Every Picture Tells a Story: The Power of 3 Teaching Method

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Abstract
Going beyond the recent surge of papers on the flipped classroom, this article calls for an active “constructionist” approach to flipping classrooms. Not only are homework and lecture sessions flipped, students create, or “construct” knowledge outside of class and present to others through group learning activities. The creativity involved in the students learning while teaching is enhanced through the use of digital storytelling technologies (e.g., Photo Story 3, Movie Maker, and iMovie). This approach also works in fully distance-enabled classes where there is no in-class time individually or within interactive small-groups and teaching both take place asynchronously on-line. It is a myth that synchronous group work is more meaningful or a more
productive environment for student learning. Asynchronous groups require the same interpersonal skills and effective communication processes. Students become more meaningfully engaged when they are creating rather than merely receiving knowledge in either a synchronous or asynchronous learning environment.

Flipped classrooms are transformational, shifting the educational focus from the traditional and passive lecture-based teaching to an active engagement of students with each other and with faculty. The traditional lecture format has been used so long that both faculty and students sometimes struggle shifting to a more engaging approach to teaching and learning. This article moves beyond exchanging classroom lectures and traditional homework for student watched lectures or videos outside the classroom to free up time for interaction inside the classroom. Using a “discussion starter” approach, the teacher introduces a topic or assignment and then steps aside to allow the students to become the teacher. This study finds reversing the role of the student from passive observer to an active participant improves the overall learning. The pilot implementation of the P3DST technique in three classes revealed students were apprehensive at first confronting a new assignment, but later found it a rewarding experience. Most of the students liked the technique as a discussion starter and (felt) that the technique (could) be used in various settings beyond the classroom.

Keywords: Digital storytelling, constructionism, collaboration, flipped classrooms, teaching methods, online instruction, student-centered learning

INTRODUCTION

The originator of the idea of “Constructionism,” Seymour Papert, proposed not only flipping the classroom but also enabling students to “learn-by-making” or to learn by teaching
This article introduces a digital learning technique that motivates and engages students called the Power of 3 Discussion Starter Technique (P3DST). This technique helps students refine their presentation skills to increase clarity and conciseness. Another benefit is that the student now becomes the teacher, enhancing the learning environment for everyone in the classroom. This technique complements the pedagogical approach of using digital storytelling, a powerful instructional tool for both students and instructors (Robin, 2008).

The P3DST Technique takes advantage of numerous software applications that support digital storytelling: Photo Story 3, Movie Maker, and iMovie. Digital Storytelling has many definitions, but usually involves telling a story using multimedia components including text, images, music, and narration. It is important to keep in mind digital video technologies are not the cure-all for improving the learning process (Center for Digital Storytelling, 2014). Therefore, it is critical the instructor introduces the P3DST by explaining how and why these technologies are being applied to the assigned topic. In addition to explaining methodology and the mechanics, we recommend authentic modeling of P3DST so the students understand the expectations. When the teacher demonstrates a technology infused lesson, it shows the students that they are prepared to be “risk takers” which adds credibility, especially when the teacher assigns a non-traditional lesson (Clarke, 2011).

As more asynchronous distance courses are developed to increase access for students, new teaching models will emerge. The trend of more courses shifting to distance and hybrid learning is expected to continue. The research-consulting firm MarketsandMarkets forecasts the Learning Management Systems (LMS) market to grow from $2.55 billion in 2013 to $7.83 billion in 2018 (MarketsandMarkets, 2013). P3DST can be used in both in asynchronous and synchronous learning environments. Through the utilization of email, phone and other
synchronous communication tools along with software that supports digital storytelling within a learning management system (LMS), peers can rehearse presentations, provide feedback, sharpen presentations, and share knowledge among each other (Beldarrain, 2006).

What sets the P3DST apart from traditional presentation methods? It is simple and straightforward. There are only five images/slides in the entire project; the introduction slide, followed by three narrated images without any text and a closing slide containing a “discussion starter” question with the goal of engaging the class. Often PowerPoint comes to mind when discussing presentation techniques, but PowerPoint tends to be a more static method of delivery. PowerPoint has the additional features, but is usually only used with text and images. PowerPoint is still an excellent starting point to introduce digital storytelling because most students are already familiar with the product. Greater than 90 percent of computer-based presentations are using PowerPoint (Talg & Irani, 2001).

The advantage of using one of the suggested programs like Photo Story over Power Point is the audio is embedded in a Photo Story and not in a PowerPoint. Having the audio embedded makes it easier to show the presentation on any computer, tablet, or other mobile device (Levin, 2014). P3DST is more dynamic than traditional PowerPoint slides because of the use of digital storytelling technologies (e.g., Photo Story 3, Movie Maker, and iMovie). These techniques highlight rendering effects in the video editing process such as the Ken Burns effect of panning and zooming images, transitions, and music to produce an improved final video. Studies have suggested the most effective supporting technology tools are visual, interactive, and contain less written content (Bishop, Caston, & King, 2014).

Another advantage of P3DST is the synergy that comes from students working in collaborative groups. Collaboration improves critical-thinking skills through discussions about
clarification of ideas, as well as evaluation of other students’ ideas (Gokhale, 1995). Once the instructor assigns the groups and the topics, the students are responsible for summarizing the essential concepts of the topic. Collaboration is at the heart of P3DST. Teamwork can be synchronous or asynchronous via a group discussion board. The teacher may evaluate team collaboration and each student’s engagement using the same group discussion board. Asynchronous learning may be easily assessed using this strategy, while “live” group collaboration is more difficult to evaluate without the artifacts of documentation on the discussion board. While leadership is shared equally, there can be three possible roles to allow efficient and effective collaboration. One student may handle narration, one may write the script, and one student could find images and produce the video. Researching and developing the plan for and creating the questions are fundamentally team tasks.

The key to the success of this technique is the shift away from traditional student presentations. Rather than have a long narration to discuss a bullet/text laden slide on a typical PowerPoint presentation, the students will only have 150 words or less to verbally describe a digital image. The students only have one minute to tell their story for each image. The average number of spoken words per minute for most individuals is approximately 150, which is also the range that people are comfortable hearing (Williams, 1998). Finally, at the end of the presentation the students will ask the class a ‘discussion starter’ or a thought-provoking question that will engage the class in further discussion about the topic. The discussion can also take place in a learning management system such as Blackboard, Moodle, WebCT and Sakai. The student generated “discussion starter” questions can also be used at a later date in an assessment, which generates student ownership in the learning process.
The P3DST is a compliment to the many excellent digital storytelling tutorials (e.g., Photo Story 3, Movie Maker, and iMovie) that are available on YouTube. After watching several tutorial the collaborative groups decide which software application to employ. Finally, remember that collaborative learning requires the instructors’ attentiveness for feedback and motivational support. The lesson should facilitate multiple viewpoints and challenge the cognitive skills of the students (Brandon & Hollingshead, 1999). The P3DST can be the new catalysis for student engagement.

**Conceptual Framework**

Understanding and applying theoretical and conceptual frameworks will be essential as classrooms shift from traditional learning to distance learning environments. The shift is taking place at many colleges and universities where traditional lecturing is replaced with student-centered learning (Baker, 2000). The P3DST has the potential to guide and to assist the teacher as learning environments shift from positivism to constructivism. The history of positivism dates back to the time of Plato. Starting with Plato’s argument between philosophy and poetry, the basic concepts of the positivistic paradigm shifted to being an agreement between the sciences and humanities (Boas, 1948; Laertius, 1853). Positivism evolved and changed throughout history, but philosopher and sociologist Auguste Comte is credited with the modern approach of the theory based on verifiable facts (Comte, 1975). Comte emphasis was to discover natural laws that could be applied to society. From a teaching and learning perspective, he would discourage creativity or mechanisms that cannot be observed. The reality is outside the person, meaning the person is the knower because reality exists and he is known as the body of knowledge by another person (Berger & Luckmann, 2011). To put in classroom context, in a teacher-centered environment the instructor is the sole disseminator of knowledge.
The delivery of instruction is evolving in large part because learning institutions have been implementing more course management systems (CMS), such as Blackboard, for classroom and online educational assistance. For many institutions, CMS is used for effective communication between students and faculty, but it is also a means for delivering online courses. This has led to “hybrid” courses meeting once or twice per week in the classroom and online (Warger, 2003). This change is creating a need for e-learning tools emphasizing collaboration so students can work on projects in this new CMS environment. These new asynchronous and synchronous environments will have a different theoretical framework as teachers engage students using student-centered learning activities.

Student-centered learning is a pedagogical approach influenced by constructivist theorists who recognized the individual differences of learners. Some describe the learning process as individual differences of receiving and processing information then constructing knowledge (Gardner, 1985). Others developed social mediated constructs to measure learners’ propensity to work alone, in pairs, or in collaborative groups (Vygotsky, 1980). In a constructionist environment, the learning is centered on the student. The teacher taps into the students’ previous knowledge to facilitate new learning. Learning is most effective when students are creating. In a P3DST project the students construct a meaningful product with relevance which creates a personal connection between the learner and the learning environment (Ke & Kwak, 2013). When there is relevance to their lives and their interests, students can actively engage in the creating, understanding, and connecting with the attainment of knowledge (McCombs & Whisler, 1997). Constructionism is more than just creating. It is a multifaceted approach where learning is reconstructed not transmitted like a traditional learning environment (Papert, 1991). Therefore, it is important to understand the difference between positivism and constructivism as
well as the student learner-centered principles to effective apply them in an ever changing e-
learning environment (Bonk & Cunningham, 1998). These principles should be built into the
framework for any e-learning assignment along with the goal of reaching individual learners in
an effective and exciting learning environment.

**P3DST Framework**

The heart of the P3DST framework is the collaborative circle. The teacher is in the center
because he or she is the catalyst for effective collaborative learning. The teacher is the facilitator
providing guidance, motivation, clarification and feedback. There is not an arrow directly
connecting the teacher to the student collaborative circle because the students are at the center of
the learning process. The students begin by receiving and processing information from each
other within their collaborative circle. They build from the group’s previous knowledge, interests
and understandings as they clarify and evaluate each other’s ideas. The P3DST funnels these
ideas by way of structural guidelines and digital storytelling software. This combination has the
potential to create an educational synergy. This synergy can be manifested from students
collectively working together, using images, music, and software all combined in the process of
creating knowledge. This combined effect has the potential to be greater than the sum of the
effect of the P3DST parts culminating in a dynamic video with support discussion questions.
METHODS

In order to assess the effectiveness of the P3DST, the authors incorporated the method as part of the students’ activities in several graduate courses offered in the Summer and Fall 2014 semesters. The courses were taught by one of the authors and the other two served as the teaching assistants for the other courses. The overarching goal was to evaluate the technique from the students’ perspective as well as receive feedback to refine P3DST. At the beginning the
students were familiarized with the concepts of P3DST and the formative ways to come up with ideas, search for suitable pictures, and how to make videos. A group of three students were assigned to prepare five slides on each topic and were allocated five minutes at the beginning of the class to present their slides. Therefore, on the assigned day for any particular group that group initiated the instruction and dialog with their discussion starter slide at the end of their video. The instructor then builds from the students’ questions and discussions generated by the video. The instructor uses this transitional point to clarify and tie the student led discussion into the day’s lecture or planned activity.

At the end of the course, the students were asked to fill out a narrative questionnaire on Survey Monkey website to convey their experiences and views about the P3DST technique. Three questions were asked on their initial feelings before and after confronting the assignment and their views about using the technique in other contexts. The survey was conducted anonymously to stave off any apprehension that candid comments might affect the grades. An ethical approval was also obtained from the Institutional Review Board (IRB) at the university in this study.

The steps below summarize the mechanics of The Power of 3 Discussion Starter Technique.

**Step 1 - Title Slide/Image**

The students create one slide/image with a title, overview text, and an introduction of the team members. This slide is an opportunity to amplify the interest in the assigned topic. The students have 30 seconds to record their narration which includes the following:
- A creative title, one that draws in the audience with clarity and brevity. Offer the students the latitude to use humor or inspire them to capture the audience’s imagination. Explain to the student that as a writer or creator you only have one first impression to capture your audiences’ interest in your work
- An overview of the assigned topic or topics
- An introduction of team members, with each member introducing himself or herself with first and last name

Step 2- Present 3 Images

The students will decide on three images that best capture the essential ideas and concepts of their topic. This is where the students tell their story about the topic in a digital format. This is the second most important component to the P3DST presentation. A good educational digital story must first be a good story because no matter what the level of the students’ technical abilities are no amount of special effects or transitions will improve a poorly written story (Robin & McNeil, 2012).

- Each digital image will have 1 minute of narration (150 words) summarizing the topic
- Use high quality and large images to avoid a blurry final product. A Google image has an advanced search tool to find larger images. Also students should search for images on photo sites such as Flickr and Photobucket as well as use original digital images.
- Students will alternate speakers throughout the narrations of the 3 images. In an asynchronous environment, only one student could be assigned the narration and this role can be rotated throughout the semester. An asynchronous environment with a learning management system requires some flexibility on behalf of the teacher and the students.
Step 3- The Discussion Starter

The fifth and final slide/image will include a discussion question for the class. This last slide is the most important of the five. Powerful questions are thought-provoking queries that go beyond and deeper than the three images telling the story. By asking the powerful question on the last slide, the creators of the P3DST presentation invite the class as a whole to become engaged in the creation of meaning. After viewing the last slide, the energy of P3DST is transferred from the three-person team to each of the remaining students in the class. Each student, including the 3 students who created the P3SDT, should answer the question on slide five. A strong question will lead to expanded learning and a fresh perspective. Therefore, the best questions do not merely ask for content from the three slides. Good questions are open-ended. The students will insert the question as well as narrate for the discussion question within a 30 second timeframe.

The objective for the “discussion starter” is for the students to present a question which facilitates a discussion which requires their peers to synthesize the material to make connections and demonstrate their understanding of the topic. Powerful questions should not merely recap or summarize the three slides. A powerful question is one that:

- Asks students to identify a central issue or an underlying theme.
- Asks about significance: Why is this important?
- Requires students to extend their understanding of the topic, to explore it further or deeper than the readings, or to think critically about the topic
- Requires students to make connections: How does the reading integrate with practice, with personal experience or with other assigned readings?
Other questions to position students to generate their “discussion starter” could be:

- How does this story (these three slides) fit with what we studied in earlier classes?
- What is the underlying meaning of this story?
- What ultimately caused the events or situations described in these three slides?
- What do these three slides lead up to?
- What was the lesson that can be learned from this story?
- How would you pull these three slides together into a single idea?
- In the bigger scheme of things, how important is this story?
- What is the opportunity or challenge that this story presents?

**Assessments and feedback**

Rubrics have been shown to support learning by focusing the students’ attention on the key objectives of the lesson. When a rubric is used in a collaborative lesson such as the P3DST, students become increasing able to identify and solve problems, which offer them a greater sense of responsibility for their own work (Andrade, 2005; Goeser, Johnson, Hamza-Lup, & Schaefer, 2011). A teacher simply handing out a rubric is not enough. Using a rubric is an evolving process. As teachers reflect on the outcomes of the lessons, the rubric should be modified to strengthen future lessons. Consider the rubric below as a baseline for an initial P3DST lesson.

Table 1: This rubric may be modified to fit the subject matter or the instructional level.

<table>
<thead>
<tr>
<th>CATEGORY Criteria</th>
<th>A Mirrors Requirements Completely</th>
<th>B Meets Most Requirements</th>
<th>C Partially Meets Requirements</th>
<th>F Fails to Meet Requirements</th>
</tr>
</thead>
<tbody>
<tr>
<td>Step 1 - Title Slide/Image</td>
<td>Title slide amplifies the interest in the story, draws in audience with clarity and brevity.</td>
<td>Title slide creates interest, but overview or introductions may be improved.</td>
<td>Title slide fails to engage viewers and or required elements are not well executed.</td>
<td>Title slide, overview, and introduction all fail to meet requirements or important elements are missing.</td>
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<tr>
<td>The students create one slide/image with text along with 30 seconds of narration with the following:</td>
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<tr>
<td>1. A creative title.</td>
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<td>2. An overview of the assigned topic or topics.</td>
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<tr>
<td>3. An introduction of team members, with each member introducing themselves with first and last name.</td>
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<tr>
<td>2) Step 2 - Present 3 Images</td>
<td>Student's graphics explain and reinforce screen text and presentation. Presents information in logical, interesting sequence which audience can follow. The script must be a good story.</td>
<td>Student presents information in logical sequence which audience can follow. The script and images work well together.</td>
<td>Audience has difficulty following the story or images fail to create an engaging story.</td>
<td>One or more of the images are missing or poorly executed, contributing to a failed story.</td>
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<tr>
<td>Includes only three images that capture the ideas and concepts of the topic.</td>
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<tr>
<td>1. No text will be added to these images.</td>
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<tr>
<td>2. Logical sequence</td>
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<td>3. Script makes a good story</td>
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### 3) Step 3 - The Discussion

**Starter Question**
- A powerful question goes beyond the three slides:
- Asks students to identify an underlying theme
- Why is this important?
- Requires students to extend their understanding of the topic, to explore it further or deeper than the readings, or to think critically about the topic

<table>
<thead>
<tr>
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<th>A</th>
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<tbody>
<tr>
<td>Goes beyond the three slides</td>
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<tr>
<td>Identifies an underlying theme or asks about significance</td>
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<tr>
<td>Requires students to extend their understanding of the topic, to explore it further or deeper than the readings, or to think critically about the topic.</td>
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<td>Meets Most Requirements, but question could require deeper thought or critical thinking</td>
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<td>Question fails to fully explore meaning of story.</td>
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<td>The question asks for a review of story content, does not require critical thinking</td>
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### 4) Narration of slides

- Each digital image will have 1 minute of narration summarizing the topic.
- Students alternate speaking throughout the narration of the images or in an asynchronous environment one student may narrate.

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<tr>
<td>Narration is loud and clear with correct, precise pronunciation of terms so that all audience can hear presentation.</td>
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<tr>
<td>No more than one minute narration per slide (150 words or less)</td>
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<td>Narration is clear. Students pronounce most words correctly.</td>
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<td>Most audience members can hear presentation.</td>
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<td>Narration voices are low. Students incorrectly pronounce terms.</td>
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<td>Viewers have difficulty hearing presentation.</td>
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<tr>
<td>Narration is nearly incoherent or student narrator mumbles, incorrectly pronounces terms, and/or speaks too quietly.</td>
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#### CATEGORY

<table>
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</table>
Students’ Experience

Twenty-four students responded to the online questionnaire after taking their respective classes designed with P3DST assignments. The students were from both master and doctoral programs participated in the survey.

When the respondents were asked about their initial feelings, almost everyone were either “confused,” “unsure,” “worried,” “intimidated,” or were “not comfortable,” with the idea of doing assignments using this new technique. One comment from a summer semester student
captures the initial feeling of majority of the students: “Oh dear! Why do we have to try to make everything creative this summer? Why can't we just stick to our normal presentations?” The uncertainty of using a new software to make the videos was a prime concern for the students and some worried about meeting the instructor’s expectations. Another noteworthy concern uttered by a student was they describe themselves as naturally shy and listening to their recorded voice in front of the class was not pleasant. One particular student was very interested in the “very minimalist style of presentation” and remarked highly for the approach which can alleviate the problem of presenting excessive amounts of information in academic settings.

After completion of the assignments using the P3DST technique, the students felt “great,” “confident,” stated it was “more exciting than PowerPoint,” “an influential method to teach,” “gave a sense of self-esteem and confidence,” and “tech savvy.” Some additional student comments about the mechanics of P3DST, “to condense the material into a concise message was great practice” and “compare to PowerPoint, P3DST ranks higher because the video speaks for itself.” The accomplishment of successfully making the videos and having great feedback influenced the students to deem the technique on a high note. Learning how to make a video was also an added advantage for many. The sense of accomplishment was quite fulfilling for those students after initial uncomfortable feelings of treading unknown ground.

Nevertheless, some students were not as optimistic about P3DST, describing the process as an “elementary technique rebranded in new name.” Another elaborated on the inherent usefulness of speaking in terms of three: “Speaking in terms of 3 is something that I already do and many of us have already assimilated to throughout our speaking experiences. I will continue to do so, not necessarily due to Power of 3.” Although the remark was not made in favor of P3DST, it advocates for the innate power of dealing with three key features in almost any setting.
Despite a few students not seeing the usefulness this technique in any setting, the majority of the students opined that the technique is well suited for academic settings. One envisioned the technique as a complement of ‘elevator speech’ which is short and concise. Powerful messages can be disseminated within short span of time and keeping the short attention of the listeners. Some students found it appropriate for TED talks, meetings in organizations, ice-breakers in conference and training sessions, and even in business discussions.

Discussion

Storytelling is an essential part of being human. The act of telling a story taps into ancient and perhaps even innate human processes that are at the core of human existence and are fundamental to every culture. Beginning in the late 20th Century where science dominated, storytelling was confined to pre-school education. Narrative was seen as both infantile and non-essential. Using P3DST, teachers harness this primal power of storytelling (Denning, 2012). By reconnecting students to the core human need to tell stories, teachers can take their students to deeper understanding and their peers have beliefs and knowledge of their own, making the team stronger as a whole.

1) Level One- Attraction
Students have an affinity for social media and technology. While this may seem superficial, by combining this natural attraction with a stimulating group assignment, a teacher can draw students in and create an opportunity for deeper understanding. Students and student teams enjoy the creative experience of making their own brief video lectures using the “Ken Burns effect” involving panning and zooming to create motion and interest. This technology lets the students take flat 2D images and create the illusion of depth or parallax that brings the photos to life (Green & Dias, 2010).
2) **Level Two- Cognitive Engagement**

Teachers should make a tangible connection between the session topic and the group activity. Teachers who are passionate about their topic, who “make it real,” and who model the content they teach in their actions and in their class will have no difficulty making this connection. “Authentic” teachers who engage students in the core concepts of their discipline create an easier pathway for students simply by making it real.

3) **Level Three- Emotional Engagement**

Engagement is a natural and even subconscious process for students. Early humans relied on bonding and cooperation among individuals (social and emotional intelligence) to survive and pass on their genes. Early groups with high social intelligence possessed an evolutionary advantage over other groups. Social intelligence became firmly established in the human limbic system that governs feelings, impulses, and drives. Thus, it “feels good” for students to collaborate on-line or in person on a project because they are programmed to do so. Impulses supporting the exercise of group skills such as collaboration and teamwork are within all of us. By using the Power of Three, any teacher can capitalize on this innate drive for students to be engaged with a social group.

**Why have group/team assignments?**

- To demonstrate that teams are able to produce work that is better than an individual student’s work
- To allow students to practice and develop the interpersonal and rational skills that are important for success in any discipline
- To demonstrate the strengths and weaknesses of asynchronous communication and coordination in the 21st century world
CONCLUSION

Collaborative work to create powerful images and captivating narratives are at the core of the human experience. The awe-inspiring cave art of Lascaux reminds us of our age-old pattern of elaborating learned behavior into culture, art, language, and symbolic meaning. McNeil (2010) describes this cultural evolution as an “evolutionary spurt” which propelled groups of early humans into new ecological niches. By using P3DST, teachers can tap into the elemental human need to tell stories, to create images, and to work together. P3DST transforms teaching and opens the door to improved learning.

Teachers are able to move well beyond flipping the classroom by allowing students the freedom to “learn-by-making” (Papert & Harel, 1991). Allowing the students to become the teacher enhances learning and deepens engagement. As the creator of TED Talks, Richard Saul Wurman likes to say when it comes to learning, “do things the opposite way.” The traditional approach to classroom teaching has not changed since the Middle Ages. P3DST “flips the classroom,” creating an opportunity for the student to teach, and thereby to make themselves think more deeply while creating engaging, inspiring, and provocative stories.

The class creation of knowledge, critical thinking, and even preparing the P3DST stories places the burden to be engaged squarely on the student. There’s no place to hide during class discussions and no waiting for exam reviews or lectures, which supplant the need for students to prepare outside of class. By taking ownership of their learning, students find things out for themselves rather than passively accept what they hear in a lecture. Moreover, while constructing knowledge using P3DST, students are linking what they already know to what they are learning.
which is known as scaffolding. Using their experience, students construct a larger, more vivid picture with their newly gained knowledge.

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