

Creative Writing, Problem-Based Learning, and Game-Based Learning Principles

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Paper presented at the International Society for Technology in Education (ISTE) Conference,

June 25, 2012

Abstract

This paper examines how virtual worlds and other advanced social media can be married with problem-based learning to encourage creativity and critical thinking in the English/Language Arts classroom, particularly for middle school, high school, and undergraduate college education. Virtual world experiences such as *Second Life*, Jumpstart.com, and the Stonehenge and Valley of the Kings simulations developed by the Heritage Key historical foundation (<http://heritage-key.com>) can be used to spark creative thought and excitement, especially for those students who respond favorable to games and game-based learning opportunities. Even other video games, such as the popular *Minecraft*, can help students become excited about learning, and engage them in real-world problem-solving skills and behaviors, as well as in stories that are meaningful and exciting. With problem-based curriculum designed to capitalize on creative writing and response, working within such environments can help students bridge the gap between literature, history, and other subjects and their own experiences. This article provides insight into how such activities can be adapted for the classroom, and provides suggestions for implementation and assessment.

Keywords: English, creative writing, problem-based learning, technology integration, practical application

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While creative writing is often taught as something of an afterthought in some high schools and colleges (Knoeller, 2003), many teachers believe that it has value and a special place within the English curriculum. In fact, Knoeller (2003) and Vakil (2008) have both found that teaching traditional literature studies along with creative writing helps learners comprehend the literature more thoroughly, as well as offers learners the chance to express themselves creatively, something they are often not encouraged to do in school settings. Despite this, both Knoeller (2003) and Blythe and Sweet (2008) note that the emphasis on reading and responding to literature in high schools has decreased the time available for teaching creative writing. In some places, creative writing has been cut from the curriculum entirely. High schools, as well as many undergraduate college programs, have instead stressed the development of critical analysis essays (Knoeller, 2003), which certainly develop useful skills, but also tend to have the effect of limiting student creativity.

Like all writing, however, learning to write effective creative prose, poetry, and drama requires an understanding of literary form and fundamentals. In this way, students can practice writing the very forms that they read when analyzing existing literature, helping them form clearer and more reasoned understandings of literature in order to make more reasoned analyses (Flanagan, 1974; Knoeller, 2003). Flanagan (1974) notes that even at the most introductory levels of literature study, creative writing can bolster that understanding, as well as help students make stronger emotional connections to what they read. When students of English connect something they have written to the work of others at deep levels, they are far more likely to have a stronger and more complete opinion of the work's meaning than if they simply read and respond to the literature in a traditional expository fashion.

Instructional Approach for Beginning Writing Students

Vakil (2008) notes that it is difficult for many beginning writers, such as high school students or college freshmen, to even start engaging in the writing process without these concepts, as they provide a foundation from which creativity can flow. Beginning a story is often a very complex problem for even expert writers, as without a strong direction it can flounder in its execution, and student writers can become mired in thoughts that appear to lead them down the wrong paths. Some master writers are even of the opinion that creative writing cannot be “taught” at all, and rather is a talent that is developed through practice (Bizzaro, 2004). However, Bizzaro (2004) goes on to note that creative writers should possess several core skills such as understanding audience, genre, and the writing process, and that these skills can indeed be taught. Therefore, in beginning to learn creative writing techniques and developing related skills, students should be guided toward learning how to approach and solve problems in starting a creative venture, using foundational skill as a starting point.

To determine the approach that will offer the best results in creating an introductory creative writing lesson, a review of instructional design models is necessary. It is also helpful to first examine traditional ways in which creative writing has been taught in universities, in order to determine what has and has not been successful in the past. Ritter (2001) indicates that curriculum for creative writing programs, even at the graduate level, is often quite diverse depending on the individual teacher and the institution. Often, curricula focuses on collaboration and peer review, but due to the fact that many creative writing teachers see themselves as more artistic than academic, their lessons may lack structure and cohesion. In their review of models for teaching the subject, Blythe and Sweet (2008) indicate that a collaborative “studio” or “workshop” approach is not necessarily a poor one, and that within such a setting students can

learn from experts as well as each other, leading to a continual feedback loop that allows for mastery learning. However, such critique cycles can also lead to the homogenization of ideas, and approaches that ask students to study pieces of literature and imitate them can lead to stunted creativity without the guidance of an excellent teacher (Blythe & Sweet, 2008; Vakil, 2008). A marriage of the best aspects of many of these approaches may be a way to limit these pitfalls, but what would such a curriculum model look like?

To begin, it may be useful to keep in mind that the real world that students are being prepared to enter is rife with problems of all sorts, many of them quite complex in nature. Teaching them to solve these problems involves far more than teaching skills that help students arrive at solutions; students must be taught how to apply these skills in dynamic ways, managing a variety of types of information all at once (Jonassen, 1997; Jonassen & Hung, 2008). It can certainly be argued that inventing characters, settings, and plots to achieve the central idea of a story or poem, while utilizing knowledge of grammar, literary form, and writing process, is a complex, ill-structured type of problem (Jonassen & Hung, 2008). Often, writers do not have a clear sense of where a story idea will take them, and they may have trouble when faced with writing prompts such as, “Write a short story where a character deals with the loss of a loved one.” In order to accomplish this task, a student must have knowledge of the writing process, grammar fundamentals, and basic story development, as well as a conception of how people deal with loss. Facing a prompt such as this is not easy for the beginning writer, as there are no clearly “correct” ways to begin.

Problem-Based Learning, Digital Natives, and Storytelling

There are a variety of models that fall within the spectrum of problem-based learning (PBL), although in most cases, effective prompts to begin a PBL lesson should ensure that the

problem is clear, interesting, relevant, promotes teamwork in some way, and stimulates self-directed learning (Sockalingam & Schmidt, 2009). For example, Savery and Duffy (1995) provide a straightforward and adaptable model of PBL based on problem-based implementations in medical schools. A general scenario of a patient and his or her symptoms is first presented to learners, within which lies a problem that must be diagnosed and treated. As students work through the tasks of identifying symptoms and possible solutions, guidance should be provided through structured scaffolding that is customized to the students' prior knowledge and immediate needs (Savery & Duffy, 1995; Hmelo-Silver, Duncan, & Chinn, 2007). Far from Kirschner, Sweller, and Clark's (2006) view of PBL as minimally guided instruction, a well-planned PBL lesson lends structure to complex tasks to reduce extraneous cognitive load and promote more effective learning as a result (Hmelo-Silver, Duncan, & Chinn, 2007; Schmidt, Loyens, van Gog, & Paas, 2007). This can be accomplished through tutorials, direct instruction, focusing learning tasks, and social interaction and feedback from classmates.

But what form should these scaffolds take, and what should the PBL environment look like within the context of a freshman creative writing lesson? It is important to consider the learners and their preferences, as even the most carefully constructed lesson will fail if students are bored and unengaged, as today's young people often are with traditional modes of teaching (Prensky, 2001; Mabrito & Medley, 2008). These digital natives relish engagement, social interaction, and the ability to direct their own learning, both in the classroom and beyond it, and they are fully accustomed to the fast-paced stream of information found in television, movies, and the Internet. Dickey (2005; 2011) and Gee (2008) found that gaming environments, including video games, simulations, and virtual worlds, can evoke motivation for digital natives in powerful ways by leveraging these values, promoting focus on goals and challenging tasks,

offering safety in being able to fail and try again, and allowing for teamwork and shared affiliations with others.

Indeed, immersive gaming environments often provide the balance of scaffolding and freedom of choice that is found in the most optimum PBL environments (Dickey, 2005; Savery, 2006). If it is accepted that a problem-based approach to teaching creative writing is potentially effective, it also stands to reason that game-based principles may be valuable to employ in the freshman English classroom. The ability to appeal to the “Net generation” of students that have always known a world with video games and the Internet lends additional support for the potential effectiveness of such an approach (Prensky, 2001; Mabrito & Medley, 2008). By encouraging Net generation students to find inspiration in digital texts and stories that are “theirs” rather than from the literature of generations past, students will be more likely to find relevance and connections to familiar ideas and stories in the lesson, thus encouraging them to participate more actively (Mabrito & Medley, 2008; Apperley, 2010). Therefore, a creative writing lesson for young writers should include constructivist as well as game-based principles, in order to promote engagement and connections between the academic and creative worlds.

Teaching Creative Writing Foundations: A Model Lesson

The following model lesson, designed for high school or early college students, presents an ill-structured problem that involves writing fiction, providing scaffolding through factual information, foundational knowledge and principles related to effective writing (Flanagan, 1974; Blythe and Sweet, 2008; Tanemura, 2010). Consistent with problem-based learning (Savery & Duffy, 1995; Jonassen, 1997; Savery, 2006), the constructivist learning environments model (Jonassen & Rohrer-Murphy, 1999), and game-based learning (Gee, 2008; Apperley, 2010; Dickey, 2011), the lesson will also provide students with prompts that help them make

connections between their stories and the real world, thus helping them to develop a unique voice without inducing excessive cognitive load. Note that while this lesson uses a particular virtual world, the Heritage Key Foundation Egypt archeological dig simulation, this lesson could be adapted and used within other virtual environments, such as *Second Life* or *Minecraft*. It is important to be willing to be flexible and use what is available to students within the classroom – this lesson is just one of many similar lessons that could be devised using video game or virtual world technology and a particular scenario or storyline either presented within the environment, or developed and presented to students by the teacher.

Lesson Outline for Learning to Write Creative Fiction: Developing Character and Perspective

Learning Goals:

- Students will be able to develop stories based on interpretations of a complex situation, weaving current and historical fact into their writing.
- Students will be able to write works of short fiction, accurately applying at least one of the four literary perspectives (first-person, second-person, third-person, and omniscient).
- Students will be able to accurately implement principles of plot, setting, and character in creative writing.
- Students will be able to engage in collaborative discussion and peer review of each other's writing, offering feedback and criticism as needed.

Problem Generation. Students must engage in an authentic scenario that involves real-world problems (Savery & Duffy, 1995). These problems are often multidisciplinary in nature and open-ended in that there is not necessarily one correct way to approach the problem or offer a solution. A problem in investigating what happened to a group of modern archeologists who

have mysteriously disappeared from an Egyptian worksite will therefore be examined in this lesson, using the problem as a springboard toward developing creative stories.

Problem Presentation. The Heritage Key Foundation (<http://heritage-key.com>) has constructed a very realistic Egyptian archeological dig simulation. Students will be asked to register at the website and download the software to create their avatar – their digital character within the virtual world – to begin to exploring this virtual representation of the Valley of the Kings. They will explore in small teams of three to four. When they get to their destination, however, they find something amiss. Tools are left strewn about, some of them half-buried in sand, and no one appears to be around. The dig sites are left open and unguarded, and several of them have open entryways to dark tombs of unknown pharaohs. What has happened here? Where is everyone?

Students are asked to explore as much they wish, taking note of the things their avatars might “witness.” They may chat with other group members as they speculate about what has happened to the archeologists who were once at the site, and they may find clues to prompt them to research archeological work, the dangers of spending time in the open desert, and how to protect oneself from dehydration, sandstorms, and very cold nights. Each student’s task is to write a short story, from the perspective of one of the missing archeologists or from that of his or her avatar, about this mysterious problem, including presenting a solution. What happened, and how did it happen? What details led them to think this way? As students write creatively they will also learn more about the geography and history of Egypt, and they must use this information in order to construct a feasible story-based response to the problem.

Facilitator Role. The instructor serves as a guide during exploration and during the writing process, which includes providing insight into writing conventions as well as guiding

students through the use of the virtual world, and leading them to useful resources regarding Egyptian history, climate, weather, and archeological practices. Scaffolding will consist of direct instruction, “hints,” and suggestions as required by the situation. As students work in the simulation in a computer lab setting, the instructor should actively observe students as they work.

Reflection and Debriefing. When students have written their stories they will spend time in peer review, exchanging their writing and commenting on what they see. They must then reflect and make edits as needed. Near the end of the lesson, all students will come together as a class to briefly discuss their thoughts on the writing prompt, the virtual world, and what they enjoyed or did not enjoy about the learning experience.

Assessment. The completed stories will be assessed by a detailed rubric (see Appendix C) designed to evaluate their attainment of learning goals, their collaboration activities, and the quality and feasibility of their story. During peer review, students will use this same rubric to assess each other’s work, as well as their own, as they make revisions prior to submitting a final draft.

Discussion

Problem-based learning is often best applied to ill-structured and complex situations, particularly when these scenarios are authentic and multidisciplinary (Jonassen, 1997; Savery, 2006). The above lesson outline provides just such authenticity through the simulated archeological site, mixing historical and scientific concepts into the development of creative narratives. Because many young writers are unlikely to encounter an actual archeological dig, the virtual environment provides a simulation where they can make deeper connections to the real world through interactions with virtual objects, characters, and situations (Dickey, 2011). This type of active exploration allows them to detect clues and find relationships to real-world

phenomena in a visual and very hands-on way, a key component in constructivist learning as well as imaginative writing response (Jonassen & Rohrer-Murphy, 1999; Knoeller, 2003). Additionally, when students work together, the free exchange of ideas in a PBL environment often helps all students create better solutions and stories, as they gain ideas and learn from one another (Blythe & Sweet, 2008), and the process shares much with theories related to constructivism. It is from this active engagement that learning can be constructed, helping them create stories based on experience as well as factual information and creative insights.

There are, of course, many ways to structure writing activities, although there are few examples of combining PBL with creative writing. However, scholars such as Knoeller (2003) and van Oostrum, Steadman-Jones, and Carson (2007) note that creative response to the reading of literature can be a useful tool for learning more about the art of writing as a whole. Particularly when writers reflect on what they have done at the end of the activity, they have been found to be better able to bridge the gap from creation to interpretation, and thus achieve a better understanding of what “good writing” means (Knoeller, 2003; Bizzaro, 2004). PBL, with its constructivist roots in problem-solving, active response, and reflection (Jonassen, 1997; Savery, 2006), provides an excellent venue for creative writing activities that take the idea of creative response to literature a step further. Instead of responding to an existing story or poem, students are responding to a situation, using factual information and their own interpretations as the springboard toward developing highly creative responses.

As discussed previously, game-like environments can also provide digital natives with an interactive version of such a “springboard” of inspiration. When students respond to literature they can have a tendency to inadvertently copy the styles they read (Knoeller, 2003; Vakil, 2008), but an immersive gaming environment does not allow for this as easily. Instead, plot, setting,

and character come to life, allowing students to make visual as well as mental connections to the story, which can prompt them toward creative writing in unique, and potentially more powerful, ways (Gee, 2008). The enjoyment of the situated, game-based context promotes active engagement in authentic problem-solving with built-in scaffolding, and from this, learning occurs quite naturally.

This does not necessarily mean that other media could not have been employed in designing the model lesson. A virtual world was chosen because of its ability to be freely explored without leading learners toward specific conclusions. The virtual world's open-endedness allows learners to create their own "cybertexts" (Apperley, 2010), allowing them to fully organize and configure their in-game experiences. This kind of exploration allows for better meaning-making within a PBL environment (Jonassen, 1997). However, other technologies could have provided similar results, including off-the-shelf commercial games such as *The Elder Scrolls IV: Oblivion*, as this game has goals and quests but it also allows for non-linear exploration and almost complete freedom of choice for players (Apperley, 2010). The subject of the PBL prompt may have required modification if the game title and structure were different, but the execution would have been similar. The important factor is the instructional methods used to achieve the objectives, and not necessarily the media itself (Clark, 1994). Media certainly facilitate the learning process, but Clark (1994) warns that media should not be confused with the message. Depending on availability or even student interest and characteristics, other technologies certainly could have been employed that may have made this creative response problem just as effective.

However, Warren, Dondlinger, & Barab (2008) warn that PBL using game environments can take a great deal of time to develop and implement, which can deter many instructors from

implementing them. Developing the learning environment, as well as allowing students to adequately explore, write, and collaborate as needed, can take a significant amount of classroom time that many instructors may not be able to take. In addition, when so much time is given to constructivist and PBL lessons that rely on learner exploration, learners can experience excessive cognitive load (Sweller, Kirschner, & Clark, 2007; Erlandson, Nelson, and Savenye, 2010). However, Nelson and Erlandson (2008) noted that when multimedia design principles were implemented thoughtfully into the design of a multi-user game environment, extraneous load was reduced. Ensuring that unnecessary words, graphics, and audio are not included in the selected virtual space used for the model lesson can lead to better focus on actual learning tasks and related details within the environment. In this way, germane cognitive load can be increased to help move learners toward higher levels of learning (Schnotz & Kürschner, 2007), rather than overloading them with information that may or may not be helpful to their journey toward a creative response to the given problem.

Conclusion

A constructivist learning environment featuring challenging and ill-structured problems can require a great deal of time to design and implement well, but these environments have also demonstrated the ability to help students reach higher levels of critical thought, inquiry, and creativity (Warren, Dondlinger, & Barab, 2008). These skills are essential, as when lessons fail to foster genuine curiosity, they often fail to engage most students, particularly young college freshmen who would be considered digital natives (Prensky, 2001; Dickey, 2005). In addition, creative writing is a field that requires both a sense of curiosity about the world as well as structured guidance (Knoeller, 2003; Vakil, 2008). Beginning writers benefit greatly from prompts, particularly those that lead them toward higher levels of thinking about subjects by

providing examples and factual information. Most writers need a sufficient place from which to begin writing creatively, and while reading and responding to literature can provide this (Knoeller, 2003), active exploration of a virtual world can also provide the prompting needed while engaging students at deeper levels. Rather than attempting to copy the style of authors they read, students have a chance to see, hear, and experience events for themselves in a virtual setting, allowing them to develop their own voices more thoroughly. After all, all writing is creative writing in some sense (Flanagan, 1974; McVey, 2008), so it benefits students to find creative responses to problems and experiences they face within the context of history, science, art, mathematics, and all other fields.

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Appendix A: Web Resources

- Five Creative Writing Lessons from Video Games:
<http://diariesofanexistentialist.wordpress.com/2012/02/07/five-creative-writing-lessons-from-video-games/>
- Lesson plans for a creative writing course (college level or high school):
<http://teacher2b.com/creative/creativp.htm>
- Creative writing game and ebook for young learners: <http://www.creative-writing-solutions.com/legends-of-druidawn.html>
- E-How – Creative Writing Activity Ideas: http://www.ehow.com/video_4872321_writing-activities-elementary-students.html
- Video Game Lessons for Real Life: <http://www.kickstarter.com/projects/1328332041/8-bits-of-wisdom-video-game-lessons-for-real-lives>
- Web English Teacher: <http://www.webenglishteacher.com/creative3.html>
- Writing and Playing the Sims: <http://odewire.com/52320/reading-writing-and-playing-the-sims.html>
- Are Games Educational?
http://www.education.com/magazine/article/Video_Games_Educational/
- Prezi presentation from ISTE 2012: <http://prezi.com/xybosve4ty78/creative-writing-problem-based-learning-and-the-technology-enhanced-english-classroom/>

Appendix B: Common Core Standards Application

While the lesson described in this article applies to freshman college students, learners as young as fifth grade may be able to participate in similar lessons with some modification. The following Common Core Standards (see <http://www.corestandards.org>) apply to this lesson:

- Reading:
 - Key Ideas and Details 1, 2, 3
 - Craft and Structure 4, 6
 - Integration of Knowledge and Ideas 7
- Writing:
 - Text Types and Purposes 3
 - Production and Distribution of Writing 4, 5, 6
 - Research and Build Present Knowledge 7, 8, 9

Appendix C: Sample Rubric

Based on the lesson described in this article, a variety of approaches to the evaluation rubric or checklists appropriate for assessment of learning goal achievement may be used. Kathy Schrock’s Guide for Educators (<http://school.discoveryeducation.com/schrockguide>) lists a number of resources for developing rubrics within most common subject areas, as well as tools for assessment of collaboration and cooperative learning, multimedia projects, and even the effectiveness of other rubrics. Thus a rubric designed to assess problem-based learning that integrates virtual worlds and creative writing might include that students will:

Objective/Performance	Beginning – Does not meet competency	Developing – Approaches competency	Proficient – Meets competency
Sensory language use – “showing” rather than “telling”	Does not use sensory language appropriately or at all.	Uses sensory language in such a way that the reader feels that she is being told what is going on, rather than getting an opportunity to visualize it for herself.	Uses sensory language effectively, using an approach that shows the reader rather than tells them what is happening.
Appropriate word choice – vocabulary usage	Often uses the wrong words, or elementary-level words where more descriptive vocabulary could be used.	Occasionally uses the wrong words, or uses imprecise language when better vocabulary choices could be made.	Uses appropriate, precise word choice.
Adverbs and descriptive language use	Extensive use of adverbs in description and dialogue, limiting the sophistication of the story’s language.	Uses adverbs at least some of the time, relying on them to describe what is happening more often than not.	Minimizes the use of adverbs in description and in dialogue.
Standard English conventions	Many spelling, grammar, and punctuation errors found.	Some spelling, grammar, and punctuation errors are present, amounting to no more than 3-5 errors per page.	Maintains spelling, punctuation, and grammar conventions of the language in which the story is written.
Consistency of verb tense	Many errors found with regard to verb tense.	No more than 5 errors regarding verb tense have been found in the piece.	Uses consistent verb tenses throughout.
Believable characterization	Characters often act in ways that make them less than believable, reacting to conflict or decision-making in ways that do not suit their personalities or do not make sense in the scope of the story.	Characters sometimes act out of turn, making decisions or acting ways that are not true to their personalities, roles, or ambitions.	Maintains and develops believable characterization, including ensuring that characters react to conflict or decision-making faithfully as compared to their roles and ambitions.

Objective/Performance	Beginning – Does not meet competency	Developing – Approaches competency	Proficient – Meets competency
Use of research and historical fact	Story is not grounded in real or historical fact, and little or no referenced evidence is provided.	Story is somewhat grounded in research in historical fact, although some referenced evidence may be needed to strengthen the connection between real and fictional.	Demonstrates research abilities in maintaining a link with real and historical facts, supported by believable and referenced evidence.
Use of technology	Technology is used sparingly or not at all as a research or presentation medium.	Technology is integrated somewhat into the case, although it may not add much that is substantive to the understanding of the story or proposed case solution.	Uses technology in innovative and effective ways for stimulating curiosity, critical thinking, and knowledge expansion.
Collaboration with teammates	Does not collaborate effectively. Works independently or allows others in the group to do most of his/her work.	Provides some insight during team collaboration but overall does not provide a great deal of information to teammates to support knowledge development.	Collaborates effectively by relaying information to teammates and supporting group knowledge development.
Peer review participation	Does not participate in peer review, or participates only minimally. May not be honest or constructive in provided feedback.	Engages in the peer review process actively, but does not offer constructive criticism or questions, instead telling the writer what should be changed.	Engages honestly in the peer review process by providing constructive feedback and offering questions related to both positive comments and areas for improvement.

Flanagan (1974) notes that in literature study, teachers often ask students to contemplate the stylistic choices authors have made. It is not a stretch of the imagination, then, to ask them to do the same for themselves or each other. However, the difference is that creativity is a much different kind of measure than effort, and one should not confuse the two. It is one thing to assess research abilities or peer review participation, but it is quite another to assess the quality of a student's creative efforts. Teachers must take care to not judge harshly against their own ideas of what good creative writing is, but instead should examine the substance of a student's efforts toward achieving the learning goals. The very nature of PBL and its pursuit of ill-structured problem-solving requires that there is no one correct solution (Jonassen, 1997; Savery,

2006), and teachers experimenting with creative lessons should take this under strong advisement when engaging in facilitation and assessment.