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Learning Pedagogy**

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Exploring the Potential of Image Editing Tools in Active Learning Pedagogy

ABSTRACT

The use of active learning or student-centric pedagogies in the classroom can have many positive impacts, not only by delivering learning objectives but also enhancing student experience, engagement and their retention of content. This study was conducted for two purposes; firstly to identify the activities and methodologies currently utilized in student-centric or active learning pedagogies. Secondly, this paper aimed to explore the potential role of technology in active learning pedagogy, specifically to examine the spinning wheel game and its potential for use in a media/communication class. This particular game is also known as winning prize wheel game, it is freely available online, and is easily customized. The present study incorporated a field experiment which took place in a college classroom. Students used the spinning wheel game as a means of revising topics covered in communication courses such as gender and race studies, as well as elements of design. After the wheel was spun and depending on the topic selected, the groups of students had 3-4 minutes to discuss amongst themselves and edit images. They worked as a team developing the artwork and identified points for discussion at the end of the activity. The study both identifies a great interest in student centric pedagogies such as active learning, as well as many means of applying this pedagogy. The use of image-editing tools in active learning appears promising. The activity appeared to ease the monotony of the course, and was found to increase student interaction and enjoyment. The participating students produced unique artwork and imaginative narratives around the topics. This methodology would work particularly well towards end of the semester. These promising observations should stimulate future research of similar activities in classrooms. This work-in-progress is part of a larger study of prototyping and evaluating activities for developing student-centric pedagogy.

Keywords: student engagement, active learning, collaborative learning, communication, image-editing

Introduction

Background

Colleges and universities retain ‘the lecture’ as a principle mode of delivery of content to student. This method has sound foundations based on how universities were formed over the centuries, and has many economic and practical advantages. For example, it allows more students to be taught per classroom, more content can be taught in less time, classroom management is easy to maintain and the entire class experiences the same content and instruction (Laronde, 2012). Such a method cannot be described as ‘student-centric’ and also has some disadvantages. For example, as there is little active participation from the students, they may disengage from the lesson or find it difficult to stay on task. Visual or kinesthetic learners may find it difficult to retain and understand concepts when delivered in such a method. Many journals, conferences have addressed this and there are a lot of important theories around the best approaches to teaching at college level. Recently, the disadvantages of such an approach have been recognized and acknowledged, lead to a shift from what Barr and Tagg (1995) described as an Instruction Paradigm to a more student-centric approach, where the focus is moved from the quality of teaching to the quality of learning. The general consensus is that the student-centered pedagogy is the most effective.

Active Learning

In contrast to more traditional teacher-led instruction, student-centric instruction places the student, not the teacher at the very center of the knowledge acquisition process. In this approach, students influence and engage with the content, activities and materials that comprise the learning process. Students are given opportunities to learn from one another, and explore independently. The teacher scaffolds and assists them in this process. Bonwell and Eison (1991) describe active learning in the broadest terms, describing it as engaging students in doing things, and reflecting on what they are doing. Of course, increasing student engagement will increase student learning. The use of active learning strategies is associated with improved academic performance (Knight & Wood, 2005) and increased critical thinking capacity and student engagement (O’Dowd & Aguilar- Roca, 2009).

There are a multitude of approaches and activities which bring about a student-centered learning environment. The strategies listed below fit the criteria for student-centric learning and have a large bod of research associated with them

- Active Learning
- Collaborative Learning
- Case-based Learning
- Demonstration (Interactive Lecture Demonstration)

- Small-Group Discussion and Peer Instruction (a.k.a. Think-Pair-Share)
- Case Studies
- Concept Mapping
- Tutorial Worksheets
- Problem-Based Learning
- Group Tests and Assessments
- Just-In-Time Teaching (Student-Centred Teaching Methods; Princeton 2012).

This paper will focus specifically on one student-centric methodology - collaborative learning; a technique which also applies techniques from peer instruction and active learning.

Collaborative Learning

Collaborative learning has its roots in the view that knowledge is a social construct. As such, it involves students working together in groups, (typically mixed ability), to explore, make sense and apply new information or knowledge. It allows students at various performance levels to work together in small groups toward a common goal. This instructional method places responsibility for group and individual learning upon the learners, while the instructor acts as a facilitator (Gokhale 1995). Collaborative-learning activities are based on four principles:

1. The learner, not the teacher is the primary focus
2. Interaction and doing are of primary importance.
3. Working in groups is an important model of learning.
4. Learners construct knowledge through exploring and discussing materials, creating solutions to real-world problems

Collaborative learning has other advantages. It promotes critical-thinking skills as learners work together in small groups or teams evaluating, exchanging and discussing ideas and experiences. The 'hands on' nature of such an approach can increase engagement and interest among learners. It is one approach used in student-centered learning which encourages the use of creativity, problem solving, and decision-making skills within groups.

Rationale

Currently, the classroom is becoming a playground for newer technologies, and newer concepts in visual communication are emerging every day. Within higher education, it is critical for educators to remain familiar with current and new technologies, to incorporate them into their teaching, and to familiarize students with their use. Introducing students to these technologies is a task of critical importance which requires constant adaptation and improvisation.

The courses in digital media in a liberal arts college introduces and familiarizes students with issues such as gender and race as well as technology skills including editing videos and images. Students should be enabled to become familiar with, and demonstrate appropriate use of these techniques, concept and technologies, and should and be able to blend them in to meaningful artwork.

In recognition of the advantages of a student-centric approach as outlined above, and as research has consistently shown that the average human attention span is limited, in that focus stays for around 10 minutes and then it wanders unless there is change of stimuli, (Medina 2010), this paper will investigate the potential of implementing collaborative learning to this setting as part of a student-centric pedagogy. We will specifically investigate the potential of the collaborative ‘spinning wheel activity’ in

- Helping the students understand and apply theoretical concepts.
- Fostering team spirit and problem solving skills.
- Assessing understanding of software skills.

Methodology

Participants

Sixteen participants took part in this activity. The activity was carried as part of a lesson in a digital media course, taught as part of a communication program at a liberal arts college. This is an introductory course under general education distribution; as such participants in this study came from all majors offered across the campus, from biology to business management. These students had previously encountered, used and were familiar with a variety of image editing tools which can applied in many different areas of study as mentioned above.

Materials

This activity was based on a spinning prize wheel game (see figure 1), which can be accessed and customized for free at <http://www.classools.net/random-name-picker/>. Spinning the wheel resulted in the presentation of a stimulus word. The word could be a software tool, a topic, an emotion, color or object.

Figure 1. *Spinning Prize Wheel Game*



Procedure

Students worked in pairs or groups of three. Each group had access to a computer and the spinning wheel activity as explained above. Spinning the wheel resulted in the presentation of a word stimulus. The wheel was spun at intervals of 5-7 minutes. Students created an artwork and kept adding to the artwork depending on the stimulus word that appeared. Within the group, students were encouraged to discuss and share amongst themselves, innovative and creative strategies and approaches for completing the task. (Craig & Amernic, 2006)The session lasted for 45 minutes. In this time, students had the opportunity to share and discuss their work with other groups.

Findings

Incorporating a collaborative learning activity into the communication technology lesson, led to significant changes in the role of the teacher, and the manner in which the students learned and were assessed. These changes and findings are outlined and explained below

The Spinning Wheel as an Assessment Tool

This activity afforded pupils the opportunity to demonstrate their understanding and use of various theoretical concepts and image / video editing techniques, such as editing the image whilst maintaining visual balance in regards to colour, scale and the positioning of the various elements within the frame. The resulting images and pieces could be kept as exemplars of student work and as assessment data. As the teacher was not in 'lecture mode' he was able to circulate the room and observe student performance. As such, students

requiring additional help who were struggling with the task were quickly identified.

Potential for Offering Differentiated Support to Pupils

Once struggling students were identified, the teacher was in a position to offer guidance and demonstration, or prompt a more able student within the group to demonstrate or explain his/ her thinking. In this manner, students had access to individualised and differentiated support. Crucially, the availability of individualised support was not to the detriment of the rest of the class, as every other student was busy, active and engaged in their own learning.

Potential to Develop 'Soft Skills' - Communication, Collaboration and Problem Solving Skills

As the teacher became a facilitator of learning, the students became engaged in collaborative learning. The teacher was no longer presenting them with information. The focus was not on competition, but collaboration. Students were constructing, building and sharing knowledge and ideas within their groups, with the aim of reaching a shared goal and solving a problem. Working within a team required the students not only to communicate, share ideas and solve conflicts and problems within the group, but also to communicate with members outside the group, for example to report/explain progress to the teacher, to offer feedback to other groups and to share their work with the class.

Final Products

Some examples the artworks created by the students are reproduced below. The students who created the artwork reproduced in figure 2 were communication majors taking classes in gender studies. They took an image from early the 20th century, where women are portrayed in stereotypically female roles; they made a strong statement by inserting a contemporary female Hollywood actor in a female protagonist role as a contrast or foil to the original image.

Figure 2. *Changing roles of women*



Other groups found scope within the activity to comment on the current political climate and show their own reaction to this climate. This group commented on the power Donald Trump holds in his role as President of the US with their positioning of an image of the globe in his hand. Superimposing a picture of a moustache on the image has the possible effect of likening Trump to Hitler, and the placement of the sombrero recalls Trumps own attitudes and pronouncements about Mexicans. Overall this group created a very powerful image which portrays their own attitudes towards the current world political situation (see figure 3).

Figure 3. *Donald Trump*



Conclusion

This report set out to explore the potential for using image editing tools in the classroom as part of an active learning pedagogy. It has achieved these aims, by demonstrating the benefits and learning opportunities provided by such an approach. This activity first and foremost energized the classroom; by changing the pace of instruction, the responsiveness and engagement of the students was increased. The constructivist nature of collaborative learning both enabled the students to create their own connections and links around the software and their respective majors, while the group work element enabled higher ability students to scaffold and support the learning of other students. It is clear that this activity is educationally beneficial, and thus has a place in a student centric pedagogy.

References

- Barr, R. B., & Tagg, J. (1995). From Teaching to Learning: A New Paradigm for Undergraduate Education. *Higher Education*, 13-26.
- Bonwell, C. C., & Eison, J. A. (1001). *Active Learning: Creating Excitement in the Classroom*. Washington DC: The George Washington University.
- Craig, R. J., & Amernic, J. H. (2006). PowerPoint Presentation technology and the dynamics of teaching. *Innovation High Education*, 147-160.
- Crumly, C., Dietz, P., & d'Angelo, S. (2014). *Pedagogies for Student-Centred Learning: Online and On-Ground*. Minneapolis: fortress press.
- Gokhale, A. A. (1995). Collaborative Learning Enhances Critical Thinking. *Journal of Technology Education*, 110-117.
- Knight, J. K., & Wood, W. B. (2005). Teaching More by Lecturing Less. *Cell Biology Education*, 298-310.
- Laronde, G. (2012). Modelling Various Teaching Methods in a Faculty of Education in Science Education: Chalk and Talk, Virtual Labs or Hovercrafts. *Journal of College Teaching and Learning*, 107-114.
- Lyman, F. T. (1981). The Responsive Classroom Discussion: The Inclusion of All Students. In A. Anderson, *Mainstreaming Digest* (pp. 109-113). Maryland: University of Maryland Press.
- Medina, J. (2009). *Brain Rules: 12 Principles for Surviving and Thriving at Work, Home and School*. Seattle: Pear Press.
- O'Dowd, D. K., & Aguilar-Roca, N. M. (2009). Garage Demos: Using Physical Models to Illustrate Dynamic Aspects of Microscopic Biological Processes. *Cell Biology Education*, 112-122.
- Waldrop, J. B., & Bowdon, M. A. (2016). *Best Practices in Online Teaching and Learning*. New York: Routledge .