to ignite the implementation process (McLaughlin, 1991) but the participant's commitment level will sustain the change.

## CHAPTER 3

### METHODOLOGY

#### Introduction

The following describes the methodology that was utilized for the present study. The population, procedures, data collection, and data analysis are outlined.

The purpose of this study was to examine the impact of an online review session on academic performance for the LPGA T & CP Membership. The research question for this study was:

Will the participation in an online review session, designed for the LGPA T & CP Class A written evaluation, significantly increase the Class A written evaluation pass rate as compared to the pass rate of test takers with no intervention?

#### Study Population and Sample Selection

This study was conducted between July, 2005 and November, 2005. There were forty-six LPGA T & CP Class B members eligible for the Class A written evaluation between September 25, 2005 and November 13, 2005. Eligibility for the present study's Class A testing included the completion of a two year cycle as a Class B LPGA T & CP member, completion of all educational requirements in such time period, must be a first time test taker, and have "active" membership status.

The online review session for the Class A evaluation had maximum enrollment of thirty participants. The Senior Certification Coordinator of the LPGA T & CP Membership identified and notified the forty-six eligible Class B LPGA T & CP

members about the online review session. Each eligible Class B LPGA T & CP member was informed that participation in the online review session was voluntary, self-paced, and was designed with an 8-week timeline. The sample for this study was determined on a first come, first serve basis and were registered by the Senior Certification Coordinator of the LPGA T & CP Membership. Each participant was informed that they must sign up and take the Class A written evaluation on September 25, October 30, or November 13, 2005. A total of twenty-seven Class B LPGA T & CP members registered for the online review session, however, only twenty-two logged into the online review session.

### Procedure

Each participant of the LPGA T & CP Class A online review session received an e-mail from the Senior Certification Coordinator of the LPGA T & CP Membership prior to the start date of the online review session. The e-mail outlined the purpose, course content, and login procedures for the online review session.

The online review session consisted of eight lessons. The first lesson included an orientation to the eight week review session, suggested timeline, a self evaluation, and a discussion thread composed of participant introductions. Each lesson, thereafter, highlighted a topic of review for the LPGA T & CP Class A written evaluation. Each lesson also listed major topic areas and related reference material. In addition, each lesson requested participation in an asynchronous discussion format and the completion of an online quiz. The lesson topics included overview of the LPGA, communication, swing model, club fitting, motor learning and control research, and expert teaching. The

review session concluded its eighth week with a wrap up session asking for the participant's general comments about their online review session experience.

### Data Collection

The Senior Certification Coordinator of the LPGA T & CP Membership provided to the researcher of this study whether each online review session participant was successful or unsuccessful in passing the LPGA T & CP Class A written evaluation. The Senior Certification Coordinator of the LPGA T & CP Membership also provided to the researcher of this study the pass percentage rate on the Class A written evaluation of test takers with no intervention.

### Data Analysis

A test of proportions was utilized for this study (Hinkle, Wiersma, & Jurs, 1998). The experimental treatment group consisted of the thirteen LPGA T & CP members who participated in the online review session for the Class A written evaluation. The control group was the forty-nine LPGA T & CP Class A test takers who did not receive educational intervention. The test of proportions determined if there was a difference between the pass percentage rate of the Class A first time test takers who participated in the online review session and the pass percentage rate of the Class A first time test takers who did not receive intervention.

## CHAPTER 4

### RESULTS

The purpose of this study was to determine if the LPGA T & CP Membership online review session impacted academic performance on the LPGA T & CP Class A written evaluation. The research question associated with the present study was: will the participation in an online review session, designed for the LPGA T & CP Class A written evaluation, significantly increase the Class A written evaluation pass rate when compared to the pass rate of test takers with no intervention?

The study was conducted between July and November, 2005. Eligibility for participation in the present study was determined by the completion of a two-year cycle as a Class B LPGA T & CP professional and the completion of related educational requirements. In addition, a participant in this study must be an active member of the LPGA T & CP Membership, must be a first time test taker, and must test for the LPGA T & CP Class A written evaluation on September 25, October 30, or November 13, 2005.

Forty-six LPGA T & CP Class B professionals were eligible to participate in the online review session. Twenty-seven of the eligible forty-six LPGA T & CP professionals registered for the online review session (59%). Twenty-two of the twenty-seven registered LPGA T & CP professionals logged in at least once during the eight-week online review session (81%). Sixteen of the twenty-two LPGA T & CP members who logged in at least once (73%) tested September 25, October 30, or November 13, 2005. See Table 1.

**Table 1**  
**Summary of Eligible Participants**  
**LPGA T & CP Class A Online Review Session**

	Actual	Potential # of Participants	% of Total
Eligible Participants		46	
Registered for Online Review Session	27	46	59%
Logged Into Online Review Session	22	27	81%
Tested For Class A Written Evaluation	16	22	73%
Participated in Online Review Session and Tested for Class A Written Evaluation	13	16	81%

The purpose of this study, as indicated, was to determine if the online review session impacted academic performance. The research question was to determine if participation in an online review session would increase pass rate percentages on the LPGA T & CP Class A written evaluation. Three of the sixteen online review session participants, all of whom tested on September 25, October 30, or November 13, did not participate in the six discussion postings and had only partial participation in the six practice quizzes. The pass percentage rate of the sixteen participants who initially logged into the online review session and tested was 50%. However, for the purpose of determining if participation in the online review would increase the pass rate percentage when compared to the 2005 first time test takers who did not receive intervention, the results of the thirteen LPGA T & CP members who participated in discussions and practice quizzes were used for analysis and discussion. The results of the three LPGA T & CP members who did not participate in the discussion postings and had only partial participation in the practice quizzes, previously identified, were included in the results of the first time test takers who did not receive intervention. Thus, the pass rate of the



thirteen online review session participants was compared to the pass rate of the forty-nine first time test takers in 2005 who did not receive educational intervention.

The Class A written evaluation consisted of 100 questions. A score of 80 or higher indicated a successful pass completion score. Test scores for the thirteen online review session participants and the forty-nine first time test takers who did not receive intervention are summarized in Table 2.

**Table 2**  
**LPGA T & CP Class A Written Evaluation**

	Mean Test Score	Sd	Passed Successfully	Unsuccessful in Passing	Total Test Takers	% Passed
Review Session	80.8	4.9	8	5	13	62%
No Educational Intervention	78.1	7.9	23	26	49	47%

\* 100 Questions

\*\* Score of 80+ indicates successful completion of written evaluation

Eight of the thirteen participants from the online review session (62%) were successful in passing the LPGA T & CP Class A written evaluation. Twenty-three of the forty-nine first time test takers in 2005 who did not receive educational intervention (47%) successfully passed the LPGA T & CP Class A written evaluation. A test of proportions of independent samples (Hinkle, Wiersma, & Jurs, 1998) determined there was not a statistically significant increase ( $z=.94, p>.05$ ) in the pass percentage rate of the online review session participants (62%) when compared to the pass percentage rate of the test takers who did not receive educational intervention (47%). Thus, participation in the online review session did not significantly increase the pass rate percentage on the LPGA T & CP Class A written evaluation.

## CHAPTER FIVE

### FINDINGS, IMPLICATIONS, AND RECOMMENDATIONS

The purpose of this study was to determine if the LPGA T & CP Membership online review session impacted academic performance on the LPGA Class A written evaluation. The research question associated with the present study was: will the participation in an online review session, designed for the LPGA T & CP Class A written evaluation, significantly increase the Class A written evaluation pass rate when compared to the pass rate of test takers with no educational intervention?

The pass percentage rate of participants from the present study (62%) was not significantly higher than the pass percentage rate of first time test takers who did not receive educational intervention (47%). Possible reasons for the lack of a significant increase in pass rate percentage may be the small sample size, low participation level during the eight-week online review session, and the time lapse between the participant's attendance at a National Education Program (NEP) seminar and their Class A written evaluation test date.

Twenty-seven of forty-six eligible LPGA T & CP members signed up to participate in the online review session, twenty-two logged in at least once, and thirteen actively participated and tested for the Class A written evaluation, a requirement for the present study. The resulting small number of voluntary participants and lack of significant increase in pass rate percentage seemingly supports McLaughlin and Berman's (1997) claim that the best educational products in unmotivated hands are unlikely to fulfill its promise.

The present study's online review session incorporated self-regulatory variables known to improve academic performance; self-evaluations, discussion postings, and practice tests. A self-evaluation was recommended at the beginning and at the end of the online review session. The self-evaluation at the beginning of the eight-week session requested participants to share their expectations, goals, fears and/or concerns for the online review session. The self-evaluation at the end of the eight-week online review session requested reflection on their online review session experience. Research has shown that self evaluation activities positively influence academic pursuits (Bandura & Locke, 2003, Schunk, 1991, Zimmerman & Kitsantas, 1991). All participants submitted a self-evaluation at the beginning of the online review session; however, only four of the thirteen participants submitted their final self-evaluation exercise. Two final self-evaluations were submitted by successful test takers, and two were submitted by unsuccessful test takers. The following claim appears related to such findings. Motivation is key to ignite the implementation process but the participant's commitment level will sustain the change (McLaughlin, 1991).

The present study also included discussion postings, as mentioned previously as a self-regulatory activity shown to improve academic performance. Discussion postings in the present study incorporated topics of time management, study tips, and specific LPGA T & CP Class A written test course-related content. Online education, as discussed in the literature review, typically offers learners more control over their study level, involvement, and time on task. Minority and adult populations, reflective of the sample in the present study, have external responsibilities and are at a greater risk of underachievement (William, Goldstein, and Goldstein, 2002). Unfortunately, but a

possible explanation for some participants not successfully passing the Class A written evaluation, may be consistent with William, Goldstein, and Goldstein (2002) and Brown (2001). Brown (2001) found learners skipped vital practice areas critical for building understanding of the material, moved quickly through training, and completed less than 70% of the recommended practice. Findings from the present study discovered that, of the five participants who were not successful in passing the Class A written evaluation, three participated in only 20% of the discussion postings and two participated in 50%. Furthermore, two of the participants who were unsuccessful at passing the Class A written evaluation were two points shy of a passing score, and one participant was one point shy of achieving a passing score.

Schunk (2003) found people who work hard and expand effort are likely to expect future success. There is no shortcut to success (Fullan & Watson, 2000) as shown in the present study by the unsuccessful test takers a posting low number of discussion postings. Participants successful with the LPGA T & CP Class A written evaluation, conversely, recorded more discussion postings than the unsuccessful test takers. Results from the present study indicated one successful test taker posted 86%, three posted 75%, two posted 50%, and two posted 38% of the recommended discussion postings.

Participants in the present study were also offered practice tests, another self-regulatory activity known to improve academic performance, after each unit of study. Research has indicated practice tests positively impact academic performances (Glenberg et al., 1987, Balch, 1998, Zimmerman, 2000, Dihoff et. al., 2004). Participants in the present study completed 90% of the practice tests. One of the participants who was not successful only completed four of the six practice tests during the online review session,

not allowing for feedback to occur for academic performance assessment. Seven of the eight successful test takers who participated in the present study completed all of the practice tests. Zimmerman (2000) reported feedback from practice tests provided standards of performance and subsequently motivated students to invest additional time, effort, and potential strategy refinement to achieve academic success. The present study's findings, however, were statistically consistent with Scholes and Lain (1997) who found test preparation activities showed no significant impact on academic performance.

Finally, an LPGA T & CP member may experience a gap of time between their final National Education Program seminar and their date of testing for the Class A written evaluation. The NEP provides valuable test preparatory materials for the Class A written evaluation. Specht and Sandlin (1991), Gillham (1999), and Rohrer et.al. (2005) found time lapses of six weeks, four months, and nine weeks, respectively, influenced academic performance. The participants in the present study also encountered time lapses between their last educational seminar attendance and their Class A written evaluation test date. The participants in the present study who were unsuccessful at passing the Class A written evaluation experienced an average time lapse of eleven months before testing. Test preparation activities, outside of their recorded participation during the online review session, were not studied. First time Class A test takers who did not receive educational intervention averaged a fifteen month gap between their seminar attendance and national test date. Test preparation activities during this recorded time lapse were also not studied.

## Implications

There are boundless opportunities to enhance career and educational opportunities for the LPGA T & CP Membership with the rise in technological resources. The present study focused solely on Class A written evaluation test preparation. Personal and professional growth opportunities, however, are endless. The results from the present study, although not statistically significant in reference to pass rate percentages, provided several implications for the future of online education for the LPGA T & CP Membership. These implications are involvement, impact on academic performance, learner responsibilities, and educational timelines.

The small sample size contributed to the lack of significant increase in pass rate percentages on the Class A written evaluation. Time parameters for the present study restricted the number of eligible participants for the online review session. In addition, the online review session in the present study was the inaugural online educational seminar for the LPGA T & CP Membership, another possible contributor to the small sample size. Enrollments will likely increase as future online education opportunities become available. Creating a successful change atmosphere will be imperative to the success and growth of online offerings to the LPGA T & CP Membership. Fullan (2002) found building relationships and professional learning communities are essential in creating a successful change atmosphere.

Academic performance in the LPGA T & CP Membership is assessed through written evaluations. The purpose of the present study was to determine if pass rate

percentages would increase from the participation in an online review session. Results determined there was no significant increase in pass rate percentages. Importantly, however, pass rate percentage and average test scores were higher for online review session participants as compared to the same for test takers not receiving educational intervention. Additionally, the online review session participants who did not successfully pass the Class A written evaluation missed the passing score, on average, by a smaller number of points when compared to the number of points associated with those not receiving intervention. In other words, the online review session participants missed a passing score on average by 4 points, and test takers not receiving intervention missed a passing score on average by 7.6 points.

The review session included learner-generated assessments. Discussion postings reflected content and the practice quizzes resembled style and substance of the Class A written evaluation. The present study resulted in an unexpected, but critical, finding; low levels of participation during the eight-week online review session. The purpose of the online review session was to determine if participation would increase pass percentage rates on the Class A written evaluation. Minimal participation inhibited a true assessment of the impact on academic performance from the online review session.

Findings from the present study revealed lengthy time lapses between formalized instruction and testing. Time lapses have shown, as indicated previously, to influence academic performance. Online review sessions will shorten such time interval without incurring travel expenses and loss of income. Online technologies can also provide endless opportunities for personal and professional advancement coupled with the collaboration between peers and industry experts.

## Recommendations for Further Research

Several recommendations for further research have resulted from the findings of the present study. First, the sample size for the present study was small. The present study should be replicated with the following changes to increase sample size. The present study had only three national test dates to choose from. Expanding the test date opportunities would likely increase the number of eligible participants. Future studies should also allow all test takers an opportunity to participate in the online review session. Results from the 2005 LPGA T & CP Class A written evaluations indicated a 36% pass rate for second attempts, a 14% pass rate for third attempts, and an 8% pass rate for all others, indicators that academic performances could be improved. The above guidelines should be offered to the Class B and Apprentice written evaluation test takers as well.

Secondly, an exciting number of LPGA T & CP members registered for the present study, but only 48% of the registered participants logged in, participated, and tested for the Class A written evaluation. Reasons for attrition rates, if such would occur in the future, should be defined and analyzed.

Thirdly, the present study's findings discovered low participation throughout the eight-week online review session. Recommendations for future online review sessions should include a required number of postings and replies during the discussion component and a minimum recorded proficiency on practice quizzes prior to the participant's advancement to the next unit of study.



A fourth recommendation for future research should study pass rates of the varying time gaps between the NEP seminars and testing. Such findings may influence a member's date selection for the required NEP seminars and written evaluation.

Finally, 77% of the online review session participants in the present study expressed procrastination tendencies. Tuckman (1998), focused on procrastination and incentive motivation, found that spot quizzes motivated procrastinators to study continually over the course, increased recall and understanding of information, and resulted in higher academic performances when compared to students who only completed chapter outlines for study. Recommendations for further research involving required participation levels and practice quiz proficiencies should offer additional structure for participants who classify themselves as procrastinators.

The present study provided a strong foundation for improving pass rate percentages and academic performances of the LPGA T & CP Membership. Findings resulted in a 15% increase in pass rate percentage, a higher average test score for participants, and fewer points shy of a passing score by unsuccessful test takers. The recommendations discussed would be complimentary to the present study and influential to future academic performances on LPGA T & CP written evaluations.

APPENDIX A

LESSON 1: ORIENTATION

## **Class Timeline**

July 25-July 31, 2005 Lesson 1: Introduction/Orientation/Get to know  
August 1-August 7, 2005 Lesson 2: About the LPGA  
August 8-August 14, 2005 Lesson 3: Communication  
August 15-August 21, 2005 Lesson 4: LPGA Student-Centered Swing Model  
August 22-August 28, 2005 Lesson 5: Club Fitting  
August 29-September 4, 2005 Lesson 6: Motor Learning and Control Research  
September 5-September 11, 2005 Lesson 7: Expert Teaching/Program and  
Management Principles  
September 12-September 18, 2005 Lesson 8: Wrap up

## **Class Login in Procedures**

Go to Website address <http://reach.ucf.edu/~lpga2005a>  
From the left-hand menu, click **Class Login**  
Enter your **WebCT ID**  
Enter your **Password**  
Click **Log In**  
This will bring you to the **WebCT Home Page**

## **Orientation to online review session**

APPENDIX B

LESSON 2: ABOUT THE LPGA

This section focuses on general information about the LPGGA and its history.

**Reference Material:**

*LPGA Member Guide*

**Objectives:**

Upon completion of the About the LPGGA Session, students should:

1. Understand the history of the LPGGA
2. Identify founding members of the LPGGA
3. Understand Member obligations and eligibility requirements
4. Understand management responsibility
5. Identify programs associated with the LPGGA
6. Identify proper usage of the LPGGA Logo

Lesson 2.1 - Review the history of the LPGGA and identify founding members

Lesson 2.2 - Review Member obligations, classifications, and eligibility requirements

Lesson 2.3 - Review management responsibilities

Lesson 2.4 - Review and identify programs associated with the LPGGA

Lesson 2.5 - Understand the proper usage of the LPGGA logo

Lesson 2.6 - Proceed to Discussion Question

APPENDIX C

LESSON 3: COMMUNICATION

This section focuses on communication between the student and the teacher.

**Reference Material:**

*NEP Series Program Notes, Handouts*  
*NEP Series Program Notes, NEP I – Section 2*  
*NEP Series Program Notes, NEP II – Section 1 & 2*  
*NEP Series Program Notes, NEP III – Section 1*

**Objectives:**

Upon completion of the Communication Study Session, students should:

1. Understand effective communication skills between student and instructor
2. Understand Left and Right Brain Hemispheres
3. Understand Visual, Auditory, and Kinesthetic concepts
4. Identify their personal learning styles
5. Strategize as to how to become an effective communicator with the varying learning styles

Lesson 3.1 - Review “Thorson's Way of NLP” by O’Connor and McDermott (Handout)

Lesson 3.2 - Review “The Way of NLP” by O’Connor and McDermott (Handout)

Lesson 3.3 - Review/Identify examples of daily and golf activities as they relate to left and right brain hemispheres.

Lesson 3.4 - Associate activities, phrases, and other identifiable qualities for Visual, Auditory, and Kinesthetic learners.

Lesson 3.5 - Proceed to Discussion Question

## APPENDIX D

### LESSON 4: LPGA STUDENT-CENTERED SWING MODEL



This section focuses on the following:

1. Laws, Principles, and Preferences and the relating influences
2. Playable Ball Flights
3. Teacher observation positions

**Reference Materials:**

*NEP Series Program Notes Manual, NEP I, Section 3*

*NEP Series Instruction Manual, Section 6*

**Objectives:**

Upon completion of the Student-Centered Swing Model Study Session, students should:

Understand “Laws, Principles and Preferences” as a Student-Centered Model

Understand observation positions using the “Laws, Principles and Preferences”

Understand “compatibility”

Identify effective and efficient motion for golf skills

Lesson 5.1 - Review and Define Laws, Principles and Preferences

Lesson 5.2 - Review the 5 Laws and determine the influence each has on the ball

Lesson 5.3 - Review the 3 Playable Ball Flights

Lesson 5.4 - Review the 14 Principles. Distinguish between Pre-Swing and In-Swing

Identify the influences on each principle

Identify the compatible positions of each Principle for the Playable Ball Flights

Associate each Principle with relating Law(s)

Lesson 5.5 - List Principles associated with “Down the Line” and “Front View” Positions

Lesson 5.6 - Proceed to Discussion Question

APPENDIX E

LESSON 5: CLUB FITTING

This section focuses on the following:

Club fitting variables and procedures  
Development of the teaching/fitting relationship.

**Reference Materials:**

*NEP Series Program Notes Manual*, NEP I – Section 4  
*NEP Series Program Notes Manual*, NEP II – Section 3  
*NEP Series Program Notes Manual*, NEP III – Section 3  
*NEP Series Instruction Manual*, Section 8  
NEP Handouts – Club Length/Lie Angle

**Objectives:**

Upon completion of the Club Fitting study session, students should:

1. Understand the club fitting process and club fitting variables
2. Identify how and why club fitting and teaching are interrelated

Lesson 4.1 - Review how lie angle affects ball flight

Lesson 4.2 - Review hitting tape marks and the resulting ball flight

Lesson 4.3 - Identify effective lie angles when clubs are lengthened or shortened

Lesson 4.4 - Review and understand the club fitting process

Lesson 4.5 - Understand lie angle, shaft flex, loft, club length, grip diameter, etc. and the resulting ball flight effects

Lesson 4.6 - Understand the relationships between "driving club" fitting and swing tempo

Lesson 4.7 - Understand the relationship between weight of the "driving club" and trajectory/flex.

Lesson 4.8 - Review wedge fitting variables and their effects; lie angle, sole, onset/offset

Lesson 4.9 - Review Tommy Armour's Observations of 1953

Lesson 4.10 – Proceed to Discussion Question

## APPENDIX F

### LESSON 6: MOTOR LEARNING AND CONTROL

This section focuses on motor learning concepts as they relate to routines and optimal performances.

**Reference Material:**

*NEP Series Program Notes Manual*, NEP II - Section 8

*NEP Series Program Notes Manual*, NEP II – Section 9

*NEP Series Program Notes Manual*, NEP III – Section 5

*NEP Series Instruction Manual*, Section 4

**Objectives:**

Upon completion of the Motor Learning and Control study session, students should:

1. Understand how to teach routines
2. Identify Pre-shot and Post-shot routines as well as appropriate evaluation systems
3. Understand the basic concepts of motor learning and performance

Lesson 6.1 - Identify types of routines and how to teach routines

Lesson 6.2 - Create a sequence for teaching routines

Lesson 6.3 - Review pre and post shot routines and evaluation systems

Lesson 6.4 - Identify model characteristics for varying ages

Lesson 6.5 – Proceed to discussion question

APPENDIX G

LESSON 7: EXPERT TEACHING &  
PROGRAM AND MANAGEMENT PRINCIPLES

This section focuses on the following:

Characteristics and behaviors of expert teaching

Goal setting

Program and Management Principles as described by Ken Blanchard

**Reference Materials:**

*NEP Series Program Notes Manual*, NEP II, Section 2

*Ken Blanchard's Leadership and the One Minute Manager*

**Objectives:**

Upon completion of this section, students should:

1. Understand the 3 designations and characteristics of becoming an expert teacher
2. Identify steps in the goal setting process
3. Understand Leadership Styles for increased effectiveness

Lesson 7.1 - Identify characteristics/behaviors of New, Competent, and Expert Teachers

Lesson 7.2 - Determine the goal setting process for each golf lesson

Lesson 7.3 - Identify the steps and behaviors in developing teaching expertise

Lesson 7.4 - Review the 4 Basic Leadership Styles

Lesson 7.5 – Proceed to Discussion Question

APPENDIX H

LESSON 8: WRAP-UP



Congratulations! You did it! Please proceed to the discussion area! Further instructions await you.

APPENDIX I  
DISCUSSION POSTING 1

**Subject: Tell us about yourself**

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Message no. 11

Author: JILL FJELSTUL (lpga2005a)

Date: Tuesday, July 12, 2005 12:10pm

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Please share with the group a little bit about yourself. You may want to talk about your personal and/or professional life. And, anything else. This is so we all can get to know one another a little better and begin to build relationships.

Please "reply" to this posting.

APPENDIX J  
DISCUSSION POSTING 2

**Subject: Involvement/Time Management Skills**

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Message no. 13

Author: JILL FJELSTUL (lpga2005a)

Date: Tuesday, July 12, 2005 12:20pm

---

This section has focused on important information from the LPGA Member Guide. You will be tested on that information. For this discussion posting, please consider the following. You may share with the group as to how you have learned this material. You may also share your involvement in the LPGA. Finally, if you really don't know what to write about, how about talking about your time management skills (or lack of) --- what works, what doesn't, and be honest!!!

APPENDIX K  
DISCUSSION POSTING 3

**Subject: Getting to know your student**

---

Message no. 5

Author: JILL FJELSTUL (lpga2005a)

Date: Wednesday, April 27, 2005 10:18pm

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Share with others how good or bad communication skills have impacted a lesson.

APPENDIX L  
DISCUSSION POSTING 4



**Subject: Study Thoughts**

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Message no. 4

Author: JILL FJELSTUL (lpga2005a)

Date: Tuesday, March 8, 2005 12:51pm

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We all learn and retain information differently and with variation.

Please provide for your classmates how you have learned the information relating to the LPGA Student-Centered Swing Model. You can share one example or examples to all parts.

APPENDIX M  
DISCUSSION POSTING 5

**Subject: Club Fitting Experiences**

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Message no. 14

Author: JILL FJELSTUL (lpga2005a)

Date: Tuesday, July 12, 2005 12:24pm

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All of us should have some stories about club fitting. Some good, some bad. Please share with the group a club fitting story and what you learned from the experience. We will each have the opportunity to learn from one another.

APPENDIX N  
DISCUSSION POSTING 6

**Subject: Motor Learning and Control Research**

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Message no. 6

Author: JILL FJELSTUL (lpga2005a)

Date: Wednesday, April 27, 2005 10:33pm

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Describe an idea or thought that relates to any of the topics covered in this unit.

APPENDIX O  
DISCUSSION POSTING 7

**Subject: Leadership**

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**Message no. 7**

**Author:** JILL FJELSTUL (lpga2005a)

**Date:** Wednesday, April 27, 2005 10:51pm

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Describe which of the 4 leadership styles you prefer to operate in.

APPENDIX P  
DISCUSSION POSTING 8



**Subject: Final Thoughts!**

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Message no. 15

Author: JILL FJELSTUL (lpga2005a)

Date: Tuesday, July 12, 2005 12:29pm

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Congratulations! You made it!!! Hopefully you feel better prepared for the Class A exam! Please post thoughts, comments, concerns, etc. as you wrap up your 7-week review.

I'm proud of you all!

APPENDIX Q  
IRB APPROVAL LETTER



Office of Research & Commercialization

August 9, 2005

Jill Fjelstul  
Women's Gold Coach  
University of Central Florida  
Wayne Densch Sports Center  
WDSC2 107  
Orlando, FL 32816-3555

Dear Ms. Fjelstul:

With reference to your protocol #05-2739 entitled, "**The Impact of Online Education on Academic Performance for LPGA Teaching and Club Professionals**" I am enclosing for your records the approved, expedited document of the UCFIRB Form you had submitted to our office. **This study was approved on 7/19/05 and the expiration date will be 7/18/06 which is 365 days from the contingent approval date.** Should there be a need to extend this study, a Continuing Review form must be submitted to the IRB Office for review by the Chairman or full IRB at least one month prior to the expiration date. This is the responsibility of the investigator. **Please notify the IRB office when you have completed this research study.**

Please be advised that this approval is given for one year. Should there be any addendums or administrative changes to the already approved protocol, they must also be submitted to the Board through use of the Addendum/Modification Request form. Changes should not be initiated until written IRB approval is received. Adverse events should be reported to the IRB as they occur.

Should you have any questions, please do not hesitate to call me at 407-823-2901.

Please accept our best wishes for the success of your endeavors.

Cordially,

A handwritten signature in cursive script that reads 'Barbara Ward'.

Barbara Ward, CIM  
IRB Coordinator

Copies: IRB File

BW:bw

12443 Research Parkway • Suite 302 • Orlando, FL 32826-3252 • 407-823-3778 • Fax 407-823-3299  
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