

CREATING INNOVATIVE, STUDENT-CENTERED PROJECTS WITH APP SMASHING

Dr. Aimee M. Brenner and Ms. Janel S. Hauser
Averett University, Danville, Virginia, United States

ABSTRACT

Students today share a unique characteristic in that they have all been raised in a digital era. Students from all socioeconomic levels have been impacted by digital media in one way or another, and many yearn to be engaged through the use of digital technologies in the classroom. One such digital project has sought to aid in meeting the need to develop such skills in preservice teachers and subsequently transfer these skills to future students. This project has been coined with the term *App Smashing*. App Smashing is the process of developing content on multiple digital applications and then integrating or "smashing" them together in order to create a richer, innovative digital product (Kulowiec 2013). Combining digital apps can be utilized for the process of research, note taking, understanding, creating, and sharing in any grade level classroom or subject matter. This paper seeks to further define the process of App Smashing and examine relevant literature. Lastly, one example of a project that utilizes App Smashing will be described. This project has been implemented in a teacher education course in order to educate preservice teachers about how to actually design a student-centered, project-based assignment and then reflect about the process upon completion.

KEYWORDS

Technology Integration, Teacher Education, Student-Centered Projects

1. INTRODUCTION

In the current and rapidly changing, digitally saturated environment, educators find themselves constantly seeking new ways to teach and engage students in "an ever-changing technology context and...who no longer process information primarily in a sequential manner" (Lambert & Cuper 2008, p. 264). According to Roa and Skouge, technology tools that are used in creative ways have the possibility to become a simple, interactive multimedia-authoring environment for classroom learners (2015). Moylan emphasizes that project-based learning encourages students to 'learn by doing' by completing hands-on projects (2008).

Lambert and Cuper state that not only do these challenges affect classroom teachers, but it also makes teacher preparation "increasingly important and increasingly challenging as teacher educators seek new ways to integrate 21st-century skills, nonlinear skills, and digital-age reflections into coursework" (p. 265). Many more recent technologies focus on "creating communities in which people come together to collaborate to learn and build knowledge. This is now influencing the way we communicate/collaborate within the framework of the teacher education programs..." (Mach 2013, p. 2508).

One such digital project has sought to aid in meeting the need to develop such skills in preservice teachers and subsequently transfer these skills to future students. This project has been coined with the term *App Smashing*. This paper seeks to define the process of App Smashing and examine relevant literature. Lastly, one example of a project that utilizes App Smashing will be described that has been implemented in a teacher education course. The assignment seeks to educate preservice teachers about how to design a student-centered, project-based assignment and then reflect about the process upon completion.

1.1 What is App Smashing?

Although not really a new concept in the world of multimedia, Kulowiec introduced the term *App Smashing*, and defines it as incorporating or embedding multiple applications together in order to accomplish a major learning task or project (2013). Young (2014) states that App Smashing grants a student the freedom, through a plethora of choices, to create exactly the type of product they can envision. Some technology projects assigned in the classroom cannot be completed using just one application; some applications require using another application to fill in the gaps to complete a project (Kulowiec 2013). Students can complete App

Smashing projects individually or in cooperative groups. According to Young, App Smashing utilizes the media attributes characteristic of each application; one application's distinctive characteristic may include integrating text and photos, while another consolidates sound with video (2014).

In order to successfully utilize an App Smashing project, Young suggests that both teacher and students need to consider what will be assessed in order to produce a final, appropriate product, as well as identifying learning goals and outcomes with alignment to the App Smashing project (2014). Roa and Skouge (2015) proffer that “with its ability to combine and display media elements – such as photos, video, audio, and text – presentation software can be used purposefully to transform media into tools of learning and engagement for young children” (p.103). Further, Kulowiec (2013) notes that an App Smashing project could even be used in a project-based assignment that takes place over the course of an entire semester or academic year.

1.2 Best Practices for App Smashing

The App Smashing process can also expose the student to project-based learning (PBL) opportunities, which engages students, and allows them to learn in at all six levels of Bloom's Taxonomy; Bloom's Taxonomy includes: knowledge, comprehension, application, analysis, synthesis, and evaluation (Moylan 2008). According to Moylan, “PBL has been identified as a key methodology for closing the gap between current student learning and developing the necessary 21st century knowledge and skills” (2008, p. 287). Further, PBL with multimedia or through App Smashing “provides the benefit of allowing students to use multimedia to construct their own meanings...Researching a topic, evaluating resources, synthesizing core concepts, selecting appropriate media, and creating a product can involve students in higher order thinking and enhance understanding of the topic (Royer & Royer 2012, p. 2326). PBL allows students to be their own teacher; students build a relationship with the projects they create, which encourages them to use their imagination (Moylan 2008). Classroom models and practices, suggested by Price (2011), include making sense of ideas and holding students accountable for generating and evaluating ideas.

The App Smashing process can be used with students of all grade levels and subjects because the variety and number of applications available can be combined or “smashed” in such a way that they meet the instructional needs of all educators (Young 2014). Young also states that App Smashing encourages student excitement and engagement about creating their own project, demonstrating their individual exceptionalism, as well as combining products using familiar applications (2014). “App Smashing projects encourage collaboration and innovation – skills essential for success in the 21st century (Young 2014, p. 14). Moylan states, “PBL is especially effective when supported by educational technology, while blended with service learning (learning outside of the classroom), and provides an exceptional PBL educational opportunity” (2008, p. 288).

According to Rao and Skouge, the process of App Smashing or producing multimedia projects meets criteria for the *Universal Design for Learning* (UDL), which includes three main principles: provide multiple means of representation; provide multiple means of expression; and provide multiple means of engagement (Rao & Skouge 2015, p. 104). Young suggests after determining which goals or objectives are to be measured, various apps can function for different levels of higher order thinking skills (2014). For example, Young has used applications such as Skitch and Pic Collage as a first level application to share and manipulate images (2014). Then, Young has included applications such as iMovie and ThingLink to smash all first level applications into one single presentation (2014). As a part of a fifth grade curriculum, students must demonstrate strong skills of analysis in which Young uses App Smashing as an assessment for literary and character critique (2014).

One of the benefits of using App Smashing, as experienced by the authors, is that there are numerous applications that can be utilized as far as subject matter; as well as how they are utilized or the function; and even more variety and options exist in the manner in which the applications are combined or smashed. The project can be as complex or as simple as the educator wishes depending on the intended learning outcomes. The body of this paper will detail the project design process assigned by the lead author in a teacher education program for preservice teachers.

2. DESCRIPTION OF APP SMASHING PROJECT

School-age students today have all been raised in a digital era. Students from all socioeconomic levels have been impacted by digital media in one way or another, and many expect to be engaged through the use of instructional technology in the classroom, such as App Smashing. As previously described, App Smashing is

the process of developing content on multiple digital applications and then integrating or "smashing" them together in order to create a richer, innovative digital product (Kulowiec 2013). Combining digital apps can be utilized for the process of research, note taking, understanding, creating, and sharing in any age level classroom or content area.

2.1 Purpose and Benefits of the Project

The project that will be described in this paper is assigned in an instructional methods course for both upper class undergraduate and graduate students at an American private, liberal arts university. Classes are typically very small and include students who major in either English, history, math, or science, art or physical education and are seeking an endorsement to teach in that area. The process the preservice students progress through in order to complete the project, which usually takes half of the semester to complete, aligns with the topics they are learning about in class dealing with various instructional strategies, lesson planning and lesson delivery. A major component of this course includes lesson design and delivery of three microteaching experiences.

The purpose of the App Smashing project is to provide these preservice students with the experience of completing a multimedia assignment they could assign to their own students. This assignment could serve as a form of authentic, summative assessment and also allows the preservice teachers' future students to express their knowledge of a specific content area in a nontraditional way while utilizing technology. The learning outcomes for this assignment are multifaceted and include some of the following experiences: 1) backwards lesson planning design; 2) selection of and evaluation of instructional technology tools; 3) assessment design and creation; 4) student-centered and problem-based learning; and 5) reflecting on instructional practice.

From a practitioner's stance, the lead author has found that App Smashing promotes a number of beneficial skills in the category of higher order thinking skills, 21st century skills, and college and career skills. Higher order thinking skills include synthesis, creativity, reflection and critical thinking. The twenty-first century skills category encourages student engagement, development of technology skills, communication, and collaboration. The college and career component provides opportunities to increase skill development in the areas of research and writing, project-based learning, and presentation skills.

This list was gleaned from classroom observation and discussion, as well as post-project reflections. Many of the preservice teachers commented in their reflections about the benefits of learning how to use the various technology tools, as well as some of the other skills previously listed. Specifically, many mentioned that they enjoyed getting the opportunity to explore newer instructional technology tools and learning how to apply them in an academic environment. Lastly, a few synthesized that one of the added positives of creating this project was getting to see the projects of their classmates. This helped them to further understand how the applications can be utilized in various content areas. The resulting project also becomes a quality artifact that the preservice teacher can include in their professional, end-of-program ePortfolio.

2.2 App Smashing Project Process

For this assignment, the preservice teachers are required to select a set of specific standards-based skills that will be assessed for student mastery. For the sake of this course, the preservice teachers create the assignment individually because of the variety of disciplines that may be represented in the course. They are, however, informed of the collaborative nature that many of the technology applications possess, thus increasing their awareness of how such a project may lend itself to being a group project when utilized in their own classrooms. The resulting project assignment could be an extension activity from a unit test, research paper, or other more traditional form of assessment. Once the standards/goals have been selected, the preservice teachers write the behavior objectives for the assignment. The parameters and requirements for the project they design are based upon the behavioral objectives.

The process for the assignment then proceeds as follows. First, the preservice teacher must choose between either Prezi or Padlet as their main presentation platform. This project focuses on the use of free or affordable applications. Animoto and Zaption will be two secondary applications the preservice teachers will utilize to create short digital pieces to further enrich their primary presentation. Optional applications include integrating a word cloud utilizing either Wordle or Tagxedo, or an illustration using Postermywall.

These applications, plus other forms of media like images and text, will be integrated or "smashed" into the main platform, thus the name App Smashing.

Before the preservice teachers begin work on completing their student-centered project and following

their identification of standards-based skills and objectives, they must first design the project (following the professor's requirements) and choose evaluation criteria upon which they plan to assess student work in the form of a rubric. The preservice teachers submit and receive feedback on each step of this project before they begin working on the technology components. This also promotes involvement in the backwards design process. Short tutorials are embedded in class meetings for each application, as well as how to integrate the various pieces of the project. The preservice teachers are required to investigate and learn how to operate or navigate each application on their own time. The professor, however, is always available for questions and guidance with regards to the applications.

Because it is important for preservice teachers to examine their own learning and the design process for this assignment, they are required to write a two-page paper describing the parameters of their student assignment, as well as a critique evaluating the usefulness of their chosen platform and the applications as instructional technology tools in the classroom. They must detail how they might improve the assignment and if they feel the chosen applications were useful for student learning in the appropriate content area.

Assessment criteria for the preservice teacher's final product includes the following: 1) a title is present, the purpose is clearly evident, and is linked to a specific standard; 2) incorporates at least ten forms of media, including an Animoto video and Zaption tour, as well as other images, sounds, and videos; 3) the Animoto video is at least two-minutes long and the Zaption tour contains at least four questions; 4) the ten forms of media have a relationship and these connections are demonstrated through text or audio; and 5) the project represents quality work on behalf of the student and it is evident that adequate time was invested in creating it. Each criteria component is worth 20 points, and the preservice students can score exemplary, proficient; developing/needs improvement; or unacceptable.

3. CONCLUSION

In conclusion, incorporating multimedia experiences in the classroom today allows the teacher to enable "the student, through multimedia assessment, to utilize technology in a meaningful way" (Moylan, 2008, p. 288). According to Young, the process and product of App Smashing gives the student the opportunity to challenge himself through the creation of a sophisticated product while empowering their motivational and creativity skills (2014). It is the author's intention to equip preservice teachers with this knowledge by having them participate and reflect upon this experience. The author continues to implement this project each semester with much success, but also continues to utilize new apps, as well as incorporating engaging ways to "smash" the apps together. Each implementation change is based upon research and preservice teacher project reflections.

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