EDD 7914 – OL1 Curriculum Teaching and Technology
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Assignment #5 – Technology Integration – ASSURE Lesson Plan
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Abstract

Giving students digital tools that encourage greater student autonomy in the learning process is the goal of this lesson plan. The lesson plan outlines the instruction to students on how to select and use a set of digital tools. Once students are comfortable with this, they will be in a position to identify inquiry interests, a process to research that inquiry, and a method of monitoring progress towards completing their project. The lesson plan follows the ASSURE model. This model ensures that the learning goals are central to lesson planning and that technology is used as a tool rather than as the learning objective.

Introduction

The intent of this lesson plan is to help students make better use of digital tools to facilitate greater student autonomy in the areas of setting goals and monitoring progress towards achieving those goals. In the context of a grade five capstone inquiry unit, there are opportunities to using technology rather than hard copy templates and guides provided by teachers. The benefits of use technology include 24/7 access (while hard copies might not be at hand or get lost), improved collaboration (if technology tools selected provide this option), and greater student independence (if they can select from several tools).

In order to plan a unit that maintains the focus on achieving learning goals but which optimally integrates technology, the ASSURE model has been utilised (Smaldino, 2008). The ASSURE model is a template and a process for planning that ensures that technology is not the focus. Rather, following the ASSURE template places technology in an appropriate role, that of a tool to be used to meet learning objectives.

ASSURE stands for Analyse learners; State standards and objectives; Select strategies, technology, media and materials; Utilise technology, media, and materials; Require learner participation; and, Evaluate and revise.

Analyze Learners

General Learner Characteristics. There are 66 students grouped in three fifth-grade classrooms. Most of the students are of European descent with German being the most common background. Their parents are in Singapore for work purposes and the students attend this international school. Most families are middle to upper middle class and hold positions such as regional corporate managers, university professors and engineers. Most parents have work contracts that not only pay well but also cover rent and school fees, which can be significant (approximately USD $20,000 per annum per student in school fees). There is no indication of a lack of access to computers at home.

A very small number of students have learning support (special education) and a few have support in English as an Additional Language.

Entry Competencies/Prior Knowledge. Students receive one lesson of Information and Communications Technology (ICT) per week. The skills developed in this lesson include productivity tools (word processing, spreadsheets, and presentations), internet research strategies, using graphic organisers, and cyber safety/citizenship skills. Students are given a school email account in grade four. They have also used collaborative writing tools (e.g. Google Docs). However, anecdotal evidence suggests that they have not access the calendar or task functions available to them bundled with the school email.

Main Learning Styles. Students are enrolled in a Primary Years Programme (PYP) school which relies extensively on guided inquiry. This entails a significant amount of front loading of information at the beginning of a social studies or science unit followed by an inquiry or research phase that results in some kind of project and summative assessment of learning. The grade five

Exhibition is the capstone inquiry unit at the end of the PYP. Students have varying levels of independent ability in managing an inquiry-based project.

Teachers. While the ASSURE model does not include an assessment of teachers, it is germane to the present project. Students will be guided to use a set of digital tools that replaces a hard copy guide. While the author will introduce the tools to students before the Exhibition unit begins, the class teachers will need to support students using the tools. In addition, the teachers will have collaboration access to the tools.

The two of the three class teachers have very good technology skills, with one teacher having excellent skills. The latter teacher is an Apple Distinguished Educator. All three have access to the digital tools in question (see below) and use all but one for their own tasks.

State Objectives

Learning Objectives. Based on an analysis of the type of technology integration used in these classes, it was found that students could be guided to use more technology tools to set goals, plan activities that work toward those goals, and monitor their progress in completing those activities and thus achieving their set goals. Within the context of the Exhibition inquiry unit, the learning objectives are:

a) Students will be able to identify and state lines of inquiry to guide their research project using appropriate digital tools;
b) Students will be able to identify a series of activities that will allow them to research their inquiry points using appropriate digital tools;
c) Students will be able to set a series of benchmarks, using digital tools of their choosing, that will allow them to monitor their progress towards researching and reporting on the lines of inquiry within the time frame set by the teacher; and,
d) Students will be able to select digital graphic organisers to manage and present their findings.

NETS-S. The objectives relate to the National Educational Technology Standards – Students (International Society for Technology in Education, 2007):

4. Critical Thinking, Problem Solving, and Decision Making. Students use critical thinking skills to plan and conduct research, manage projects, solve problems, and make informed decisions using appropriate digital tools and resources.

a. Identify and define authentic problems and significant questions for investigation
b. Plan and manage activities to develop a solution or complete a project
c. Collect and analyze data to identify solutions and/or make informed decisions
d. Use multiple processes and diverse perspectives to explore alternative solutions

PYP Transdisciplinary skills. The PYP includes a set of transdisciplinary skills grouped in five categories: Thinking skills, social skills, Communication skills, Self-management skills, and Research skills (International Baccalaureate, 2007). This initiative supports the following:

Self-management skills
- Organisation – Planning and carrying out activities effectively
- Time management – Using time effectively and appropriately.

Research skills
- Planning – developing a course of action; writing an outline; devising ways of finding out necessary information
- Recording data – describing and recording observations by drawing, note taking, making charts, tallying, writing statements
- Organising data – Sorting and categorising information; arranging into understandable forms such as narrative descriptions, tables, timelines, graphs and diagrams

Other skills are included in the Exhibition unit but the list above is the focus of this initiative.

Select Media, Materials, and Methods

The intention of this unit is to give students access to digital tools and instruction on how to use them and select among them so that they can derive their lines of inquiry, select activities and monitor progress. The tools will replace a hard copy Exhibition Guide that provided scaffolding support to students. A review of the Guide suggests that the digital tools listed below will provide the same or better scaffolding:

Office 365. Students have recently moved from Google Apps for Education to Office 365. They are actively using the email tool but are not using the calendar or tasks functions. Both of these functions would be useful in setting benchmarks (i.e., a schedule) for their activities. For example, students might identify when they wish to complete their research, when they wish to have the first draft of the presentation completed and the dates of the Exhibition. This can be done with either the calendar or the tasks apps though they are integrated. They could have some choice in which tool to use and how it is used. They can collaborate on these tools with team members and their teacher or team mentor.

Google Docs. While students are not using Gmail, they continue to have access to the Google Docs apps (both are components of Google Apps for Education). They can word process, create spreadsheets and graphs, develop presentations and conduct surveys. The document could be used to develop their lines of inquiry and to take research notes. The spreadsheet could be used more than previously to represent information they have learned. The survey tool could be more broadly implemented into their work by, for example, surveying visitors to the Exhibition. All of these tools support online collaboration.

Kidspiration. This software package facilitates the creation of mind maps and the use of graphic organiser templates. Up to now, any templates used by students were selected by the ICT teacher (the author). The intent would be to give students the skills to select templates that would be useful for their research project.

Laptop Computers. In addition to the software and online tools, students will need access to the laptop computers in order to use these tools.

Utilise media, materials, and methods

Preview the technology, media, and materials. Both the author, as the ICT teacher, and the classroom teachers will need to be familiar with the digital tools. Fortunately, except for Kidspiration, teachers have access to the same Office 365 and Google Docs tools. The author is very familiar with the Kidspiration programme and will offer workshops to the class teachers.

Prepare the technology, media, and materials. The author will need to ensure that Kidspiration is loaded onto the laptop computers. The other tools are online. The author should check that the browsers are updated and that they work with the tools. In some cases, add-ons such as Java might need to be installed or updated.

Prepare the environment. The author will ensure that the laptops are booked at the appropriate times. He will also need to check that any power and connectivity issues have been solved.

Prepare the learners. The author will need to ensure that students have their usernames and passwords to access the online digital tools. They should also know how to log into the laptops.

Provide the learning experience. The plan is to have several lessons in which students will be introduced to the digital tools in question, shown how to use them, and given the opportunity to explore how they might decide which one to use.

It is anticipated that separate lessons will be needed for the calendar and the tasks apps. This includes sharing them with classmates and teachers, and discussing how to use them to set benchmarks and monitor progress. Google Docs is mostly a revision, including how to share files, but will include some discussion of how it could fit into the Exhibition (writing lines of inquiry, writing research notes, etc.). Kidspiration is also mostly a revision but the new element is having students select the templates that are relevant to their work.

Require Learner Participation

The lessons described above are where students learn how and when to use the digital tools. However, the authentic experiences using them are in the context of the Exhibition unit. There will be certain expectations that will facilitate teachers monitoring how students are doing. Calendar, task and Google Docs use will have to be "shared" with their class teacher and the author. This provides an opportunity to see how students and student groups are proceeding, and to provide direct feedback on what students have written. This is an improvement over the hard copy version to which teachers did not have 24/7 access.

Evaluate and Revise

Formative assessment. Formative assessment will be provided anecdotally by the author and the class teachers (and the team mentors) based on what they see on the shared files. The formative assessment will look at items such as:

a) Are the lines of inquiry listed in Google Docs?
b) Are the research notes in Google Docs?
c) Are the benchmarks noted in Calendar or Tasks?
d) Are Kidspiration mind maps or templates being used?
e) Is the student individually and with their team meeting their own benchmarks?
f) If not, is the student/team taking corrective action?
g) Are team members using the collaboration tools to facilitate effective team work?

Additional guidance will be given to students, teams and classes where formative assessment indicates a need.

Summative assessment. The summative assessment will focus on the use of the digital tools for the purposes identified above. However, it will be difficult to separate the assessment of their use of these digital tools from the actual Exhibition research project. Separate rubrics will likely be necessary in order to achieve this. A draft, simplified rubric might look like this:

	Poor	Fair	Very Good
Calendar and Tasks	Student did not use digital tools to set benchmarks (i.e., a schedule).	Student used Calendar or Tasks to set benchmarks but did not refer to it and/or did not share it.	Student used Calendar and/or Tasks effectively, referred to it and modified the plan to account for progress.
Google Docs	Student did not use digital tools for the lines of inquiry or research notes.	Student used Google Docs for the lines of inquiry and research notes but did not share them or did not use them GD consistently.	Student used Google Docs regularly and effectively, sharing them with team mates and teacher, contributing to the work of others and evaluating the suggestions made by classmates and teachers of the student's work.
Kidspiration	Student did not use Kidspiration.	Student used Kidspiration occasionally, preferring to create simple mind maps or using simple templates.	Student used Kidspiration extensively, creating complex mind maps that illustrated related and subsidiary ideas and templates that were carefully selected.
Collaboration	The use of digital tools did not include collaboration.	The use of digital tools demonstrated some collaboration.	The use of digital tools demonstrated extensive collaboration including editing or contributing to team members' work and revising the benchmarks as a team.

The results of the formative and summative assessment will be noted in the Exhibition unit planner and changes made to improve student performance in the following school year.

References

International Baccalaureate. (2007). *Making the PYP happen: A curriculum framework for international primary education*. Cardiff, Wales: Author.

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