High School Students: Information Seekers and Technology Users

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Abstract

This research paper examines the community of young people, specifically high school students who use various strategies and methods of seeking information. In this examination, the notion of information seeking behavior of student and librarian will resonate thematically and the focus will be on students as a whole community, inclusive of race, gender, and socio-economic status. The hope is to define and identify the major characteristics of this community as seekers of information as well as distinguish their motivations. The conclusion of this examination will reflect on how information professionals and students can work in collaboration to satisfy this community’s information needs.
Introduction

It may be little surprise to know that even in the 21st century, teens still flirt, gossip, tease, brag, and hang out — the typical teen ways of communicating. What makes this classic teen behavior different now is the way in which teens communicate and with what devices they use to communicate with. Clearly, the basic tendencies of teens still resonate true, however when it comes to ways of communication, or seeking information, or looking for privacy, or even conducting research, and the behaviors associated with these habits are changing in the digital age. In this paper, I will explore the high school, teen community to understand the various ways they seek information, the behaviors they exhibit, how they essentially become the creators of information and how these factors will resonate in their adult lives.

The 21st century can be a very exciting time for any individual, however for teens communication through technology means that networking and staying connected meets their needs more efficiently. For teens, this type of connectedness may mean the ability to communicate identity, to self-disclose about intimate topics, or simply to validate their opinions, attitudes and behaviors. Consider Jon Henley’s blog post in which he cites 16 year-old Philippa Grogan as saying “I’d rather give up, like, a kidney than my phone. How did you manage before? Carrier pigeons? Letters? Going round each others’ houses on BIKES” (2010). Indeed, teens pre-21st century wrote letters and rode bikes to see friends, but with new and modern
technology, there has been a dramatic shift if behaviors of teens, who now have more ways than ever to stay connected — day or night.

Over the last 3 decades, information behavior of teens has captured the attention of researchers who have focused on this particular community in several different areas of study. One area of study is to simply to explore the habits and behaviors of teens and technology, while other area of study finds researchers focused on teens and how they are encouraged to seek information in education, either as individuals or as a member of a group. And of course, researchers are also interested in how teens use social websites and networking as a means of communicating, and as a result, are becoming inadequate face-to-face communicators in society.

What is apparent in the study of this community is that there is an abundance of scholarly literature to support numerous studies involving teens. Challenging as it can be to wade through some incredibly fascinating research, this paper will focus primarily on four areas: how teens seek information through research, the behaviors of teens as users of technology and the ensuing problems and possible solutions, how teens stay connected using current technologies, and how libraries and librarians can adapt to the needs of teens in an effort to foster positive and productive information seeking behaviors.

**Literature Review**

There certainly isn’t a shortage of scholarly articles, peer reviewed articles, magazine articles, books, and reports about the high school teen community. However, choosing the resources that pertain to the topics outlined in the introduction, required determination and diligence, (the challenges will be addressed specifically at a later point in this paper), especially considering the broad spectrum of information and examination of information behavior.
Nevertheless, there are several important contributors to the scholarly study of teens, information and libraries.

To begin, Pew Research Center provides many resources based on project studies by expert researchers in this field of study. Many of the studies that have been conducted and reports that have been published are based on the research practices, technology usage, and the consequences of such teen behaviors. One can access information on teens and technology dating back nearly 10 years ago. What makes Pew Research fascinating and important is that much of their research is conducted through surveys and studies and, for the most part, is updated with current statistics as they become available. Although many scholarly articles are based upon surveys and studies, the Pew Research Center provides information that is easily accessible through a simple internet search and does not require access to a college or university database. Even so, research for this paper does not rely solely on information provided by Pew.

Much of the literature on high school teens can be interconnected with each focus area to be discussed herein. However, a concerted effort will be made to keep the focus areas independent during discussion, but succinctly segue into the next focus area. The literature on teens and research generally considers the teen as a researcher or information seeker and how students use this opportunity to grow from this experience. What is noted most frequently in this area of research is that students have difficulties researching. Chung and Neuman (2007) found that in “accessing, evaluating, and using information contained in particular information sources and for particular tasks” (p. 1503). Delia Neuman, Associate Professor and director of School Library Media Program at Drexel University, primary research interest is how people—especially students—use information as a tool for learning. Joy McGregor, retired lecturer at the
School of Information Studies at Charles Sturt University in Wagga Wagga, New South Wales, Australia, and Andrew K. Shenton, information literacy specialist are names that are frequently associated with students and research.

The literature regarding research behaviors of teens and behaviors as information seekers in general delineates how, dependent upon the nature of the information and the container that it is presented in, will change. Abbas and Agosto (2013) suggest that teens avoid multiple obstacles in researching a variety of topics by using the Web — thus giving them immediate access to information that need or desire, which otherwise might prove challenging to obtain. This particular article is an interesting contrast to Bates (2009) who defines information behavior and finds that, as researchers of particular information seeking communities we can better understand information behavior within social contexts more easily. Another prominent name in behaviors of youth in the digital world is the late Eliza T. Dresang, who wrote extensively prior to her 2014 passing.

There are many notable scholars in the area of teens and information literacy. Bowler and Nesset (2013) state, “…information literacy is a prerequisite to lifelong learning and engagement in the community” (p.42). Dr. Leanne Bowler, Assistant Professor of Information Science at University of Pittsburg, and Sr. Valerie Nesset, Library Information Studies Associate Professor, at University at Buffalo, have written extensively focusing primarily on information-seeking behavior, and information literacy. Nesset has co-authored with Shenton. Other notable academics who have written extensively on information literacy are, Dr. John Furlong, Emeritus Professor Education, Dr. Chris Davies, Assistant Professor of Education, both from Oxford, and
Lisa M. Given, Professor of Information Studies at Charles Sturt University in south Wales, Australia.

To feel a sense of connectedness, high school teens often resort to social media and texting rather than focusing on learning environments. Additionally, these same teens have greater access to information and increased access to computers, mobile devices and the Internet any time of day or night. These opportunities provide educators with a rich opportunity to help students with their information and technology fluency (Sharkey, 2013, 33). Although Sharkey indicates that educators have the potential for innovative pedagogical opportunities, there are various pitfalls for students to be hyper-connected, as suggested in the literature. Dr. Jennifer Sharkey is Associate Professor of Library Science and Head of information Use and Fluency at Illinois State University, Milner Library.

Luckily, there is literature to suggest that collaboration between educators, librarians, and students, will create and foster academic success and information literacy, which, in turn, will close the negativity gap. Dr. Shenton and Dr. Dresang have contributed articles under this focus of study as well as, Reference and Instruction Librarians at Long Island University, Brooklyn, Katelyn Angell and Eamon Tewel. Agosto and Hughes-Hassell (2005) note that, “an understanding of human information behavior is fundamental to the provision of high-quality library service (141). Dr. Denise Agosto and Dr. Sandra Hughes-Hassell specialize in areas of youth and libraries.

While the academics provide plenty of information, there are some limitations to their literature and therefore it is necessary to also review literature published by other sources and
professionals who have opinions regarding teens as information users. Thus, it is important to include non-peer reviewed articles and blog posts.

Methodology

The decision to focus on high school teens was relatively easy, although my first desire was to focus on high school teen minorities. Once I broadened my community to include all high school teens, collecting data became less frustrating, and the ability to interview students from the high school library made collecting data and conducting interviews convenient. As I delved deeper into the research, it became apparent that there were several areas to focus upon within my community group and some of these areas became the basis of some of my discussions with students.

Interviewing students is quite fun. I really enjoy talking with them, although sometimes, I think they feel a bit strange talking to me. I try to ease into conversations with them by using a little humor and by letting them know that since I am new as school librarian, I am trying to not only learn about their needs, but to get ideas to improve the library and services. I left the English classroom to replace the previous librarian who had become mean and bitter, and quite unfriendly. Students would refer to him as “Speedy,” so for me to actually sit down and speak with students in a friendly way was rather unusual for them. However, our conversations proved fruitful, and I would like to think, as a result, students have become more comfortable using the library.

While interviewing students is a part of my research, I have relied more heavily on the scholarly and peer reviewed articles that I have obtained through the SJSU library databases, relying primarily on the LIS databases. At first I became frustrated because using keywords
“teens,” “teen,” “high school,” and “students” produced articles that really didn’t meet my desired results. I then tried to use “young adults” as a keyword instead of “teens,” which produced a great deal of information, however the literature was related more to college age students. Thus I came to realize that “young adults” was for a more mature age group, than what I wanted and I changed the keyword to “young people.” This simple tweaking of a keyword produced resources that were more suited for my community and desired research results. I also learned that there were some other terms to consider using depending upon the focus area.

I consider myself a research geek and didn’t stop with just the databases through the library. Currently, our school site has had access to EBSCO Host that is geared more for the high school student, although scholarly articles could be accessed. Ironically, using the same keywords as my previous search using the SJSU databases, I was able to find a few more articles. I also scoured Librarian journals that are archived in my library, although that proved unsuccessful. But, I wasn’t deterred and I kept searching, but went back to using the Internet.

My search on Google Scholar produced nothing, but then I tried just a simple Google search. I was quite surprised to find several sources although not peer reviewed and oddly enough, one that hit that led me to Amazon. I thought I was on to something while searching Amazon and to my good fortune, found an amazing text, edited by Jamshid Beheshti and Andrew Large, which is a collection of essays about children and teens in the 21st century, titled *The Information Behavior of a New Generation*. I was actually drawn to several other books, but I did not want to become overwhelmed with information. (Plus shopping for books on Amazon can be quite detrimental to my wallet!). Using Google also led me to the Pew Research website
from which I found several studies that were relevant and useful. I also read several blogs and non-scholarly articles as well.

Before I felt completely content with the resources I selected, I went back through them and reread the abstracts and reviewed the resource lists when available. By skimming through some of the resource lists of a couple of the articles, I was able to find a few more — specifically more articles written by Andrew K. Shenton. In all, the research and interviews with students have provided me with valuable insight that will help me to adapt to my new work environment and to help me understand the community with which I enjoy and work with daily.

For the purpose of this paper, the use of high school teens will often be inter-changed with the use of “students.” Additionally, the use of information seeking will be used synonymously with “research” unless the discussion is specifically referring to seeking information in a non-academic environment or purpose. The intention of this paper is to understand high school teens from several perspectives during their information seeking processes and not the intention to blatantly confuse or distract the reader or to appear off topic and misguided. Lastly, any mention of Lincoln High School is as a result of my place of employment and interviews that I conducted.

Discussion

How Teens Seek Information

There are several concerns when teachers and librarians consider the research skills of students. One concern is whether or not students can adequately judge the quality of online information and as a result rely on others, (non-academic) to obtain information; two, can students establish the relevance of the information they obtain; and three, is research authentic
and is the research assignment engaging enough to hold the interest and stamina of the student as researcher. Other concerns include an expectation of a priori, and sufficient skills using keywords (Shenton, 2007). While today’s information rich environment may provide plenty of opportunities for students to obtain information as researchers, this does not guarantee that students will use the most reliable or relevant information. Chung and Neuman (2006) cite that “accessing, extracting, and using information involve more complex issues than merely having physical access to information” (1503). The burden on teens to seek information can be eased by knowing the nature of the students, consider the type of research activities that are required, and the relationship between seeking information for academic purposes versus personal purposes.

Research conducted by Pickard, Shenton, and Johnson (2014) suggests that there is a necessity to distinguish between information behavior and teaching information literacy. What Pickard et al. (2014) discovered is that when students were engaged in evaluating a website for the credibility of the site their scrutiny focused on the elements of the website; grammar and spelling and the age of the website or its last update rather than authorship. Bodoff (2204) explores the relationship between the relevance of the browsing task to the relevance of the search.

Bodoff suggests:

For browsing, if a document was popular when it was new, then it was more likely also to be relevant to browsers many weeks later. In contrast, regarding focused searches, the best indicator of whether a document will be relevant to searchers long after its publication is not whether it was popular when it was new, but whether it was relevant to other late searchers. (p. 85)
It is imperative to know the nature of the research skills of teens. While the Internet enables teens to find and use resources, the amount of resources can seem overwhelming to them and although information can be accessed quickly and easily, the lack of digital and information literacy may impede the research process and hamper students’ ability to become proficient at researching.

Chung and Neuman (2006) point out that, “students need instructional guidance to use information in an information-rich environment” (p. 1505). Students will excel when given the ripe opportunity to correctly conduct research, have an interested in their research topic, and know how to conduct research correctly. When students can make sense of the information they are finding they will experience self-validation as a seeker of information. Students are not experts in the process of research and seeking information and they require “consistent, constructive guidance to make the experience enjoyable, engaging, enriching, and meaningful” (McGregor, 1999, p. 27). Nonetheless, research and seeking information must be a carefully choreographed task in which students are clear of the expectations, participate in the required activities and be cognitively serendipitous — whether seeking information independently or as an academically assigned task.

Students are not efficacious at seeking information unless they are provided the necessary activities to facilitate success. Students can become bored and dread researching information simply due to the fact that they are uncertain how to use the information and are uncomfortable synthesizing their findings. Additionally, teachers are often rushed in their effort to have students seek information and produce a final product. In this case, negative feelings and emotions can obscure the potentiality of life long learning. Students must be a part of the topic selection process, plan what and how they research, gather information, (after being instructed on how to
select reliable sources), determine what information is relevant, know the topic of their choice, and begin the writing process. Chung and Neuman (2006) find this type of planning to produce “serendipity” in which, “students’ cognitive practice of seeking, finding, and recording information from many sources without expectations and with no clear direction in mind” (p. 1515). However, some academics believe that authentic research and seeking information should not always be a typical rote assignment that when assigned produces heavy sighs and opposition.

To ease student information overload and foster a positive research experience in the academic realm, Carol Gordon (1999), suggests that the activities preceding a formal and extended research assignment bring heightened awareness to the research methods taught and designed to “elevate the quality of students’ research papers” (p. 7). The Internet, especially for high school teens, has become the resource of choice to seek information. Teaching students the necessary skills, providing them with the necessary tools, and a reasonable rationale for seeking information will afford them with a solid foundation in using technology. Gordon’s research, although not an end all, sheds light on how librarians and teachers can begin to learn about the information seeking behaviors of students. What can be clearly established in reading the research is that teens are unfamiliar with how to conduct legitimate and purposeful research in the academic realm.

Behaviors of Teens as users of Technology

The previous discussion focused on how teens seek information and how research indicates that they are uninformed in seeking information correctly and purposefully. But what is the information behavior of teens that use technology? What are their needs and how are these
needs resolved? Why is it important to know? Early in the 21st century, the digital age was beginning to be examined in juxtaposition with the classic methods of seeking information sources. Dresang (2005) suggested that, “the whole of information behavior is a complex combination of factors” (p.179). It was then that the realization to explore the processes and action responded to the need for information.

Melissa Gross (2009) suggests that the models of information behaviors of teens is primarily takes place in school and sees a “significant gap[s] in our knowledge and methodological issues that need to be addressed to build a solid research base” (p. 5732). However, what Gross does recognize is that librarians are often not included in the information seeking behavior of teens who use technology and that teens frequently collaborate with their peers to share what they know. Conversely, Bates (2009) observes:

In fact, the truly explosive popularity of the World Wide Web as an information source may be due to the fact that the level of effort the searcher must engage in to find an answer to a question on the Web is at last so very little as to slip in under that minimal level of (least) effort that feels ‘natural’ in information seeking. (p. 2385)

Evidently, Dresang, Gross, and Bates had insight into the future. Information behavior is complex, and perhaps as complex as teens themselves. And true, teens infrequently rely in the resources a library and a librarian can provide — and find greater comfort in relying on their peers for information. And just five years ago, Bates recognized the lack of effort required to seek information by using the World Wide Web, an observation that defines the behavior of teens who seek information — they gravitate towards the Internet, the most expeditious method and least demand of effort to find information they need.
The need to know the behaviors of teens that use technology is important primarily because locating, evaluating and using information has become a part of the daily routine for most teens. Eynon and Malmberg (2011) identify information seeking as “one of the most popular online activities for young people and can provide an additional information channel, which may enhance learning” (p. 514). Indeed, teens — often referred to as digital natives — use information and communication technologies as the primary mode of communication. However, to assume that teens are digital natives, and consumers of information and communication technologies as a primary mode of communication is presumptuous, and can falsely and unintentionally stereotype teens.

If popular views of how teen behavior in the digital world as consumers of information and users of technology are accepted, very little can be learned about the needs and actual behaviors of their everyday life information needs and the sources that they use to locate information. Abbas and Agosto find that although teens regularly engage with information and technology, “they are still people who are grappling with the developmental issues encountered by all youth as they grow to be adults in our modern technologically dependent society” (p. 86). Interestingly enough, the complexity of life for teens is paramount, and much is assumed by adults about the behavior of teens and their use of technology. Not all teens have equal access to the Internet, devices with which to communicate, to social media, and each also possess varying degrees of comfort using technology. (Abbas, Agosto 2013). Furthermore, consider the additional demands placed on teens as a result of technology use.

Teens are now more than ever monitored by parents, educators, and peers. They are required to account for their whereabouts, account for their actions, account for their research
and assignments, and remain in continual contact with their peers through texting, snap-chatting, Twitting, Facebook-ing, and Instagram-ing. Students are now required to play new roles by constantly checking and monitoring activities while their own activities are being monitored. So how are teens affected by these new demands and rapid changes in their everyday life information behavior?

How Teens Stay Connected

Teens today have a deep-seated need to stay connected — to communicate and collaborate any time of day or night (Sharkey, 2013). Moreover, the search strategies of teens may be a key indicator of their information fluency. So, is it important for teens to stay connected? With the rapid pace with which technology is growing, students are discovering more ways to stay connected and with the growing methods of being connected, so too are teens finding more relevance in being connected.

According to research conducted by Pew researchers, Madden, Lenhart, Duggan, Cortesi, and Gasser, (2013) “78% of teens now have a cell phone” making access to the internet quite common (p.2). The main findings in this report indicate that “95% of teens are online, a percentage that has been consistent since 2006” (p. 3). Whether a teen is in ownership of a smartphone or cell phone, they have the ability to stay connected, access information, and create information. With new and always improving technological advancements, teens are lured into continual connectivity.

The attraction to staying connected is very real. Associate professor at the School of Information Studies at McGill University, Jamshid Beheshti reveals that “Many designers have developed attractive, vibrant and dynamic portals to provide access to information and education
materials for the so-called digital natives — those born after 1989 — who may process information differently from their predecessors” (p.54). Teens stay connected in a variety of ways, shopping online, downloading music, sharing personal information, and find information (Beheshti, 2012). There are growing concerns, however, that teens will suffer due to being “hyperconnected” (Anderson, Rainie, 2012).

Pew Researchers, Anderson and Rainie (2012) surveyed technology experts and stakeholders about the future of the internet and as a result found that most of these experts or stakeholders felt that teens will count on the internet to be “their external brain…nimble, quick-acting multitaskers” who will be successful to some degree (p. 2). Yet, in the same survey with the same responders, these experts also suggested that as a result of continually being connected, it would “drive them to thirst for instant gratification, settle for quick choices, and lack patience” (p. 2). This survey is revealing, yet staggering, yet completely confusing for an educator and librarian who must adapt and meet the informational needs of the very teens who will frequent the library seeking information.

The notion of teens staying connected is also a very exciting prospect. Upon reflection of a recent change in the Lincoln High School Library policy of not requiring students to show their identification card upon entering the library, staff has noticed a considerable influx of patronage before and after school as well as during lunch. Students have the ability to freely enter the library to access devices with which to seek information, and to not only connect digitally, but connect face to face with their peers. As a librarian, facilitating teen connectivity can be a rewarding experience to witness and an opportunity from which to learn about her community on a more personal level.
Libraries and Librarians

What then is the role of the librarian? How does the library play a part in the quest for high school teens to seek information? For many public schools, a credentialed librarian no longer staffs the library and as a result, informational skills instruction is limited. And despite being considered — or stereotyped as previously mentioned — digital natives, research shows that teens are just adequate when it comes to seeking information, lack many of the basic and fundamental research skills, and fall short of being career or college ready writers of the 21st century. With so many challenges, how can students overcome such obstacles?

Clearly, the need for libraries as a hub for information retrieval is critical, as many students are not yet fully connected to resources at home. Building information literacy will be crucial. Bowler and Nesset argue that traditional information literacy required the skills to “synthesize multiple points of view” and that in the new information environment, students must first be aware of the limitations that are mediated by technology (p. 60). What Bowler and Nesset suggest is that teens will be narrowing the perspectives by virtue of filters, search engines, and social media sites that are tailoring or personalizing search results.

To combat this information seeking paradox, information literacy should become a well-meaning and purposeful partnership between educators, librarians, and students. Angell and Tewell (2012) note “it is well documented that students feel intimidated by academic libraries” (p. 11). Other reasons that students don’t frequent their library range from wanting to conduct research at home, to going to the public library and in the words of a student at Lincoln High School, “the librarian is mean and unfriendly, and when I ask for help, I feel like I am intruding on their time” (J. Artegon, personal communication, April 12, 2013).
In their study of urban teens and their information-seeking behaviors, Agosto and Hughes-Hassell (2005) found that students limited their use of the library due to negative perceptions. Their study found that librarians were rude to teens and that teens would actually use the library more often if they were treated with kindness and respect. This particular study also found that students found little value in book collections due to a lack of “culturally relevant materials” (p. 161). Similar sentiment was also raised by a Lincoln High School student who remarked, “the books are old, some of them have publish dates of 1945 and, they smell musty” (C. Ghan, personal communication, April 12, 2013).

The opinions of teens must be taken into consideration and more credit must be given to their needs for information. If teens do not hold a positive perception of libraries they will fall even further into the pitfalls of information seeking illiteracy. Libraries should be a welcoming place for students to gather to seek information and their information needs must be met in order to ensure that they are obtaining the correct information from credible sources. Students of all grades should become frequent patrons of the library. Ironically, Sin (2012) finds that of the 12th graders who participated in her study 93% of use their school libraries, very few 12th grade students use the Lincoln High School library.

Conclusion

In summation, this paper attempts to examine four areas of focus centered on high school teens as information seekers and technology users. Let it be said that this examination merely scratches the surface and in no way reflects the time or discussion that this community requires and deserves. Clearly there is a growing need to continue researching this community as information seekers at an equal pace with technological advancements. That is to say that
technological advancements are providing ripe opportunities for high school teens to become information seeking gurus, however understanding teen behaviors and information needs lag in the competitive digital race. Additionally, there is a continued need to focus on this community in an effort to understand and meet their growing needs to seek information and the difficulties that they may experience.

Understanding the informational needs of this community is critical as high school teens are at a precipice of success academically and professionally, given the state of the economy in our country. Yet, on several levels, this community also presents those in a position to assist and teach a daunting, as well as challenging, but no doubt exciting and rewarding opportunity. But how can libraries and librarians be an influential and important part of this community? How are the concerns of academics going to be resolved in unison with the practical territories and information related situations that teens exhibit?

Undoubtedly these questions may never be succinctly answered. Shenton (2007a) eloquently identifies ten paradoxes that affect the world of teens’ information behaviors — some of which have been discussed herein — and to which he suggests create the ambiguous and the complexity of information behaviors of teens. Notably, Shenton finds that the dilemma for information professionals “can arise in a range of libraries, not only those specifically catering to youngsters” (p. 12). Sadly, this dilemma resonates true in my own inquiry with students and teachers alike. When teaching teachers how to conduct basic research using the library catalogue and databases, one tenured teacher responded by asking, “why haven’t we been shown this information ever before?” (J. Olmstead, personal communication, November 28, 2014). Part of the dilemma of information seeking behavior of high school teens, and students in general, is in
adequate training of teachers of information seekers. As a result, the needs of high school information seekers cannot be met if those that are in a position to teach them are uninformed themselves. However, the responsibility does not fall squarely on the shoulders of educators and librarians.

Particular to the community of high school teen information seeking behavior, how can information professionals respond, while respecting their need for privacy and better serve their needs to locate information that is both credible and reliable? To propose solutions would be presumptuous at best, especially given the generalities of this discussion, as well as the variables for specific demographics of the community. Nevertheless, the following considerations should be made:

• Libraries and librarians should review procedures with regard to user attitudes and behaviors.
• Librarians and educators should not assume a teens a priori with information or technology.
• Librarians should become a stronger force in advocating digital and information literacy for high school teens.
• Librarians should encourage dynamic information skills models that resonate academically and professionally.
• Teens should be encouraged to rely more frequently on the resources the library provides and seek assistance from librarians as a credible reference source.
• Teens should practice research skills and become familiar with keywords and terms that may juxtapose contrasting ideas or concepts.
Although my experience as high school librarian, and for that matter, district credentialed librarian, is very limited at this point, and as a result of my research in this particular community, I am both excited and encouraged to embark upon a fascinating time as a librarian. I look forward to learning more about this community as it evolves and I look forward to expanding my knowledge to include elementary age students and they become a very noticeable information seeking community.
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