

**Introducing Interactive Notebooks into Pre-service Teacher Education**

Kindra Carr  
Undergraduate Student  
kwcarr@mix.wvu.edu

Jessica M. Blythe  
Assistant Professor  
jmblythe@mail.wvu.edu

Department of Agricultural and Extension Education  
West Virginia University  
4304 Agricultural Sciences Building  
P.O. Box 6108  
Morgantown, WV 26506  
304-293-5536

### **Introduction/need for innovation or idea**

Over the course of the last decade interactive notebooks have become a staple in primary and secondary classrooms allowing students to engage in learning through a process of gathering information and self-reflection (Waldman & Crippen, 2009). Though the implementation of interactive notebooks varies depending on grade level and content, the benefits are based in providing students a variety of strategies to create a personal and organized record of learning. Interactive notebooks are thought to be one way for teachers to accommodate different learning styles and abilities, while planning, conducting and assessing student learning. The idea of the interactive notebook originated at the Teachers' Curriculum Institute (TCI). According to TCI (2010), interactive student notebooks make note-taking an active and engaging process where students use their multiple intelligences to make their learning experience fun and exciting. These instructional strategies are based on a variety of important theories, including Understanding by Design (Wiggins & McTighe, 2005), Multiple Intelligences (Gardner, 1993), Cooperative Instruction (Marzano, Pickering, & Pollock, 2001), and Spiral Curriculum (Bruner, 1960).

Though these notebooks have been a part of many classrooms, pre-service teachers are rarely introduced or taught these strategies within the course of their teacher training. Most teachers report learning about interactive notebooks from blogs, Pinterest, or other online resources. Implementing interactive notebooks into pre-service classes can help prepare future educators with a variety of interactive learning strategies they could implement with their students.

### **How it works/methodology/program phases/steps**

This innovation is fairly simple and can be easily modified to meet your teaching style, resources, and your student's needs (Chesbro, 2006). The bases for all interactive notebooks centers around 3 main learning activities: *In* activities, which activate prior knowledge and create motivation for learning, *Through* activities, which allow the teacher to direct student learning, and *Out* activities, which focus on student reflection (Waldman & Crippen, 2009). There are many ways to incorporate all 3 types of learning activities into an interactive notebook. The requirements should vary based on the content, the learning levels of students, the teaching methods used within the course and teacher preference.

There are two general types of notebooks to consider when developing your own requirements for a notebook. Most secondary uses of interactive notebooks are some variation or combination of the two varieties.

1. Handout Notebook – This is the most basic notebook and is a collection of handouts used throughout the course. Most post-secondary students can create this on their own, but by providing structure and direction, pre-service teachers can learn how to build the supports needed by primary and secondary students. To make the Handout Notebook more relevant to secondary education, it is best to: (a) provide a variety of note taking strategies including items like outlines, concept maps and foldable notes, (b) create sections based on content or type of activity. For example, you may want a section for Bell Ringers, or for Laboratory activities, or for assignments. (c) Provide opportunities for students to use color (either paper or writing tools) within their note strategies. (d) Provide a table of contents for sections which will have high number of pages.

2. Traditional Science Interactive Notebook - This is a spiral notebook which assigns specific purposes to both a right hand and a left hand side (Endacott, 2007). The right hand side is used for the teacher-directed activities, which include notes, handouts, readings or any other source of information. The left hand side is a space for student reflection, processing, and expression of the right hand sides' content, in the student-directed different forms such as Venn diagrams, concept maps, graphic organizers, diagrams, poems, or songs. The left -side page of the notebook is where the students move beyond regular classroom instruction, allowing them to fully digest the lesson for better understanding (Wist, 2006).

### **Results to date/implications**

Over the course of the last 4 years, 3 different variations on the types of notebooks discussed above have been implanted in 4 [Department] pre-service teacher courses at [University]. They pre-service teachers have included the notebooks as one of the most positive tools they have developed while at [University] in the end-of-course evaluations for each of the courses. Additionally, students have implemented a variety of the strategies throughout their teaching internships and their cooperating teachers have indicated that students responded positively. Recent graduates have also reported that they have implemented interactive notebooks in their classrooms, and have received positive responses from their peer-teachers and administration.

### **Future plans/advice to others**

Interactive notebooks will continue to be a staple of [department] courses at [university] because of the positive feedback from the programs teacher graduates. The first piece of advice is you have to believe in the importance of the notebooks purpose in your class. If you don't make it a priority the students at the post-secondary level won't have the incentive to use their notebooks to their utmost benefit. The second piece of advice is you also must keep up with your teacher version of the notebook. It aids in helping those students who may miss a class and it provides a model for your students. When using this innovation make sure to incorporate many types of notes, handouts, and foldables so pre-service teachers can truly experience how variety and creativity within interactive notebooks can help them develop strategies for their future classrooms.

Some students will struggle with the semi-open instructions which come with some aspects of interactive notebooks, such as freedom to design, write or paste items in ways that the teacher has provided. Many want to make it identical to the teacher sample or what they would consider perfect. You may have to push them out of their comfort zone – it isn't a college students comfort zone to be creating with color and glue sticks. They often take it very seriously and strive to create a perfect version. It is important to stress that these notebooks are learning tools, and not pieces of artwork, and to refocus students on the importance of functionality and learning rather than aesthetics.

### **Costs/resources needed**

To implement this activity there are only a few resources needed by both the student and instructor. The students would have to purchase their own supplies for their personal notebook. Depending on which style required this could be a 3-ring binder with dividers, a spiral bound or a journal. As the instructor you will need to provide the handouts, glue sticks, colored pencils/crayons/markers, rubrics and requirements.

### References

- Bruner, J. S. (1960). On learning mathematics. *The Mathematics Teacher*, 53(8), 610-619.
- Endacott, J. (2007). Social studies interactive notebooks: Helping to meet the needs of middle school students. *Social Studies Research and Practice*, 2(1), 128-138.
- Chesbro, Robert (2006). Using Interactive Science Notebooks for Inquiry-Based Science. *Science Scope*, 29(7), 30-34.
- Gardner, H. (1993). *Multiple intelligences: The theory in practice*. New York, NY: Basic Books.
- Marzano, R. J. (2010). Representing knowledge nonlinguistically. *Educational Leadership*, 67(8), 84-86.
- Marzano, R. J., Pickering, D., & Pollock, J. E. (2001). *Classroom instruction that works: Research-based strategies for increasing student achievement*. Alexandria, VA: ASCD.
- Waldman, C., & Crippen, K.J. (2009). Integrating interactive notebooks. *The Science Teacher*, 76(1), 51-55.
- Wiggins, G. P., & McTighe, J. (2005). *Understanding by design*. Alexandria, VA: ASCD.
- Wist, C. (2006). *Putting it all together: Understanding the research behind interactive notebooks*. (Master's thesis) College of William and Mary, Williamsburg, VA.