“People with Real Experiences:” Using Mobile Devices in High School Social Studies

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Mobile devices are increasingly prevalent and may have large ramifications for social studies education, but there has been limited research as to their effectiveness. This study utilized an Apple iPad to explore how a specific application (Explore 9/11) impacted secondary student interactions with primary source narratives and their influence on historical empathy during a War on Terrorism unit in a United States history course. Three sections utilized the iPad, while two used resources found on the iPad, but not the iPad itself. The study found that students using mobile devices had positive experiences in interacting with primary source documents. Students, further, were able to develop a sense of historical empathy as they came across the firsthand accounts of seven individuals’ experiences on September 11, 2001 regardless of whether or not they used the iPads. These findings, as well as their implications for social studies education are discussed.

Key Words: mobile devices, 9/11, historical narratives, historical empathy, technology, Apple iPad

Introduction

According to a report on September 11, 2001, authors Diana Hess and Jeremy Stoddard (2011) recount on that particular evening, a student teacher remarked, “I know this is a teachable moment, but I don’t know what to teach” (p. 175). While this student teacher may have been thinking in the more immediate sense, there now exist a number of teaching materials about that tumultuous event; in particular a number of primary sources in the form of images, video, and eyewitness accounts are easily and freely available on the Internet. This availability of resources mirrors a trend in social studies education in that teaching materials that were heretofore cumbersome or impossible to obtain are now widely available (Cohen & Rosenszweig, 2006; VanFossen & Shiveley, 2000). Further, it is important to explore how 9/11 can best be taught and for students to develop empathy for those involved. Though many adults can remember where they were when they heard this news, a high school junior today would have little to no memory of the event. This study is rooted in the availability of these resources, the degree to which they may foster historical empathy among students, and the degree to which they foster technology use among teachers and students.

Literature Review

Current access to social studies materials enables teachers to expose students to a wide variety of documents. Access to documents can augment history instruction, as students engage
in “a more sophisticated critical investigation and analysis of the evidence of the past” (Lévesque, 2008, p. 19). Though different teachers use documents in varying degrees and accordingly with different levels of effectiveness, instruction using documents offers students opportunities to develop historical understandings as they consider a variety of perspectives, which conforms to the National Center for History in the Schools’ (1996) historical thinking standards.

Examination of historical evidence is not necessarily an easy task, as it requires students to engage in “a complex regimen of investigative techniques” (VanSledright, 2002, p. 6). Sam Wineburg (1991) points out that even advanced high school students can have difficulty determining whether a source is credible. There exist a number of studies of Kindergarten -12 student primary source use (in both traditional and digitized formats) that support the broad conclusion indicating students are able to use these sources as vehicles for learning history (Heafner & Friedman, 2008; Kobrin, 1996; Lee & Clarke, 2003; Tally & Goldenburg, 2005; VanSledright, 2002). This type of instruction is precisely what the National Council for the Social Studies prescribes in its 2008 position statement: A vision of powerful teaching and learning in the social studies: Building social understanding and civic efficacy, calling for students “to think critically and creatively” (National Council for the Social Studies, 2008, para. 6).

Included among the recent ubiquitous availability of historical sources are narratives “that focus on the experience of individuals,” as Keith Barton and Linda Levstik (2004) note their use “can be very appealing to students” (p. 154). In her 1986 study of sixth graders’ use of historical narratives, for example, Levstik reports that students “talked about being moved, inspired, and angered at times by what they read” (p. 10). By developing a connection with the individuals about whom they read, students were implicitly engaging with the perspectives of others, which is an overriding goal of social studies education. This type of engagement with historical sources has been recognized by the National Council for the Social Studies (2010), which maintains in its Curriculum Standards that students should be able to “develop a deeper understanding and appreciation for differences in perspectives on historical events” (p. 15). In so doing, students are gaining a sense of empathy (Barton & Levstik, 2004). Empathy, however, can have two connotations. In one sense it “recognize[s] how the perspectives of people in the past may have differed from our own;” defined as “perspective recognition” (Barton & Levstik, 2004, p. 207). In another sense, empathy can be defined as “care,” in which students “rationally consider the emotions of people in the past” (p. 228-229).

It is possible for history instruction to be taught in a way in which students develop historical empathy in terms of both Barton and Levstik’s “perspective recognition” and “care” (p. 228-229) In her 2011 case study of a tenth grade Advanced Placement European history class, Sarah Brooks finds that students are able to engage in both characteristics of historical empathy. Similarly, Jason Endacott in his 2010 study of his eighth grade social studies students found they were also able to engage in historical empathy from both approaches. Further, Jada Kohlmeier’s 2006 study of a ninth grade world history course found students were able to engage with both “perspective recognition” and “care,” in regards to of historical empathy, and she acknowledges that Barton and Levstik’s “caring” aspect of historical empathy “may be an initial and important stage” (p. 52).
An underlying assumption about historical empathy is that it is inherently nebulous. It is “a difficult construct to clearly define” (Endacott, 2010, p. 6). Brooks (2011) adds that it is “a subjective, as well as objective, undertaking” (p. 167). Care, as described in Barton and Levstik (2004), “involves some relationship between learners and the object of study, and these relationships often include emotional commitments or feelings or personal relevance” (p. 229). This type of relationship would imply, at the very least, a movement up the scale of Bloom’s Taxonomy of Educational Objectives from the social studies instruction characterized by John Goodlad (1984), which has long been the focal rallying point in literature championing technology integration in the social studies curriculum (Braun & Risinger, 1999; Mason, Berson, Diem, et al., 1995).

Studies of technology (particularly Internet) use in Kindergarten-12 classrooms, however, have demonstrated that generally speaking it has not necessarily been used in a manner that had initially been visualized upon its advent nearly two decades ago. Several studies paint a picture of the Internet being used predominantly for lower order skills, whereby there is a tendency for students to collect predominantly low-level, factual information, and do not necessarily engage in higher order activities such as analyzing the perspective or bias of Web site; a term Phillip VanFossen (2000) coined “glorified information gathering” (p. 104). This was the case in both the Internet’s nascent years (VanFossen, 2000), as well as nearly a decade later, after the Internet had become more ingrained in schools and society (Friedman, 2008; VanFossen & Waterson, 2008).

A Shift in the Internet and Access

The technology initially described in social studies literature bears little resemblance to more recent developments, as the advent of Web 2.0 sites has allowed teachers and students to express knowledge through text, voice, and images. Recent years also have witnessed a second transformation beginning to take place, as technology access points shift. Mobile devices (such as smartphones and tablet computers) now allow access to the Internet from virtually anywhere in the world, and current trends point to their increasing popularity. These devices, according to Janna Anderson and Lee Rainie (2008) “will be the primary connection tool to the Internet for most people in the world in 2020” (p. 2). As it relates to schooling and the implementation of technology, Marie Bjerede, Kristin Atkins, and Chris Dede (2010) note potential for students and teachers.

Alongside the burgeoning popularity of these devices, developers have created specific applications (commonly referred to as ‘apps’), which allow a user to explore a particular topic or subject in depth from one location (and thus eliminate searching), and therefore have the opportunity go beyond what can typically be found on a Web site in regards to concentrated resources on a particular topic. Further, many ‘apps’ allow a user to have an interactive experience, and therefore provide what Margaret Crocco (2001) terms “leverage” to design “active, student-centered forms of learning demanding critical and conceptual thinking” (p. 387).

It is critical to ascertain how these tools can be used to teach K-12 social studies, as the social studies literature base is void of empirical evidence of their effectiveness in regards to student learning outcomes. Accordingly, the researchers focused on the Apple® iPad’s Explore 9/11 application and its impact upon student interactions with primary source historical narratives as well as its influence upon historical empathy.
Apple iPad and Explore 9/11

“We believe in the power of technology to transform classrooms.” That is the slogan that Apple® (2013a) uses on its’ home page for educational applications. Not only have subject-specific applications (e.g. science, math, and history) been developed, but there are also many others that serve as productivity tools. For example, Apple® (2013b) describes Penultimate as having the ability to foster productivity by functioning as handwriting recognition software. Further, textbooks can create applications as accompaniments, as Pearson (2013) has created social studies-specific applications.

Among a vast array of applications from which to choose, this study utilized the Explore 9/11 application (Apple, 2011) for several distinct reasons. First and foremost, the researchers and classroom teacher were firm believers in Cheryl Mason, Michael Berson, Richard Diem, et al.’s (2000) thesis, that the content should influence the technology. Because the North Carolina Standard Course of Study United States history Competency Goal 12.06 calls upon students to “Assess the impact of twenty-first century terrorist activity on American society,” this application fit well within the state curriculum (North Carolina Department of Public Instruction, 2006).

On a pragmatic level, the Explore 9/11 application is available free of charge. More importantly, following installation, it can be used while the iPad is in ‘airplane mode;’ in other words, a connection to the Internet is not required. The importance of this consideration cannot be underestimated, as a great deal of other applications requires an Internet connection for functionality. The Explore 9/11 application was originally designed by the National September 11 Memorial & Museum for the Apple® iPhone to be used as an accompaniment to walking the streets of Manhattan “as a guide to understanding 9/11 through the eyes of [those] who witnessed the events” (Apple, 2011, para. 1). When the audio tour begins, the background of 9/11 is described along with images from that day, and users can then visit seven ‘stops’ on the tour. Each ‘stop’ consists of a personal story in the form of a firsthand historical account (with accompanying images and voices) from people who were in Manhattan on September 11, 2001, such as: a Manhattan resident, an office worker in the World Trade Center, a New York City fireman, and a New York City police detective. In the application, each person recalls their personal memory of the events as they unfolded. As students read these accounts, it is hoped that it helps them to “understand the ‘human dimension’” of what transpired on that day (Barton & Levstik, 2004, p. 150).

Method

The researchers incorporated the personal memories of the individuals found in the Explore 9/11 application within five sections (three standard, two honors) of an eleventh grade United States history course taught at Riverbrook High School (a pseudonym) by the same teacher, Mr. Manning (also a pseudonym), over two fifty-minute periods. Three of the sections (two standard and one honors) used iPads to access this information, while two of sections (one standard and one honors) used only a paper copy of the transcriptions of the document found on the application. Riverbrook High School is accredited by the Southern Association of Colleges and Schools (SACS), and has an enrollment of 1,434 students from grades 9-12.

Mr. Manning completed a social studies teacher education program as an undergraduate, and was nearing the end of his third year of teaching eleventh grade United States history during
this study. By this point in the school year, the participants in this study had a good deal of experience working with and analyzing primary sources, as Mr. Manning stated that he uses them “once or twice a week.” In terms of technology, Mr. Manning described himself “definitely comfortable” with the Internet, and he uses it in his instruction “about once every week or two.” He, however, stated he had “very little” experience with mobile devices.

Prior to the completion of the study, all participants completed a short-answer pre-instruction test created by the researchers that sought to measure student prior historical knowledge on the United States’ twenty-first century War on Terror, which can be found in Appendix A.

The study focused on the use of the primary source documents found on the Explore 9/11 application. The researchers and teacher collaborated in the development of the lesson plan and its associated activities. On the first day, every section completed a brief informal writing exercise and shared personal stories about 9/11 in a whole class discussion. All sections then viewed a CNN news clip from September 11, 2001 and a discussion followed on what was included in news reports from that day. The first three sections received a brief researcher-led introduction to the basic functions and uses of the iPad, as well as guidelines to adhere to while using it. Students then worked in small groups of two or three individuals and used the Explore 9/11 application to examine primary sources from September 11, 2001. As students undertook this assignment they filled out a graphic organizer. This graphic organizer along with its associated rubric can be found in Appendix B. The researchers designed the graphic organizer with the intent for students to organize information from the narratives, and subsequently to relate this information to the overall theme of the War on Terror. Students in the classes without iPads were given the same researcher-led introduction to 9/11, but rather than using the iPad, were given a packet of transcribed copies of the primary sources along with the same graphic organizer. On the second day of this activity, students in all sections finished the activity and also discussed the lesson as a class.

In classes both with and without iPads, the researchers were participant observers as defined by Schwandt (2001), as they “[took] some part in the daily activities” and subsequently “reconstruct[ed] their activities” (p. 186). In so doing, the researchers alternated in providing teacher-centered instruction at the beginning of class, and facilitated group work. The researchers simultaneously collected observational data using James Spradley’s (1980) observation matrix, which assisted the researchers in identifying specific areas in which to focus their observations, such as: “How do events occur over time?” and “How are actors involved with activities?” (p. 83).

At the conclusion of the second day, students in all sections completed a post-test, which consisted of the same questions that were present on the pre-instruction test, and were analyzed similarly to the pre-tests and graphic organizer. Each was analyzed using grounded theory, in which the researchers “allow[ed] the theory to emerge” (Strauss & Corbin, 1998, p. 12). To help establish inter-rater reliability, both researchers initially graded each graphic organizer individually, as they both undertook the task of “nam[ing] categories” and “mak[ing] comparisons” (Strauss & Corbin, p. 13). In no case did the researchers differ by more than one point. The researchers then met to discuss the results. For each discrepancy, the researchers analyzed the data together to determine a final score.
Results

Student Interactions

The instruction that was provided through student use of historical materials found on the Explore 9/11 application directly impacted student interactions with primary source historical narratives and influenced historical empathy. Almost immediately after the iPads were given to students, they were extremely enthusiastic and engaged with the material. Although no students in the sections given iPads said they had used one previously, after about three minutes of instructional time, not one student had a technical difficulty during the course of instruction. All students in the iPad sections (both standard and honors) were on task the entire time they used the technology. Students also worked together to share the different facets of the application. Three groups of students in the first period (standard level) section, for example, used the iPad to read and look at pictures while five were listening to the audio, taking notes, and pausing when necessary; the same phenomenon took place in the honors section during the following period. While the researchers and the teacher walked around the classroom to help students, they were working independently, and while they did not resist help, they by and large did not need it. As one student said, “I’m OK, thanks. I think I got it.”

In the second period honors class, all students were working as they used the iPad to help fill out their graphic organizer. There were very few questions, with several students commenting that the iPad is “pretty cool.” During third period students again were mostly very quiet and on task. There was, however, a general difference in the manner in which honors-level and standard-level students completed the graphic organizer. While the honors students tended to fill out each column for each source, standard students had a tendency to keep the last column blank and state they would return to it later, which they by and large did. This last column was the only one of the five that asked students to engage in higher order thinking as they were asked to apply an individual witness account to the official news report.

The pattern of nearly every student demonstrating interest and on task behavior was not repeated in classes not using iPads. As noted above, the non-iPad using students were given the same primary source historical narratives and graphic organizer, but the sources were transcribed on paper. Though a majority of students seemed to pay attention and many answered questions at the beginning of Mr. Manning’s sixth period honors class, there was markedly less enthusiasm among students upon receipt of their primary source packets. This was exemplified by one girl whose immediate reaction was “Oh God…this packet is long,” and by another girl at the end of class, who said “Mr. Manning…that was boring.” In terms of interaction and collaboration within groups, eight out of nine groups possessed students working independently. In regard to student interaction with the sources themselves, at the beginning of the activity, students in three groups read the sources to one another, but ceased doing so after about five minutes, and they appeared to skim the sources for the correct answer to fill out their graphic organizer. A few students indicated they did not necessarily believe these sources, and questioned their credibility. One boy, for instance, said “These seem too epic [to be true].”

In the standard class not using iPads, there were similarities with both the standard classes that used iPads as well as with the honors class that did not the devices. Similar to the previous standard classes, the majority of groups filled out lower level information first, and then filled out the last column on their graphic organizer, though some students failed to fill it out...
completely. As with the previous period’s class, students in this class worked independently and scoured the packets for the ‘right’ answer to complete the worksheet correctly.

Finally, it was clear that the use of iPads added to student interest; of the 44 students who used them, nearly half (n=21, 47.7%) used the words ‘boring’ or ‘less interesting’ when imagining this activity without iPads. An honors student succinctly stated, “I wouldn’t of [sic] been entertained and I would of [sic] thought it was boring, I don’t like reading.” Similar sentiments were expressed by a standard student, who wrote that he “would have got [sic] really bored and probably just gave up on it and just put things down,” as well as by an honors student, as he noted that “they made learning more interesting;” without their use “I probably would have fallen asleep.” Similarly, another standard student wrote that she “enjoyed it” because she “learned what people actually went through that day.” There was a comparable theme in the honors class, as one student noted that she “liked hearing stories from people who were there,” while another stated that it was “pretty interesting” as he “learned about the things some people went through.”

**Student Empathy**

At the conclusion of the activity, the researchers and teacher discussed the questions on the graphic organizers with students. The focus of the discussion in all sections was on the personal stories and accounts that are not typically available to high school students. In this regard, one standard level student (who used an iPad) noted that this exposure was “better than history books.” An honors student in the section using iPads noted that the sources “conveyed emotions of what people were saying,” while an honors student who did not use an iPad discussed the “pregnant woman” who was evacuated from the North Tower as well as the “firefighter [who] got hit by concrete.” Standard level students (both those who used the iPad and those who did not) had similar comments. One student who used the iPad noted the sources presented a “realistic viewpoint, not just reading but getting more detail, like you’re there,” while students who read only the sources overwhelmingly mentioned the pregnant woman and firefighter.

Whether or not they used the iPads, a common response across sections was a consideration of ‘common’ people, or, as one standard level student who used an iPad described, “people with real experiences.” Of the 44 students who used iPads, and filled out a post-test, 36 (81.8%) made note of the individuals with whom they came into contact. This was exemplified by a standard student who noted that he “liked hearing people’s encounters, and them telling what happened,” an honors student who reported learning about “volunteers, podiatrist, New York citizens,” as well as by a standard student who described learning about “volunteers, firefighters, doctors, police, regular people, and workers of the twin towers.” Students who did not use iPads came away with analogous learning outcomes. The majority of students in these two sections also noted common people with whom they came in contact as a result of reading about their experiences with 17 of 24 (70.8%) noting these individuals in their responses. An honors student said he “liked learning about the personal experiences of different people who were in it,” while another honors student “liked hearing people’s personal accounts,” as it “made it more realistic.” Finally, a standard student wrote, “it gave me a chance to hear some of the things that happened from people who experienced it firsthand.
Discussion

The three classes that used iPads were very much engaged in the activity, used the iPad to engage with content that they otherwise would not be able to access, worked collaboratively, and developed empathy. In the classes not using iPads, students had a different type of interaction with the narratives, yet developed empathy. It is, therefore, important to explore what transpired in those classrooms.

Student Interaction with Primary Source Historical Narratives

It was evident from the data that the use of a Apple® iPad directly impacted student interactions with primary source historical narratives. When students commenced their ‘walking tour’ with the iPads, they saw visual images; heard voices; and read a transcript. The “motivational power” of these narratives was harnessed, which is one of the “chief advantages” of this type of instruction (Barton & Levstik, 2004, p. 155). Students were immediately enthusiastic about engaging in this activity and remained so during the following day. In the classes that did not use iPads, there was markedly less enthusiasm. While students were enthusiastic about their use of iPads, in a reflection of VanFossen (2000), VanFossen and Waterson (2008), and Friedman (2008), their use of technology served to expose students to resources with which they otherwise would not have come into contact, but did not necessarily translate into engagement in higher order thinking among students, as many avoided the only section related to higher order thinking on their graphic organizer. The iPad, however, served to pique student interest and enhanced the credibility of sources, as students connected to these accounts in an interactive way through hearing peoples’ voices as well as accents and seeing the corresponding pictures. History came alive for these students in a way that print-based resources did not allow.

This study also affirmed prior studies on student historical thinking and best practices for using primary source documents. Students undertook a more complex analysis than they would have otherwise (Lévesque, 2008) and examined several documents as Barton (2005) suggested. This study also affirmed VanSledright’s (2002) point that this is not an easy process, as many students needed help synthesizing information. Students simultaneously demonstrated that a primary source containing a visual or voice element could be helpful. Several students in the classes that did not use iPads—in a validation of Wineburg’s (1991) thesis—indicated they did not feel as if these sources were trustworthy. It is possible that if these students heard the voices that accompanied the transcript, their reaction would have been different, but we have no data to support such a possibility.

Historical Empathy

Though historical empathy is a difficult concept to quantify, students in this study showed similar degrees of empathy whether or not they physically used iPads. The iPads served as a vehicle by which to obtain recollections about the experiences of ‘common’ people on September 11, 2001 that would otherwise be difficult or impossible to procure. Further, students were able to engage in Barton and Levstik’s (2004) “perspective recognition” as well as care (p. 228-229). Similar to findings in studies by Endacott (2010) and Kohlmeier (2006), students were able to recognize basic facts about 9/11, and their responses and discussion clearly showed “caring.” In contrast to Endacott’s study however, we focused on ‘common’ people rather than more prominent historical figures. A difference from Kohlmeier’s study was our study’s lack of a Socratic Seminar. Brooks’ (2011) study also found that students were able to show empathy in
both “perspective recognition” and “caring” sense but our study made use of a technology tool to access historical materials, whereas her study was more centered on social studies instruction.  

Limitations

There are a few limitations to our study. The most glaring is that the results may have been impacted by a novelty effect. The use of iPads was a deviation from these classes’ usual instruction, generating genuine enthusiasm for their use. It is possible students using iPads tended to stay on task because of the opportunity to use the device. If students were more accustomed to use iPads, it would be interesting to note their reaction. It would be necessary for the same group of students to use iPads over a longer period of time to test whether this is true. Also, this study only reports research from one iPad application. Because of the differences in applications, the findings cannot be generalized to all applications. Another possible limitation is that the majority of students enjoyed this activity because the content covered an event, which took place in their lifetime and also had a direct impact upon their lives. Osama bin Laden, Iraq, and Afghanistan are all part of the modern lexicon. Additionally, by pure coincidence, the first lesson in this project took place the day after Osama bin Laden had been killed, making the content extremely relevant.  

Future directions

Looking toward the future, there is a need for more empirical studies of mobile device use in secondary social studies classrooms before any definitive conclusions can be drawn regarding their effectiveness. It would be interesting to study the same group of students over both the short and long term in regard to their knowledge of a particular subject as a result of their use of mobile devices with different content and different applications. As mobile technology devices become more commonplace and more applications are created, designers of social studies-based applications would do well to include examination of the ‘common’ people that are rarely found in textbooks.  

Conclusion

Mobile technology devices such as an Apple® iPad have become part of the fabric of modern society. The degree to which these devices have the potential to positively impact the teaching and learning of social studies needs further scrutiny. We therefore attempted to address the gap in the literature by examining the use of Apple® iPads to engage eleventh grade United States history students with primary source historical narratives to teach about the events of September 11, 2001. The devices’ use positively influenced student interaction with primary sources as well as student empathy as they learned about how the events of September 11, 2001 influenced specific people.  

References


**Web-Based References**


**Appendix A**

**Pre-and Post-Instruction Test**

1. What do you know about 9/11? In what year did 9/11 happen?
2. Who were the important figures/groups involved in 9/11?
3. Is 9/11 important to you? Why?
4. What were the consequences of 9/11?
   a. What has changed since 9/11?
   b. What has remained the same since 9/11?

Appendix B
Graphic Organizer

Name: __________________________________________

9/11 Memorial: Explore 9/11
As you transition through each tour stop complete the chart below to compile and organize the oral accounts.

<table>
<thead>
<tr>
<th>Tour Stop</th>
<th>Name</th>
<th>Occupation and Location</th>
<th>What did this person experience? Give specific details!</th>
<th>Details from the images</th>
<th>How would this oral history add to the official news report?</th>
</tr>
</thead>
<tbody>
<tr>
<td>1</td>
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Wrap Up Questions: Answer the following using your graphic organizer.
How do the tour stop clips differ from the official news account?
What do the oral histories add to the overall account of 9/11?
Why are personal stories necessary to the study of history?
Rubric for Graphic Organizer
Each tour stop was graded using the following rubric:

<table>
<thead>
<tr>
<th>2.5</th>
<th>2.0</th>
<th>1.5</th>
<th>1.0</th>
<th>.5</th>
<th>0</th>
</tr>
</thead>
<tbody>
<tr>
<td>All questions are answered</td>
<td>Most questions are answered</td>
<td>Some questions are answered</td>
<td>Few questions answered</td>
<td>No questions answered</td>
<td></td>
</tr>
<tr>
<td>All answers are correct</td>
<td>Most answers are correct</td>
<td>Some answers are correct</td>
<td>Few answers correct</td>
<td>Few answers correct</td>
<td></td>
</tr>
<tr>
<td>Answers contain specific detail</td>
<td>Answers contain detail</td>
<td>Some answers contain detail</td>
<td>Little detail</td>
<td>No details</td>
<td>No detail</td>
</tr>
</tbody>
</table>

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