



Student perceptions of the use of OneNote to create a capstone project in a teacher education program

Carmen Pena

The University of Texas Rio Grande Valley, United States.

Email: carmen.pena@utrgv.edu

Abstract

During the Fall 2023 semester, a group of students in their first semester of the elementary education program at The University of Texas Rio Grande Valley (UTRGV) was required to use OneNote to complete a Community Case Study, which is a capstone project in the teacher education program at UTRGV. The project consists of three sections, which include a study of the school and district, visits to area attractions in the community, interviews with members of the community, and a final reflection on the project. The Community Case Study includes text-based files, graphics, and video. The authors used OneNote to have students document the various parts of the case study. The advantage of OneNote is that it allows students to upload all parts of the case study in one cohesive location as it accommodates text, graphics, and video. At the end of the semester, the authors had students fill out a student perception survey. This study discusses student perceptions of OneNote, the advantages of using OneNote, and the effects on project quality.

Keywords:

*Elementary education
OneNote
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1. Introduction

The Elementary Education Program at the University of Texas Rio Grande Valley uses key assessments as capstone projects in several of their education courses. One of the key assessments is the Community Case Study (CCS). The CCS was revised in fall 2022 and piloted in specific sections of the program in spring 2023. The revised version of the CCS consists of three sections: Part 1 School and District, Part 2 Community Mapping, and Part 3 Data Reflection. In Part 1, students must research the school where they will be conducting their field observation studies. They must provide a description of the school based on their field observations, obtain the Texas Academic Performance Report from the Texas Education Agency website, and research the STAAR pass rates, ethnic distribution, at-risk factors, and students with special needs. For Part 2, students must research the community in which the school is located by visiting various community resources, such as museums, libraries, and parks. In addition, students must interview two of the following four: parent, student, mentor teacher, or community elder. In Part 3, students must reflect on how the experience of learning about the community will affect their teaching, the way they interact with parents and students, and the ways they will engage with the community.

One of the challenges of the project is that it involves the use of multimedia; students must provide information in text-based files as well as include graphics and videos. The first semester the CCS was piloted, the instructor did not use one specific tool for students to document the various parts of the CCS. They uploaded text-based documents, graphics, and videos in separate locations. The lack of one centralized location for students to document the various parts of the CCS made the experience of completing and grading it unnecessarily cumbersome and contributed to the lack of quality in students' work. Thus, the author decided to add the use of OneNote to provide students with a centralized repository for all three parts of the CCS. OneNote is a digital notebook that allows users to create online notebooks, add sections, and add pages within those sections. Students can input text, upload pictures, videos, and audio recordings. It also includes a collaboration area in which students can work on one notebook as a group. Students can create headings and change the font style, size, and color to make the layout attractive and readable.

After considering other tools such as blogs and student-created websites, the instructor decided to use OneNote for two major reasons: ease of use and cost-effectiveness. In terms of ease of use, the instructor found OneNote very easy to navigate and was able to create a tutorial for students in one afternoon. With regard to cost-effectiveness, like students in the Nyutu (2023) study, students in this study were provided with access to OneNote as the university provides students with access to Office 365. To ensure that students knew how to use OneNote, the instructor provided students with a short tutorial to show them how to create a OneNote notebook, add sections and pages, format text, insert graphics, include links to video files, and how to share their notebook with a link. In addition, students were provided with an example of a CCS completed in OneNote. The use of OneNote made it easier to complete projects since students had a one-stop shop to place all parts of their CCS. It also simplified grading, as students simply had to provide the instructor with a link to the notebook.

The use of Electronic Laboratory Notebooks (ELNs) is common in science teaching and is slowly replacing the use of Paper Laboratory Notebooks (PLNs) and poses significant advantages such as allowing instructors to provide feedback remotely, increased legibility since the notebooks are typed rather than handwritten, flexibility, ease of storage, searchability, and ease of collaboration (Higgins, Nogiwa-Valdez, & Stevens, 2022; Perez Cavana, 2019). In fact, one university transitioned from PLNs to OneNote in a General Biology Laboratory II course Nyutu, 2023). One of the main advantages was that OneNote was cost-effective since the university provided all students with access to Microsoft 365; thus, students did not have to purchase software. In a survey of student perceptions of OneNote, the majority of students indicated that it was easy to use, made it easier to take notes and organize information, and appreciated that all of their information and files could be stored in one location (Nyutu, 2023). Although student perceptions of OneNote were generally positive, some students did report some technical issues; one such technical issue was uploading images, which took a long time. In addition, students were unable to access their notebooks when they lost internet connectivity. Nonetheless, despite a few technical difficulties, 79% of students indicated that they would recommend the use of OneNote (Nyutu, 2023).

Other studies support the use of OneNote compared to other digital note-taking applications. Guerrero et al. (2016) compared the use of OneNote to PerkinElmer Elements. The two tools were evaluated by 28 scientists over a 3-month period and by 80 students. Study participants evaluated the digital tools in terms of flexibility, collaboration, ease of searching, image editing, and accessibility. All 28 scientists and 69% of the students preferred OneNote (Guerrero et al., 2016).

2. Method

2.1. Subjects

In this study, 30 students in the early childhood program at the University of Texas Rio Grande Valley enrolled in EDCI 3331: Human Development and Student Learning. Of the 30 students, 28 were Hispanic (Mexican American) and two were White; all were female. The students were in their first year of the early childhood program and in their first semester as well. The elementary teacher certification program includes four semesters during which students study pedagogy and participate in field observations.

2.2. Instruments

The instrument used in this study was a survey created by the author to help students reflect on their experience of using OneNote. The survey is a 12-item survey consisting of 3 short answer questions, 2 yes/no questions, 2 multiple choice questions, and 5 Likert-scale questions. The first three short-answer questions asked about: 1) how long it took to create the outline of the notebook, 2) the usefulness of the OneNote tutorial provided in class, and 3) the usefulness of the completed example. Questions four and five were yes/no questions, which asked students 1) if they had trouble accessing OneNote and 2) whether they would want to use OneNote again in the future. Items six and seven were multiple choice items which asked students 1) how they accessed OneNote (smartphone, tablet, laptop, or desktop) and 2) what tools they preferred to use to create their notebook (blog, OneNote, website, or a combination of Microsoft Word and YouTube). Questions eight through twelve were Likert-scale questions that asked students about the advantages of OneNote and the ease of use of OneNote.

2.3. Procedure

Students were required to create a Community Case Study as part of the course requirements. Prior to creating the CCS, students were taught how to use OneNote and were provided with an example of a completed project in OneNote. Students submitted their notebooks in parts (parts 1–3) and were provided with feedback and suggested revisions after each part. At the end of the semester, students submitted the revised parts 1–3 of the CCS all at once and included the link to their portfolio in TK20, a database the university uses to house key assessments or capstone projects for all courses. Following the submission of the CCS, students completed a survey regarding their perceptions of using OneNote.

Once the survey was completed by all participants, quantitative data were collected to analyze the results of the survey.

3. Results

The majority (90%) of the population in the Rio Grande Valley is Hispanic or Latino; the remaining 10% is comprised of White non-Hispanic, African American, Asian, and other ethnic groups. The people from the RGV share common values such as a deep commitment to family and education, a strong work ethic, and pride in their cultural and linguistic heritage, and most are bilingual bilingual (Alvarez McHatton, Schall, & Longoria Saenz, 2020). The University of Texas Rio Grande Valley (UTRGV) is recognized as a Hispanic-Serving Institution (HSI); this means that at least 25% of the undergraduate full-time enrollment is Hispanic. As of Fall 2023, UTRGV has a total enrollment of 31,864 students; 91.2% of students are Hispanic, and 70.5% are first-generation students. UTRGV has campuses located in five areas: Brownsville, Edinburg, Harlingen, South Padre Island, and Rio Grande City; these are all located along the Texas-Mexico border deep in South Texas.

This study took place in the Edinburg, TX campus in the College of Education and P-16 Integration. Edinburg is about 20 miles from the U.S.-Mexico border and around 120 miles south of Corpus Christi, Texas. It's in close proximity to the Gulf of Mexico and has a warm climate. As of 2023, Edinburg has an estimated population of around 105,799. The city is predominantly Hispanic or Latino, making up about 85.8% of the population. Other ethnic groups include White (non-Hispanic) at 9.3% and smaller percentages of African American, Asian, and other groups. The median household income in Edinburg is approximately \$54,139. About 80.7% of residents aged 25 and older have at least a high school diploma, and 28.9% have a bachelor's degree or higher. The median age in Edinburg is 29.9 years.

In terms of the participants in the study, 30 students in their first year in the Teacher Preparation Program (Elementary Education) participated in this study. Given the geographic location, it is not surprising that the majority of the students in this study (96%) were Hispanic (see Table 1). In addition, all participants were female and primarily between the ages of 20 and 29.

The survey had a total of 12 questions: two were free-response items, four were fixed-response items, and five were Likert-scale questions. In terms of the data for the free-response questions, the majority of the students (90%) were able to create the structure of their OneNote notebook fairly quickly (within 2 hours). Only one student took longer than three hours. The data highlight OneNote's user-friendliness. It is fairly easy to learn and navigate.

When asked what device students used to create their notebooks, the majority used a laptop (70%) or a tablet (23%). This finding makes sense given that nearly all students brought a laptop or tablet to class. All students had iPhones, but few used them to create their OneNote notebooks (3%). Although students could use other tools to create their notebooks, the majority (93%) used OneNote since that was the tool the instructor taught students how to use in class.

Table 1. Student answers to free response questions.

Question	1 Hour (No.)	2 Hours (No.)	3 Hours (No.)	> 3 Hours (No.)
Question 1: How long did it take to create the outline of your Notebook?	11	16	2	1
Question 6: How did you access OneNote when you created your Notebook?	Laptop (No.)	Desktop (No.)	Tablet (No.)	Smartphone (No.)
	21	1	7	1
Question 7: Which of the following tools would you prefer to use to create your notebook?	OneNote (No.)		Other (No.)	
	28		2	

In terms of student responses to the fixed-response questions, data indicate that all students found the tutorial on how to create the OneNote notebook and the completed case study useful (see Table 2). In addition, none of the students indicated difficulty in accessing OneNote, and all stated that they would like to use OneNote again in the future.

Table 2. Student responses to yes/No questions.

Question	Yes (No.)	No (No.)
Question 2: Did you find the tutorial on how to create a OneNote notebook useful?	30	0
Question 3: Did you find the example of a completed case study useful in creating your final project?	30	0
Question 4: Did you have any trouble accessing OneNote from the UTRGV website?	0	30
Question 5: Would you want to use OneNote again in the future?	30	0

With regard to student responses on the Likert-scale items, data (see Table 3) indicated that all students found the OneNote tutorial to be useful. In addition, all felt that one benefit of OneNote is being able to centralize the three parts of the Community Case Study. With regard to ease of use, the majority of students (96%) agreed or somewhat agreed that it was easy to create the various sections of the notebook. In addition, 100% of students agreed or somewhat agreed that it was easy to format sections, pages, titles, and headings. Further, 100% of students agreed or somewhat agreed that it was easy to share their OneNote link.

Table 3. Student responses to Likert scale questions.

Question	Agree %	Somewhat agree %	Somewhat disagree %	Disagree %
Question 8: Did you find the tutorial on how to create a OneNote notebook useful?	100	0	0	0
Question 9: One of the main advantages of OneNote is being able to upload the three parts of the community case study in one central location.	100	0	0	0
Question 10: It was easy to create the notebook, sections, and pages.	67	29	1	0
Question 11: It was easy to change and reformat headings, pictures, and links when necessary?	79	21	0	0
Question 12: It was easy to create a link to share my notebook with my professor.	88	12	0	0

4. Conclusion

When looking at the data as a whole, several themes emerged regarding the advantages of OneNote. Students indicated that OneNote is a useful tool when creating multimedia projects such as the Community Case Study because it allows the user to house all the various parts: text, pictures, charts, and videos in one location, and students can share the document easily by simply sharing a link to the notebook. Second, OneNote is easy to use. Students can be taught how to create and format their digital notebooks in about an hour. The author developed a tutorial to teach students how to create the outline of the notebook, format the various sections, and how to share their links. The tutorial was taught in class and took approximately one hour. The third advantage is that OneNote is accessible to students. All students are provided online access to the Microsoft suite of tools; thus, they do not have to purchase any software. Access was one of the factors the author considered when reviewing tools to develop the community case study. The fourth advantage is that it facilitates grading, as students simply share a link with their professor. They do not have to upload text files, charts, videos, or graphics for each of the various parts of the community case study. They create one link and continue to share that one link as they add to the notebook. Fifth, students also indicated that they felt more motivated to work on the project because they could focus on the content and not on learning a new technology tool, which speaks to the ease of use of the tool. Finally, it improves the quality of student work since students can focus on the content and not the tool used to create the content.

When using OneNote to create a capstone project or any other project for that matter, students should receive 1) a tutorial on how to use OneNote and 2) a fully completed example of a project so that they understand the expectations in terms of quality. Prior to using OneNote, the author developed a tutorial to teach students how to create the notebook, format the various sections and pages, and how to share a link with their professor for grading. Even though students are quite savvy regarding the use of technology, it is not safe to assume that they already know how to use OneNote. Further, although sharing a link is quite easy, there is a very specific way to do it, and students must pay attention to the “settings” when creating the link, which allows them to determine who has access to the notebook and who can edit the notebook or simply view it. In addition to a tutorial on the use of OneNote, students also need an example of a completed project. Throughout the semester, the professor would review the various parts of the case study using an exemplary example created by a student in a previous class. The professor reviewed each part of the community case study: 1) School and district, 2) Interviews, 3) Area attractions, and 4) Final Reflection. Students completed the case study in four parts. After each part, the professor provided feedback and suggestions for revision. At the end of the semester, students

uploaded the final draft of the community case study. Given the perceptions of the students and the data in the reflection, this study suggests that OneNote is a useful tool for creating and sharing multimedia projects.

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