Benefits of Using Tested Attendance System to Enhance Student Attendance and Achievement in Higher Education

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1. Introduction

As an education professor, I personally faced some problems in dealing with student attendance in the classes that I taught in one of the universities in Kuwait. Students missed many classes, and/or came late to class. Therefore, I thought a great deal about designing classroom management techniques to encourage students to attend all classes, on time, and at the same time, ensure that if implemented, the faculty used a class roster system that was required by University Administration. Students in our university missed classes for two reasons. First, they knew that they could miss eight classes (absences) in a single course per semester before receiving a grade if they did not miss more than eight classes in a particular course during the semester. Second, there was little motivation beyond failure to have them attend all classes.

I decided to apply two classroom management techniques I have documented with my colleague Dr. Thomas D. Yawkey, in a study entitled Enhancing the Attendance of College-Level Students Based on Classroom Management Techniques (Submitted to KFAS on August 25, 2009, see Al-Shammari & Yawkey, 2009). These two techniques are called Classroom Attendance Management Techniques (CAMTs) and Classroom Attendance Rules (CARs).

2. Some Background

Attendance is a fundamental factor in enhancing student achievement in learning settings (Lai & Chan, 2000; Lin & Chen, 2006; Marburger, 2006). In addition, a positive correlation was found between student attendance and student achievement in higher education classes, in one hand (Lai & Chan, 2000; Nigel, 2007; Al-Shammari & Yawkey, 2009). Also, on the other hand, an inverse relationship exists between absences and achievement according to research by Marburger (2006) in which there was statistical significance in the relationship between a mandatory attendance policy and learning. Similarly, Marburger (2001) discovered that
student absence from college classes increased gradually on Fridays during the semester. In addition, Al-Hamdan (2007) noted a direct impact of classroom management climate on student learning in higher education institution classrooms. Implementing attendance in higher education institution classes, merged within a course requirement, increased student attendance by 13% (Weimer, 2004). Lin and Chen (2006) found that students’ exam performance improved by 4% when attending lectures. Other research studies, Al-Hamdan (2007); Al-Shammari et al. (2009), have indicated the need to use effective classroom management techniques in universities in Kuwait.

Most research studies have not examined the use of classroom management techniques based on attendance system classroom management techniques that are. This report notes the benefits gained through the use of such techniques, examined experimentally in higher education institution classes in Kuwait. Specifically, this study provides faculty instructors and administrators in colleges of education and universities with a significant tool that impacted positively on student attendance in higher education institution classes. In addition, students who benefited from using this attendance system not only improved their attendance, but also their final grades, while pre-service teachers who trained in the use of these classroom management techniques were even better equipped for future teaching in school classrooms.

My experimental research study was conducted in one of the higher education institutions in Kuwait that involved the design of effective classroom management techniques (Al-Shammari & Yawkey, 2009). The experimental study addressed absenteeism at one higher education institution, but absenteeism is a prevalent issue at other higher education institutions in Kuwait. While in United States of America, absenteeism has become rampant in major U.S. universities’ undergraduate courses (Lin & Chen, 2006).

This institution’s attendance policy allowed students to miss no more than eight classes per course semester. Beyond eight absences, the student was given a failing grade. Two classroom management techniques were implemented: CAMTs and CARs within an attendance system designed for use in higher education institution classes. Specifically, CAMTs involved specific management techniques implemented in course requirements that include several other rules for managing classrooms, students’ attendance requirements in classrooms, and credits based on attendance. CARs involved the implementation of specific rules in the classroom that strictly follow the course requirements in higher education institution classes.

My findings indicated significant improvements in student attendance and achievement in the higher education institution’s education program. For example, the results were about 8.4% for each individual student in a fall semester experimental group included 21 female students, and 4.6% for each individual student attendance in the spring semester experimental group that included 16 female students. The CAMTs and CARs were used with experimental groups during two semesters of the study to test the effects of specifically designed techniques. Generally, the results of the experimental research indicated a reduction in the number of those students who missed classes and/or were late arrivals during classes. Thus, on-time attendance gradually increased among students, starting from the first week of the semester.

The results of the experimental research were similar to those from other research studies (Allen, 1986; Snyder, 1998; Marks & McLaughlin, 2005; Handler, 2008) on classroom
management techniques (i.e., CAMTs and CARs) and also indicated improvements in individual student attendance. An examination of individual student’s educational performance in higher education institution classrooms revealed a positive, significant correlation between on-time attendance and overall grades in higher education institution classrooms. For example, the positive correlations among experimental groups were 0.864 in the fall semester and 0.441 in the spring semester. Therefore, CAMTs and CARs techniques are significant, strategy-based research indicators that influence individual and group student attendance in higher education institution classrooms.

3. Development of Attendance System Based on Classroom Management Techniques

The development process used to design an attendance system based on CAMTs and CARs followed three technical procedures: (1) designing an attendance system based on three colors, (2) stating procedural applications, and (3) saving and closing the attendance system.

First, I was the researcher and also the instructor for the experimental classes, designing the attendance system to be a stand-alone software program, employing a management system application developer in the E-learning center at the higher education institution as shown in Figure 1. Furthermore, the attendance system was based on the use of three different colors related to CAMTs and CARs. Each of the three colors indicated a specific type of attendance. For example, a green color was used to note when a student attended on time, a blue color noted delayed attendance, and a red color was used to denote an absence. These three types of attendance markers, as stated in CAMTs and CARs for all students in higher education institution classrooms, are summarized in Table 1.

Table 1: Attendance Components by CAMTs and CARs Indicated by Colors

<table>
<thead>
<tr>
<th>Components</th>
<th>Colors</th>
</tr>
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<tbody>
<tr>
<td>On-time</td>
<td>Green</td>
</tr>
<tr>
<td>Delayed</td>
<td>Blue</td>
</tr>
<tr>
<td>Missed</td>
<td>Red</td>
</tr>
</tbody>
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Fig.1 A ten-day attendance record according to an attendance system developed to track student attendance in university classes.
Note: Table retrieved from appendix 1 included CAMTs and CARs in the original research paper on the funded experimental research study (research project no. 2007-1109-02).

Second, as the instructor, I used the attendance system to enter the names of students in the CAMTs and CARs system. Data entry of students’ names usually occurred before the start of classes at the higher education institution. In addition, the instructor tested this attendance system several times to ensure effectiveness and readability in classroom use. This allowed me to choose one of the three attendance colors: green for on-time attendance, blue for delayed attendance, and red for absence, as described in Table 1.

Third, I began to save entry data as soon as the class began and then closed the system after the fifth minute. For example, students who attended in the first two minutes were marked with a green color, while those who came to class during the first three to five minutes of class were marked with a blue color. This allowed the system to mark all other students who did not come during the first five minutes to be marked absent, even if the instructor did not choose the absent option (a red color) during the first five minutes of class. This system provided all administrators, instructors, and individual students with information on class attendance for each of the assigned classes during the academic semester. This information was then used to calculate a grade for each student based on the course’s attendance requirement.

4. Conclusion and Recommendations

The attendance system I developed, based on CAMTs and CARs, provides several benefits to higher education institution administration, instructors, and students. This includes supplying all needed information on student attendance in higher education institution classes, enabling students to monitor their attendance in higher education institution classrooms, and encouraging students to enhance their attendance in higher education institution classes to improve their academic achievement.

Use of an attendance system based on classroom management techniques such as CAMTs and CARs had several benefits. First, significant improvements were found in student attendance of higher education institution classes (Al-Shammari & Yawkey, 2009). Because of this improvement, there was strong support for developing and designing an attendance system based on CAMTs and CARs. Additionally, the implementation of CAMTs and CARs in an attendance system supports the recent movement and view of education-based research and technology (Bulger, Mayer, Almeroth, & Blau, 2008; McGill & Kobas, 2009). Second, technology helps to enhance student attendance in higher education institution classrooms and improve performance outcomes for students in higher education institutions. This type of technology (i.e., attendance system) significantly influences experimental strategy-based research on individual and group student attendance in higher education institution classrooms. Third, an attendance system based on CAMTs and CARs creates a competitive environment among students in all higher education institution classrooms. Application of this attendance system via technology in higher education institution classrooms revealed results which commensurate with existed studies (i.e., Johari & Bradshow, 2008). For example, use of an attendance system based on CAMTs and CARs showed that tracking
attendance, using colors, motivated students to come to class on time and influenced students’ attendance behavior in higher education institution classes. In turn, this attendance system then directly improved their academic achievements in higher education institution courses of study. Both instructors and students benefit from technology-based research strategies that improve student attendance. Faculty instructors are motivated to stimulate students and at the same time help them to achieve their higher education goals by being in class on time, so as not to miss lecture information during the semester.

Four recommendations are addressed in the light of this research. First, higher education institution administrators need to pay attention to effective classroom management techniques (CAMTs and CARs), which directly influence student attendance and achievement in higher education institution classrooms. Therefore, administrators must modify attendance policies in colleges and universities. This can be achieved through the use of an attendance system based on CAMTs and CARs. Second, faculty instructors should be provided with needed information on how to use the attendance system. Third, students, especially those in teacher education programs, should practice and experience CAMTs and CARs to improve their own attendance performance and achievements in higher education institution classrooms, and then apply them in their future classrooms. Fourth, researchers could extend the investigation of implementing an attendance system based on CAMTs and CARs in future studies. Future research should examine other factors that impact student attendance, learning, and achievement related to classroom management techniques (e.g., modification of elements of CAMTs and CARs).

References

Al-Shammari, Z., & Yawkey, T. (2009). Enhancing the Attendance of College-Level Students Based on Applied Classroom Management Techniques. A funded research project by the Kuwait Foundation for the Advancement of Sciences.