Google Sheets for Elementary Students

Prospectus for the Capstone project

to be submitted to National University

in partial fulfillment of the requirements for the degree of

MASTER OF SCIENCE IN EDUCATIONAL AND INSTRUCTIONAL TECHNOLOGY

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Introduction

Fourth grade students should be asked to collect meaningful, relevant data and present that data so that it is clear to their audience. With my project, students will learn the basics of Google Sheets, so that they will be able to effectively collaborate with other students and successfully communicate data that emerges throughout the year's class projects. Kolk (2011) discusses the importance of preparing our current students for 21st Century life by helping them engage with the 4 C's – creativity, critical thinking, communication, and collaboration. This project helps students with their digital communication and collaboration.

Google Sheets for Elementary Students takes a Blended Learning approach, with students taking real world activities from the classroom and learning to record them digitally in Google Sheets. My self-paced tutorial consists of 4 modules: Colors & Fonts, Tables, Headings, and Formulas, presented in a four-week unit. Students will collaborate together on shared Google Sheets documents and write about their experiences presenting their data and clarifying their understanding with each other in personal blogs. Roschelle and Teasley (1995) contend that the social interaction during collaboration creates an added motivation for students as the learners naturally deal with communication, creating a rich learning environment.

Educational/Instructional Need

Educational Requirement

Common Core State Standards CCSS.ELA-LITERACY.SL.4.1 requires that students master comprehension and collaboration by engaging effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on grade 4 topics and texts,

building on others' ideas and expressing their own clearly. This collaboration will take place with personal blog posts and follow-up responses from their peers.

CCSS.ELA-LITERACY.SL.4.1.C states that students must pose and respond to specific questions to clarify or follow up on information and make comments that contribute to the discussion and link to the remarks of others. With the project's blended learning approach, prompts will be delivered and explained in the classroom setting.

Common Core State Standards for Math in Measurement & Data includes three domains that have students solve problems involving measurement and conversion of measurements, all of which will take place during the school year projects that will be logged into Google Sheets. CCSS.MATH.CONTENT.4.MD.A.1 requires that students know relative sizes of measurement units within one system of units including km, m, cm; hr, min, sec. CCSS.MATH.CONTENT.4.MD.A.2 has students using the four operations to solve word problems involving distances and intervals of time. And CCSS.MATH.CONTENT.4.MD.A.3 has students applying the area and perimeter formulas for rectangles in real world and mathematical problems. Further, CCSS.MATH.CONTENT.4.MD.B.4 has students represent and interpret this collected data. A gap analysis for these students will show that learners currently lack the skills necessary for working with real world data and collaborating with shared documents. In the past, students have not been motivated by the book work that teachers are using which has students collect, interpret and present data as the tasks are not meaningful and relevant to the students' lives.

Preliminary Extant Data Analysis

Currently, two top comprehensive platforms for learning Google Sheets exist (along with

countless other one-off tutorials on Youtube.) They are found at the Google Learning Center as

well as GCF at Learnfree.org. Both platforms deliver a robust tutorial that goes into depth when

explaining the power and workability of Google Sheets. But there are many aspects that my

project, Google Sheets for Elementary Students (GSFES), delivers that the other platforms do

not.

- Other platforms do not offer information at a grade appropriate reading level while

  GSFES does.

- Other platforms that offer appropriate reading level information are not comprehensive

  enough. They are sporadic in the skills they offer.

- Because they are geared toward an older audience, other platforms go too far in depth in

  delivering tutorials that will not be utilized by this younger age group.

- Other platforms offer self-guided tutorials with little recourse when the learner becomes

  stuck. GSFES, with a Blended Learning approach, allows for in-person discussion in the

  classroom with peers as well as with an expert teacher, synchronous chats amongst peers

  working in collaboration on the same project and even with peers in other groups.

- GSFES has a built in component that makes collaboration key to the project, thus

  developing motivation amongst learners.

- Other platforms are not tied to real-world learning in the way that GSFES will be tied to

  projects that serve a real purpose on campus.

Google Sheets for Elementary Students offers four modules that instruct students in enough skills and practice that they will be able to utilize their experience to effectively record, interpret and communicate their findings when engaging in meaningful and relevant projects throughout the school year.

Justification

A common issue that educators typically face in a traditional (non-digital) classroom setting is the time constraints teachers face when attempting to meet with multiple groups to hear a discussion, and the subsequent missed opportunity to give valuable feedback to the students. Stover, Yearta, and Harris (2016) show that when blogging is utilized, indepth conversations can take place in digital format. The record of this conversation is preserved and used at a later date. Students reflect on their past responses and gain an understanding of areas needing the most attention, leading to growth. In having the blog component tied in with Google Sheets for Elementary Students, the teacher can have a running record of the learners' understanding and growth.

Benigni (2016) explains how Google Sheets contains the chat function present in the G-Suite applications. Students will be communicating in synchronous chats here as well as in asynchronous posts and responses on their personal blogs. Students will not be left on their own with simply a self-guided tutorial nor will they only have to rely on each other during collaboration. Chiu (2010) calls collaboration an "appendage to instruction," and collaboration does not take the place of the expert teacher. A blended learning approach is therefore vital to this project.

Goal

The goal here is to prepare our current students for 21st Century life by helping them engage with the 4 C's – creativity, critical thinking, communication, and collaboration. Google Sheets for Elementary Students helps students with their digital communication and collaboration. The project seeks to not teach skills in a vacuum. Rather, students will formulate documents to record and analyze data collected from real-world problems. They will interpret and analyze this data, communicating their findings in personal blogs so that peers may evaluate and seek clarification when necessary, allowing for follow up revision from the author.

Audience

For my project, I am targeting fourth grade students, ages 8-10. They will have had some exposure to working with applications in the Google Suite. Typically, their collaborative work from past years will have been in the traditional classroom setting, working with peers in small groups. Teachers do not typically engage these students with real world problems that require presentation and communication in digital form. The target audience will take their knowledge and skill gained from Google Sheets for Elementary Students and apply that to their ongoing real-world projects throughout the year.

Schedule

Milestone	Target Completion Date	Status/Comments
Planning document report	June 10, 20XX	

Completed Literature Review	June 17, 20XX	
Working prototype of project	June 24, 20XX	
Aesthetic, usability, and content testing	July 1, 20XX	
Final draft and written review of report	July 8, 20XX	
Completed project and report	July 15, 20XX	

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