A PLANNING CYCLE FOR INTEGRATING DIGITAL TECHNOLOGY INTO LITERACY INSTRUCTION

Amy Hutchison ■ Lindsay Woodward

The Technology Integration Planning Cycle is a guide to help teachers integrate digital technology into literacy instruction in meaningful ways that are consistent with the Common Core State Standards.

Imagine the following scenario: Ms. Thomas (all teacher names are pseudonyms), a third-grade teacher, is thrilled that she just received a class set of iPads to use with her students. Through a professional conference she attended, she learned about many of the unique features of the iPad and has heard from her principal and literacy coach that it is important to integrate digital technology into her literacy instruction. With enthusiasm, she plans a lesson that will allow her to use one of the apps that she learned about at the recent

Amy Hutchison is an assistant professor at Iowa State University, Ames, USA; e-mail amyhutch@iastate.edu.

Lindsay Woodward is a doctoral student at Iowa State University; e-mail lindsayw@iastate.edu.

The Reading Teacher Vol. xx Issue x pp. 1–10 DOI:10.1002/TRTR.1225

conference she attended. Although she is well prepared for the lesson and the students are enthusiastic to use the iPads, she realizes at the end of the lesson that although the students were able to figure out how to navigate the app, she isn't sure that they understand how to identify main ideas, which was the goal of her lesson.

In the next room over, Ms. Kay is also using her new set of iPads and has carefully planned a lesson that will allow her to use an app she heard about from her colleague. However, during the lesson, she spent so much time allowing students to find interesting pictures to use with the app that she never actually got to the part of the lesson that would help students identify the main ideas of the text. Both Ms. Thomas and Ms. Kay are left frustrated and don't know how they will go about using the iPads in their instruction again.

This scenario likely seems familiar because it is what we have commonly seen happen during our time in classrooms and it is what is commonly written in reports of research on this topic. In our recent research (Hutchison & Beschorner, 2013; Hutchison, Beschorner, & Schmidt-Crawford, 2012; Hutchison & Reinking, 2010; Hutchison & Reinking, 2011), we have seen teachers both struggle with incorporating digital tools into instruction and with capitalizing on the affordances of using digital tools. By observing and analyzing teachers' reflections as they have attempted to integrate digital technology into their literacy instruction, we have gathered some key insights into the process that literacy teachers undergo as they incorporate digital tools into their daily class activities. Thus the purpose of this article is to propose an instructional planning cycle for literacy teachers to use as they attempt to integrate digital technology into their literacy instruction.

"We have seen teachers both struggle with incorporating digital tools into instruction and with capitalizing on the affordances of using digital tools."

Pause and Ponder

- What successes and failures have you encountered when integrating technology in your literacy instruction? How have these experiences empowered or prevented your future instructional planning?
- Think of a recent learning activity with which you have planned to use technology. What process did you use? Did you consider the constraints before the affordances or instructional approach?
- How might using the New Literacies Instructional Planning Cycle change your daily classroom instruction? Will having a plan for considering the right tool for an instructional objective have an impact on how much you use technology?

Background

Ms. Thomas, the teacher in our scenario, is accurate in believing that it is important to integrate digital technology into her literacy instruction. This is true for several reasons. First, digital tools and environments alter what it means to be literate (Coiro, Knobel, Lankshear & Leu, 2008; Lankshear & Knobel, 2007). In relation to this idea, Kress (2003) argued that the screen has replaced the book as the central medium of communication. Consequently, the modes of image, sound, and color have and will continue to have lasting effects on the form and function of reading as digital tools afford new modes of text and new modes for responding to text, such as the use of audio, video, and photos.

Each mode of response contributes to the meaning of a message in a unique way. Because these modes of communication are so common in digital environments, it is important that we teach students the literacy skills needed to read these alternate forms of text (Hassett & Curwood, 2009), as well as provide them with opportunities to create meaning through a combination of images, words, and sounds. As such, teachers have a responsibility to integrate digital technologies into their instruction to prepare students with these new modes of reading and writing so that they can be prepared for the future (International Reading Association, 2008).

Perhaps most importantly, the use of digital tools for literacy and language arts is integrated throughout the Common Core State Standards (National Governors Association Center for Best Practices [NGA Center] & Council of Chief State School Officers [CCSSO], 2010). For example, Anchor Strand Seven for Reading states: "Integrate and evaluate content presented in diverse formats, including visually and quantitatively, as well as in words" (NGA Center & CCSSO, 2010, p. 35). Similarly, Anchor Standard Five for the Speaking and Listening strand states: "Make strategic use of digital media and digital displays of data to express information and enhance

understanding of presentations" (NGA Center & CCSSO, 2010, p. 48).

Among the primary ways that the standards call for the integration of digital technology is through the consumption, production, and presentation of multimodal texts. Throughout the standards, students are asked to produce a response that incorporates digital media or to understand information that is conveyed through digital media. Therefore, it is critical that teachers begin to consider how to integrate these opportunities into their instruction. Ideally, students would have the opportunity to learn both print-based literacy skills and digital literacy skills simultaneously (Hutchison, Beschorner, & Schmidt-Crawford, 2012).

Other reasons that digital tools are valuable in the literacy classroom is that they can support literacy skill development (Barone & Wright, 2008), enhance existing literacy practices (Hutchison, Beschorner, & Schmidt-Crawford, 2012; Vasinda & McLeod, 2011), support differentiated learning opportunities (Stanford, Crowe, & Flice, 2010), and act as a resource through which students can independently construct new knowledge with guidance from a teacher (Northrop & Killeen, 2013). With these tenets in mind, we have researched literacy teachers' uses of digital technology in classrooms (Hutchison, Beschorner, & Schmidt-Crawford, 2012; Hutchison & Reinking, 2010; Hutchison & Reinking, 2011) and have used our experiences in those classrooms to create the Technology Integration Planning Cycle for Literacy and Language Arts that we present in the current article.

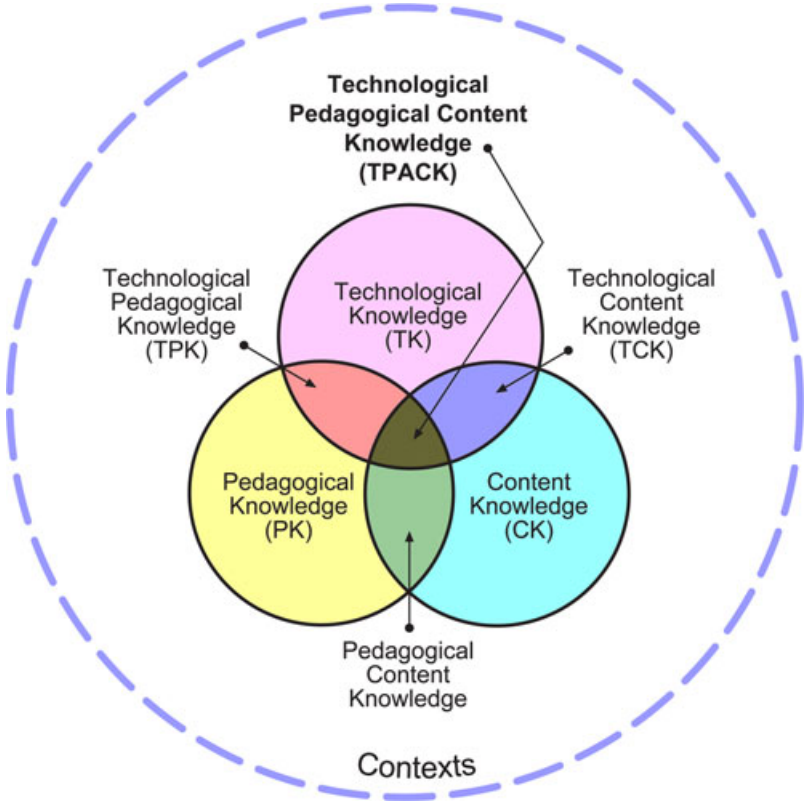
Technological Pedagogical Content Knowledge

To guide our understanding of the knowledge that teachers must apply when integrating digital technology into instruction, we consider the Technological Pedagogical Content Knowledge (TPACK) framework designed by Mishra and Koehler (2006) as a starting point for our instructional planning cycle. The TPACK framework is based on Shulman's (1986) idea of Pedagogical Content Knowledge. He argued that the recognition that good teachers have knowledge of their subject matter and of general pedagogical strategies is not sufficiently complex for capturing the knowledge of good teachers. Rather, it is the interplay of these components that allows teachers to both interpret subject matter and make it accessible for learners.

Similarly, the TPACK framework highlights the types of knowledge, and the interplay among them, that allow teachers to interpret curricular standards and goals and make that content accessible to learners through their instruction and the integration of digital technology. However, it is important to note that the TPACK framework is theoretical and is not a practical guide for helping teachers plan instruction with digital technology. The TPACK framework is illustrated in Figure 1.

Mishra and Koehler (2006) suggested that the most effective way to integrate technology into classroom instruction is for teachers to simultaneously draw on their technological, pedagogical, and content knowledge. Consequently, the TPACK framework "emphasizes the connections, interactions, affordances, and constraints between and among content, pedagogy, and technology" (Mishra & Koehler, 2006, p. 1025).

Figure 1 The TPACK Framework and Its Knowledge Components



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"Digital tools and environments alter what it means to be literate."

Mishra and Koehler described Technological Content Knowledge (TCK) as an understanding of how technology and content are reciprocally related and involves knowledge of how one's subject matter can be changed by the application of technology. They described Technological Pedagogical Knowledge (TPK) as knowledge of various technologies and their capabilities, as well as how teaching might change as a result of using various technologies. Pedagogical Content Knowledge (PCK) is described as "knowing what teaching approaches fit the content, and likewise, knowing how elements of the content can be arranged for better teaching" (p. 1027). This type of knowledge involves understanding of what makes concepts easy to learn, how concepts can be best represented, and of what learners bring to the learning situation. Using the TPACK framework to develop our instructional planning cycle allowed us to identify the types of knowledge and understandings that might contribute to teachers' instructional choices.

The Need for an Instructional Planning Framework

Recent research indicates that teachers often have a difficult time using their TPACK in a systematic and useful way (Hutchison, Beschorner, & Schmidt-Crawford, 2012; Hutchison & Reinking, 2011). Leu et al. (2004) asserted that teachers must be able to synthesize these types of knowledge to "orchestrate complex contexts for literacy and learning rather than simply dispense literacy skills" (p. 1599). Without an ability to draw on the strengths of each of these types of knowledge to create a rich and meaningful learning experience for students, both teachers and students are disadvantaged (Leu et al., 2004). Thus we believe there is a need for an instructional planning cycle that would guide teachers in using their TPACK.

To guide our instructional planning cycle, we draw on is Harris and Hofer's (2009) suggestions about the instructional decisions that teachers can make to plan a learning event that involves digital technology. They suggested that teachers (a) choose learning goals, (b) make pedagogical decisions about the nature of the learning experience, (c) choose activity types to combine, (d) select assessment strategies, and (e) select the digital tools that will best help students benefit from the learning experience.

Elements of our planning cycle are similar to Harris and Hofer's suggestions, particularly in the fact that both models exert that instruction should not be driven by the technology that will be used, but rather, the technology should be selected based on the learning standards and pedagogical approach to the lesson or unit. However, our approach differs in important ways.

First, Harris and Hofer did not explicitly recommend that teachers specifically outline *how* digital tools contribute to their instruction and to the development of digital literacy skills. Rather, they recommend just that teachers choose a digital tool from the ones that they propose will support particular learning activity types. In doing so, they do not suggest, as we do, that teachers choose a nondigital tool if, on reflection, they discover that using a digital tool will not make a strong contribution to their instruction or if they are unable to locate a tool that will appropriately support their learning goal.

Additionally, Harris and Hofer did not suggest that teachers consider the constraints of the tools they select, how they might overcome potential constraints, or how they use those considerations to inform their instruction. They also did not suggest that teachers particularly consider the ways that the integration of digital tools will influence the classroom environment and routines. Considering how many classroom factors will need to differ with digital technology, this is an important aspect of planning instruction.

Perhaps most importantly, our cycle is specifically aimed at helping literacy teachers consider whether their planned instruction contributes to both digital and nondigital literacy development. Finally, our cycle is situated within a sphere of reflection that we believe is critical to technology integration Thus we believe that our proposed planning cycle, though similar in some elements, extends beyond the recommendations of Harris and Hofer in important ways.

"We have gathered some key insights into the process that literacy teachers undergo as they incorporate digital tools into their daily class activities."

Figure 2 presents our Technology Integration Planning Cycle for Literacy and Language Arts, which is designed as a recursive decision-making process that teachers can use as they endeavor to integrate digital technology into literacy instruction.

The Technology Integration Planning Cycle for Literacy and Language Arts

We have identified seven critical elements that influence teachers' instructional planning involving digital technology and the success or failure of the resulting classroom instruction. The seven critical elements are as follows:

1. Ability to identify and adhere to a clear instructional goal when integrating digital technology
2. Ability to identify an appropriate instructional approach for the instructional goal
3. Ability to select appropriate digital or nondigital tools to support instruction
4. Ability to foresee how the selected tool can contribute to the instructional goal
5. Ability to identify the potential constraints of using the tool to determine whether they can be overcome
6. Ability to understand how the instruction will need to be delivered or altered due to the use of the selected tool
7. Ability to reflect on the resulting instruction and make changes/learn more about the instructional tools as needed

These elements represent the areas that should be most frequently and heavily weighted by teachers in their instructional planning, delivery, and reflection.

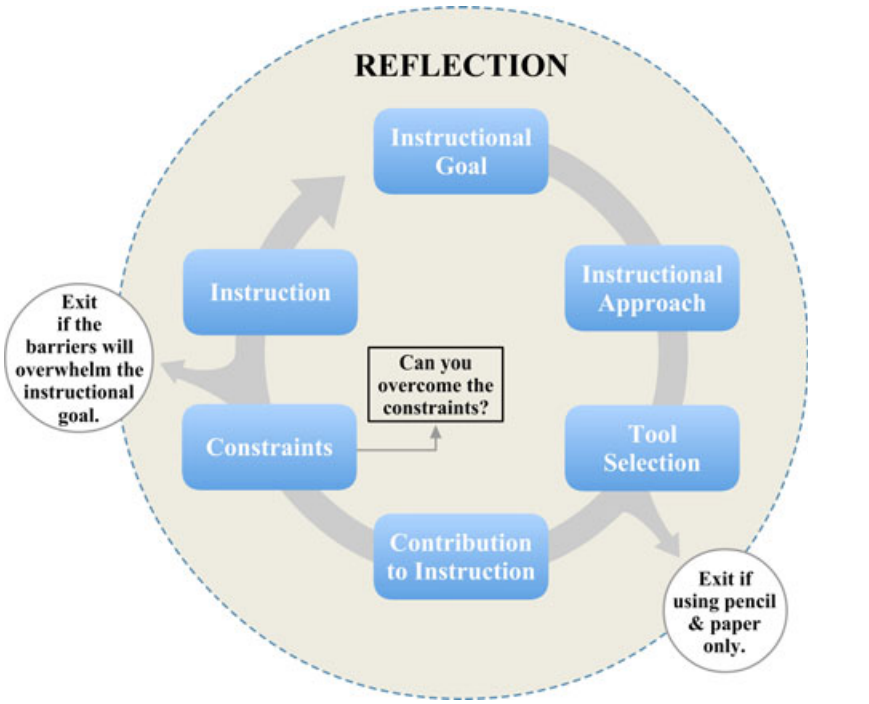
The model is a reflective cycle; although each element is intended to be considered in a particular order, decisions made about one element should reflect the considerations of the previous elements. A discussion of each critical element follows.

Instructional Goal

Whether the teacher is using this model to plan instruction for a whole unit or a daily lesson, the instructional goal should be the first consideration. The instructional goal should be explicitly stated and tied to overall course goals, grade-level goals, and state and national standards. Additionally, the instructional goal is both the first and last element to be visited in the literacy and language arts technology integration process. The instructional goal serves as both the entry point to the process as well as the exit point, as the goal should be revisited after the other elements have been considered to ensure that the design still fully meets the goal.

Classroom illustration—To illustrate each part of this instructional planning cycle, consider a simplistic classroom example. We recognize that this example is simplistic and does not take into account the many school and classroom factors that teachers need to consider when planning instruction. However, it can serve as a starting point for understanding how to use the Technology Integration Planning Cycle. With that understanding in mind, imagine that Ms. Thomas, the third-grade teacher from the opening scenario, has identified the following Common Core Standard as the goal for her instruction: "Determine the main idea of a text; recount the key details and explain how they support the main idea" (CCSS.ELA.Literacy.RI.3.2; NGA Center & CCSSO,

Figure 2 The Technology Integration Planning Cycle for Literacy and Language Arts



2010, p. 14). We will continue with this example throughout to illustrate each step of the instructional planning cycle.

Instructional Approach

The methods used to meet the objectives laid out in the instructional goal represent the instructional approach. Although this will be further refined by selection of a tool and a careful analysis of how the instruction will take place in the classroom, it is important to begin with an understanding of the best methods for meeting the instructional goal. Teachers must use their Pedagogical Content Knowledge (Mishra & Koehler, 2006) to determine the best approach to facilitate student learning.

Here, we draw on Harris and Hofer's (2009) suggestions for making pedagogical decisions, but extend them in a few ways. Harris and Hofer suggested that teachers consider the extent to which the learning should (a) be teacher or student centered; (b) be convergent or divergent (should students develop similar understandings or draw their own conclusions?); (c) involve relevant prior experiences with the topic. To this suggestion, we would add that this is an important point at which the teacher should also consider students' prior experiences with technology. Teachers should consider the digital skills students will need to learn to participate in the lesson; (d) facilitate a more surface-level or deep understanding of the topic. To this suggestion, we add that this decision may vary by the phase of instruction and within a lesson; (e) be longer or shorter in duration; (f) involve more or less structured learning; (g) take place in a whole group, small group, or individual configuration; and (h) involve additional resources.

Classroom illustration—In our example, Ms. Thomas uses her Pedagogical Content Knowledge to determine that her students will need to receive some direct instruction, but should also construct knowledge for themselves through independent practice opportunities. She wants students to come to a similar understanding, but also wants them to draw on familiar experiences and contexts to construct their understandings; therefore, they may come to their understandings in slightly different ways. She would like for them to work in pairs so that they can orally describe and discuss their understanding of main idea and details as well as collaboratively engage in activities that will move them from a more surface-level to a deeper understanding.

Tool

Once the instructional goal is established and an instructional approach is selected, teachers will draw on their TPACK to consider the type of tool best used to accomplish the instructional goal with the desired approach. If this tool is a digital tool, then teachers will begin to think specifically about how the tool may contribute to instruction. If it is evident that a nondigital tool will best suit the instructional goal and approach, then teachers will not need to use this model of technology integration. An important consideration at this step is whether or not a digital tool might complement the nondigital work.

"The use of digital tools for literacy and language arts is integrated throughout the Common Core State Standards."

"Decisions made about one element should reflect the considerations of the previous elements."

Classroom illustration—Continuing with our example, Ms. Thomas must determine how or if she can use iPads to support her goals. First she must decide if the iPads should be used as a tool to search for information or if she should use apps intended for specific functions such as organizing information, providing practice on particular topics, listening to recorded readings, or responding to texts through audio or video recording, writing, or drawing.

iPads offer many unique options for literacy instruction, but teachers must carefully consider which, if any, of these options aligns with their instructional goals. As a starting point, Ms. Thomas determines that an app for viewing videos and images will help support her instructional goal because she knows that pictures can be an effective way to scaffold and demonstrate understanding.

During her app search, Ms. Thomas identifies several ways that iPads can support her instruction and decides that her lesson will proceed in the following way: First, she recognizes that using iPads will allow her to introduce the concept of main idea and details with a video. Doing so will be likely be more engaging for her students and will help her present the concept in a simple and straightforward manner. Thus she will first have students access the YouTube app to view the following video: www.youtube.com/watch?v=W24RyhtX1qA.

Next, she will ask students to discuss and summarize their understanding of the video and then have them practice finding the main idea with photos that she has loaded onto the photo stream in the built-in camera app on the iPads. She chooses to have them look at photos first because she believes that photos and illustrations are a good way to introduce this topic to ensure that they understand the concept before moving on to printed text. Additionally, she wants to help her students understand that images carry meaning in a text. Furthermore, she chooses photos from classroom projects and related to activities that she knows her students participate in outside of school because she wants them to be able to draw on familiar experiences as she introduces the skill.

After this, she will guide students in identifying main ideas and details in a text. She will have students use free digital texts from a site such as library.uniteforliteracy.com. At this point, she will again draw their attention to the illustrations and how they carry meaning and can support the main idea of the text as well. In doing so, she can also address the following standard: "Use information gained from illustrations (e.g., maps, photographs) and the words in a text to demonstrate understanding of the text" (CCSS.ELA-Literacy.RI.3.7; NGA Center & CCSSO, 2010, p. 14).

Contribution to Instruction

Using their TPACK, teachers will outline the specific contributions to instruction that the digital tool provides. Because this is a reflective cycle, the instructional goal or approach may be revisited as a result of the possible contributions to instruction of the tool. The contributions should be directly tied to the specific tool and should aim to reflect the specific reasons this digital tool is the best fit for the instructional goal.

This is a critical element in the process because it enables the teacher to focus on the specific features of the tool that will be used for the learning experience, rather than considering the tool as a whole. Additionally, looking at the contributions of the tool, before the constraints, will enable teachers to not only fully explore the potential of the digital tool they have selected, but will also reduce the impact that potential barriers have on instruction.

Perhaps most importantly at this juncture, teachers should consider whether the lesson they have planned with the digital tool affords students the opportunity to:

(a) Learn both digital and nondigital literacy skills. For example, the lesson Ms. Thomas has planned affords students the opportunity to learn the traditional literacy skill of identifying the main ideas of a text and thus addresses a Common Core State Standard. Yet, it also addresses digital skills such as identifying main ideas from videos and images and how to navigate and use features of a digital tool.

(b) Engage in the types of multimodal production or consumption required by the Common Core English Language Arts (ELA) standards. Requirements to both understand and produce information involving diverse media and formats are woven throughout the standards. Thus when teachers are integrating digital technology into their instruction, they should consider whether the activity also affords the opportunity to address a Common Core State Standard related to using and understanding digital technology.

Classroom illustration—The lesson Ms. Thomas has planned provides students with the opportunity to gather meaning from images and video, but not the opportunity to create a multimodal text. She recognizes that she may be able to use the activity to address additional standards related to digital technology. On reviewing the third-grade ELA standards, she sees other standards related to her activity.

For example, she first realizes that she is already addressing Speaking and Listening Standard 3.2 (CCSS.ELA-Literacy.SL.3.2), which states that students should "Determine the main ideas and supporting details of a text read aloud or information presented in diverse media and formats, including visually, quantitatively, and orally" (NGA Center & CCSSO, 2010, p. 14). She is addressing this standard by having students view a video and use images to learn about the concept of main idea.

At this point, she also recognizes how her activity could connect to other standards involving digital technology as well. For example, she sees how her lesson could address Writing Standard 3.6 (CCSS.ELA-Literacy.W.3.6), which

"Throughout the standards, students are asked to produce a response that incorporates digital media or to understand information that is conveyed through digital media."

"Our cycle is specifically aimed at helping literacy teachers consider whether their planned instruction contributes to both digital and nondigital literacy development."

states: "With guidance and support from adults, use technology to produce and publish writing as well as to interact and collaborate with others" (NGA Center & CCSSO, 2010, p. 21).

Thus Ms. Thomas expands her lesson to include a practice opportunity in which she asks students to work with a partner to independently illustrate their understanding of main idea and details with the Popplet app, which is a graphic organizer app that allows the user to combine text, image, and color to graphically illustrate ideas. The user can also annotate photos and does not have to exit the app to take photos or access existing ones from the camera roll; it can all be done within the app. This inclusiveness will work well for her third graders.

Ms. Thomas will have her students use Popplet to graphically organize the main idea and details of their assigned text through a combination of images and text. This means that she will again need to discuss with students the ways that image, text, and color can mutually support each other, so she will make that a part of her lesson. Thus her lesson provides students with the opportunity to not only consume multimodal texts, but to also produce one of their own. See Figure 3 for an example illustrating a main idea and details that were created with Popplet. Best of all, the lesson Ms. Thomas has planned affords the opportunity for her to address both print-based and digitally-based ELA standards.

Constraints

Digital tools, like all tools used for learning, have their limitations. It is important for teachers to consider possible constraints before implementing technology to ensure that the constraints do not overpower the instructional goal. The contributions of the tool should serve as a guide for considering the constraints. Teachers should analyze the tool to determine whether there are features or circumstances that would prevent the tool from contributing to instruction or would minimize the possible contributions. Once the possible constraints have been determined, then it is important to consider the following questions:

- Do constraints of using the digital tool overwhelm the instruction?
- Can you overcome the constraints?

One potential constraint that teachers may face is that students may lack familiarity or experience with the digital tools being used (Hutchison & Reinking, 2011). If this is the case, then teachers will need to ensure that such is accounted for in their instruction. Likely, this constraint can be overcome with careful planning and scaffolding, but the teacher may need to consider how to scaffold the students' experience with the tools so that their inexperience doesn't overwhelm the instructional goal. If the constraints do seem likely to overwhelm the instruction, then that is an indicator that use of the digital tool as planned, or perhaps use of any digital tool, is not the best choice for meeting this instructional goal.

Classroom illustration— In our example, Ms. Thomas is aware that students may get so excited about the iPads that

Figure 3 Example of Student Product Produced Using Popplet

they forget about the purpose of their assignment. They could spend so long examining the photos that little time is left to explain how to identify main ideas in a text. However, Ms. Thomas has considered the way she can overcome these constraints. First, she will provide students with a specific amount of time to view the introductory video and identify the main ideas of the photos she has selected for them. She will provide explicit guidelines for how students should complete the tasks and display a timer indicating the amount of time they have left to complete their tasks.

Next, she will carefully scaffold her instruction using the Gradual Release of Responsibility model (Pearson & Gallagher, 1983) to explain and model how to identify the main ideas within a text to ensure that the students have ample opportunity to understand the concepts before completing their independent examples. When it comes time for students to create their work in Popplet, she will provide explicit instruction about what she would like students to include and how to demonstrate their understanding. With these plans in mind for overcoming her constraints, Ms. Thomas decides to continue with the instruction as planned because she believes that the benefits will outweigh the possible constraints.

Instruction and Reflection

After making the decision that any possible constraints can be overcome, teachers should envision how the instruction will take place when using this digital tool. Considerations in this element might include physical space, classroom environment, classroom management, student work time, directions or explanations needed, and assessments. After analyzing how the instruction will take place, the teacher should, at this point in the process, have a clear idea of how to use the digital tool to accomplish the learning goal. Finally, before beginning the lesson, the teacher should revisit the instructional goal to ensure that the contributions, constraints, and instruction are all tied to the goal.

"It is important for teachers to consider possible constraints before implementing technology to ensure that the constraints do not overpower the instructional goal."

Classroom illustration—In our example, Ms. Thomas has already considered many of the ways she will provide directions and explanations, but realizes that she will likely need to provide an introduction and simple explanation of the Popplet app because this will be the first time that students have used it. She will also need to consider how she will view students' work in Popplet. For example, will she have students email their work to her or will she collect the iPads and view the work there?

Furthermore, she will need to consider how she will assess the students' work and evaluate their understanding because their final product will consist of not only text, but also images contained within a graphical display. On again considering her instructional goal, Ms. Thomas believes that the instruction she has planned can help her to meet her instructional goal while also providing students with opportunities to develop a variety of additional skills. She will proceed with the instruction and reflect on the outcome to determine whether changes need to be made for future instruction. Figure 3 shows an example of a Popplet using image and text to represent the main ideas and details of a text.

Conclusion

By situating this cycle within a sphere of reflection, teachers should feel empowered to carefully consider how to use their TPACK in their own classrooms with specific instructional goals. We believe this instructional planning cycle serves as a bridge between the types of knowledge needed for teachers to effectively integrate technology into their instruction (Mishra & Koehler, 2006) and the critical elements needed in planning to integrate technology for specific literacy and language arts instructional goals. Engaging students in the kind of comprehension activities dictated by the standards and preparing them to be digitally literate in the ways dictated by the standards can seem like a daunting task. However, we believe that this task can become more manageable if teachers aim to simultaneously teach both traditional and digital literacy skills through the process outlined in this article.

This cycle also has particular relevance for professional development that supports teachers' technology integration planning and practices. Hutchison & Reinking (2010) found that 82% of surveyed literacy and language arts teachers believed that a lack of meaningful professional development was a barrier to technology integration. One particular aspect of professional development that teachers identified as lacking was access to successful models for integrating digital technology into their instruction. The proposed cycle may meet this need and mediate

the frustration felt by teachers who are trying to integrate technology by guiding them toward reflection and the critical assumptions necessary for creating meaningful integration opportunities.

In conclusion, we believe that our proposed instructional planning cycle for teachers can act as a starting point for classroom teachers as they develop their ability to integrate the digital strands of the Common Core State Standards into their instruction. We hope that teachers will see it as a flexible, reflective cycle that highlights the aspects of instruction that should be considered when integrating digital technology into literacy instruction.

TAKE ACTION!

1. Become familiar with your own level of Technological, Pedagogical, and Content Knowledge. To plan for integrating technology into instruction, it is important to have a clear understanding of the technology available to you, the varying pedagogical approaches suitable for your learning goal, and the specific content. Work toward strengthening any areas that may need development and seek out resources that will allow you to use your knowledge effectively.

2. Consider the importance of using and teaching new literacies skills in your overall curriculum. Understand those standards and learning objectives that involve a digital environment to guide the selection of learning objectives and digital tools. Evaluate the types of media that may be used with the digital tools available to you, and carefully think about how multimedia projects may contribute to students' learning.

3. Choose an instructional goal and use the New Literacies Instructional Planning Cycle to effectively integrate technology into literacy instruction. Be reflective as you consider the different critical elements of the cycle and ensure that you have considered the affordances before the constraints of the tool. On completion of the lesson, revise your instruction and the instructional plan to reflect the insights gained about the suitability, affordances, constraints, and impact of using the digital tool.

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