Learning Objects

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Definition of a Learning Object

A learning object is a self-contained package for use in online learning curriculum. This package contains all the material and content necessary to fulfill a stated learning objective for a particular course. Learning objects are designed with reusability in mind and can be shared with other courses. A learning object consists of the informational content, practice activities for the student, and very often contains an assessment piece as well. However, keeping the assessment piece separate from the learning object can aid in its portability to other courses. (Keramida, 2015).

Online learning courses will often have multiple objectives. At times, different courses will need to cover a duplicate learning objectives, even though the overall theme or content of the course is not identical in both. This is where learning objects show the greatest benefit. A learning object that works in one course will work just as well in another course as long as they are designed to fulfill the same learning objective. This helps to save both time and money when designing for online learning.

The following are the main components of a learning object. They are title, subtitle, the learning objective addressed, and overview of the learning activities, the learning content and metadata. The learning objective is stated to clarify learning expectations or outcomes for the learning object. While only one objective is needed for the learning object, it can be beneficial to show the learner ho the objective fits into the overall course. (Keramida, 2015). Learners should be shown a brief overview of the learning object and then introduced to the actual content itself. Metadata is not presented to the learner but is included in the file as descriptive information to assist in future retrieval and sharing of the learning object.

Needs Analysis Summary

The Common Core State Standards K-12 Technology Skills Scope and Sequence lists the following skills for elementary students. While mastery of these skills is not required until the fifth grade level, they are introduced at grade three and reinforced at grade four. The following skills remain relevant in the fourth grade classroom as an assessed need that is scaffolded between the third and fifth grade.

In order to demonstrate proficiency in the use of computers and applications as well as an understanding of the concepts underlying hardware, software and connectivity, students must:

1) Demonstrate an understanding of the spreadsheet as a tool to record, organize and graph information.

2) Identify and explain terms and concepts related to spreadsheets

3) Enter/edit data in spreadsheets and perform calculations using formulas

4) Use mathematical symbols (e.g. add, minus, multiply, divide, exponents)

5) Use spreadsheets and other applications to make predictions, solve problems and draw conclusions.

Knowing that technology should not be used in the classroom simply for the sake of using technology, best practice has technology being used to reinforce concepts and solve problems that are real-world in nature. In order to accomplish this goal, my fourth grade class needs to learn the technological tools necessary to record, analyze, and communicate data they have gathered.

Google Sheets is the chosen vehicle to showcase these skills, and it is clear that training is need as the skill has only been introduced (or perhaps not at all) at the third grade level. When

looking at the present condition, it is clear that most all of the current fourth grade students have not been introduced to spreadsheets as is required in the technology scope and sequence.The ideal situation will have fourth grade students caught up with the technological sequence of working with spreadsheets so that the proper scaffolding will take place with mastery happening in the subsequent grade level.

Target Audience

The target audience for this learning object is the fourth grade students at Mountain View Elementary, specifically the students of room 10. All 35 students are adept at working with Chromebooks and know how to login to their personal student accounts. No special physical or educational requirements exist with this group.

It is already clear from past lessons that students have a wonderfully cooperative attitude when working with technology at large. When introduced earlier in the year to Google Sheets, students expressed interest as noted by the wealth of questions and the constant engagement when working with the technology. It is also of note that behavior issues were lessened when working with the technology. Basically, these kids are excited to use technology in a meaningful way to solve real-world problems.

As nearly one-third of the class are English Language Learners, Vocabulary is often frontloaded for lessons. As well, sentence frames are provided to give these students easier access to academic language rich oral communication.

Objective Analysis Summary

Since the technology scope and sequence sees the fourth grade level as a time for reinforcement and not mastery, outcomes will not be based on independent work, but rather the ability to recreate, based on samples.

Performance Objectives:

- The student, when provided sample tables, will be able to enter data in a Google Sheets document, with 100% accuracy.

- The student, when provided sample tables, will be able to generate headings that match relevant data in a Google Sheets document, with 100% accuracy.

- The student, when presented with an exemplary table of data in a Google Sheets document that shows a formula, will be able to specify orally which cells are being operated upon, with 100% accuracy.

Lesson objectives tell what activity takes place so that the learner reaches the terminal objective

Lesson Objectives:

- Given a sample table in Google Sheets, students will correctly key in data.

- Given a sample table in Google Sheets, students will correctly type in headings.

- Given a sample table in Google Sheets, students will point to cells that are added together and say this to a partner.

Terminal objectives are for the students' benefit and should therefore be written less formally. (In this case, at the fourth grade level.)

Terminal Objectives:

- At the end of this lesson, you will be able to place data into the correct spots in a Google Sheets file.

- At the end of this lesson, you will be able to describe a column of data by giving it the right name in a Google Sheets file.

- At the end of this lesson, you will be able to look at a completed table of data in a Google Sheets file, and tell a partner which columns are added together.

References

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