Improving Motivation and Persistence of Online Human Resource Students Through the Use of E-mail Communication: A Study Employing a Single Case Study Design

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ABSTRACT

The purpose of this study was to evaluate the effectiveness of using e-mails to motivate and retain online learners. The study used a single case study design to quantify the number of discussion posts the students selected for the study made. Using ABA design, the researcher observed four students who did not make the discussion posts needed for each week and made an intervention of e-mailing each student at the beginning of each week. The findings resulting from the study showed that the intervention used made a difference in the behavior of students and enabled them to perform better in the virtual class.

INTRODUCTION

Over the past two decades, online learning has emerged as an increasingly popular alternative to traditional classroom instruction for many students and universities (Al-Asfour & Bryant, 2011; Larreamendy-Joerns & Linhardt, 2006; Tallent-Runnels et al., 2006). Not only have higher education institutions been using distance education as a form of delivering education, many companies have also been using the Internet to provide education to their employees. In 2006, a survey of Fortune 500 companies by the American Society of Training and Development (ASTD) found that the percentage of companies who have computer-delivered training programs has increased drastically. According to the study, 60% of these training programs were conducted using e-learning (Rivera & Paradise, 2006). Government agencies are no exception to the practice of employing e-learning. The U.S. military has recognized the importance and flexibility of online learning. This method of learning is utilized by the U.S Department of Defense through the Advanced Distributed Learning Initiative program. The program is intended to provide education and training to more than three million personnel any time of the day and anywhere they are located (Curda & Curda, 2003).

The Sloan Consortium (n.d.) defines a traditional course as one that uses no online technology, which refers to the use of the Internet or any hybrid method of learning. On the other hand, an online course is one in which all of the content of the course is delivered through the use of the Internet (Allen & Seaman, 2008). The use of the Internet was slow in the beginning of the 1990s and later,

within the same decade, had expanded exponentially (Al-Asfour, 2012). In addition, based on a report of 2,500 colleges and universities by Allen and Seaman (2010), it was mentioned that online enrollment had increased significantly. To illustrate this increase, online enrollment has increased from 9.6 percent in 2002 to 25.3 percent in 2008. It is estimated that there were 4.6 million students enrolled in 2008 who were registered for at least one online course. The growth rate for online courses currently exceeds that of face-to-face in higher education (Allen & Seaman, 2010).

Because e-learning has been used in education, business, and government agencies, it is imperative for researchers to investigate all dimensions of this form of learning. More importantly, researchers should examine novel methods of how to motivate e-learners. There are significant challenges when it comes to understanding the reasons for attrition of online learners, among them motivation. Scholars in the field of distance education have indicated a lack of research concerning the motivational needs of students (Gabrielle, 2003). In addition, a need exists for simpler approaches to motivating and retaining online learners (Huett et al.2008). These approaches for motivation should fit within the time restraints of the class and be systematically designed as e-mail messages to communicate to students in a timely manner (Gabrielle 2003; Huett et al., 2008; Keller & Suzuki, 2004).

Research has shown that motivation is an essential component of students' success in distance education and educational providers should be creative in their motivational methods (Crossley & Mubarik, 2002). According

to Koehler and Spatariu (2009) motivation plays a crucial role in promoting quality learning in distance education and it affects online discussion by producing "in-depth posting" (p.195). Thus, in order to provide effective education, the educational institutions should examine and investigate how to motivate and retain distance education students. Because motivation arises from the satisfaction of students, Sloan (n.d.) found when students are satisfied with taking an online course; retention of these students will increase considerably. In addition, students should be viewed as customers of the educational institutions, and their satisfaction is an important factor to the survival of any higher education entity.

Rational of the Study

The role of motivation is frequently overlooked in the area of distance education by educational providers (Koehler & Spatariu, 2009). Educators and educational providers need to become innovative in their motivational methods for their learners. Hence, the researcher chose to use e-mails as a method of increasing enthusiasm and delivering feedback to students who lack motivation in their online course to increase the odds of them accomplishing better results in the course. Koehler and Spatariu (2009) stated that "although some important prior research has investigated students' critical reasoning, it has not focused on a motivational perspective or addressed online contexts sufficiently" (p.198). Online learners perceive that there is a gap of communication and isolation between them and their instructors. Consequently, it is the purpose of this article to enrich the literature by examining the usage of e-mails to target the behavior of lack of motivation in e-learning students.

Traditionally, research in the field of online learning has focused primarily on group comparisons, which are studies comparing online students' attitudes and academic achievements to those of traditional classroom students. Many other studies analyzed e-learning using qualitative research methods. However, the majority of these studies have concluded that there are no statistically significant differences in their various outcomes (Bernard et al., 2004; Zhao, Lei, Yan, Lai, & Tan, 2005). Subsequent to examination of the literature review, it is apparent that there is a paucity of research using a single case study design with online learners. Therefore, the researcher decided to utilize this method of research in this article.

METHOD

Participants and Settings

Four college students, two males and two females, taking an online course titled Human Resource Management (HRM) participated in the study. The selection of these students for participation in the study was based on observation by the instructor and the low grades that these students were earning in their discussion posts. The researcher, who was also the instructor, observed that there was a lack of motivation by these students in their online course. For three weeks, the researcher observed the students' number of discussion posts in order to quantify the number of postings for each week. Students were required to post a minimum of three posts per week. These postings involved answering the question(s) for the week and providing feedback to their classmates. The discussion posts needed to be constructive, informative, and thoughtful to other classmates. In table 1, the researcher summarizes the students' backgrounds and figure 1 shows students' performance for each week during the entire research investigation.

All of the students fit the definition of non-traditional students and were juniors and seniors majoring in business administration. In order to protect the students' identities, the researcher used pseudonyms and, for the purposes of this paper, they will be called Julie, John, Kim, and Scott. Even though these students were considered non-traditional students, they were full time college students. The software that the class used was Blackboard, which allowed the researcher to track the number of times that students logged into the class and the number of posts each student made. Because this was an online

Name	Age	Gender	College Grade	Student Status	Challenging Behavior
Julie	31	Female	Junior	Full-time	Low discussion posts
John	29	Male	Senior	Full-time	Low discussion posts
Kim	25	Female	Senior	Full-time	Low discussion posts
Scott	31	Male	Senior	Full-time	Low discussion posts

TABLE 1
STUDENT CHARACTERISTICS

FIGURE 1
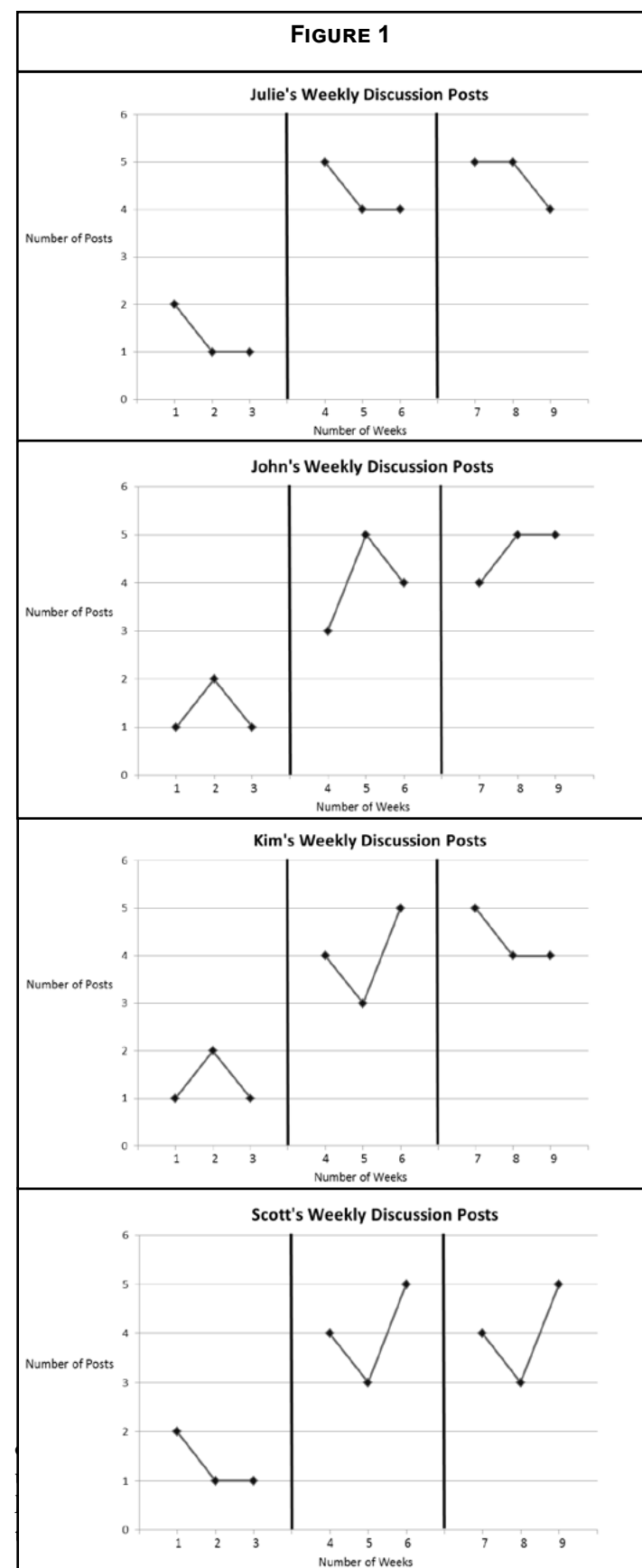
Dependent Measures and Data Collection

The target behavior that the researcher wanted to increase was the number of posts students gave to their classmates. The three posts assigned in the course each week were to consist of one original post composed by each student and two responses to their classmates. The students in this study did not provide the required number of posts. Because of this, the researcher wanted to increase the number of occurrences of the targeted behavior for each of the participants in this study.

Data collection

The researcher collected data throughout the baseline, the intervention, and a second baseline phase after the intervention. Each of these three phases lasted for three weeks. From the time that the data were collected; the researcher logged online and accounted for the number of posts that each of these four students made. Based on one of the requirements for the class, students needed to post discussions that are considered constructive, informative, and thoughtful at a minimum of 150 words per discussion. To further illustrate how the data were collected, the study was divided into three parts; the first part was baseline, which took three weeks for observation of the students and recording of their number of posts; the second was intervention, which took three weeks; and the third was another baseline for three weeks to ensure that the intervention had an effect on the students' behavior.

Observer training

The observer was an online instructor. The observer training consisted of two steps. First, the observer learned the definitions of the target behavior and what the data collection system needed to look like. This included the recording system in order to quantify the number of discussion postings per student. Once the definitions and the method of collecting the data were learned and observed, the observer moved to the second part of the study. The second part of the training process was on the kind of intervention that the researcher would conduct. When all of these processes were learned, the observer began to observe and report of the targeted behavior by each student and report the findings.

Inter-observer agreement

There was only one observer, who was the researcher, so no agreement data were collected. However, if there were other observers, inter-observer agreement data would have been collected throughout the baseline, intervention, and the second baseline, which would be across all of the phases of the research. The independent observers would have collected the data with regard to the number of times the students posted in the weekly discussion threads. The observers would have recorded the observed behavior by each student in the study and attempted to find an intervention that would increase students' motivation, which would accordingly increase their persistence in the class.

Experimental Design and Intervention

An ABA design was used for this study. The design had three phases: baseline, intervention, and baseline. The target behavior identified would be addressed by using e-mail to communicate with students who were not motivated in their online course. The purpose of this study was to increase the number of posts for each student who was identified by the instructor/researcher in this study.

The ABA design was chosen because it allows the researcher to observe the differences the intervention made on the participants. The researcher would be able to observe the phases and the level of change from A, which is the baseline to B, which is the intervention, and going back to A to observe the level of change from the first baseline to second baseline. The researcher believes that the ABA design is a more powerful and useful design than the ABAB design. The reason for this is that when researchers use an ABAB design, the researchers need to repeat the design again or use two interventions, so the true cause of the behavior change might not be accurately recorded or known to the researchers.

The research for this article spanned nine weeks. There were three experimental phases: baseline, intervention, and a return to the baseline. The three weeks for observation took place during the initial baseline, there were three weeks of intervention, and three weeks of baseline in order to observe if the behavior intervention made a change.

Experimental Procedures

Baseline

The researcher observed participants online on a daily basis. Every day, the researcher logged online at night and recorded the time and day that the students participated in the class. This way, the researcher was able to quantify the number of posts in the first week for each of the four students that participated in the study. In this phase, the researcher did not make any contact with the participants who were Julie, John, Kim, and Scott to change their number of posts for each week. What the researcher did in this phase was collect data for the baseline.

Intervention

This phase involved implementing the intervention for three weeks and the action of communicating with each student via e-mail was started. In the beginning of each week in the intervention phase, the researcher sent an e-mail informing students of the importance of participation in the discussions and how their participation weighs heavily in their final grades in the class. In addition, the researcher emphasized that participation in the discussions shows student engagement and dedication to the class. The e-mails were sent to each student separately early on Monday mornings. The instructor predicted that by sending individualized e-mails and keeping an open communication channel between students and their instructors, the motivation to perform well in class would most likely increase and so would their persistence in their online courses. The reinforcement for each week was another individualized e-mail praising the students for their hard work during the week.

Baseline

Following the three week intervention phase, the intervention was withdrawn and the participants were informed that they would not be receiving any more e-mails from the instructor/researcher regarding their online class. The researcher, in the last e-mail encouraged students to maintain their momentum in their course. This baseline lasted for three weeks. The main purpose of this phase was to ensure that there was no contact between the researcher and participants regarding their number of discussion posts in order to confirm that the intervention had an effect on students.

RESULTS

Baseline 1

Figure 1 displays the performance data of each participant. Julie made two posts the first week, and one post for the second and third week. John, on the other hand, started with one post for the first week and then made two posts the second week and made one post for the third week. Kim had the same number of posts as John during the baseline phase. Scott made two posts for the first week and one post for the second and third week. The number of posts for each of them did not exceed the minimum requirement outlined in the syllabus.

Intervention

There was a marked increase in performance of the four participants for this study. During the intervention, Julie made five posts during the first week of the intervention week and maintained four posts in the second and third week of the intervention phase. John made three posts the first week; increased participation to five posts the second week and ended with four posts on the third week of the intervention. Kim's number of posts were four the first week, three posts the second week, and five the third week of intervention. The final participant in this study was Scott who started the intervention phase with four posts the first week, three the second, and five the final week. These results indicate that the intervention changed the students' behavior in the manner desired by the researcher.

Baseline 2

All four students maintained their performance at a level similar to that of the intervention phase. In this stage, the researcher did not make any contact with the students regarding the number of posts. In the first and second week of this phase, Julie made five posts and finished with four posts. During the first week of this phase, John made four posts and then maintained five posts for the second and third week of this phase. Kim made five posts in the first week of this stage, then maintained four posts for the second and third week of this phase. Scott, on the other hand, kept changing. He made four posts the first week. In the second week, he made three posts, and ended the phase with five posts.

Social Validation

Social validation data were obtained from the four participants. When the research was concluded, the researcher and the participants met to review the intervention and give their feedback. Julie and Scott mentioned that during the intervention they felt that the instructor/researcher was trying to stimulate them to become more active in their class. Kim, on the other hand, stated that online learners need the "extra push" from the instructor to keep them motivated and satisfied in order for students' retention to increase. John commented that "your words of encouragement inspired and motivated me to do better in class." All of the participants knew that they needed to do better, but had a difficult time with time management.

Overall, the four participants reported a positive view of the intervention and recommended it for other classes.

DISCUSSION

The purpose of this present investigation was to examine the effects of communicating with e-learners using e-mails to increase their motivation and retention in their online courses. All of the students achieved the required level and maintained their performance for the duration of the intervention and the second baseline. The results showed overwhelmingly that the students responded to the intervention made during the fourth week of the study and the momentum continued during the intervention until week nine. Furthermore, the social validation data obtained from the participants were generally positive. Because there is a paucity of research regarding using e-mail as a tool of motivation and retention of e-learners, this study adds to the growing research literature in this area. In addition, single case study designs have been rarely used in the literature with e-learners and this study contributes to the body of literature for single case designs in the educational research field.

Using the ABA design is significant in that it enabled the researcher to test the effectiveness of the intervention. The researcher counted the number of posts for each of the participants for three consecutive weeks, and then introduced the intervention for another three consecutive weeks. Subsequent to collecting data for six weeks, the researcher followed the study for another three weeks to collect data to observe its effectiveness. It is apparent from the data shown (Figure 1) in the appendix, that the intervention made a difference in all of the participants' behavior. Moreover, the effect of the intervention remained effective on the participants three weeks after the intervention was made. These results confirm the power of communicating with students and indicates that following up with students is a valuable tool to increase their motivation and retention in their courses.

Despite the reported changes, a number of limitations warrant attention. First, given the small number of participants in this study, the findings are specific to those students and the target behavior. The researcher feels that additional research is needed to investigate the effects of the model on other target behaviors and students with various learning and support needs. In particular, multigenerational students might not respond to the intervention equally. Because of this, the researcher recommends reviewing and evaluating each of the three generations: Baby Boomers, Gen Xers, and Gen Yers who are currently students in higher education institutions. Second, generalization data were not collected. This is because the design of the study does not focus on generalization, but rather a

manipulation of a targeted behavior. Windharm (2005) mentioned that online posting is a generational phenomenon by a population that thrives in a social-networking environment and loves to be plugged in all the time.

The third limitation of the study is that no procedural fidelity data were collected. Although social validation was collected from the participants, the inter-observer agreement was not conducted as there was only one researcher for the entire project. Fourth, a further factor in the success of the study could have been that two of the four participants were senior students, which could have incentivized these students to get on track and finish their coursework without the intervention. This is only an assumption; therefore, future research should examine students at all levels within a college setting. Fifth, even though the researcher used ABA design for this study, other researchers should attempt to use other designs in studies such as ABC and other designs. Finally, the reported data suggested communicating with students by e-mail was effective in enhancing their motivation and retention; but this study did not look into the quality of the discussion posts and other variables by each of the participants. Consequently, the researcher recommends further studies using single case study design to focus on different variables of discussion posts such as the quality of student posts and feedback given to one another by students.

We (educators and researchers) must acknowledge that motivating and retaining learners should be a top priority in our educational institutions. Because of its importance, we should investigate new methods of motivating and retaining educational learners in general and more specifically, e-learners. The single case study designs are useful when attempting to change student behavior. Studies such as this one are a testimony to the effectiveness of the single case study designs. In addition, the potential of achieving a researcher's outcome is high, especially when it comes to enhancing learning, retention, and motivation of students.

There is no question that teaching online comes with many challenges in order to create and maintain a productive and caring online classroom environment. This kind of educational environment should engage all students to maximize active collaborative learning and interaction between students with each other and their instructors. It is important that higher education administrators and faculty members reach out to students who might be struggling in their online courses and show interest in students' education. This study attempted a new method of reaching out to those students who were struggling in their HRM online course.

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