

An Analysis of a JIT Lesson and Presentation of a Classroom Toolkit

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Benefits of using just-in-time mini-lessons and at-a-glance resources

Just-In-Time mini-lessons are quite versatile and helpful little tools that can be quickly used to check students' understanding of an upcoming topic, as a warm-up for the lecture or an activity, and as a way to get the students to start thinking critically about the topic and possibly research it on their own before instruction (Novak, 2014). The idea is to create an open-ended question that requires the students to deeply investigate their prior knowledge and give a thoughtful response. This not only introduces the topic and activates the students' curiosity, it also gives the teacher valuable information about the students' knowledge and perspectives to help in adjusting the lesson as necessary to make it more relevant.

At-a-glance resources can be helpful in many situations to organize complex information and make it easy and clear for students to find the important details and understand or remember what could be an otherwise confusing jumble. Produced and used effectively, graphic organizers such as infographics can not only transform a lot of info into a compact and usable resource, they can also make boring paragraphs and pages of text into colorful and interesting works of art that are more enjoyable to read and study. There are many different kinds of At-a-glance resources from a simple picture with labels to detailed and action-packed flowcharts that can help solve complex problems. Nowadays it's easy for anyone to make their own At-a-glance resources to use in their classrooms or even students for a homework assignment; lots of free websites exist with templates and tools for doing just that.

Just-in-time lesson that was taught in Module 7

In Module 7 we were asked to deliver a “just-in-time” (JIT) lesson that we had created for a previous module. I have some freedom in my ESL classes at the University, especially with students whose English ability is above the required level for the fundamental English courses, and so I decided to deliver a lesson that was geared toward science with a class of mostly science majors. I guessed they would enjoy the departure from the usual lessons, especially since the topic was within their interest. The JIT that I chose to use was produced to help students learn about and practice evaluating the credibility of online resources and included a worksheet that organizes the CRAAP method of source evaluation. The JIT was written to address the types of online research typical to a secondary level science curriculum which I intend to teach in the future, so it was simple enough yet engaging for University level ESL students. The question I had composed was designed to be provocative, open ended and allow an opportunity for students to “take a stand and justify their position” as outlined by Gregor Novak (2014) in an Edutopia article titled “Just-in-Time Teaching: An Interactive Engagement Pedagogy” (See Appendix A).

What worked well in the mini-lesson

The lesson was given as group work to ensure that all of the students had a device of their own or one to share with their group mates, and since they are ESL students, to allow them to help each other with language comprehension. They were able to understand the questions well and find the websites and information that they needed to answer the questions and complete the worksheet. They seemed quite interested and engaged in the project. The main problem that many students had was deciding what score from 1 to 10 to give to each of the components of

the CRAAP test. Since it's a qualitative judgement and English not being their first language, it was a bit difficult for them to judge these sources written in English. So we went through the worksheet together once as a class and decided what would constitute a "10" score for each section (indicating very reliable information) and what would be a "1". After that it was much easier for them to estimate the reliability score for the sources based on the boundaries we had described together. The rest of the exercise went pretty smoothly except that, again, English not being their mother tongue, it took quite a while to compose their answers to the questions and there wasn't much time left for reviewing and discussing the results. However, their comprehension of the credibility assessment process seemed to improve dramatically over the course of the lesson and most of them seemed confident in using the CRAAP worksheet by the end.

Plan to integrate just-in-time teaching around technology in future lessons

Once I'm teaching in an International School, I Plan to integrate just-in-time teaching as warm-ups and preliminary assessment. I have already planned on using Google Classrooms with Quizlet to make formative assessments that can be delivered before lessons and this style of lesson plan fits perfectly within that framework. I plan to produce JIT lessons to introduce each broad topic and get a feel for what the students already know about it while at the same time cultivating interest in the upcoming lesson.

Ways in which curriculum standards were integrated with ISTE standards

The curriculum standards for our fundamental English courses include reading and writing skills that involve many of the ISTE principles that were covered in the lesson. The

ISTE standards that the JIT lesson addresses relate to becoming a “Knowledge Constructor”; for example:

- “Students plan and employ effective research strategies to locate information and other resources for their intellectual or creative pursuits.
- Students evaluate the accuracy, perspective, credibility and relevance of information, media, data or other resources.
- Students build knowledge by actively exploring real-world issues and problems, developing ideas and theories and pursuing answers and solutions.”

These standards descriptions were taken directly from the ISTE.org website, (ISTE Standards For Students, 2017). The JIT lesson required the students to use critical thinking skills to determine the credibility of the sources and the validity or bias of the information presented. They also had to locate a relevant source to refute or challenge the given sources requiring them to “employ effective research strategies”. Finally, they “built knowledge” about “real-world issues” by working to understand the concepts involved and discovering the facts about the matter. The CRAAP Test Worksheet linked in the JIT lesson for use in evaluating the websites also linked in that lesson, had been borrowed from the University of Twente website:

<https://www.utwente.nl/en/lisa/library/miscellaneous/docs-ad/craap.pdf> (see Figure A).

This lesson was easy to incorporate standards because the task involves reading and writing English and that’s what we’re studying and practicing in class anyways. Future lessons will be integrated differently according to the standards applied to science subjects at a secondary level.

Reflection on the social, ethical, and legal issues faced by my students and implications for culturally responsive teaching

My students face similar issues around technology as any other students in a modern society with broad access to computers and internet technology. Probably the most important issues right now are security and privacy concerns, along with the credibility of information or lack thereof. These topics are hopefully getting treatment in other courses at the university, but it wouldn't hurt to devote a bit of time at the beginning of the semester to covering some of the major points. Another concern here especially is copyright and plagiarism. The Asian cultures often don't see as much of a problems with using others work, being of a more collectivist nature. However, in the modern economy it is a concern that could become a major problem in the future if a student were to study or work abroad.

Something that I've just begun to realize near the end of the course is that using technology in education IS culturally responsive teaching for "digital natives" since most of the younger generation grew up with computers and internet technology and much of their learning has been done in front of a screen since a young age. What that means is that in the same way a student whose culture is one of a more oral tradition will naturally comprehend and remember information that is delivered in the form of a story better than reading it from a book; a digital native will engage with and more easily assimilate material that is presented in the form of a video or even a video game. It hadn't occurred to me when studying about culturally responsive teaching that the modern culture is dominated by technology and has been for an entire generation. This means that it's becoming increasingly more important to utilize technology in classrooms and for extending learning outside of the classroom. Perhaps one of the best ways to

stay culturally relevant, even amongst a group of students from varying cultures, is to use technology in creative and appropriate ways to activate the younger generations natural learning abilities and keep the students engaged and excited about learning.

References

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Figure A

The CRAAP Test Worksheet

Use the following list to help you evaluate sources. Answer the questions and then rank each of the 5 parts from 1 to 10 (1 = unreliable, 10 = excellent). Add up the scores to give you an idea of the quality of the resource.

Currency:

- When was the information published or posted?
- Has the information been revised or updated?
- Is the information (also links) current or out of date for your topic?

Relevance:

- Does the information relate to your topic or answer your question?

Authority:

- Who is the author/publisher/source/sponsor?
- Are the author's organizational affiliations given? If yes, are they appropriate? (Does the URL reveal anything about the author or source?)
- What are the author's qualifications to write about the topic?
- Is there contact information, such as a publisher or email address?

Accuracy:

- Is the information supported by evidence?
- Has the information been reviewed or refereed?
- Can you verify any of the information in another source?
- Does the language or tone seem unbiased and is it free of emotion?
- Are there spelling or grammar errors, do links work?

Purpose:

- What is the purpose of the information?
- Do the authors/sponsors make their intentions or purpose clear?
- Is the information a fact, an opinion or propaganda?
- Are there political, ideological, cultural, religious, institutional, or personal biases?

Total CRAAP:

45 - 50 Excellent | 40 - 44 Good | 35 - 39 Average | 30 - 34 Borderline Acceptable | Below 30 Unacceptable

Appendix A

There appears to be a controversy surrounding a substance known as “DHMO”. Some believe it to be quite dangerous while others think it’s mostly harmless. Review the following two websites:

<http://www.dhmo.org/>

<http://descy.50megs.com/descy/webcred/webcred/dhmo.html>

First, use your own scientific knowledge to assess whether the information is truthful or misleading; Then evaluate the websites’ credibility using “The CRAAP Test Worksheet” found at this link:

<https://www.utwente.nl/en/lisa/library/miscellaneous/docs-ad/craap.pdf>

*Write a short explanation of your own assessment of the claims made by the websites’ authors and then compare that with the score from the CRAAP Worksheet, and write any comments. **Find and note one online source refuting the claims of these given sources or giving an alternative perspective.** What kind of scientific knowledge do you need to understand and assess the information in these websites? How can you be sure that scientific information you find online is truthful, unbiased and useful?*