

Games in the Classroom

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Abstract

Games are used in an academic setting as a method to meet and reinforce learning objectives. In this analysis, observations were made regarding student engagement during instructional sessions before and after two games were introduced as a method to teach American Psychological Association standards for reference citations. Student and instructor comments, student behavior and the use of technology were considered to make improvements and to draw conclusions regarding the success of implementing these games.

Keywords: games, student engagement, classroom activities, college libraries

Visual media and entertainment techniques are effective methods for encouraging student engagement in the classroom. One method is to use games to meet learning objectives. The components of a game can be utilized to motivate and provide structure to reinforce concepts and teach key principles. Roberts, Arth and Bush characterize a game as, “organized play, competition, two or more sides, criteria for determining the winner, and agreed-upon rules” (1959, p. 597). The elements of a game can provide many advantages when using games in a classroom setting. Games create friendly competition which, for some individuals, can increase motivation. They can also foster understanding of the material. Rieber and Noah explain that “Games are a way of knowing the world, a mediation between experience and understanding” (2008, p. 79). Games make a great method for teaching because they allow students to engage with the material in an interactive way, thus developing an understanding of desired learning objectives.

Games have been used in the academic environment in a wide range of forms. Smale explains that games, including digital and more conventional means such as board, card, pen-and-paper or dice, have been used successfully in higher education institutions (2011). This indicates that games can be used to teach students in a variety of formats. Literature shows that games have been implemented in various academic subjects.

For instance, several games taking the form of the popular television game show, Jeopardy, have been developed and used in the classroom to teach different areas of study, such as business and health sciences (Azriel, Erthal, Starr, 2005;

Rajasekaran, Senthilkumar, Gowda, 2008). Successful use of this game in different academic areas demonstrates that games can be adaptable for various subjects.

The following review contributes further to the body of knowledge that games can be used successfully in an academic setting. Student behavior was observed during traditional instructional library sessions and then games were introduced as a method of reinforcing concepts. The instructional sessions focused on teaching reference citations. Instructor and student comments were considered, along with student body language to assess the success of implementing games in a library instructional session. These observations led to conclusions about the positive impact that games can have on students’ motivation and educational experiences.

Background

Harrison College is composed of 11 Indiana campuses, one Ohio campus, one North Carolina campus, and an online division. The 2012-2013 Stakeholders Executive Summary shows the student body is comprised of mostly females, over 24, with a dependent (Harrison College, 2013). As one can see from these statistics, the majority of students at Harrison College would not be considered traditional college students.

Harrison College is career-focused with 42.5% of the students in the School of Health Sciences. The next highest area of study is School of Business with 24.7% of the student population (Harrison College, 2013). In addition to these areas, Harrison College offers a diverse group of programs including degrees or certificates in the Schools of Criminal Justice, Information Technology, Veterinary Technology, and Culinary Studies. Across all academic areas students follow the 6th edition of the American Psychological Association (APA) standards for reference citation. Librarians play a very important role in helping students to understand how to cite references by providing resources and instruction.

Instructional sessions performed by Harrison College librarians are on a variety of topics including introduction to library services, APA reference citations, plagiarism, and research. Information literacy is considered an essential competency for students at Harrison College.

This competency is fulfilled in a variety of ways including but not limited to an information literacy course, which is required for all students, and instructional sessions provided by librarians. The librarians are provided with several tools to ensure they have the knowledge to prepare instructional sessions that meet and measure specific learning objectives. These resources include initial training for librarians new to Harrison College and a collaborative workspace located on the Harrison College intranet. Updates are provided to the librarians on information literacy topics and teaching techniques by the functional specialist of instruction. Librarians analyze the effectiveness of instructional sessions through creating assessments and analyzing feedback.

The following study was performed in Lafayette, Indiana with students who were taking on-campus classes. The initial instructional sessions performed on the Lafayette campus were conducted using a formal lecture method. Topics discussed during these sessions included constructing APA reference citations, format standards for writing a report, and plagiarism. The instructional sessions were conducted when instructors requested a session with content related to APA formatting. During these instructional sessions, observations were made, noting that the students were focused on other tasks and were not actively learning or paying attention to the subject. These results provided the conclusion that the students needed to be more engaged.

Method

In order to actively engage the students in the learning experience two games were developed with different learning objectives. The first game created was called the Wheel of APA. The purpose of this game was to insure that students had an understanding of reference citation. At the beginning of class the students were divided into groups. The class size determined how many students were in a group. The initial wheel was created using Microsoft Office PowerPoint. The wheel was divided into the various parts of a reference citation. When students were playing the game, the PowerPoint automatically ran through the slides. The PowerPoint was displayed on a projector from the instructor's computer. During a team's turn, one student would come up to the instructor's computer and pause the presentation to make the wheel land on a particular section, the delay from the automatic rotation would create unpredictability. Before the instructional session, a reference citation was divided on a piece of paper into the various sections, which corresponded to the parts on the PowerPoint wheel. These sections were cut into pieces, placed in a packet, and given to each team. The students would earn the section of the citation, based on what area of the wheel they landed. The teams would take turns spinning the wheel and collecting the sections of their reference citation. If a student would land on one section of the reference with multiple items, such as a comma, the students would be able to earn all of the commas for that reference. There were a couple of areas of the wheel that were created to generate a

twist in the game. If a student landed on "bankrupt" the group would need to take away a section of their reference. When the students landed on the wild card space they could choose any section of the reference that they still required. Along with the cut-up reference pieces, the students were given a guide on how to prepare the reference and a copy of the resource. The first group to earn all the citation pieces and place them in the correct order won the game.

The second game, the Walk of APA, was created for students to understand where to find answers to their citation questions on the library website, how to proofread their reference citations, and recognize the importance of not plagiarizing. The game board was created using a PowerPoint slide. Cards were created with various questions on formatting, plagiarism or an APA citation that contained errors in which the student would need to identify the mistake (see Appendix for example questions). Other game pieces included a die and colored magnets. In the computer lab, the PowerPoint Slide was projected onto a magnetic white board. Depending on the class size the students were broken up into groups or played individually. A student would start by selecting a question card. Students were given the opportunity to explore the library website and locate the answer. If their response to the question was correct, they would roll the die and move forward on the game board. The first student to the finish line won the game.

Observations and Improvements

After the games were implemented the level of student engagement in the instructional sessions increased. Students were actively participating in learning. It was observed that students working in groups worked collectively to understand the concepts. These activities helped to build relationships within the classroom community. Students were asked to provide verbal feedback regarding the instructional session. The comments received were positive. Results were consistent with students in various program areas. The instructors also had positive feedback regarding their students' experience. One instructor was so impressed she adapted the concept of the Walk of APA for a test review that she used in class. When presented to the fellow librarians, they were encouraging about the concept. In the feedback, one of the librarians recommended thinking about how we could adapt this interactive environment for online students. These observations indicated that the students' level of enjoyment increased regarding learning about the topic of APA.

Some changes to these games have been made based on suggestions and observations. One of the suggestions was to improve the game pieces on the Wheel of APA game. The students mentioned game pieces made of paper were hard to handle, so the game pieces were laminated to make them easier to use. Changes in the Wheel of APA board have also been made over time. It was observed that the PowerPoint presentation was a bit awkward to play.

This led to using SMART Board technology to create a wheel that would automatically spin when the students touched the wheel. With the discovery of this Flash-based wheel, the game became easier to play, creating a better experience for the students.

These games have also been adapted to create various versions, since this topic is covered across several classes. By slightly changing the content of these games, students that are exposed to the instructional session more than once will be exposed to slightly different information. For instance, for the Wheel of APA the initial game was created specifically for a journal article however, since the successful implementation, other reference citations have been created for a book. These changes have allowed the games to be used multiple times without repeating the exact information for the students, thus keeping the subject interesting.

Conclusions

Games can be used as a positive way to engage students. From the students' body language and comments, it was apparent using games in the classroom was a successful method of motivating the student to actively participate in the learning process. The Wheel of APA could not accomplish the same learning objectives as Walk of APA, thus different game structures and rules helped to meet various learning objectives. It was observed that the use of technology was important to facilitate smooth game play. Further exploration of game content can be made including investigating the use of these games in the online environment. While these preliminary observations are helpful, research can be performed regarding how much the students retained from the learning objectives. This article has shown that games can be a powerful way to engage students in information literacy concepts. The experiences detailed here suggest that games should continue that games should continue to be considered in various forms for library instruction and information literacy as a way to motivate students to take an active role in the learning process.

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Appendix

There were one hundred and four questions made for the Walk of APA. You will find a sampling of the questions listed below.

1. What is the abbreviation for no date?
2. What is a DOI?
3. What size do you set the font for a paper formatted in APA style?
4. True or False: You should alphabetize your reference list by the first work of the citation.
5. What is wrong with this reference from a journal article in print?

Ostrander, M. (2008). Talking, Looking, Flying, Searching: Information Seeking Behavior in Second Life. *Library Hi Tech*, 26(4), 512-524.

6. How would you cite a website article with no author?
7. On the library website, where can you find information about how to locate an eBook's URL?
8. What is the proper spacing throughout an APA formatted paper?
9. What is missing in this book reference?

Gratzer, W. 2006. *Terrors of the table: The curious history of nutrition*. New York, NY: Oxford University Press.

10. Where do you find information on the library website about citing more than one author?