**Using Polling to Understand High School Students' Perspectives on
Internet Learning and Peer Support**

by

Kelli Lynn Hendon

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Approved by

Paris S. Strom, Chair, Professor of Educational Foundations, Leadership, and Technology
Ellen H. Reames, Associate Professor of Educational Foundations, Leadership, and Technology
Jill D. Salisbury-Glennon, Associate Professor of Educational Foundations, Leadership, and
Technology
Chih-hsuan Wang, Assistant Professor of Educational Research, Measurement, and Assessment

Abstract

This study explores students' perceptions of Internet and peer-supported learning using student learning polls. Schools are expected to make improvements annually to increase student learning and achievement. The Learning from the Internet Poll includes questions on concepts such as homework assignments, parental support, web sites, virtual schools, teacher training, purposes for Internet use, time spent on the Internet, obstacles to Internet learning, and Internet safety.

The Peer Support Poll includes questions on concepts such as typical behaviors in classroom learning groups, obstacles to learning, preparation for group tasks, group discussions, and feedback and evaluation of group work. The polls were administered in classrooms via paper and pencil format. The study included 444 students from a rural high school in Alabama. Gender was analyzed as a variable in responses. Data analysis from the polls provided insights for school improvement purposes. Allowing students to have a voice in their learning has a direct impact on school improvement.

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Chapter I: Introduction

Students' needs must be at the forefront of continuous improvement of formal education; in such, student voice must be at the heart of such reform. Children are at the heart of preK-12 education, so rather than having adults who are sometimes far removed from the classroom make all of the decisions that impact students, why not allow students a voice? Instead of being disconnected and removed, students that have input in education improvement and reform take ownership in their school. According to Friend and Caruthers (2012), schools often do not give attention to effective reforms that seek to give students voice and to understand the experiences of students. They say that schools are one of the few places where lives can be molded and shaped, thus lending importance to understanding what students need. By listening to the voices of students, the culture and paradigms of schools can be changed.

Polling, a form of survey research, allows students to have a voice. Polls are often anonymous which removes the fear of being criticized for personal opinions and thoughts, thus leading students to be more honest. When school leaders acknowledge they are listening to students, students are more apt to participate in efforts to garner their ideas and opinions. Research shows that students perform better when they believe their voices matter. They feel more valued, and they feel like what they have to say is important.

Technology is gradually changing the way school is done. It is changing the way people think, feel, and live. It is changing the way many things are done. It is changing formal education. However, contrary to popular belief, not all students are comfortable and excited about the use of technology. Technology use evokes an array of feelings. Feelings vary from

those of panic to those of euphoric high. Students' preferred uses of technology are just as varied. They range from social media to gaming to researching topics of personal interest. According to David Buckingham (2013), "…. technology is seen to possess an overwhelming power: it effectively defines what it means to be a person." By understanding students' thoughts concerning technology, teachers can prepare classroom activities to suite students' needs and interests.

The purpose of public K-12 education is to prepare students for college and/or career beyond high school. While educators are preparing students for careers that might not yet exist, employers can agree that teamwork skills are essential (Strom & Strom, 2011). Research indicates that classrooms are transforming from the traditional lecture-type classrooms where students are expected to sit in rows to places where students are expected to work together in groups for the purpose of learning. This places responsibility on students to provide peer support for classmates as well as the responsibility to grow personally and through self-evaluation. By working in groups, students must be responsible for their assigned role in group work, and they learn to work with each other to complete tasks. Peer-supported learning helps develop students that are reflective, analytical, and independent thinkers thus preparing students for college and career choices beyond high school. Strom and Strom (2011) found, …" cooperative learning promotes social connections, encourages constructive behavior norms, and motivates optimism that most problems can be solved when collective action is applied in teams" (p. 249).

In *Gender Equity in the Early Years*, Browne (2004) suggests that girls and boys have different work styles. In the younger years, girls prefer smaller groups than do boys, and boys and girls prefer to work in single-sex groups. Group work with girls tends to be filled with more discussion while boys tend to start independently before coming together. The author goes on to

suggest that boys and girls are different, and the divide should be looked at further as it relates to education. This further substantiates the need to look further at research as it relates to gender differences.

Statement of the Problem

Many employers state that team work and ability to work as a team are some of the most important qualifications they seek in hiring new employees. Research shows that employers are looking to hire people that possess soft skills—those skills that are essential to job success such as good communication, organization, and ability to solve problems. According to Davidson (2016), an increasing number of employers are seeking workers that possess soft skills such as the ability to work with others. Davidson (2016) goes on to say that it has gotten more difficult to find workers that possess these skills. To better prepare students to work as team members, opportunities for practice and guidance must be given. To understand students' views on peer supported learning, polling can be used.

Some adolescents experience a lack of interest in school which hinders their motivation to learn. By allowing students to have a voice in their school, motivation can be increased. One way to allow students a voice is through polling. Polling gives students an opportunity to become active participants in their education.

Technology is constantly evolving, and the world is very dependent upon technology. In many aspects of life, technology use is essential. The generation of students currently enrolled in high school has never known life without cable television, microwave ovens, computers, or cellular phones. For students to be prepared for college and career options beyond high schools, a strong understanding of technology and its use is of utmost importance. Research shows some demographic groups of students are still not as confident as others in utilizing technology. This

might explain the continued dominance of males in technology-related careers since research suggests males tend to have a greater confidence and more positive attitudes in using technology than do females (Yau & Cheng, 2012). To better prepare students for the future, research must be conducted to determine the needs of students when working with technology.

Purpose of the Study

In order for students to be immersed in education, they must be given the opportunity to have input. Student opinions and ideas can be great resources when seeking to understand the best ways to teach and to prepare students for higher education and careers.

The *Every Child Succeeds Act* allows states to develop individual guidelines for schools, and states are expected to move schools forward by developing guidelines and goals that promote improvement. Each school in the state of Alabama is expected to develop an annual Continuous Improvement Plan (CIP) where the school outlines goals with measures and steps to meet goals that address the needs of students. In addition, under Plan 2020, individual schools and school districts are expected to submit a local indicator that is unique to the particular school and district annually. The local indicator is an opportunity for schools to determine a goal along with objectives to reach the goal. The goal must be measurable in nature and serves to encourage schools to take measures to improve the school. The CIP and local indicator highlight needs that are unique to the particular school and/or district. These plans can impact learning conditions of the school as they address areas that strongly effect students, including, curriculum, assessment, technology, and classroom instruction. Because technology use and peer-supported learning are becoming common classroom practice and effect student motivation to learn, the need to evaluate the school's use of these practices exists. Plan 2020 also calls for students to achieve proficient levels on standardized state assessments. The incorporation of technology use and

peer-supported learning in the classroom could lend themselves to aid students in preparation to achieve proficient levels on these assessments

Based on the ability to meet objectives set forth by the state education department, each school in the state will eventually be assigned a report card with a grade A-F. For those schools receiving a grade of "F," sanctions including cut funding and state takeover of the school could be enforced.

Research Questions

1. How are student perceptions on purposes for Internet use reported on the Learning from the Internet Poll influenced by gender?

2. How are student perceptions on supports for Internet use reported on the Learning from the Internet Poll influenced by gender?

3. How are student perceptions on learning needs for interpersonal functioning reported on the Peer Support Poll influenced by gender?

4. How are student perceptions on learning needs for team task functioning reported on the Peer Support Poll influenced by gender?

5. How are student perceptions on needs for assessment of interpersonal/team task functioning reported on the Peer Support Poll influenced by gender?

Significance of the Study

The purpose of this research is to use polling as a method to give students voice in the school improvement process. Poll results provide information on student perceptions of technology use and peer support as they are used within the classroom. The gender variable is examined to determine differences in perceptions as it relates to gender. Responses are analyzed to determine whether an independent or dependent relationship exists amongst gender variables.

For teachers to best utilize technology and peer supported learning within the classroom, they must understand their students' perceptions and what is important to students. The data from the research can assist teachers in planning collaborative activities and activities involving the use of technology that best meet the needs of students.

Assumptions of the Study

The study is rooted in a pragmatic theoretical assumption. It is practical in nature and seeks to find solutions to a problem. The problem is at the center of the study rather than the methods of research. According to Creswell (2003), pragmatic research looks at the intended consequences of real world research to determine the best methodology for data collection, and it considers truth to be what works at the time.

By allowing students to answer in an open-ended format in addition to the multiple-choice items, the study takes on a mixed methods design. Aligning with a pragmatic view, the study does not take on a particular philosophy or reality. The aim of the study is to provide a greater understanding of a real-world problem relevant to the participating school system.

Limitations of the Study

The greatest limitation of this study is the sample of participants. Research participants are all students from one Central Alabama high school located in a rural area. The results are applicable to the particular school and are unable to be generalized to all high schools. The accuracy of the data collected is dependent upon the students and their willingness to answer truthfully. Participation by students is not considered a significant limitation as a majority of the enrolled student population completed the polls. Of the 461 students enrolled at the time the polls were completed, 444 responded to the Learning from the Internet Poll while 443 responded to

the Peer Support Poll. This yielded a return rate of 96%. Seventeen students did not complete the polls. These students were not present for reasons unknown at school on either polling date.

When considering study limitations, the possibility of blind answering must be acknowledged. Each teacher, along with the principal, reiterated the importance of answering accurately. Teachers administering the polls talked of the importance in students answering accurately and in having a voice in school improvement processes. However, the possibility exists that students answered blindly. The researcher is unable to control this limitation.

Definition of Terms

Continuous Improvement Plan (CIP)—Ongoing effort to improve practice; required by the Alabama State Department of Education annually to be submitted electronically by all public K-12 schools.

Every Child Succeeds Act—US law passed in December 2015 that governs K-12 public education policy.

High School—A school containing students in grades 9-12.

Local Indicator—A measurable goal aligned with Plan 2020 that is unique to the particular school; must be submitted electronically annually.

Peer Support—Giving and receiving help from peers based on principles of respect and shared responsibility.

Plan 2020—An accountability act designed by the Alabama State Department of Education whose mission is for all students to graduate and be prepared for college and career

Polling—A form of survey research used to gather opinions of participants.

School Improvement—A process that unfolds progressively with no time limits; sustained over time.

School Improvement—An ongoing effort to improve practice and student learning.

Student Voice—Values, beliefs, and opinions of individual and groups of students.

Technology—Equipment and machinery created from the use of scientific knowledge application.

Title I—Designation outlined under the Elementary and Secondary Education Act where a formula is used to determine federal funding based on the number of children from low-income families within the school district; higher numbers of low-income students results in higher fund allocation.

Chapter II: Literature Review

In the development of this literature review, the first intention is to lay a foundation for the need for school improvement practices and to describe how student polls can be used to serve in this process. Next, studies and theories will be reviewed regarding the use of technology in schools as it relates to learning from the internet (poll theme A). For peer support (poll theme B), theories and instructional approaches that implicate student collaboration are examined.

School Improvement

Educators face greater demands and different challenges than in the past. Mandates from national and state acts have increased expectations of schools; however, the ultimate goal in K-12 education is for students to graduate with a high school diploma. Today, a diploma alone is no longer sufficient. In addition, under the *Every Child Succeeds Act*, all students are expected to graduate from high school with college and career preparedness skills and credentials. All schools, including top ranked, must constantly consider ways to improve or be left behind. When schools evaluate current programs, they often see a need that is not being met or an area where improvement is needed. According to *Case Study: Corbin High School,* "…. CHS staff realized that most students were slipping through the cracks and innovative thinking was needed to promote achievement and engage more students in learning." This realization led to an evaluation on how to best meet the needs of students.

Many factors contribute to the need for improvement, and most people have their own ideas as to what improvement is needed. Even schools with top test scores and prestigious accolades have room for growth and improvement. The establishment of a shared vision is a first

step that can determine the direction in which the school or district would like to go (Shein, 2014, p. 214). However, simply collecting data is not sufficient for improvement. Along with data collection comes the need to implement a plan for gathering and analyzing the evidence to guide the work necessary in making the improvement.

Schools and school districts are very complex operations with many operational components that are interdependent upon each other; thus, when a change in one component occurs, an adverse reaction may occur in another component (Levin & Schrum, 2013). For example, when implementing technology into a school, it will affect other aspects of the school such as classroom instruction delivery. When looking at school improvement, all components should be fully considered to determine how one change might affect another aspect of the school. In a systems approach where new programs are implemented or changes made, all areas must be addressed synchronously.

Districts and schools establish vision or mission statements, and while these should be kept in mind, the incorporation of ideas from all stakeholders is important when determining goals and direction for improvement purposes. The thoughts and ideas of all stakeholders can be assessed through informal conversation, surveys, polls, and other means. In the past, students were often overlooked as stakeholders with a voice. According to Mitra's (2004) work, "student voice" has gained popularity in its potential in school improvement and restructuring. Because students in the education system are growing up in a much different environment, due to technology and technology access, than did the adults in current leadership positions, it makes perfect sense that they would have valuable input into their education. Strom, Strom, and Wing (2008) suggest the fusing of adult and student opinions could more accurately reflect needed changes and improvements. Using polls to gather student opinions and feedback is an easy and

thorough way to assess ideas, to give students voice, and to provide valuable information in determining needs for improvement purposes.

Polling

When educators attempt to make changes to any aspect of the current education system, it is advisable that the opinions and ideas of those involved be considered; thus giving all parties a voice. One way this can be done is through the use of opinion polls, more commonly referred to simply as polls. According to Igo (2006), the first "scientific" public opinion polls were used in America in 1936 and were made popular by George Gallup. Lake (1987), defines a poll as, "a systemic, scientific and impartial way of collecting information from a subset, or sample, of people that is used to generalize to a greater group, or population, from which the sample was drawn" (p. 5) Although surveys and polls are similar in style and nature, there are differences. Surveys typically require more thought while polls are generally quick in nature and seek to quickly assess the thoughts and opinions of those taking the poll. Polls can be generalized to a greater population if the sample size is reflective of the population; however, when used for school improvement, polls are generally developed and conducted with a particular school in mind thus removing the need or ability for generalization. The results are specific to the school where data is collected and should be used to drive improvement within that particular school. Research found the most influential factor in shaping student perceptions is the local school context (Strom, Strom, & Wing, 2008). In regards to this finding, all schools are unique in respect to their context and culture.

Students are the ones with the most at stake when it comes to schools. The school attended will either prepare students for college or future careers, or the school will fail students by not providing a strong foundation for success. With this in mind, it only makes sense that students be allowed to give input as to what is needed for school improvement. Students might

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not know exactly what they need, but they generally have a good idea about what is and is not working. They can also provide thoughts about current practices within the school.

Strom and Strom (2016) conducted a field test of polling procedures to determine whether polls were practical, to identify ways to improve learning conditions, and to understand whether adolescent perceptions could be combined with those of adults to create better schools; they found the answer to each question to be affirmative.

Polling Issues

"Survey research is a big deal these days. It influences elections, helps determine government policy and shapes our view of the world. It follows that we should be as savvy and skeptical of survey research as we are of any other source" (Hart, 1998, p. 5).

An issue that might arise with polling data is that schools might not know how to properly use the data to drive change. According to Thessin (2015), "Absent clear direction on how to use data, what often has resulted is analysis paralysis: teachers and principals spending time analyzing data without a clear idea of how to use it to affect the core practice of teaching and learning—daily instruction" (p. 69). According to Strom and Strom (2016), all stakeholder groups should explore results in an effort to make interpretations and recommendations for policy changes and school practice.

Polling errors can occur as a result of sampling and non-sampling factors. A non-sampling error can occur randomly or systemically with the administration of the polls. These errors might include problems with procedure, unclear questions, and coding errors. Non-sampling errors can be reduced through the use of technology in tabulations and coding and by using well thought out procedures for administration.

A sampling error can occur when the sample is not representative of the total population. More is better when it comes to polling. Those conducting the polls should make multiple

attempts to reach the greatest number of students possible for participation as all students serve as potential respondents. One way to increase participation is to make polls easily accessible by setting aside a designated time during the day to conduct the polls or to make them available electronically in schools where technology structure is in place.

Polling in the School Setting

Polling in the school setting can serve to provide valuable feedback from teachers or students to help determine areas in need of improvement. The results from polls can drive structural or instructional changes. Often times, decisions are left to administrators and teachers thus giving no voice to students. The term "student voice" can be a slang term with little definition or depth. However, a clearer definition for the term student voice is providing students the opportunity to share their opinions and experiences as students to promote change in educational policy and practice (Conner, Ebby-Rosin, Brown, 2015). One of the primary goals of student voice is to give students the opportunity to offer input in changes that better addresses their learning needs. Students experience school in a much different way than do the teachers and other adults of the school. Students are the ones sitting in the classrooms, taking high stakes tests, and following rules set forth by student handbooks. Students who are given voice and input into their learning tend to perform higher than those not given the opportunities to be heard, and some might become disengaged. In several pieces of research that follow, a trend emerges that shows students want to be heard. When students are alienated from decisions, they tend to become disengaged and less interested in the education process. Polls allow students a voice in school reform and improvement.

Friend and Caruthers (2012) interviewed 28 students from two different high schools in a qualitative study to understand their thoughts about their urban schools for the purpose of reconstructing the school culture. The authors believe as many suburbs are becoming urban areas

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with high populations of Hispanic, black, and Latina/o students with predominately Caucasian teachers, the need for teachers to understand the knowledge these students bring with them must be considered (p. 369). Often times, reform efforts only focus on stands-based learning initiatives, such as test score improvement, without giving attention to reforms that focus on the experiences of the students. The re-culturing process involves deconstructing what is and incorporating new paradigms and ways of thinking. Friend and Caruthers (2012) believe that valuing student voice can support efforts to restructure schools, and they go on to say, "In schools where educators and community members endeavor to reconstruct their work around students' diverse needs, students are listened to…" (372).

Strom and Strom conducted online polling with eight different schools in which demographics varied greatly (Strom, Strom, & Wing, 2008). Their polls looked at internet learning, tutoring, and time management. Administrators found the information gathered by the polls to be beneficial and used the data to make instructional changes. In schools where poll results were shared with students, students reported feelings of connectivity and excitement. By sharing results, administrators build relationships with students and create a sense of value for students and their thoughts. In schools where results were not shared, those feelings of connectivity and excitement were not reported. In further research by Strom and Strom (2016), field tests indicated that students felt empowered when their opinions and feelings were seen as being credible.

Sussman (2015) looked at an effort by the New York City Department of Education to create a group called the Student Voice Collaborative (SVC) in which students work with adults in a leadership program to address educational issues. As the organization evolved over the years, so did students' confidence, leadership skills, and engagement. An unexpected outcome of

the program was the change in students' perceptions. Students tend to question policies and practices, but often, they get no explanations or answers. When students build trusting relationships with the adults in their schools, their perceptions generally change, and they begin to assume that school leaders have good intentions. When students commit to improving their schools, they experience more success when they have support from adult leaders. School leaders sometimes assume that because students are quiet and uninvolved that they do not wish to have a voice in school improvement. Yet, this is often far from being true. Just as children are typically taught to be compliant with adults, this nature is engrained in them. Leaders must work to make sure students know their voice is important, and this can best be done by building partnerships and providing opportunities for student voices to be heard. Sussman (2015) believes that if educators intend to prepare students for a world where they are expected to contribute, they must be afforded opportunities in high school to practice using their voices and to be involved in decision making. This can mean reevaluating and rebuilding the communication infrastructure to allow students opportunities to be involved.

In *Student Voice and Critical Reflection*, authors suggest that when bonds and connections are created between students and teachers, dropout rates might decrease as a result of the support (Kroeger et al., 2004). When students create a positive connection with teachers, they begin to see teachers as being empathetic advocates. Many of the students that dropout have detached from school and adults within the school.

Mitra (2004) found that during times when student voice or opinions were mostly silent, students reported feelings of alienation and powerlessness. Students believe when the adults in the school did not listen to their views and ideas, their work was negatively affected. During

times when schools increased student voice, students reengaged. Students liked feeling as if they were valued by the school.

Strom and Strom (2016) suggest a consideration for polling students is to ensure respect for their privacy as most students are more willing to provide honest answers when they know their identity will remain anonymous. In providing a comfortable outlet for students to provide input, they feel more involved.

Technology in the School

According to Webley (2012), the student ratio to computers in 1984 was 1 to every 92 students. Webley (2012) claims that in the late 1990s (referred to as the dotcom boom), classroom computers became more prevalent, and by 2008, nearly 100% of public schools had garnered Internet access with computer ratios at 1 to every 3.1 students. Technology continues to change daily, and we are living in a world where technology serves as a companion to all. It is no longer viewed as only a tool or resource. Implementation of technology into schools as a tool for improvement can be very tricky as people are resistant to change. Current education structure was not designed for students who are immersed in a lifetime of technology. Thessin (2015) states, "Changing a practice that has been done one way for multiple years requires intentional instruction planning" (p. 70). With change, trial and error should be expected. Some schools are far behind the move to become digital, yet others are front runners on the cutting edge of change. Technology is ever-expanding, but the professional development to properly use the technology is not always in place. In some school systems, administrators are concerned that they have transformed from paper and pencil to merely digital worksheets as little evidence of change is seen in classrooms. An intensive effort is needed to provide teachers with professional development opportunities that will enhance the effectiveness of digital conversion. Technology is a part of life for students, and there is no way to avoid it. Technology can greatly enhance

learning and provides many opportunities for students. Using technology, learning can go deeper and move faster. However, for those not born as digital natives, technology can be extremely overwhelming and frustrating. After moving to 1:1 computer access for all students in grades PK-12 and providing teacher training to use the technology, some systems were not seeing expected results in the classrooms. In many cases, the result is frustration from being overwhelmed. Shein (2014) says of going digital, "You must have the vision and leadership. Most people working in our school systems grew up in a world that wasn't transformed with digital. The human side is the hardest challenge." The way teachers view technology and its impact on student achievement and their self-efficacy can create barriers to the use and implementation of technology into the classroom.

Access to technology is an important factor to consider in its implementation. In some schools, the lack of access to technology is the reason for its absence in the classroom. Some districts cannot afford technology. However, simply handing out devices does not translate to implementation. A very common issue with the integration of technology after it is acquired is the necessary infrastructure to support wireless connections. To create an infrastructure that is capable of supporting so many devices, much time and money is needed. Many schools lack the funds and manpower to purchase and service devices and to install the necessary hardware to support Internet usage by large quantities of users simultaneously.

Even when students are given digital devices for use outside of school, many factors impede the completion of homework or project work. Some families are unable to pay for Internet services while others in rural areas have no access to Internet services. In many cases, without internet services, assignments cannot be completed.

Levin and Schrum (2013) found that successful integration of technology to leverage school improvement is contingent upon many factors including professional development, curriculum revision, and movement from teacher-directed tasks towards more student-centered classroom practices. Computers provide a catalyst to 21st century learning skills and can ultimately close the achievement gap.

Gender difference in technology use. Research suggests that Internet use can be a positive predictor of academic performance in children. Jackson et al. (2007) found that children who had been using the Internet longer had higher grades compared to newer users. The research goes on to suggest African American females are the greatest users of Internet while African American males use the least frequent users (Jackson et al., 2007). Females tend to prefer cellular phones and the Internet's communication tools while boys prefer video games and use the Internet to gather information and for entertainment. A study conducted by Jackson et al (2007) found that video game usage had a negative effect on academic performance. In this same study, 60% of surveyed students under the age of 18 indicated the Internet was "very important" or "extremely important" in completing schoolwork (Jackson et al., 2007). Furthermore, the researchers suggest that information technology (IT) usage habits foreshadow usage habits in adulthood.

According to Yau and Cheng (2012), studies in gender differences in technology use have found that males demonstrate higher levels of confidence and more positive attitudes towards technology use than do females. As a result, females are not as compelled to take computer courses, and females are not as highly attracted to careers that involve great technology use due to their lack of confidence. Lack of confidence in technology use can also impede

females' motivation to learn. In their research, Yau and Cheng (2012) found that literature suggests the gender imbalance is a result of social construction rather than ability.

Sugata Mitra's work. Sugata Mitra, an Indian physicist, conducted an experiment in which he embedded a computer with high speed data connection into a cement wall in a slum area of New Delhi. The computer was monitored using a remote computer and a camera placed in a nearby tree. The idea came to Mitra after hearing parents talk about the remarkable things their children were doing on computers. Mitra pondered as to whether the children were really doing remarkable things or whether the parents were unable to comprehend the things the children were doing. Mitra believed children with little education can teach themselves the basic tenants of computer literacy and that when given the opportunity, children can teach themselves (Peterson, 2002). Mitra has coined this concept "minimally invasive education."

According to O'Conner and Rossellini (2002), Mitra repeated the Hole in the Wall experiment in different locations, and each time, children began using the Web quickly without instruction. Mitra believes younger children are not programmed to need teachers; they are willing to experiment without instruction. Mitra does not believe computers should replace teachers but rather enhance learning. In areas with high illiteracy, computers can open new doors for people.

For the future, Mitra sees a curriculum driven by deep questions where children can assess their learning (Teachers not required, 2011). He hopes children will wake up excited to go to school so that they can continue to build upon things previously learned.

In *A Radical Way of Unleashing a Generation of Geniuses* (Davis, 2013), describes a classroom setting in Mexico where teacher Sergio Juarez Correa incorporates Mitra's research principles into his teaching. Juarez Correa had been teaching for five years and believed his

classroom was very boring as he painstakingly covered government-mandated curriculum and continuously got low test scores. Instead of lecturing and following the traditional curriculum, Juarez Correa wanted to inspire his students to become engaged in learning. He began allowing students to determine the things they wanted to learn. He pulled their desks into groups instead of traditional rows, and he told the students that although they did not possess the resources found in other parts of the world, but they possessed the one thing that made them equal to all other students—potential. As Juarez Correa began allowing students to have more control over their learning, he was amazed at what they could figure out. One bright student, 12-year-old Paloma Noyola Bueno, baffled Juarez Correa one day as she quickly solved a difficult math problem that typically took a long time to solve. As Paloma quickly produced the correct answer, Juarez Correa knew he had never seen a student with such innate ability. When he asked her why she had not shown much interest in math in the past, she replied, "Because no one made it this interesting" (Davis, 2013).

Mimi Ito's work. Mizuko (Mimi) Ito's work includes a three year long ethnographic study in which researchers conduct case studies and analysis of digital media and online communication use among youth in America. The authors of "Hanging Out, Messing Around, and Geeking Out (Ito et al., 2015) suggest that the context in which today's youth are developing knowledge and coming of age is being reconfigured. The work seeks to examine, document, and understand the ever-evolving adoption and adaption of digital media, particularly social media, and how this fits into the broader context of social and cultural ecology. The work looks mostly at students in middle and high school with age ranges of twelve and eighteen.

The study suggests "…networked publics is a site of youth-driven peer-based learning that provides important models of learning and participation that are evolving in tandem with

changes in technology" (Ito, et al., 2015). Youth are looking to public digital networks for peer-based learning in friendship and interests. Learning in the two groups is substantially different as youth look to sites such as Facebook for friendship and peer networks for more specialized knowledge such as that of a strong personal interest (Strom & Strom, 2011). These public networks provide an outlet for learning and reciprocity with peers and without the risk of judgment from adults that might know them. While this type of peer-based learning is important, the friendship-driven context of social learning is of an informal nature, and interest networks offer an opportunity for self-targeted learning. As students participate in these networks, they are learning and establishing norms for digital involvement. They are picking up new vocabulary from various sources including videos, podcasts, and blogs. According to Ito et al. (2010), "Particularly when addressing learning and literacy that grow out of informal, peer-driven practices, we must realize that norms and standards are deeply situated in investments and identities of kids' own cultural and social worlds" (p. 344). Because youth practices on public networks vary tremendously, it is nearly impossible to measure literacy standards from these networks. In interest-driven networks such as gaming, adults tend to be the influencing factor and definition of literacy as adults are usually the key leaders.

In areas where students have restricted access to the Internet and where schools block social communication sites, students experience a disadvantage to participate in common culture and socialization. Schools can serve as an enabler to allow students to participate in social media platforms which seem to be "the norm" for young social life. This allows for students to pursue learning interests and to participate in social and recreational activities. When students are given the opportunity to choose the interests they pursue, they develop a greater expertise in that subject area, and the technical skills and knowledge they are gaining in these pursuits can spill

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over into other content areas. In these peer-learning situations, Ito et al. (2010) says, "…youth take on more grown-up roles and ownership of their self-presentation, learning and evaluation of others" (p. 350). Ito suggests the responsibility for public education be a shared one rather than rest solely on schools and education should serve as a guide to merely participate in public life in social, recreational, and civic engagement.

Salman Khan's work. The use of technology is providing opportunities for students to self-direct and self-pace their learning. Students can choose topics that interest them and choose how much they want to learn about each topic. Web-based programs such as Khan Academy can be used in and out of the classroom free of charge. Salman Khan revolutionized classrooms and learning through technology. Khan created videos are completely free and are available to anyone 24 hours a day. Pinkus (2015) reports that approximately 10 million users visit Khan Academy monthly with over 16 million registered users including students and teachers. Khan believes his tone is appealing to viewers, and feedback shows that students like being able to pause and replay videos. In using the videos, students do not suffer from the embarrassment of asking questions in class.

In an interview with Pinkus (2015), Khan suggests the high usage of Khan Academy indicates a need for more student-directed and differentiated classrooms. Perhaps, moving the role of teacher from that of lecturer to more of that of coach, inspirer, and mentor is a more acceptable model in a 21st century classroom as student learning appears deeper when working alongside peers and teachers. Students can use the Khan Academy program to supplement what is being taught in the classroom thus extending knowledge or filling in knowledge gaps. The program consists of over 3,250 digital lectures. Videos in Khan Academy can be used in the classroom for students to work independently as teachers are freed up to help struggling students.

Using a dashboard, teachers can determine student progress and determine when students need help. Khan emphasizes the videos are not intended to replace teachers as they are the central element in learning, but using tools such as Khan Academy can allow students to spend more time with teachers. In allowing students that grasp concepts to move forward at their own pace, the classroom teacher is available to assist struggling students. When students watch the videos before coming to class, they already know where they need additional support and instruction. This allows the teacher to target the specific needs of the students.

Khan believes the type of learning he is advocating is already present in pre-school and early elementary classrooms. However, by the later elementary years, classrooms transform into the traditional model where the teacher serves as a lecturer, and all students are expected to move together to master standards at a particular time at the same pace, leaving little time for inquiry and in-depth exploration of topics. This pattern continues on through high school. By the time students reach ages 12-16, the innate ability to learn naturally and the drive to learn are suppressed. Those students who lack foundational skills in the subject area, such as math, tend to fall further and further behind. Without technology, exploring various subjects and self-directing learning was much more difficult. In speaking about the traditional classroom, Khan believes labels are placed on children at young ages based solely on what they know at a particular point in their lives. "At Khan Academy, we've seen over and over again that students who were considered slower or remedial, if give the opportunity to remediate their gaps and works at their own pace in an interactive peer environment can catch up and become the best students" (Billy, 2015, p. 34).

Pew Internet studies. The Pew Internet Studies are studies conducted by Pew Research (2016). Pew Research began with a project in 1990 and emerged as a non-partisan, non-

advocacy, and non-profit fact tank. Over 130 researchers contribute to public opinion polling, demographic research, and data analysis on topics that range from politics to science and technology. The findings seek to inform decision making and public conversation.

Learning can be generalized into two categories—the formal purpose being to gain new skills and credentials and the other more informal purpose being for personal fulfillment and enrichment. Personal learners desire to strengthen skills and knowledge for the following purposes: to make their lives more interesting, to help others, to pursue interests, to generate income, and to help children with schoolwork (Horrigan, 2016a). According to Horrigan (2016b), the Internet is driving a fresh interest in learning as is the growth of a "knowledge economy" where employers seek more knowledgeable workers. As the country began to experience recession in 2008, workers began to question the reliability of their jobs, the value of education, their place in American class structure, benefits safety net, and retirement prospects (Horrigan, 2016b). The Pew Research Center (2016) began to look at how and why Americans learn. Many Americans claim learning pursuits as a means to provide career growth and job security.

With technology has always come optimism for learning. With each new invention came new hope for greater knowledge. In 1912, Americans believed the telephone would lead to video course delivery via phone line. In 1922, Americans looked to the motion picture as a revolutionary piece of technology that could supplant the use of books. Almost 10 years later, Benjamin Darrow wrote, "The central and dominant aim of education by radio is to bring the world to the classroom, to make universally available the services of the finest teachers, the inspiration of the greatest leaders…and unfolding world events which through the radio may come as a vibrant and challenge textbook of the air" (Horrigan, 2016b). Later in 1935,

Americans believed the television would bring lectures of all sorts to homes. As the computer and commercial Internet began to emerge, it was prophesized the Internet would improve education greatly.

The Internet has most certainly revolutionized education, and all people, students included, have information at the touch of a fingertip (Horrigan, 2016b). The Internet provides a variety of ways in which people can learn. People can learn by reading articles and blogs, by joining interest groups, and playing games to name a few. Anybody can access online courses on an array of topics. These courses are available through payment of a fee or in some cases, free of charge. However, the Pew Research Center found learning touches adults in a wide range of capacities. Many factors are identified that affect the way learning plays out in the lives of adults with technology being only one. One of the greatest factors in adult learning is socio-economic standing.

According to Pew Research (2016), those adults without resources (educational backgrounds, income, and technology) are less likely to engage in professional or personal learning and technology pursuits. Many Americans identify themselves as lifelong learners. According to a Pew Research poll, 73% of adults say the phrase, "I think of myself as a lifelong learner," applies "very well" to them. The term "lifelong learner" takes on an array of meanings that range from reading on topics of personal interest to gathering information for completing at-home projects and acquiring job skills. The more positive sentiments regarding learning tend to come from younger and more educated adults.

The Pew studies found that Americans cited a variety of benefits from the impact of learning pursuits. Some of the participants indicated the impact of learning on their lives ranged from development of feelings of capability and new perspectives to growth of new friendships

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and community connections. Technology is tied greatly to learning pursuits, and those with access to technology have higher levels of engagement in personal learning and are more optimistic about learning in general.

Student Collaboration

The ability to collaborate and to work as a team has been identified as necessary skills for career readiness. Some employers site these skills as being necessary for successful employment. The Internet era has changed the way students communicate. Students rely more heavily on their peers for interaction, and peers are much more influential. According to Strom, Strom, and Beckert (2011), social networks convey and reinforce generational norms on a global scale. With the incorporation of technology into most classrooms, collaboration is no longer limited to communication between individuals within the same classroom walls. Technology makes it possible for students to collaborate with other students from across the world. Students can work on projects simultaneously while in different places.

Lev Vygotsky. Psychologist Lev Vygotsky founded his research on the principle that learning is inherently a social activity which is the basis for his sociocultural theory (Neff, n.d.). In Social Development Theory, Vygotsky believes social learning proceeds development. According to Vygotsky, the zone of proximal development or ZPD can be defined as, "the distance between the actual developmental level as determined by independent problem solving and the level of potential development as determined through problem solving under adult guidance, or in collaboration with more capable peers" (McLeod, 2010, para. 1). Simply put, ZPD is the difference between what one can do alone without assistance and what one can do with help. Vygotsky believed collaborative work was very important in developing skills. He recommended teachers place more skillful peers with less skillful peers to help them. He believed when students were in their ZPD, they could achieve a task with the assistance of a

more skilled peer. Although scaffolding was not a term used by Vygotsky, the ZPD is similar. When students are in their ZPD, a more knowledgeable other can help them move to mastery. In scaffolding, students master tasks with support, and when the support is removed, students are able to complete tasks on their own. Scaffolding appears to work best when students are matched based on the needs of the learner.

In the Dolls House Study, McLeod (2010) found that when children were given a task to work on, the children working with their mothers performed better at furniture sorting than did those left to work alone thus indicating that scaffolding is more effective than discovery or independent learning. Scaffolding is a part of effective teaching. It can include modeling skills, adapting activities, and providing other supports. Vygotsky's theories call for students to work in groups where members have varying levels of ability.

Classrooms are transforming to student-centered environments where communication is inevitable. Through communication and collaboration, enhanced skills such as critical, inquiry learning, purposeful use of summative and formative assessment, and encouragement of creativity are unfolding. Technology has enabled more student-centered classroom environments where students have more say in what and how they learn. Students are becoming more innovative as they move beyond paper and pencil.

According to Levin and Schrum (2013), successful technology integration requires movement towards 21st century practices such as student-centered classrooms and movement away from teacher-directed practices. In their research, Levin and Schrum (2013) found classrooms where students were engaged in independent activities using a variety of technologies, and students were engaged in group work and student talk.

In its list of 5 standards for educators, the Association for Childhood Education International (ACEI) includes, "Communication to foster collaboration. Candidates use their knowledge and understanding of effective verbal, nonverbal, and media communication techniques to foster active inquiry, collaboration, and supportive interaction in the elementary classroom" (Cicconi, 2014).

Peer tutoring. Holt and Walker (2012) define peer tutoring as "…. a flexible, peer-mediated strategy that involves students serving as academic tutors and tutees. Typically, a higher performing student is paired with a lower performing student to review critical academic or behavioral concepts." Peer tutoring is used across subject areas and has proven beneficial for all involved. Peer tutoring allows students more time in a smaller group setting while promoting academic and social development. It increases the amount of time students are actively engaged and increases self-confidence.

Peer tutoring has many models, but all consist of groups of two to five members. In class wide peer tutoring (CWPT), all students in the given class participate. They are divided into groups of no more than five, and they all have varying ability levels. Students can act as tutors or tutees, and a set of structured procedures is used. In cross-age peer tutoring, older students are paired with younger students for the purpose of teaching or reviewing skills. The older student serves as the tutor to the younger student. Peer assisted learning strategies (PALS) requires that students be paired with a peer that can help. These groups are flexible, and students are usually paired with someone that possesses similar ability. When using reciprocal peer tutoring (RPT), students alternate between the role of tutor and tutee. Generally, higher performing students are paired with lower performing students. A structured format is used to teach, monitor, evaluate, and encourage peers. Rewards are often used for motivation. In same-age peer tutoring, students

review concepts with a peer similar in age. Ability levels can differ amongst partners, and procedures are more flexible than in CWPT (Holt & Walker, 2012).

The selected model for peer tutoring should be flexible and manipulated to meet the needs of the students based on learning goals. Some models require more structure and preparation that might include modeling and teaching prior to grouping. Depending on the selected model of tutoring, the method for determining groups could be as simple as randomly selecting numbers or as meticulous as partnering students based on a standardized test score. When grouping students, teachers should be mindful of personalities and needs.

Before implementing a peer tutoring model, groundwork must be laid. Most importantly, rules should be established to protect student confidentiality of progress. Procedures for developing social skills, moving into and out of groups, providing feedback, and monitoring and praising progress should be established.

Problem-based learning and project-based learning. "Problem-based learning (PBL) is a student-centered approach in which students learn about a subject by working in groups to solve an open-ended problem" ("Problem-Based Learning," n.d.). This type of learning is a shift in the learning paradigm in which the students' and teacher roles are not those of giver and taker of information. During the PBL process, students are given a problem to think through, and while doing so, they develop problem-solving skills. This type of learning is an active form in which students are self-directed. Students often work in groups which hones collaboration and communication skills. The teacher's role in PBL is to serve as that of a facilitator that guides, supports, and monitors the learning process. This is a total paradigm shift from the traditional role of lecturer/giver of information.

The Buck Institute of Education looked at the differences and similarities surrounding project-based and problem-based learning; the two PBLs. With the exception of a few technical steps in procedure, the two follow the same modern concept. Both culminate with the completion of an extended project; either in tangible or solution form. According to Larmer (2014), "The bottom line is the same: both PBLs can powerfully engage and effectively teach your students."

Personalized learning. Personalized learning is becoming a more popular term in formal education. As educators seek to prepare students for a competitive job market where collaboration is essential, personalized learning poses opportunities to make learning more relevant to the individual needs of children. It extends beyond problem-based and project-based learning to bring learning full circle. The purpose of personalized learning is to allow students to have more ownership in how and what they learn thus placing more emphasis on student voice and choice. In using blended and online learning sources, different models are used to address and teach standards. Students are not bound to one particular learning style, and they move at a pace that ensures standards and grasped. This allows more time for personalized instruction for struggling learners while allowing advanced learners to move forward. Personalized learning has four essential components—integrated digital content, small group instruction, student reflection, and data-driven decisions.

According to Mesecar (2016), when new administrators came to a vastly growing school district in Loudon County Virginia, they sought to "deepen and enrich student learning beyond producing strong summative assessment results." Although they were consistently ranked as one of the top districts in the state, boasting proficiency rates on state standards at 80-90%, they wanted to offer more to their students. The new administrators quickly found that some key elements were missing from the district's approach to education. There was a lack of joy in

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teaching and learning, students needed to own their learning, and students needed to learn how to find solutions to real-world problems. The approach taken by the new administrators was to empower students to make meaningful connections and contributions to the world. To carry out the pursuit of personalized learning, technology was strongly relied upon. Technology was used to offer virtual instruction and enable students to master content while also challenging them to become creators, rather than mere consumers, of digital content. Technology enabled students to be immersed in authentic learning tailored to their needs that, in turn, led to college and career readiness. Although students are in control of their learning, teachers provide guidance. About personalized learning, Mesecar (2016) says, "The pedagogical hierarchy progresses from using digital content to provide the basic level of understanding and retention of knowledge, to teacher-directed application and analysis of content, to group and project-based learning to evaluate and create."

Cooperative learning. Johnson and Johnson (n.d.) define cooperative learning as "the instructional use of small groups so that students work together to maximize their own and each other's learning." Not much emphasis is usually placed on how students interact with each other in the classroom setting. More consideration is given to content and delivery, and while most teachers agree that students need interaction, little thought usually goes into the collaborative process. According to Johnson and Johnson, "Cultural resistance to cooperative learning was based on social Darwinism, with its premise that students must be taught to survive in a "dog-eat-dog" world, and the myth of "rugged individualism" underlying the use of individualistic learning" (para. 2). Education has since moved past this idea, and cooperative learning is a common, and often preferred, instructional practice.

In a cooperative classroom, students are working together for a common goal. They help each other in an attempt to maximize learning and to help each other reach full potential. Motivation to reach a goal creates a cooperative environment and adds an edge of competitiveness to classrooms. The following are the three types of cooperative learning: formal, informal, and cooperative based. The major difference in the three is the length of time spent in the working groups. Formal cooperative groups can require students work together for one class period or up to several weeks. Informal cooperative groups meet for shorter amounts of time and might require students to meet for a few minutes or up to one full class period. Cooperative base groups require that students meet for larger amounts of time thus requiring stable membership.

In formal cooperative learning, the teacher has a given role and plays a large part in the facilitation of the groups. The teacher decides upon specific academic and social skills objectives that students are expected to learn within the groups. Informal groups require students to formulate answers or thoughts to share with partners. The sharing between students allows teachers to formatively assess student learning to make changes in instruction, and it ensures students are actively participating in their learning. In a classroom, all three types of cooperative learning can be used simultaneously (Johnson & Johnson, n.d.).

In *An Overview of Cooperative Learning,* Johnson and Johnson (n.d.) point out that not all group work is cooperative, and to be considered a cooperative experience, the activity must be structured around the following five essential elements: positive interdependence, individual and group accountability, promotive interaction, appropriate use of social skills, and group processing. The most important of these elements is positive interdependence. Students should know they are working together towards a goal, and they are in it together. They will all fail, or they will all be successful. Individual and group accountability calls for each member to be

accountable for contributing a fair share of the work, and all must work towards goal achievement. Promotive interaction is evidenced by sharing of resources and helping each other. The next essential element is the teaching of skills; both interpersonal and group skills. The remaining essential element is processing. Processing occurs when group members discuss their progress and maintain effective working relationships. Without these five elements, cooperative learning does not exist fully (Johnson & Johnson, n.d.).

Gender difference in peer support learning. Classrooms provide immense opportunities and configurations for peer supported learning. Interestingly, Thomas W. Malone found in his studies of collective intelligence that groups with higher numbers of female members were significantly correlated to higher levels of intelligence (Woolley, Malone, & Chabris, 2015). The linear trend shows that the more women involved in a group, the better when it comes to intelligence.

When conducting research on teamwork skills, Strom and Strom (2011) found females rate themselves higher in terms of team skills than do males. The skills assessed included items under the sub-headings "Communicates with teammates" and "Gets along in the team." The study further found females received more favorable scores on 23 of 25 items on the teamwork skills assessment.

In conclusion, the use of student polls can play a beneficial role in school improvement. By assessing and recognizing students' thoughts and ideas, students take more ownership in their school and in their education. Internet use and peer-supported learning are two major topics in education. The Internet has revolutionized how students learn, and by assessing literature, theory, and students' thoughts, school leaders and teachers can better tailor instruction to meet the needs of the students. Improvement in classroom instruction can be driven by students' thoughts

collected from student polls along with literature and theory surrounding peer support practices such as cooperative learning, peer tutoring, and personalized learning.

Chapter III: Methods

All stakeholders involved in any aspect of education understand the significance of reform and improvement. As education constantly evolves, change and improvement are necessary. All schools, including the highest performing, have room for improvement. When looking at making changes and improvements within a school, involving stakeholders in decisions that affect the education institution is critical. Most education reform evolves as an effort to improve classroom instruction and student learning. One of the best stakeholder sources is the actual students involved in the daily aspects of the education system. Allowing students a voice in their education creates a sense of belonging and also creates a buy-in to the program. An easy and reliable way to assess students' thoughts and opinions and to give students voice is through the use of polling, a type of survey research. Polling is a fairly easy process that can be done electronically or on paper copy. The results can provide valuable feedback in making school improvements that may aid in the formulation of plans to meet required state indicators and accountability under the *Every Student Succeeds Act* that was signed into federal law in 2015 (Klein, 2016).

Polls can be used to assess students' perceptions on the use of the Internet and technology as well as their views on classroom collaboration. The current generation of teachers grew up in a much different education setting than did the current generation of students. In recent years, rapid technology advancements have moved education forward and revolutionized teaching. Rather than presuming they know what students think and want, school leaders should give

students the opportunity to express their thoughts and ideas. Polls provide an opportunity for student expression.

Purpose of the Study

The purpose of this study is to expand the knowledge base in the use of polling to allow student voice in the school improvement process by determining the degree to which perceptions on Internet use and peer support vary based upon gender.

Research Questions

1. How are student perceptions on purposes for Internet use reported on the Learning from the Internet Poll influenced by gender?

2. How are student perceptions on supports for Internet use reported on the Learning from the Internet Poll influenced by gender?

3. How are student perceptions on learning needs for interpersonal functioning reported on the Peer Support Poll influenced by gender?

4. How are student perceptions on learning needs for team task functioning reported on the Peer Support Poll influenced by gender?

5. How are student perceptions on needs for assessment of interpersonal/team task functioning reported on the Peer Support Poll influenced by gender?

Design

The research contained in this study is primarily quantitative. Results for the quantitative portion of the study are derived from data collected using multiple-choice items on a poll. A small qualitative portion of the study comes from the use of open-ended items on the polls. The open-ended response option follows all questions except numbers 12 and 15 on the Learning from the Internet Poll and all questions except number 12 on the Peer Support Poll. The open-ended responses are examined for evidence of trends or patterns. Items from each of the polls are

placed in groups based on content. For the Learning from the Internet Poll, Group 1 questions are classified as purposes for Internet use and learning. Questions in this group are 1, 3, 6, 12, 14, and 15. Group 2 questions are classified as support for Internet learning. Questions in this group are 2, 4, 5, 7, 8, 9, 10, 11, 13, 16, and 17. The remaining questions in this poll are demographic in nature. On the Peer Support Poll, questions are classified into three groups. Group 1 contains questions dealing with learning needs for interpersonal learning. These questions are 1, 4, 11, 12, 13, and 14. Group 2 consists of six questions relating to team task functioning. Group 2 questions are 2, 3, 5, 6, 8, and 15. Group 3 questions relate to needs for assessment and feedback. Group 3 questions are 7, 9, 10, and 16. Group numbers indicate the area of emphasis each question investigates.

Instrumentation. The polls used in the research study were part of a 10-poll set designed by Strom and Strom to evaluate conditions of learning within schools (Strom, Strom, & Wing, 2008). Each of the 10 polls, consisting of 15-20 questions each, were examined by focus groups composed of middle and high school students. The students provided feedback in regards to the polls, and readability grade level was established using Flesch-Kinkaid. Readability for the Learning from the Internet Poll is determined to be 6.2, and readability for the Peer Support Poll is 6.7. The readability level is appropriate for use on polls with high school students as the polls should be fairly easy to read for most students. Of the students invited to participate, 75% or higher participation rates at each school were recorded.

Content validity of the polls was established prior to their use in this research. Sample populations of students were administered polls at nine schools in the initial investigation (N = 2,575). Five independent variables were analyzed; specifically, age, gender, grade level, ethnicity, and school. Findings of the analysis determined that the highest level of significant

difference between the independent variables occurred between schools, and gender ranked

second highest in statistical significance (Strom, Strom, & Wing, 2008).

Permission to use the Motivation to Learn from Internet Poll and the Peer Support Poll

was granted from the poll designers.

Population. The target population for the Learning from the Internet and Peer Support

Polls is students enrolled in a rural high school in central Alabama. The school is located in a

rural community with little industry. The socio-economic make-up consists of primarily poverty

to middle income families with a large disparity of wealth between the upper and lower income

families. The results from the student polls can be generalized to the entire school's population.

General information about the school population is found in the charts.
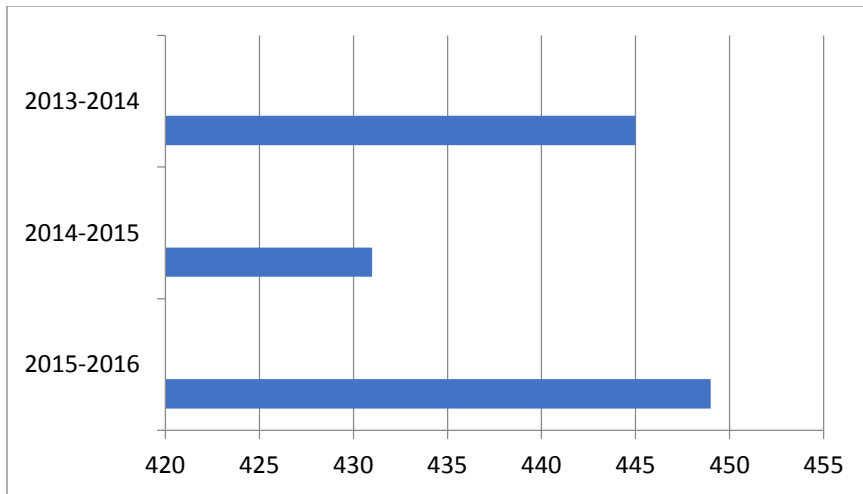
Figure 1. Student Enrollment by School Year
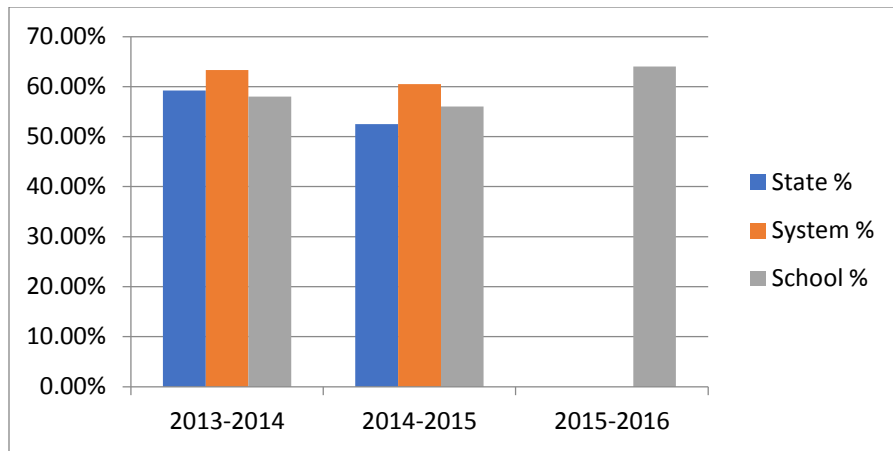
Figure 2. Student Eligibility for Free and Reduced Price Meals

Sample. Students in this study range from ninth to twelfth grade (n= 444). Students attend a rural high school located in central Alabama; a southern state located in the United States of America. The total school enrollment at the time of the study is 461. Of the 461 students, 444 students completed the Learning from the Internet Poll while 443 completed the Peer Support Poll thus yielding a 96% return rate. Only 17 students on roll did not complete the polls. These students were absent from school for unknown reasons on both polling dates. Demographic information, including age, grade level, gender, and ethnicity, was collected from the responding students. Ages of participating students range from 13 to 19 years. The average respondent age for this study is 16. Male to female ratio for respondents is 225 to 218 for the Peer Support Poll and 224 to 220 for the Learning from the Internet Poll. One more student completed the Learning from the Internet Poll (N=444) than did the Peer Support Poll (N=443). Of the respondents, 56% identified themselves as being White, 38% identified themselves as being Black, and 6% identified themselves as being Asian, Hispanic, Native American, or Other.

For study participants, Table 1 shows distribution of students by age. Table 2 shows distribution by grade. Table 3 shows distribution by gender, and Table 4 shows distribution by ethnicity.

Table 1

Distribution and Percentage of Participants by Age

Age	N	%
14	31	7
15	110	25
16	106	24
17	115	26
18	65	15
19	16	3

N=444

Table 2

Distribution and Percentage of Participants by Grade

Grade	N	%
9	118	27
10	113	25
11	118	27
12	96	21

N=444

Table 3

Distribution and Percentage of Participants by Gender

Gender	N	%
Male	224	50.45
Female	220	49.55

N=444

Table 4

Distribution and Percentage of Participants by Ethnicity

Ethnicity	N	%
Asian	7	2
Black	167	38
Hispanic	5	1
Native American	4	1
White	250	56
Other	11	2

N=444

Strom and Strom created a set of 10 Conditions of Learning Polls to be used in schools

for the purpose of school improvement (Strom, Strom, & Wing, 2008). For this study, the

Learning From the Internet and Peer Support Polls are utilized. The polls assess student

perceptions regarding Internet learning and peer collaboration. Strom and Strom piloted all of the Conditions of Learning polls and have insured all items contained within each poll have be tested for content validity as well as reviewed and revised (Strom, Strom, & Wing, 2008).

The polls contain open-ended items that address the subject of validity. For these questions, students can write in an answer if they believe the item choices do not accurately reflect their views. Hence, qualitative analysis will be completed using the information collected from these items.

The polls in this study were completed by students using paper and pencil. Copies of both polls were stapled and distributed. The polls collectively contained 37 items including demographic questions.

Procedures

The research for this study examines responses on the Learning from the Internet and Peer Support Polls for students in ninth, tenth, eleventh, and twelfth grade that attend a rural high school located in central Alabama. Administrators of the poll are teachers that serve as homeroom teacher advisors for students in these grades. Each advisor administered the survey to his/her homeroom students in their assigned classroom during normal school hours. Because the students are skilled in answering survey-type questions, no prior training was necessary before poll administration. However, instructions were printed at the top of each poll. The designer of the polls assisted in the delivery and administration of the polls as part of an outreach program to assist school administrators in the gathering of information for school improvement purposes.

Students completed the polls with their assigned teacher advisors in the advisor's classroom. The number of students assigned to each advisor ranges from 18 to 26. A total of twenty-three advisors administered the poll. The poll was distributed in pencil and paper form.

Although the school is equipped with ample technology and infrastructure, the poll designer believed administration would be less likely to encounter technical error in using the paper/pencil format. Additionally, the amount of time available to administer the poll was limited due to the end of the school year approaching. In using pencil and paper format, the designer and the poll administration facilitator for the school believed the greatest number of students could be reached for participation in the limited amount of time and in the most fail-safe way.

The poll was administered over two days. On the first day, all students present at school completed the poll, and the second day was used as a follow-up to target the students that were absent on the initial polling date. The polls were divided prior to the administration based upon the teacher and the number of students assigned to each. One copy of the polls and one ink pen per student were distributed to classrooms by the poll administration facilitator with the help of the poll designer. On the morning the polls were distributed and administered, the bells to change classes were delayed to provide more time for students to complete the poll. The principal of the school made a school-wide announcement for students to complete the polls to the best of their knowledge so that results would provide an accurate reflection of student perception. Dissemination of the materials was very efficient and took approximately 15-20 minutes as stacks were already counted out for each classroom based on the number of students assigned to each. Teachers were expecting the delivery of materials and recounted for accuracy. The polls took approximately 20-25 minutes for students to complete.

Data from all students completing the poll were collected. In addition to answering multiple-choice items, students were given the option to select "other" and provide qualitative data. The purpose for the poll was to gather information concerning students' perceptions on

variables affecting learning from the Internet and peer support. The study was submitted and approved by the Auburn University Human Subjects Internal Review Board as a study using pre-existing data.

Study Variables

Demographic variables were addressed on the polls. Multiple-choice items were used to collect information on grade level, age, ethnicity, and gender. For the purpose of this study, the gender variable is examined in depth.

Data Analysis

Students were provided polls for which there was an option to select more than one choice on 29 out of 37 items. Each of the 29 items was presented on a nominal scale with 4 or 5 options per item. To identify whether responses were dependent or independent based on gender for items 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, and 17 on the Learning from the Internet Poll (Appendix A) and items 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, and 15 on the Peer Support Poll (Appendix B), non-parametric Chi-square tests of independence were used. On items 12 and 15 from the Learning from the Internet Poll and item 12 on the Peer Support Poll, students were only allowed a single response. These items were tested using the Chi-square test of independence to identify whether responses were dependent or independent based on gender.

Poll items with the "other" option were used to collect qualitative data. The "other" option was available for items 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, and 17 on the Learning from the Internet Poll (Appendix A) and items 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, and 15 on the Peer Support Poll (Appendix B). As the researcher identified trends within the data, themes were established. Concept maps are used to show the emerging themes.

Summary

The purpose for collecting this research is to gain insight on the perceptions of high school students as it relates to learning from the Internet and peer support. The data collected can be used to improve Internet and peer learning opportunities with the population. A paper and pencil format was used to collect data from the Learning from the Internet and Peer Support Polls. The data were collected anonymously from the sample population. The polls were completed by students under the supervision of their assigned teacher advisor. The polls collected demographic information, multiple-choice items, and open-ended responses.

A consideration for polling research within schools is whether the data collected is able to be generalized. In this case, the data cannot be generalized to other districts. The data serves as a strong and generalizable source of information for the particular school from which it was collected. Strom and Strom found that school context is the greatest factor in shaping perceptions of learning amongst students (Strom, Strom, & Wing, 2008). This variable was greater than any other. This further substantiates the notion that school leaders play a tremendous role in creating an environment that nurtures and promotes student belonging and learning.

Chapter IV: Findings

The purpose of this research was to understand students' perceptions on Internet and peer support learning for school improvement purposes from the collection of data using polling. Using the polling results, education leaders can focus improvement efforts to best meet the needs of students. Polling, a form of survey research, allows students to provide honest feedback without fear of retaliation or criticism. The polls collect demographic data including gender, age, grade, and ethnicity. For this particular study, the targeted variable was gender. All currently enrolled students were provided the opportunity to participate in the polling process. Of the school's 461 students, 444 students responded to the Learning from the Internet Poll (Appendix A) while 443 students responded to the Peer Support Poll (Appendix B); thus yielding a return rate of 96%.

A Chi-square goodness-of-fit test was conducted on all polling items as they each included a nominal response. From the Learning from the Internet Poll, 17 items were examined. On the Peer Support Poll, 16 items were analyzed. A total of thirty-three items were analyzed. Each answer option was analyzed separately. For the thirty-three items, there were 139 possibilities. The Learning from the Internet Poll was used to answer research questions 1 and 2 while the Peer Support Poll was used to answer research questions 3, 4, and 5. For the quantitative portion of research, the "other" option was not considered. The "other" option was examined later in the qualitative analysis through the use of concept maps.

Table 5 shows distribution and percentage of participants by gender for students answering the two polls. Because the study looks specifically at gender, it was important to note

that the number of males and females participating was almost equal. Males represented 50.45% of the polling population while females comprised 49.53% of the population.

Table 5

Distribution and Percentage of Participants by Gender

Gender	N	%
Male	224	50.45
Female	220	49.55

N=444

In a table following each question, the number of male/female respondents, Chi-square statistic, degrees of freedom, significance level, and Cramer's *V* were shown for each item. A two-sided test with a significant level at .05 was used for significance testing. The higher Chi-square statistics indicate a stronger relationship between the responses and variables. Cramer's *V* was looked at to determine effect size for those items showing significance with the Chi-square analysis. All items on the polls were analyzed using this method. Unless otherwise stated, students could select more than one answer for each item.

Research Question 1: How are student perceptions on purposes for Internet use reported on the Learning from the Internet Poll influenced by gender?

Items 1, 3, 6, 12, 14, and 15 were related to purposes for use of the Internet. All items explore the students' intended learning purposes for using the Internet. Analyses of these items were used to answer research question 1.

Item 1: Homework assignments on the Internet. A total of 123 participants responded to the item related to homework assignments on the Internet encouraging students to learn independently. One hundred fifty-one (34%) females and 170 (38%) males did not select encouraging independent learning as a purpose for homework assignments on the Internet. Sixty-

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nine (16%) females and 54 (12%) males responded that homework assignments on the Internet encourage them to learn independently.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females for homework assignments on the Internet as a source of encouraging independent learning. The responses were not different between male and female students, $\chi^2 (1) = 2.91$, $p = .08$.

A total of 178 participants responded to the item related to homework assignments on the Internet as a source to provide more information about a topic. One hundred thirty-eight (31%) females and 128 (29%) males did not select providing more information about a topic as purpose for homework assignments on the Internet.

A Chi-square good of fit test was conducted to assess the independence of responses for males and females for homework assignments on the Internet as a source of providing more information about a topic. The responses were not different between male and female students, $\chi^2 (1) = 1.44$, $p = .230$.

A total of 158 participants responded to the item related to homework assignments on the Internet as a source to allow for practice with research skills. One hundred thirty-one (30%) females and 155 (35%) males did not select allowing practice with research skills as a purpose for homework assignments on the Internet.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females for homework assignments on the Internet as a source of allowing for practice with research skills. The responses were different between male and female students, $\chi^2 (1) = 4.51$, $p = .03$. A greater number of males (35%) responded to the item. The Cramer's *V* statistic of .10 indicates a very weak effect size between the responses of males and females.

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A total of 28 participants responded to the item related to homework assignments on the Internet as a source to share learning with peers. Two hundred seven (47%) females and 209 (47%) males did not select sharing learning with peers as a purpose for homework assignments on the Internet.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females for homework assignments on the Internet as a source of providing more information about a topic. The responses were not different between male and female students, χ^2 (1) = 0.99, p = .34.

Table 6

Homework Assignments

Item 1: Homework assignments on the Internet	Females N=220	Males N=224	χ^2	df	p Value	Cramer's V
(a) encourage me to learn independently	69 (16%)	54 (12%)	2.918	1	.088	.081
(b) provide more information about a topic	82 (18%)	96 (22%)	1.441	1	.230	.057
(c) allow for practice with research skills	89 (20%)	69 (16%)	4.51	1	.034*	.101
(d) include sharing my learning with peers	29 (7%)	23 (5%)	0.991	1	.340	.045

Value less than .05

Item 3: Web sites I find most worthwhile contain. A total of 148 participants responded to the item related to the most worthwhile content of websites being streaming audio and video material. One hundred fifty-three females (34%) and 143 (32%) males did not select streaming video or audio material as the most worthwhile content on web sites. Sixty-seven (15%) females and 81 (18%) males responded that streaming video or audio material was most worthwhile on websites.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females for streaming video and audio material as the content of websites they find most worthwhile. The responses were not different between male and female students, $\chi^2 (1) = 1.62$, $p = .20$.

A total of 185 participants responded to the item related to the most worthwhile content of websites being quizzes with corrective feedback. One hundred ten females (25%) and 149 (34%) males did not select quizzes with corrective feedback as the most worthwhile content on web sites. One hundred ten (25%) females and 75 (17%) males responded that quizzes with corrective feedback were most worthwhile on websites.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females for quizzes with corrective feedback as the content of websites they find most worthwhile. The responses were different between male and female students. More females than males responded to the item, $\chi^2 (1) = 12.45$, $p = < .001$. The Cramer's *V* statistic of .16 indicates a weak, yet minimally acceptable, effect size between the responses of males and females.

A total of 143 participants responded to the item related to the most worthwhile content of websites being visuals that help organize content. One hundred forty-four (32%) females and 157 (35%) males did not select visuals that help organize content as the most worthwhile content on web sites. Seventy-six (17%) females and 67 (15%) males responded that visuals that help organize content were most worthwhile on websites.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females for visuals that help organize content as the content of websites they find most worthwhile. The responses were not different between male and female students, $\chi^2 (1) = 1.09$, $p = .29$.

A total of 74 participants responded to the item related to the most worthwhile content of websites being written summaries of the content. One hundred seventy-two (39%) females and 198 (45%) males did not select written summaries of the content as the most worthwhile content on web sites. Forty-eight females (11%) and 26 (6%) males responded that written summaries of the content were most worthwhile on websites.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females for written summaries of the content as the content of websites they find most worthwhile. The responses were different between male and female students. More females than males responded to the item, $\chi^2 (1) = 8.33$, $p = .004$. The Cramer's V statistic of .13 indicates a weak, yet minimally acceptable, effect size between the responses of males and females.

Table 7

Web Sites

Item 3: Web sites I find most worthwhile contain	Females N=220	Males N=224	χ^2	df	p Value	Cramer's V
(a) streaming video or audio material	67 (15%)	81 (18%)	1.626	1	.202	.061
(b) quizzes with corrective feedback	110 (25%)	75 (17%)	12.459	1	<.001***	.168
(c) visuals that help organize content	76 (17%)	67 (15%)	1.092	1	.296	.050
(d) written summaries of the content	48 (11%)	26 (6%)	8.332	1	.004**	.137

=less than .01   *=less than .001

Item 6: The main reasons I use the Internet are to. A total of 240 participants responded to the item related to the main reasons for Internet use being to locate information for school work. Eighty-one females (18%) and 123 (28%) males did not select locating information for school work as the main reason for Internet use. One hundred thirty-nine (31%) females and

101 (23%) males responded that locating information for school work was a main reason for Internet use.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females for main reasons for Internet use being to locate information for school. The responses were different between male and female students. A greater number of females responded to the item, χ^2 (1) = 14.62, p = < .001. The Cramer's V statistic of .18 indicates a weak, yet minimally acceptable, effect size between the responses of males and females.

A total of 157 participants responded to the item related to the main reasons for Internet use being to communicate with network friends such as Facebook. One hundred thirty (29%) females and 157 (35%) males did not select communicating with network friends such as Facebook as the main reason for Internet use. Ninety (20%) females and 67 (15%) males responded that communicating with network friends such as Facebook was a main reason for Internet use.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females for main reasons for Internet use being to communicate with network friends such as Facebook. The responses were different between male and female students. More females than males responded to the item, χ^2 (1) = 5.87, p = .01. The Cramer's V statistic of .11 indicates a very weak effect size between the responses of males and females.

A total of 139 participants responded to the item related to the main reasons for Internet use being to watch videos on favorite web sites. One hundred sixty-six (37%) females and 139 (31%) males did not select watching videos on favorite websites as the main reason for Internet use. Fifty-four (12%) females and 85 (19%) males responded that watching videos on favorite web sites was a main reason for Internet use.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females for main reasons for Internet use being to watch videos on favorite web sites. The responses were different between male and female students. More males than females responded, χ^2 (1) = 9.26, p = .002. The Cramer's *V* statistic of .14 indicates a very weak effect size between the responses of males and females.

A total of 101 participants responded to the item related to the main reasons for Internet use being to download music they want to hear. One hundred seventy-three (39%) females and 170 (38%) males did not select downloading music they want to hear as the main reason for Internet use. Forty-seven (11%) females and 54 (12%) males responded that downloading music they want to hear was a main reason for Internet use.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females for main reasons for Internet use being to download music they want to hear. The responses were not different between male and female students, χ^2 (1) = 0.47, p = .49.

Table 8

Reasons for Internet Use

Item 6: The main reasons I use the Internet are to	Females N=220	Males N=224	χ^2	df	p Value	Cramer's V
(a) locate information for school work	139 (31%)	101 (23%)	14.629	1	<.001***	.182
(b) communicate with network friends such as Facebook	90 (20%)	67 (15%)	5.874	1	.015*	.115
(c) watch videos on favorite web sites	54 (12%)	85 (19%)	9.269	1	.002**	.144
(d) download the music I want to hear	47 (11%)	54 (12%)	0.475	1	.491	.033

=less than .01   *=less than .001

Item 12: My homework requires that I use the Internet. A total of 228 participants responded to the item related to the homework requirement using the Internet being daily. One hundred twenty-two (27%) females and 106 (24%) males responded that homework required Internet use daily.

A total of 165 participants responded to the item related to the homework frequency requirement using the Internet being weekly. Seventy-nine females (18%) and 86 (19%) males responded that homework required Internet use weekly.

A total of 26 participants responded to the item related to the homework frequency requirement using the Internet being monthly. Eleven females (2%) and 15 (3%) males responded that homework required Internet use monthly.

A total of 25 participants responded to the item related to the homework frequency requirement using the Internet being never. Eight females (2%) and 17 (4%) males responded that homework required Internet use never.

Participants were asked to select only one response for item 12. A Chi-square independence test was conducted to assess the responses for males and females for the frequency of Internet use. The responses were not different between male and female students regarding the frequency to use the Internet to complete their homework assignments, χ^2 (3) = 5.24, p = .15.

Table 9

Internet Homework

Item 12: My homework requires that I use the Internet (Choose only one)	Females N=220	Males N=224	$\chi^2=$ 5.240	Df=3	*p* Value= .155	Cramer's V= .109
(a) daily	122 (27%)	106 (24%)				
(b) weekly	79 (18%)	86 (19%)				
(c) monthly	11 (2%)	15 (3%)				
(d) never	8 (2%)	17 (4%)				

Item 14: I like learning from the Internet because it. A total of 177 participants responded to the item related to the reasons for liking learning from the Internet being to make discoveries on their own. One hundred thirty-six (31%) females and 131 (30%) males did not select letting them make discoveries on the own as a reason for liking to learn from the Internet. Eighty-four females (19%) and 93 (21%) males responded that letting them make discoveries on their own was a reason they like learning from the Internet.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females for main reasons for liking to learn from the Internet being letting them make discoveries on their own. The responses were not different between male and female students, χ^2 (1) = 0.51, p = .47.

A total of 82 participants responded to the item related to the reasons for liking learning from the Internet being to encourage a global outlook on situations. One hundred seventy-seven (40%) females and one hundred eighty-five (42%) males did not select encouraging a global outlook about situations as a reason for liking to learn from the Internet. Forty-three females (10%) and 39 (9%) males responded that encouraging a global outlook about situations was a reason they like learning from the Internet.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females for main reasons for liking to learn from the Internet being encouraging a global outlook about situations. The responses were not different between male and female students, χ^2 (1) = 0.33, p = .56.

A total of 52 participants responded to the item related to the reasons for liking learning from the Internet being to help teachers learn from their students. One hundred ninety-eight (45%) females and one hundred ninety-four (44%) males did not select helping teachers to learn

from their students as a reason for liking to learn from the Internet. Twenty-two (5%) females and 30 (7%) males responded that helping teachers to learn from their students was a reason they like learning from the Internet.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females for main reasons for liking to learn from the Internet being helping teachers to learn from their students. The responses were not different between male and female students, χ^2 (1) = 1.23, p = .26.

A total of 77 participants responded to the item related to the reasons for liking learning from the Internet being to enable information sharing amongst students. One hundred eighty-six (42%) females and one hundred eighty-one (41%) males did not select enabling information sharing amongst students as a reason for liking to learn from the Internet. Thirty-four (8%) females and 43 (10%) males responded that enabling information sharing amongst students was a reason they like learning from the Internet.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females for main reasons for liking to learn from the Internet being enabling information sharing amongst students. The responses were not different between male and female students, χ^2 (1) = 1.08, p = .29.

A total of 191 participants responded to the item related to the reasons for liking learning from the Internet being to learn at their own pace. One hundred eight (24%) females and one hundred forty-five (33%) males did not select learning at their own pace as a reason for liking to learn from the Internet. One hundred twelve (25%) females and 79 (18%) males responded that learning at their own pace was a reason they like learning from the Internet.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females for main reasons for liking to learn from the Internet being learning at their own pace. The responses were different between male and female students. More females than males responded to the item, χ^2 (1) = 11.07, p = .001. The Cramer's V statistic of .15 indicates a weak, yet minimally acceptable, effect size between the responses of males and females.

Table 10

Internet Learning

Item 14: I like learning from the internet because it	Females N=220	Males N=224	χ^2	df	p Value	Cramer's V
(a) lets me make discoveries on my own	84 (19%)	93 (21%)	0.515	1	.473	.034
(b) encourages a global outlook about situations	43 (10%)	39 (9%)	0.336	1	.562	.028
(c) helps the teachers to learn from their students	22 (5%)	30 (7%)	1.236	1	.266	.053
(d) enables information sharing among students	34 (8%)	43 (10%)	1.084	1	.298	.049
(e) allows me to learn at my own pace	112 (25%)	79 (18%)	11.078	1	.001**	.158

**=less than .01

Item 15: The amount of time I spend daily on the Internet is. A total of 57 participants responded to the item related to the amount of time spent daily on the Internet being less than 1 hour. Twenty-two (5%) females and 35 (8%) males responded that the amount of time they spend daily on the Internet was less than 1 hour.

A total of 97 participants responded to the item related to the amount of time spent daily on the Internet being 1 to 2 hours. Forty-four (10%) females and 53 (12%) males responded that the amount of time they spend daily on the Internet was 1 to 2 hours.

A total of 109 participants responded to the item related to the amount of time spent daily on the Internet being 2 to 3 hours. Forty-nine (11%) females and 60 (14%) males responded that the amount of time they spend daily on the Internet was 2 to 3 hours.

A total of 75 participants responded to the item related to the amount of time spent daily on the Internet being 3 to 5 hours. Forty-six (10%) females and 29 (7%) males responded that the amount of time they spend daily on the Internet was 3 to 5 hours.

A total of 59 participants responded to the item related to the amount of time spent daily on the Internet being more than 5 hours. Fifty-nine (13%) females and 47 (11%) males responded that the amount of time they spend daily on the Internet was more than 5 hours.

Participants were asked to select only one response for item 15. A Chi-square independence test was conducted to assess the responses for males and females for the amount of time spent daily on the Internet. The responses were different between male and female students. More males selected the first three choices with lesser amounts of time spent on the Internet daily while more females selected the last two choices indicating they spend greater amounts of time on the Internet daily, χ^2 (4) = 10.08, p = .03. The Cramer's V statistic of .15 indicates a weak, yet minimally acceptable, effect size between the responses of males and females.

Table 11

Time Spent on Internet

Item 15: The amount of time I spend daily on the Internet is (Choose only one)	Females *N=220*	Males *N=224*	χ^2= 10.087	*Df=4*	*p* Value= .039*	Cramer's *V=* .151
(a) less than 1 hour	22 (5%)	35 (8%)				
(b) 1 to 2 hours	44 (10%)	53 (12%)				
(c) 2 to 3 hours	49 (11%)	60 (14%)				
(d) 3 to 5 hours	46 (10%)	29 (7%)				
(e) more than 5 hours	59 (13%)	47 (11%)				

*=less than .05

Research Question 2: How are student perceptions on supports for Internet use reported on the Learning from the Internet Poll influenced by gender?

Items 2, 4, 5, 7, 8, 9, 10, 11, 13, 16, and 17 were related to support for Internet learning. All items explore the students' support for using the Internet. These items were analyzed to answer research question 2.

Item 2: The ways my parents can support Internet learning are. A total of 67 participants responded to the item related to the ways parents can support Internet learning as being monitoring websites visited. One hundred ninety-four (44%) females and 183 (41%) males did not select monitoring websites visited as a way to support Internet learning. Twenty-six (6%) females and 41 (9%) males responded that monitoring websites visited was a way parents can support Internet learning.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females for ways that parents can support Internet learning by monitoring websites visited. The responses were not different between male and female students, $\chi^2 (1) = 3.64$, $p = .06$.

A total of 89 participants responded to the item related to the ways parents can support Internet learning being discussing subjects found online. One hundred sixty-one (36%) females and 194 (44%) males did not select discussing subjects found online as a way to support Internet learning. Fifty-nine (13%) females and 30 (7%) males responded that discussing subjects found online is a way that parents can support Internet learning.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females for ways that parents can support Internet learning by discussing subjects found online. The responses were different between male and female students. More females than males

responded to this item, χ^2 (1) = 12.48, p = < .001. The Cramer's V statistic of .16 indicates a weak, yet minimally acceptable, effect size between the responses of males and females.

A total of 135 participants responded to the item related to the ways parents can support Internet learning being assisting in online research. One hundred fifty-eight (36%) females and 151 (34%) males did not select assisting in online research as a way to support Internet learning. Sixty-two (14%) females and 73 (16%) males responded that assisting in online research was a way that parents can support Internet learning.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females for ways that parents can support Internet learning by assisting in online research. The responses are not different between male and female students, χ^2 (1) = 1.01, p = .31.

A total of 213 participants responded to the item related to the ways parents can support Internet learning being providing computer access at home. One hundred five (24%) females and 126 (28%) males did not select providing computer access at home as a way to support Internet learning. One hundred five (24%) females and 126 (28%) males responded that providing computer access at home is a way that parents can support Internet learning.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females for ways that parents can support Internet learning by providing computer access at home. The responses were not different between male and female students, χ^2 (1) = 3.23, p = .07.

Table 12

Parental Support

Item 2: The ways my parents can support internet learning are	Females N=220	Males N=224	χ²	df	p Value	Cramer's V
(a) monitoring the websites that I visit	26 (6%)	41 (9%)	3.64	1	.056	.091
(b) discussing subjects that I find online	59 (13%)	30 (7%)	12.482	1	<.001***	.168
(c) assisting me in doing online research	62 (14%)	73 (16%)	1.019	1	.313	.048
(d) provide computer access at home	115 (26%)	98 (22%)	3.230	1	.072	.085

***=less than .001

Item 4: My teachers could use training about how to. A total of 153 participants responded to the item related to the training their teachers could use as being making assignments involving the Internet. One hundred forty-six (33%) females and 145 (33%) males did not select making assignments involving the Internet as an area in need of training for their teachers. Seventy-four (17%) females and 79 (18%) males responded that making assignments involving the Internet was an area in which their teachers could use training.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females for areas in which their teachers could use training being making assignments involving the Internet. The responses were not different between male and female students, $χ²$ (1) = 0.13, *p* = .71.

A total of 135 participants responded to the item related to the training their teachers could use as being organizing groups to do research searches online. One hundred fifty-three (34%) females and 156 (35%) males did not select organizing groups to do research searches online as an area in need of training for their teachers. Sixty-seven (15%) females and 68 (15%) males responded that organizing groups to do research searches online was an area in which their teachers could use training.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females for areas in which their teachers could use training being organizing groups to do research searches online. The responses were not different between male and female students, χ^2 (1) =0 .000, p = .98.

A total of 55 participants responded to the item related to the training their teachers could use as being giving parents information about learning on the Internet. One hundred ninety-eight (45%) females and 191 (43%) males did not select giving parents information about learning on the Internet as an area in need of training for their teachers. Twenty-two (5%) females and 33 (7%) males responded that giving parents information about learning on the Internet was an area in which their teachers could use training.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females for areas in which their teachers could use training being giving parents information about learning on the Internet. The responses were not different between male and female students, χ^2 (1) = 2.29, p = 0.13.

A total of 142 participants responded to the item related to the training their teachers could use as being helping students understand Internet ethics. One hundred thirty-seven (31%) females and 165 (37%) males did not select helping students understand Internet ethics as an area in need of training for their teachers. Eighty-three (19%) females and 59 (13%) males responded that helping students understand Internet ethics was an area in which their teachers could use training.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females for areas in which their teachers could use training being helping students understand Internet ethics. The responses were different between male and female students. More females

than males responded to this item, χ^2 (1) = 6.61, p = .01. The Cramer's V statistic of .12 indicates

a very weak effect size between the responses of males and females.

Table 13

Teacher Training

Item 4: My teachers could use training about how to	Females N=220	Males N=224	χ^2	df	p Value	Cramer's V
(a) make assignments involving the Internet	74 (17%)	79 (18%)	0.131	1	.718	.017
(b) organize groups to do research searches online	67 (15%)	68 (15%)	0.000	1	.982	.001
(c) give parents information about learning on the Internet	22 (5%)	33 (7%)	2.290	1	.130	.072
(d) help students understand Internet ethics	83 (19%)	59 (13%)	6.617	1	.010*	.122

*=less than .05

Item 5: Virtual schools where students can study from their home. A total of 166

participants responded to the item related to virtual schools where students can study from their

home as helping responsible students make more progress. One hundred twenty-two (27%)

females and 156 (35%) males did not select helping responsible students make more progress as

a purpose for virtual schools where students can study from their home. Ninety-eight (22%)

females and 68 (15%) males responded that helping responsible students make more progress

was a benefit of virtual schools where students can study from their home.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and

females for the outcome of virtual schools where students can study from their home being to

help responsible students make more progress. The responses were different between male and

female students. More females than males responded to this item, χ^2 (1) = 9.54, p = .002. The

Cramer's V statistic of .14 indicates a very weak effect size between the responses of males and

females.

A total of 65 participants responded to the item related to virtual schools where students can study from their home should replace the traditional schedules at school. One hundred eighty-seven (42%) females and 192 (43%) males did not select replacing traditional schedules at school as a purpose for virtual schools where students can study from their home. Thirty-three (7%) females and 32 (7%) males responded that replacing traditional schedules at school was a benefit of virtual schools where students can study from their home.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females for the outcome of virtual schools where students can study from their home being to replace traditional schedules at school. The responses were not different between male and female students, $\chi^2 (1) = 0 .04, p = .83$.

A total of 137 participants responded to the item related to virtual schools where students can study from their home motivating students to be more self-directed. One hundred fifty-three (34%) females and 154 (35%) males did not select motivating students to be more self-directed as a purpose for virtual schools where students can study from their home. Sixty-seven (15%) females and 70 (16%) males responded that motivating students to be more self-directed was a benefit of virtual schools where students can study from their home.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females for the outcome of virtual schools where students can study from their home being to motivated students to be more self-directed. The responses were not different between male and female students, $\chi^2, (1) = 0 .03, p = .85$.

A total of 144 participants responded to the item related to virtual schools where students can study from their home as not working for students who lack motivation to learn. One hundred fifty-one (34%) females and 149 (34%) males did not select not working for students

who lack motivation to learn as an outcome for virtual schools where students can study from their home. Sixty-nine (16%) females and 75 (17%) males responded that not working for students who lack motivation to learn was an outcome of virtual schools where students can study from their home.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females for the outcome of virtual schools where students can study from their home as not working for students who lack motivation to learn. The responses were not different between male and female students, χ^2 (1) = 0.22, p = .63.

Table 14

Virtual Schools

Item 5: Virtual schools were student can study from their home	Females N=220	Males N=224	χ^2	df	p Value	Cramer's V
(a) help responsible students make more progress	98 (22%)	68 (15%)	9.545	1	.002**	.147
(b) should replace the traditional schedules at school	33 (7%)	32 (7%)	0.045	1	.831	.010
(c) would motivate students to be more self-directed	67 (15%)	70 (16%)	0.033	1	.856	.009
(d) cannot work for students who lack motivation to learn	69 (16%)	75 (17%)	0.227	1	.634	.023

**=less than .01

Item 7: The web site of my school could be improved by. A total of 163 participants responded to the item related to the school's website being improved by listing events with schedules and locations. One hundred thirty-four (30%) females and 147 (33%) males did not select listing events with schedules and locations as a way the school web site can be improved. Eighty-six (19%) females and 77 (17%) males responded that listing events with schedules and locations was a way in which the school web site can be improved.

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A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on ways in which the school web site can be improved as being listing events with schedules and locations. The responses were not different between male and female students, χ^2 (1) = 1.06, *p* = .30.

A total of 177 participants responded to the item related to the school's website being improved by posting homework assignments for classes. One hundred thirty-three (30%) females and 134 (30%) males did not select posting homework assignments as a way the school web site can be improved. Eighty-seven (20%) females and 90 (20%) males responded that posting homework assignments was a way in which the school web site can be improved.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on posting homework assignments for classes as a way in which the school web site can be improved. The responses were not different between male and female students, χ^2 (1) = 0.02, *p* = .89.

A total of 110 participants responded to the item related to the school's website being improved by providing contact information for tutoring. One hundred fifty-three (34%) females and 181 (41%) males did not select providing contact information for tutoring as a way the school web site can be improved. Sixty-seven (15%) females and 43 (10%) males responded that providing contact information for tutoring was a way in which the school web site can be improved.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on providing contact information for tutoring as a way in which the school web site can be improved. The responses were different between male and female students. More females

than males responded to this item, $\chi^2 (1) = 7.55$, $p = .006$. The Cramer's *V* statistic of .13 indicates a very weak effect size between the responses of males and females.

A total of 110 participants responded to the item related to the school's website being improved by recognizing students for achievements. One hundred sixty (36%) females and 174 (39%) males did not select recognizing students for achievements as a way the school web site can be improved. Sixty (14%) females and 50 (11%) males responded that recognizing students for achievements was a way in which the school web site can be improved.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on recognizing students for achievements as a way in which the school web site can be improved. The responses were not different between male and female students, $\chi^2 (1) = 1.46$, $p = .22$.

Table 15

School Web Site

Item 7: The web site of my school could be improved by	Females N=220	Males N=224	χ^2	df	p Value	Cramer's V
(a) listing events with schedules and locations	86 (19%)	77 (17%)	1.062	1	.303	.049
(b) posting homework assignments for classes	87 (20%)	90 (20%)	0.019	1	.892	.006
(c) providing contact information for tutoring	67 (15%)	43 (10%)	7.548	1	.006**	.130
(d) recognizing students for achievements	60 (14%)	50 (11%)	1.460	1	.227	.057

**=less than .01

Item 8: The ways I learn most subjects best are. A total of 170 participants responded to the item related to the ways they learn most subjects best being through discussion. One hundred thirty-six (31%) females and 138 (31%) males did not select discussions as a way they

learn most subjects best. Eighty-four (19%) females and 86 (19%) males responded that discussions were a way in which they learn most subjects best.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on discussions being a way in which they learn best. The responses were not different between male and female students, χ^2 (1) =0 .00, p = .96.

A total of 82 participants responded to the item related to the ways they learn most subjects best being through reading. One hundred eighty-three (41%) females and 179 (40%) males did not select reading as a way they learn most subjects best. Thirty-seven (8%) females and 45 (10%) males responded that reading was a way in which they learn most subjects best.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on reading being a way in which they learn most subjects best. The responses were not different between male and female students, χ^2 (1) =0 .78, p = .37.

A total of 166 participants responded to the item related to the ways they learn most subjects best being through lectures/demonstrations in class or on videos. One hundred twenty-six (28%) females and 152 (34%) males did not select lectures/demonstrations in class or on video as a way they learn most subjects best. Ninety-four (21%) females and 72 (16%) males responded that lectures/demonstrations in class or on videos was a way in which they learn most subjects best.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on lectures/demonstrations in class or on video as being a way in which they learn most subjects best. The responses were different between male and female students. More females than males responded to this item, χ^2 (1) = 5.31, p = .02. The Cramer's V statistic of .10 indicates a very weak effect size between the responses of males and females.

A total of 151 participants responded to the item related to the ways they learn most subjects best being through guided practice activities. One hundred thirty-eight (31%) females and 155 (35%) males did not select guided practice activities as a way they learn most subjects best. Eighty-two (18%) females and 69 (16%) males responded that guided practice activities were a way in which they learn most subjects best.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on guided practice activities as being a way in which they learn most subjects best. The responses were not different between male and female students, $\chi^2 (1) = 2.07$, $p = .15$.

Table 16

Learn Subjects Best

Item 8: The ways I learn <u>most subjects</u> best are	Females N=220	Males N=224	χ^2	df	p Value	Cramer's V
(a) discussions	84 (19%)	86 (19%)	0.002	1	.964	.002
(b) reading	37 (8%)	45 (10%)	0.789	1	.374	.042
(c) lectures/demonstrations in class or on videos	94 (21%)	72 (16%)	5.312	1	.021*	.109
(d) guided practice activities	82 (18%)	69 (16%)	2.070	1	.150	.068

*=less than .05

Item 9: The ways I learn math and science best are. A total of 143 participants responded to the item related to the ways they learn math and science best being through discussions. One hundred forty-three (32%) females and 158 (36%) males did not select discussions as a way they learn math and science best. Seventy-seven (17%) females and 66 (15%) males responded that discussions were a way in which they learn math and science best.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on discussions as being a way in which they learn math and science best. The responses were not different between male and female students, $\chi^2 (1) = 1.55$, $p = .21$.

A total of 41 participants responded to the item related to the ways they learn math and science best being through reading. Two hundred five (46%) females and 198 (45%) males did not select reading as a way they learn math and science best. Fifteen (3%) females and 26 (6%) males responded that reading was a way in which they learn math and science best.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on reading as being a way in which they learn math and science best. The responses were not different between male and female students, χ^2 (1) = 3.03, p = .08.

A total of 199 participants responded to the item related to the ways they learn math and science best being through lectures/demonstrations in class or on videos. One hundred eight (24%) females and 137 (31%) males did not select lectures/demonstrations in class or on videos as a way they learn math and science best. One hundred twelve (25%) females and 87 (20%) males responded that lectures/demonstrations in class or on videos were a way in which they learn math and science best.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on lectures/demonstrations in class or on video as being a way in which they learn math and science best. The responses were different between male and female students. More females than males responded to this item, χ^2 = 6.53, p = .01. The Cramer's V statistic of .12 indicates a very weak effect size between the responses of males and females.

A total of 171 participants responded to the item related to the ways they learn math and science best being through guided practice activities. One hundred thirty-three (30%) females and 140 (32%) males did not select guided practice activities as a way they learn math and science best. Eighty-seven (20%) females and 84 (19%) males responded that guided practice activities were a way in which they learn math and science best.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on guided practice activities as being a way in which they learn math and science best. The responses were not different between male and female students, χ^2 (1) =0 .19, p = .65.

Table 17

Learn Math and Science Best

Item 9: The ways I learn <u>math and science</u> best are	Females N=220	Males N=224	χ^2	df	p Value	Cramer's V
(a) discussions	77 (17%)	66 (15%)	1.558	1	.212	.059
(b) reading	15 (3%)	26 (6%)	3.037	1	.081	.083
(c) lectures/demonstrations in class or on videos	112 (25%)	87 (20%)	6.538	1	.011*	.121
(d) guided practice activities	87 (20%)	84 (19%)	0.196	1	.658	.021

*=less than .05

Item 10: I wish my school taught me about. A total of 128 participants responded to the item related to evaluating web site credibility as being a skill students wish their school taught them. One hundred fifty-seven (35%) females and 159 (36%) males did not select how to evaluate web site credibility as a skill they wish their school taught them. Sixty-three (14%) females and 65 (15%) males responded that how to evaluate web site credibility was a skill they wish their school taught them.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on how to evaluate web site credibility as a skill they wish their school taught them. The responses were not different between male and female students, χ^2 (1) = 0.00, p = .92.

A total of 216 participants responded to the item related to learning methods to improve research skills as being a skill students wish their school taught them. One hundred three (23%) females and 125 (28%) males did not select methods to improve research skills as a skill they wish their school taught them. One hundred seventeen (26%) females and 99 (22%) males responded that methods to improve research skills was a skill they wish their school taught them.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on methods to improve research skills as a skill they wish their school taught them. The responses were not different between male and female students, χ^2 (1) = 3.58, p = .05.

A total of 36 participants responded to the item related to learning methods to how to block inappropriate messages as being a skill students wish their school taught them. Two hundred four (46%) females and 204 (46%) males did not select how to block inappropriate messages as a skill they wish their school taught them. Sixteen (4%) females and 20 (5%) males responded that how to block inappropriate messages was a skill they wish their school taught them.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on how to block inappropriate messages as a skill they wish their school taught them. The responses were not different between male and female students, χ^2 (1) = 0.40, p = .52.

A total of 48 participants responded to the item related to ways to deal with cyber bullies as being a skill students wish their school taught them. One hundred ninety-nine (45%) females and 197 (44%) males did not select ways to deal with cyber bullies as a skill they wish their school taught them. Twenty-one (5%) females and 27 (6%) males responded that ways to deal with cyber bullies was a skill they wish their school taught them.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on ways to deal with cyber bullies as a skill they wish their school taught them. The responses were not different between male and female students, χ^2 (1) = 0.72, p = .39.

A total of 39 participants responded to the item related to how to use the Internet and cell phone safely and securely as being a skill students wish their school taught them. One hundred ninety-nine (45%) females and 206 (46%) males did not select how to use the Internet and cell

phone safely and securely as a skill they wish their school taught them. Twenty-one (5%) females and 18 (4%) males responded that how to use the Internet and cell phone safely and securely was a skill they wish their school taught them.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on how to use the Internet and cell phone safely and securely as a skill they wish their school taught them. The responses were not different between male and female students, χ^2 (1) = 0.31, p = .57.

Table 18

Wish School Taught

Item 10: I wish my school taught me about	Females N=220	Males N=224	χ^2	df	p Value	Cramer's V
(a) how to evaluate web site credibility	63	65	0.008	1	.929	.004
(b) methods to improve my research skills	117	99	3.587	1	.058	.090
(c) how to block inappropriate messages	16	20	0.408	1	.523	.030
(d) ways to deal with cyberbullies	21	27	0.724	1	.395	.040
(e) how to use the Internet and cell phone safely and securely	21	18	0.316	1	.574	.027

Item 11: To support safety on the Internet, I choose to. A total of 320 participants responded to the item related to supporting safety on the Internet by choosing not to reveal any personal information. Fifty-four (12%) females and 70 (16%) males did not select not revealing any personal information as a way to support safety on the Internet. One hundred sixty-six (37%) females and 154 (35%) males responded that not revealing any personal information was a way they support safety on the Internet.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on how to support safety on the Internet as being not revealing any personal information. The responses were not different between male and female students, χ^2 (1) = 2.47, p = .11.

A total of 55 participants responded to the item related to supporting safety on the Internet by asking parents before downloading software. One hundred ninety-four (44%) females and 195 (44%) males did not select asking parents before downloading software as a way to support safety on the Internet. Twenty-six (6%) females and 29 (7%) males responded that asking parents before downloading software was a way they support safety on the Internet.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on how to support safety on the Internet by asking parents before downloading software. The responses were not different between male and female students, χ^2 (1) = 0.13, p = .71.

A total of 40 participants responded to the item related to supporting safety on the Internet by keeping a log of web sites visited. Two hundred three (46%) females and 201 (45%) males did not select keeping a log of web sites visited as a way to support safety on the Internet. Seventeen (12%) females and 23 (5%) males responded that keeping a log of web sites visited was a way they support safety on the Internet.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on how to support safety on the Internet by keeping a log of web sites visited. The responses were not different between male and female students, χ^2 (1) = 0.87, p = .35.

A total of 58 participants responded to the item related to supporting safety on the Internet by letting parents know if they see unsafe material. One hundred eighty (41%) females and 206 46%) males did not select letting parents know if they see unsafe materials as a way to

support safety on the Internet. Forty (9%) females and 18 (4%) males responded that letting parents know if they see unsafe materials was a way they support safety on the Internet.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on how to support safety on the Internet by letting parents know if they see unsafe materials. The responses were different between male and female students. More females than males responded to this item, χ^2 (1) = 10.06, p = .002. The Cramer's V statistic of .15 indicates a weak, yet minimally acceptable, effect size between the responses of males and females.

A total of 40 participants responded to the item related to supporting safety on the Internet by attending a class on computer and cell phone safety and security. One hundred ninety-six (44%) females and 208 (47%) males did not select attending a class on computer and cell phone safety and security as a way to support safety on the Internet. Twenty-four (5%) females and 16 (4%) males responded attending a class on computer and cell phone safety and security was a way they support safety on the Internet.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on how to support safety on the Internet by attending a class on computer and cell phone safety and security. The responses were not different between male and female students, χ^2 (1) = 1.92, p = .16.

Table 19

Internet Safety

Item 11: **To support safety on the Internet, I choose to**	**Females N=220**	**Males N=224**	χ²	df	*p* Value	Cramer 's *V*
(a) not reveal any personal information	166 (37%)	154 (35%)	2.479	1	.115	.075
(b) ask parents before downloading software	26 (6%)	29 (7%)	0.130	1	.718	.017
(c) keep a log of web sites I have visited	17 (4%)	23 (5%)	0.874	1	.350	.044
(d) let parents know if I see unsafe materials	40 (9%)	18 (4%)	10.061	1	.002**	.151
(e) attend a class on computer and cell phone safety and security	24 (5%)	16 (4%)	1.921	1	.166	.066

**=less than .01

Item 13: When doing homework on the Internet. A total of 215 participants

responded to the item related to doing homework on the Internet and having difficulty in

deciding what sites to use. One hundred ten (25%) females and 119 (27%) males did not select

finding it difficult to decide on what sites to use as an issue when completing homework on the

Internet. One hundred ten (25%) females and 105 (24%) males responded they find it difficult to

decide what sites to use when completing homework on the Internet.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and

females on finding it difficult to decide what sites to use when doing homework on the Internet.

The responses were not different between male and female students, χ² (1) = 0.43, *p* = .51.

A total of 56 participants responded to the item related to doing homework on the

Internet and copying and pasting rather than using their own words. Two hundred four (46%)

females and 184 (41%) males did not select copying and pasting instead of using their own

words as an issue when completing homework on the Internet. Sixteen (4%) females and 40

75

(9%) males responded they copy and paste rather than do their own words when completing homework on the Internet.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on copying and pasting rather than using their own words when doing homework on the Internet. The responses were different between male and female students. More males than females responded to this item, χ^2 (1) = 11.28, p = .001. The Cramer's V statistic of .15 indicates a weak, yet minimally acceptable, effect size between the responses of males and females.

A total of 158 participants responded to the item related to doing homework on the Internet and getting distracted. One hundred forty (32%) females and 146 (33%) males did not select getting distracted as an issue when completing homework on the Internet. Eighty (18%) females and 78 (18%) males responded they get distracted when completing homework on the Internet.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on getting distracted when doing homework on the Internet. The responses were not different between male and female students, χ^2 (1) = 0.11, p = .73.

A total of 53 participants responded to the item related to doing homework on the Internet and being unable to identify key words for online searches. One hundred eighty-six (42%) females and 205 (46%) males did not select being unable to identify key words for online searches as an issue when completing homework on the Internet. Thirty-four (8%) females and 19 (4%) males responded they cannot identify key words for online searches when completing homework on the Internet.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on being unable to identify key words for online searches when doing homework on the

Internet. The responses were different between male and female students. More females than males responded to this item, χ^2 (1) = 5.13, p = .02. The Cramer's V statistic of .10 indicates a very weak effect size between the responses of males and females.

Table 20

Doing Internet Homework

Item 13: When doing homework on the internet	Females N=220	Males N=224	χ^2	df	p Value	Cramer's V
(a) I find it difficult to decide what sites to use	110 (25%)	105 (24%)	0.434	1	.510	.031
(b) I copy and paste instead of using my own words	16 (4%)	40 (9%)	11.282	1	.001**	.159
(c) I get distracted	80 (18%)	78 (18%)	0.115	1	.734	.016
(d) I cannot identify key words for online searches	34 (8%)	19 (4%)	5.133	1	.023*	.108

*=less than .05   **=less than .01

Item 16: My school can support Internet learning by. A total of 78 participants responded to the item related to their school supporting Internet learning by making a computer lab available on evenings and weekends. One hundred eighty-three (41%) females and 183 (41%) males did not select making a computer lab available evenings and weekends as a way their school can support Internet learning. Thirty-seven (8%) females and 41 (9%) males responded their school can support Internet learning by making a computer lab available evenings and weekends.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on making a computer lab available evenings and weekends as a way their school can support Internet learning. The responses were not different between male and female students, χ^2 (1) = 0.16, p = .68.

A total of 106 participants responded to the item related to their school supporting Internet learning by expecting cooperative learning teams to explore Internet sites. One hundred

seventy-four (39%) females and 164 (37%) males did not select expecting cooperative learning teams to explore Internet sites as a way their school can support Internet learning. Forty-six (10%) females and 60 (14%) males responded their school can support Internet learning by expecting cooperative learning teams to explore Internet sites.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on expecting cooperative learning teams to explore Internet sites as a way their school can support Internet learning. The responses were not different between male and female students, χ^2 (1) = 2.10, p = .14.

A total of 178 participants responded to the item related to their school supporting Internet learning by permitting students to take some of their courses online. One hundred twenty-three (28%) females and 143 (32%) males did not select permitting students to take some of their courses online as a way their school can support Internet learning. Ninety-seven (22%) females and 81 (18%) males responded their school can support Internet learning by permitting students to take some of their courses online.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on permitting students to take some of their courses online as a way their school can support Internet learning. The responses were not different between male and female students, χ^2 (1) = 2.90, p = .08.

A total of 140 participants responded to the item related to their school supporting Internet learning by providing assignments that require the Internet. One hundred forty-one (32%) females and 163 (37%) males did not select providing assignments that require the Internet as a way their school can support Internet learning. Seventy-nine (18%) females and 61

(14%) males responded their school can support Internet learning by providing assignments that require the Internet.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on providing assignments that require the Internet as a way their school can support Internet learning. The responses were different between male and female students. More females than males responded to this item, χ^2 (1) = 3.87, p = .04. The Cramer's V statistic of .09 indicates a very weak effect size between the responses of males and females.

Table 21

School-Supported Internet Learning

Item: 16 My school can support my Internet learning by	Females N=220	Males N=224	χ^2	df	p Value	Cramer's V
(a) making the computer lab available evenings and weekends	37 (8%)	41 (9%)	0.169	1	.681	.020
(b) expecting cooperative learning teams to explore Internet sites	46 (10%)	60 (14%)	2.109	1	.146	.069
(c) permitting students to take some of their courses online	97 (22%)	81 (18%)	2.906	1	.088	.081
(d) providing assignments that require the Internet	79 (18%)	61 (14%)	3.871	1	.049*	.093

=less than .05

Item 17: My greatest obstacles to learning on the Internet are. A total of 72 participants responded to the item related to their greatest obstacles to learning on the Internet being teachers do not make assignments involving the Internet. One hundred ninety (43%) females and 182 (41%) males did not select teachers not making assignments involving the Internet as a great obstacle to learning on the Internet. Thirty females (7%) and 42 (9%) males responded teachers not making assignments involving the Internet was a great obstacle to their learning on the Internet.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on teachers not making assignments involving the Internet as an obstacle to learning on the Internet. The responses were not different between male and female students, $\chi^2 (1) = 2.13$, $p = .14$.

A total of 50 participants responded to the item related to their greatest obstacles to learning on the Internet being school computers were in labs only, not in the classrooms. Two hundred (45%) females and 194 (44%) males did not select school computers only being in labs rather than classrooms as a great obstacle to learning on the Internet. Twenty (5%) females and 30 (7%) males responded school computers being in labs only, not the classroom was a great obstacle to their learning on the Internet.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on school computers being in labs only, not classrooms as an obstacle to learning on the Internet. The responses were not different between male and female students, $\chi^2 (1) = 2.05$, $p = .15$.

A total of 284 participants responded to the item related to their greatest obstacles to learning on the Internet being too many filtering restrictions that limit ability to search. Sixty-four (14%) females and 96 (22%) males did not select too many filtering restrictions that limit ability to search as a great obstacle to learning on the Internet. One hundred fifty-six (35%) females and 128 (29%) males responded too many filtering restrictions that limit ability to search was a great obstacle to their learning on the Internet.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on school filtering restrictions as an obstacle to learning on the Internet. The responses were different between male and female students. More females than males responded to this

item, χ^2 (1) = 9.12, p = .003. The Cramer's V statistic of .14 indicates a very weak effect size between the responses of males and females.

A total of 65 participants responded to the item related to their greatest obstacles to learning on the Internet being lack of access to the use of a computer in their own home. One hundred ninety-four (44%) females and 185 (42%) males did not select lack of access to the use of a computer in their own home as a great obstacle to learning on the Internet. Twenty-six (6%) females and 39 (9%) males responded lack of access to the use of a computer in their own home was a great obstacle to their learning on the Internet.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on lack of access to the use of a computer in their own home as an obstacle to learning on the Internet. The responses were not different between male and female students, χ^2 (1) = 2.77, p = .09.

Table 22

Obstacles to Learning

Item 22: My greatest obstacles to learning on the Internet are	Females N=220	Males N=224	χ^2	df	p Value	Cramer's V
(a) teachers don't make assignments involving the Internet	30 (7%)	42 (9%)	2.136	1	.144	.069
(b) school computers are in labs only, not in the classrooms	20 (5%)	30 (7%)	2.056	1	.152	.068
(c) too many filtering restrictions that limit ability to search	156 (35%)	128 (29%)	9.125	1	.003**	.143
(d) lack of access to the use of a computer in my own home	26 (6%)	39 (9%)	2.778	1	.096	.079

**=less than .01

Research Question 3: How are student perceptions on learning needs for interpersonal functioning reported on the Peer Support Poll influenced by gender?

Items 1, 4, 11, 12, 13, and 14 were related to learning needs for interpersonal learning. All items explore the students' learning needs for interpersonal learning. These items were analyzed to answer research question 3.

Item 1: Students in my classroom learning group usually. A total of 133 participants responded to the item related to students in their classroom learning group tutoring them when they need help. One hundred forty-five (33%) females and 165 (37%) males did not respond that students in their learning group usually tutor them when they need help. Seventy-three (16%) females and 60 (14%) males responded that students in their classroom learning group tutor them when they need help.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on tutoring by students in the classroom learning group when help was needed. The responses were not different between male and female students, $\chi^2 (1) = 2.45$, $p = .11$.

A total of 199 participants responded to the item related to students in their classroom learning group making them feel that they belong. One hundred nineteen (27%) females and 125 (28%) males did not respond that students in their learning group make them feel like they belong. Ninety-nine (22%) females and 100 (23%) males responded that students in their classroom learning group make them feel like they belong.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on students in the classroom learning group tutoring when help was needed. The responses were not different between male and female students, $\chi^2 (1) = 0.042$, $p = .83$.

A total of 49 participants responded to the item related to students in their classroom learning group treating them like an outsider. One hundred ninety-seven (44%) females and 197 (44%) males did not respond that students in their learning group treat them like an outsider. Twenty-one (5%) females and 28 (6%) males responded that students in their classroom learning group treat them like an outsider.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on students in the classroom learning group being treated as if they were outsiders. The responses were not different between male and female students, χ^2 (1) = 0.890, p = .34.

A total of 96 participants responded to the item related to students in their classroom learning group talking only to their friends. One hundred sixty-five (37%) females and 185 (42%) males did not respond that students in their learning group talk only to their friends. Fifty-three (12%) females and 40 (9%) males responded that students in their classroom learning group only talk to their friends.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on students in the classroom learning group talking only to their friends. The responses were not different between male and female students, χ^2 (1) = 2.85, p = .09.

Table 23

Learning Groups

Item 1: Students in my classroom learning group usually	Females N=218	Males N=225	χ^2	df	p Value	Cramer's V
(a) tutor me when I need help	73 (16%)	60 (14%)	2.451	1	.117	.074
(b) make me feel that I belong	99 (22%)	100 (23%)	0.042	1	.838	.010
(c) treat me like an outsider	21 (5%)	28 (6%)	0.890	1	.346	.045
(d) talk only to their friends	53 (12%)	40 (9%)	2.850	1	.091	.080

Item 4: The problems with group discussions are. A total of 144 participants responded to the item related to problems with group discussions being that someone takes over

83

and dominates. One hundred forty-seven (33%) females and 152 (34%) males did not respond that the problem with group discussions was that someone takes over and dominates. Seventy-one (16%) females and 73 (16%) males responded that someone taking over and dominating was a problem with group discussions.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on problems with group discussions being that someone takes over and dominates. The responses were not different between male and female students, $\chi^2 (1) = 0.001$, $p = .97$.

A total of 105 participants responded to the item related to problems with group discussions being that quiet people were not asked to talk. One hundred seventy-two (39%) females and 166 (37%) males did not respond that a problem with group discussions was that quiet people were not asked to talk. Forty-six (10%) females and 59 (13%) males responded that quiet people were not asked to talk was a problem with group discussions.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on problems with group discussions being that quiet people were not asked to talk. The responses were not different between male and female students, $\chi^2 (1) = 1.60$, $p = .20$.

A total of 207 participants responded to the item related to problems with group discussions being that people drift away from the topic. One hundred four (23%) females and 132 (30%) males did not respond that a problem with group discussions was that people drift away from the topic. One hundred fourteen (26%) females and 93 (21%) males responded that people drifting away from the topic was a problem with group discussions.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on problems with group discussions being that people drift away from the topic. The responses were different between male and female students. More females than males responded

to this item, χ^2 (1) = 5.34, p = .02. The Cramer's V statistic of .11 indicates a very weak effect size between the responses of males and females.

A total of 84 participants responded to the item related to problems with group discussions being that no one challenges group thinking. One hundred sixty-eight (38%) females and 191 (43%) males did not respond that a problem with group discussions was that no one challenges group thinking. Fifty (11%) females and 34 (8%) males responded that no one challenging group thinking was a problem with group discussions.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on problems with group discussions being that no one challenges group thinking. The responses were different between male and female students. More females than males responded to this item, χ^2 (1) = 4.41, p = .03. The Cramer's V statistic of .10 indicates a very weak effect size between the responses of males and females.

Table 24

Group Discussion Problems

Item 4: The problems with group discussions are	Females N=218	Males N=225	χ^2	df	p Value	Cramer's V
(a) someone takes over and dominates	71 (16%)	73 (16%)	0.001	1	.978	.001
(b) quiet people are not asked to talk	46 (10%)	59 (13%)	1.606	1	.205	.060
(c) people drift away from the topic	114 (26%)	93 (21%)	5.343	1	.021*	.110
(d) no one challenges group thinking	50 (11%)	34 (8%)	4.412	1	.036*	.100

=less than .05

Item 11: When I express ideas, my group members usually. A total of 245 participants responded to the item related to when expressing ideas, group members usually consider ideas and how to make use of them. Eighty-two (19%) females and 116 (26%) males did not respond

that when ideas were expressed, group members usually consider ideas and how to make use of them. One hundred thirty-six (31%) females and 109 (25%) males responded that when they express ideas, group members usually consider them and how to make use of them.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on group members usually considering ideas and how to use them when they were expressed. The responses were different between male and female students. More females than males responded to this item, χ^2 (1) = 8.70, p = .003. The Cramer's V statistic of .14 indicates a very weak effect size between the responses of males and females.

A total of 116 participants responded to the item related to when expressing ideas, group members usually challenge reasoning that may be incorrect. One hundred sixty-four (37%) females and 163 (37%) males did not respond that group members usually challenge incorrect reasoning. Fifty-four (12%) females and 62 (14%) males responded that group members usually challenge incorrect reasoning.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on group members usually challenge incorrect reasoning. The responses were not different between male and female students, χ^2 (1) = 0.444, p = .50.

A total of 95 participants responded to the item related to when expressing ideas, group members listen but dismiss ideas without consideration. One hundred seventy-six (40%) females and 172 (39%) males did not respond that group members usually listen but dismiss ideas without consideration. Forty-two (9%) females and 53 (12%) males responded that group members usually listen but dismiss ideas without consideration.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on group members listening but dismissing ideas without consideration. The responses were not different between male and female students, χ^2 (1) = 1.20, p = .27.

A total of 42 participants responded to the item related to when expressing ideas, group members make fun of ideas. One hundred ninety-eight (45%) females and 203 (46%) males did not respond that group members usually make fun of ideas. Twenty (5%) females and 22 (5%) males responded that group members usually make fun of ideas.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on group members making fun of ideas. The responses were not different between male and female students, χ^2 (1) = 0.047, p = .82.

Table 25

Expressing Ideas

Item 11: When I express ideas, my group members usually	Females N=218	Males N=225	χ^2	df	p Value	Cramer's V
(a) consider my ideas and how to make use of them	136 (31%)	109 (25%)	8.705	1	.003**	.140
(b) challenge my reasoning that may be incorrect	54 (12%)	62 (14%)	0.444	1	.505	.032
(c) listen but dismiss ideas without consideration	42 (9%)	53 (12%)	1.209	1	.271	.052
(d) make fun of my ideas	20 (5%)	22 (5%)	0.047	1	.828	.010

**=less than .01

Item 12: When a group member makes negative or hurtful comments, [Choose one only]. A total of 243 participants responded to the item related to choosing to ignore it and move on when a group member makes negative or hurtful comments. One hundred twenty-four (28%) females and 119 (27%) males responded they choose to ignore negative or hurtful comments and move on to something else when group members make negative or hurtful comments.

A total of 136 participants responded to the item related to confronting the person on their disappointing attitude when a group member makes negative or hurtful comments. Sixty-five (15%) females and 71 (16%) males responded they confront the person on their disappointing attitude when group members make negative or hurtful comments.

A total of 42 participants responded to the item related to telling the teacher but not the individual when a group member makes negative or hurtful comments. Nineteen (4%) females and 23 (5%) males responded they tell the teacher about it but not the individual when group members make negative or hurtful comments.

A total of 22 participants responded to the item related to expressing concern to other members but not the person when a group member makes negative or hurtful comments. Ten (2%) females and 12 (3%) males responded they express concern to other members but not the person when a group member makes negative or hurtful comments.

Participants were asked to select only one response for item 12. A Chi-square independence test was conducted to assess the responses for males and females for their reaction when a group member makes negative or hurtful comments. The responses were not different between male and female students, χ^2 (3) = 0.820, p = .84.

Table 26

Negative or Hurtful Comments

Item 12: **When a group member makes negative or hurtful comments (Choose only one)**	**Females N=218**	**Males N=225**	χ²= 0.820	Df=3	*p* Value= .845	Cramer's V= .043
(a) I choose to ignore it and move on to something else	124 (28%)	119 (27%)				
(b) I confront the person on their disappointing attitude	65 (15%)	71 (16%)				
(c) I tell the teacher about it but not tell the individual	19 (4%)	23 (5%)				
(d) I express concern to other members but not the person	10 (2%)	12 (3%)				

Item 13: My experience working in groups could be improved by. A total of 219

participants responded to the item related to avoiding distractions that prevent paying attention as

a way to improve group work experiences. One hundred two (23%) females and 122 (28%)

males did not respond that avoiding distractions that keep them from paying attention was a way

in which group work experiences could be improved. One hundred sixteen (26%) females and

103 (23%) males responded that avoiding distractions that keep them from paying attention was

a way in which group work experiences could be improved.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and

females on avoiding distractions to improve group work experiences. The responses were not

different between male and female students, χ^2 (1) = 2.44, *p* = .11.

A total of 96 participants responded to the item related to knowing the importance of

group skills for getting a job as a way to improve group work experiences. One hundred sixty-

nine (38%) females and 178 (40%) males did not respond that knowing the importance of group

skills for getting a job was a way in which group work experiences could be improved. Forty-

nine (11%) females and 47 (11%) males responded that knowing the importance of group skills for getting a job was a way in which group work experiences could be improved.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on knowing the importance of group skills for getting a job to improve group work experiences. The responses were not different between male and female students, χ^2 (1) = 0.165, $p = .68$.

A total of 142 participants responded to the item related to getting honest peer feedback on how to do better as a way to improve group work experiences. One hundred forty-three (32%) females and 158 (36%) males did not respond that getting honest peer feedback on how to do better was a way in which group work experiences could be improved. Seventy-five (17%) females and 67 (15%) males responded that getting honest peer feedback on how to do better in the group was a way in which group work experiences could be improved.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on getting honest peer feedback on how to do better was as a way to improve group work experiences. The responses were not different between male and female students, χ^2 (1) = 1.08, $p = .29$

A total of 58 participants responded to the item related to the teacher talking about certain group work skills as a way to improve group work experiences. One hundred eighty-five (42%) females and 200 (45%) males did not respond that having the teacher talk about certain group work skills was a way in which group work experiences could be improved. Thirty-three (7%) females and 25 (6%) males responded that having the teacher talk about certain group work skills was a way in which group work experiences could be improved.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on having the teacher talk about certain group work skills as a way to improve group work experiences. The responses were not different between male and female students, χ^2 (1) = 1.57, $p = .20$.

Table 27

Improved Group Experience

Item 13: My experience working in groups could be improve by	Females N=218	Males N=225	χ^2	df	p Value	Cramer's V
(a) avoiding distractions that keep me from paying attention	116 (26%)	103 (23%)	2.447	1	.118	.074
(b) knowing the importance of group skills for getting a job	49 (11%)	47 (11%)	0.165	1	.685	.019
(c) honest peer feedback on how to do better in the group	75 (17%)	67 (15%)	1.088	1	.297	.050
(d) the teacher talking about certain group work skills	33 (7%)	25 (6%)	1.578	1	.209	.060

Item 14: I think groups could encourage full participation in discussions by. A total of 173 participants responded to the item related to groups encouraging full participation by making sure each person talks before considering another topic. One hundred nineteen (27%) females and 151 (34%) males did not respond that ensuring each person talks before changing topics was a way to encourage participation. Ninety-nine (22%) females and 74 (17%) males responded that making sure each person talks before considering another topic was a way groups could encourage full participation.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on making sure each person talks before changing the topic as a way in which to encourage full participation. The responses were different between male and female students. More females than males responded to this item, χ^2 (1) = 7.29, $p = .007$. The Cramer's *V* statistic of .12 indicates a very weak effect size between the responses of males and females.

A total of 186 participants responded to the item related to groups encouraging quiet members to feel comfortable about speaking as a way to encourage full participation in group discussions. One hundred twenty-three (28%) females and 134 (30%) males did not respond that encouraging quiet members to feel comfortable speaking was a way to encourage full group participation. Ninety-five (21%) females and 91 (21%) males responded that making sure each person talks before considering another topic was a way groups could encourage full participation.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on encouraging quiet members to feel comfortable about speaking as a way to encourage full participation. The responses were not different between male and female students, χ^2 (1) = 0.446, p = .50.

A total of 121 participants responded to the item related to teaching students to discuss ideas without judging the speaker as a way to encourage full participation in group discussions. One hundred fifty-one (34%) females and 171 (39%) males did not respond that teaching students to discuss ideas without judging the speaker was a way to encourage full group participation. Sixty-seven (15%) females and 54 (12%) males responded that teaching students to discuss ideas without judging the speaker was a way groups could encourage full participation.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on teaching students to discuss ideas without judging the speaker as a way to encourage full participation. The responses were not different between male and female students, χ^2 (1) = 2.52, p = .11.

A total of 67 participants responded to the item related to limiting talk time as a way to encourage full participation in group discussions. One hundred eighty-seven (42%) females and

189 (43%) males did not respond that limiting talk time was a way to encourage full group

participation. Thirty-one (7%) females and 36 (8%) males responded that limiting time for each

member to talk was a way groups could encourage full participation.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and

females on limiting talk time as a way to encourage full participation. The responses were not

different between male and female students, χ^2 (1) = 0.273, p = .60.

Table 28

Full Participation

Item 14: I think groups could encourage full participation in discussions by	Females N=218	Males N=225	X²	df	P Value	Cramer's V
(a) making sure each person talks before considering another topic	99 (22%)	74 (17%)	7.297	1	.007**	.128
(b) encouraging quiet members to feel comfortable about speaking	95 (21%)	91 (21%)	0.446	1	.504	.032
(c) teaching students to discuss ideas without judging the speaker	67 (15%)	54 (12%)	2.529	1	.112	.076
(d) limiting time for each member to talk	31 (7%)	36 (8%)	0.273	1	.601	.025

**=less than .01

Research Question 4: How are student perceptions on learning needs for team task

functioning reported on the Peer Support Poll influenced by gender?

Items 2, 3, 5, 6, 8, and 15 were related to team task functioning. All items relate to the

students' team task learning. These items were analyzed to answer research question 4.

Item 2: The group work tasks that seem most difficult are. A total of 158 participants

responded to the item related to focusing and paying attention so that progress can be made were

some of the most difficult group work tasks. One hundred forty-four (33%) females and 141

(32%) males did not respond that focusing and paying attention seem to be some of the most

difficult group work tasks. Seventy-four (17%) females and 84 (19%) males responded that

focusing and paying attention so that progress can be made were some of the most difficult group work tasks.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on focusing and paying attention to make progress as some of the most difficult group work tasks. The responses were not different between male and female students, $\chi^2 (1) = 0.554$, $p = .45$.

A total of 135 participants responded to the item related to making sure group members share what they have done on their own was one of the most difficult group work tasks. One hundred forty-three (32%) females and 165 (37%) males did not respond that making sure group members share what they have done on their own seems to be one of the most difficult group work tasks. Seventy-five (17%) females and 60 (14%) males responded that making sure group members share what they have done on their own was one of the most difficult group work tasks.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on making sure group members share what they have done on their own as one of the most difficult group work tasks. The responses were not different between male and female students, $\chi^2 (1) = 3.12$, $p = .07$.

A total of 149 participants responded to the item related to deciding what part of the total task each group member should do as being one of the most difficult group work tasks. One hundred forty-four (33%) females and 150 (34%) males did not respond that deciding what part of the total task each group member should do seems to be one of the most difficult group work tasks. Seventy-four (17%) females and 75 (17%) males responded that deciding what part of the total task each group member should do was one of the most difficult group work tasks.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on deciding what part of the total task each group member should do as one of the most difficult group work tasks. The responses were not different between male and female students, $\chi^2 (1) = 0.019$, $p = .89$.

A total of 105 participants responded to the item related planning and meeting deadlines to get all of the work done as being one of the most difficult group work tasks. One hundred fifty-four (35%) females and 184 (42%) males did not respond that planning and meeting deadlines to get all work done seems to be one of the most difficult group work tasks. Sixty-four (14%) females and 41 (9%) males responded that planning and meeting deadlines to get all work done was one of the most difficult group work tasks.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on planning and meeting deadlines to get work done as being one of the most difficult group work tasks. The responses were different between male and female students. More females than males responded to this item, $\chi^2 (1) = 7.59$, $p = .006$. The Cramer's *V* statistic of .13 indicates a very weak effect size between the responses of males and females.

Table 29

Difficult Group Work Tasks

Item: 2 The group work tasks that seem most difficult are	Females *N*=218	Males *N*=225	χ²	df	*p* Value	Cramer's *V*
(a) focusing and paying attention so we can make progress	74 (17%)	84 (19%)	0.554	1	.457	.035
(b) making sure group members share what they have done on their own	75 (17%)	60 (14%)	3.128	1	.077	.084
(c) deciding what part of the total task each group member should do	74 (17%)	75 (17%)	0.019	1	.892	.006
(d) planning and meeting deadlines to get all of our work done	64 (14%)	41 (9%)	7.592	1	.006**	.131

**=less than .01

Item 3: In group work situations I usually. A total of 113 participants responded to taking on too much of the load in group work situations. One hundred fifty-two (34%) females and 178 (40%) males did not respond that taking on too much of the load describes them in group work situations. Sixty-six (15%) females and 47 (11%) males responded that taking on too much of the load in group work situations describes them.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on taking on too much of the load in group work situations. The responses were different between male and female students. More females responded to this item, χ² (1) = 5.13, *p* = .02. The Cramer's *V* statistic of .10 indicates a very weak effect size between the responses of males and females.

A total of 229 participants responded to doing their fair share of the tasks in group work situations. Ninety-seven (22%) females and 117 (26%) males did not respond that doing their fair share of the tasks describes them in group work situations. One hundred twenty-one (27%)

females and 108 (24%) males responded that doing their fair share of the tasks in group work situations describes them.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on taking on too much of the load in group work situations. The responses were not different between male and female students, χ^2 (1) = 2.49, p = .11.

A total of 43 participants responded to not having to work as hard in group work situations. Two hundred six (47%) females and 194 (44%) males did not respond that not having to work as hard describes them in group work situations. Twelve (3%) females and 31 (7%) males responded that not having to work as hard in group work situations describes them.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on not having to work as hard in group work situations. The responses were different between male and female students. More males than females responded to this item, χ^2 (1) = 8.64, p = .003. The Cramer's V statistic of .14 indicates a very weak effect size between the responses of males and females.

A total of 71 participants responded to disliking working in the group in group work situations. One hundred eighty-four (42%) females and 188 (42%) males did not respond that they disliked working in group work situations. Thirty-four (8%) females and 37 (8%) males responded that they disliked working in the group in group work situations.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on disliking to work in the group in group work situations. The responses were not different between male and female students, χ^2 (1) = 0.059, p = .80.

A total of 83 participants responded to liking working in the group in group work situations. One hundred seventy-four (39%) females and 186 (42%) males did not respond that

they like working in group work situations. Forty-four (10%) females and 39 (9%) males responded that they like working in the group in group work situations.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on liking to work in the group in group work situations. The responses were not different between male and female students, χ^2 (1) = 0.591, p = .44.

Table 30

Group Work Situations

Item 3: In group work situations I usually	Females N=218	Males N=225	χ^2	df	p Value	Cramer's V
(a) take on too much of the load	66 (15%)	47 (11%)	5.134	1	.023*	.108
(b) do my fair share of the tasks	121 (27%)	108 (24%)	2.497	1	.114	.075
(c) do not have to work as hard	12 (3%)	31 (7%)	8.647	1	.003**	.140
(d) dislike working in the group	34 (8%)	37 (8%)	0.059	1	.808	.012
(e) like working in the group	44 (10%)	39 (9%)	0.591	1	.442	.037

*=less than .05   **=less than .01

Item 5: Our teachers prepare us for group work tasks by. A total of 186 participants responded to teacher preparing students for group work tasks by discussing possible ways to proceed. One hundred twenty-two (28%) females and 135 (30%) males did not respond that discussing possible ways to proceed was a way in which teachers prepare students for group work tasks. Ninety-six (22%) females and 90 (20%) males responded that teachers prepare them for group work tasks by discussing possible ways to proceed.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on teachers preparing students for group work tasks by discussing possible ways to proceed. The responses were not different between male and female students, χ^2 (1) = 0.741, p = .38.

A total of 99 participants responded to teacher preparing students for group work tasks by identifying possible obstacles that prevent success. One hundred seventy-six (40%) females and 168 (38%) males did not respond that identifying obstacles that prevent success was a way in which teachers prepare students for group work tasks. Forty-two (9%) females and 57 (13%) males responded that teachers prepare them for group work tasks by identifying obstacles that prevent success.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on teachers preparing students for group work tasks by identifying obstacles that prevent success. The responses were not different between male and female students, χ^2 (1) = 2.34, p = .12.

A total of 89 participants responded to teacher preparing students for group work tasks by suggesting reflection before making decisions. One hundred seventy-one (39%) females and 183 (41%) males did not respond that suggesting reflection before making decisions was a way in which teachers prepare students for group work tasks. Forty-seven (11%) females and 42 (9%) males responded that teachers prepare them for group work tasks by suggesting reflection before making decisions.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on teachers preparing students for group work tasks by suggesting reflection before making decisions. The responses were not different between male and female students, χ^2 (1) = 0.577, p = .44.

A total of 132 participants responded to teacher preparing students for group work tasks by defining expected group work skills. One hundred thirty-seven (31%) females and 174 (39%) males did not respond that defining expected group work skills was a way in which teachers

prepare students for group work tasks. Eighty-one (18%) females and 51 (12%) males responded

that teachers prepare them for group work tasks by defining group work skills expected of

students.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and

females on teachers preparing students for group work tasks by defining the expected group

work skills. The responses were different between male and female students. More females than

males responded, χ^2 (1) = 11.11, p = .001. The Cramer's V statistic of .05 indicates a very weak

effect size between the responses of males and females.

Table 31

Teacher Preparation

Item 5: **Our teachers prepare us for group work tasks by**	**Females** *N=218*	**Males** *N=225*	χ^2	*df*	*p* **Value**	**Cramer's** *V*
(a) discussing possible ways to proceed	96 (22%)	90 (20%)	0.741	1	.389	.041
(b) identifying obstacles that prevent success	42 (9%)	57 (13%)	2.349	1	.125	.073
(c) suggesting reflection before making decisions	47 (11%)	42 (9%)	0.577	1	.447	.036
(d) defining the group work skills expected of us	81 (18%)	51 (12%)	11.112	1	.001**	.158

**=less than .01

Item 6: I find that group members typically. A total of 120 participants responded to

group members typically challenging the reasoning of one another. One hundred sixty-one (36%)

females and 162 (37%) males did not respond that challenging the reasoning of one another was

a typical behavior of group members. Fifty-seven (13%) females and 63 (14%) males responded

that group members typically challenge the reasoning of one another.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on challenging the reasoning of one another as a typical group member behavior. The responses were not different between male and female students, χ^2 (1) = 0.193, p = .66.

A total of 136 participants responded to group members typically allowing everyone an equal chance to talk. One hundred forty-seven (33%) females and 160 (36%) males did not respond that allowing everyone an equal chance to talk was a typical behavior of group members. Seventy-one (16%) females and 65 (15%) males responded that group members typically allow everyone an equal chance to talk.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on allowing everyone an equal chance to talk as a typical group member behavior. The responses were not different between male and female students, χ^2 (1) = 0.705, p = .40.

A total of 44 participants responded to group members typically bringing reading materials they share. Two hundred four (46%) females and 195 (44%) males did not respond that bringing reading materials to share was a typical behavior of group members. Fourteen (3%) females and 30 (7%) males responded that group members typically bring reading materials to share.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on bringing reading materials to share as a typical group member behavior. The responses were different between male and female students. More males than females responded to this item, χ^2 (1) = 5.91, p = .01. The Cramer's *V* statistic of .11 indicates a very weak effect size between the responses of males and females.

A total of 75 participants responded to group members typically recognizing the contribution of individuals. One hundred seventy-three (39%) females and 195 (44%) males did

not respond that bringing recognizing the contribution of individuals was a typical behavior of group members. Forty-five (10%) females and 30 (7%) males responded that group members typically recognize the contribution of individuals.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on recognizing the contribution of individuals as a typical group member behavior. The responses were different between male and female students. More females than males responded to this item, χ^2 (1) = 4.20, p = .04. The Cramer's V statistic of .09 indicates a very weak effect size between the responses of males and females.

A total of 138 participants responded to group members typically trying to build on ideas presented by others. One hundred thirty-five (30%) females and 170 (38%) males did not respond that trying to build on ideas presented by others was a typical behavior of group members. Eighty-three (19%) females and 55 (12%) males responded that group members typically try to build on ideas presented by others.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on trying to build on ideas presented by others as a typical group member behavior. The responses were different between male and female students. More females than males responded to this item, χ^2 (1) = 9.58, p = .002. The Cramer's V statistic of .14 indicates a very weak effect size between the responses of males and females.

Table 32

Group Member Behavior

Item 6: I find that group members typically	Females N=218	Males N=225	χ^2	df	p Value	Cramer's V
(a) challenge the reasoning of one another	57 (13%)	63 (14%)	0.193	1	.661	.021
(b) allow everyone an equal chance to talk	71 (16%)	65 (15%)	0.705	1	.401	.040
(c) bring reading materials they share with us	14 (3%)	30 (7%)	5.912	1	.015*	.116
(d) recognize the contribution of individuals	45 (10%)	30 (7%)	4.206	1	.040*	.097
(e) try to build on ideas presented by others	83 (19%)	55 (12%)	9.589	1	.002**	.147

*=less than .01   **=less than .01

Item 8: My group members usually help me to. A total of 144 participants responded to group members usually helping them stay focused on the assignment. One hundred fifty-eight (36%) females and 141 (32%) males did not respond that helping them stay focused on the assignment was a typical behavior of group members. Sixty (14%) females and 84 (19%) males responded that group members usually help them to stay focused on the assignment.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on helping to stay focused on the assignment. The responses were different between male and female students. More males than females responded to this item, χ^2 (1) = 4.85, p = .02. The Cramer's V statistic of .10 indicates a very weak effect size between the responses of males and females.

A total of 183 participants responded to group members usually helping them think about views they had not considered. One hundred eight (24%) females and 152 (34%) males did not respond that helping them think about views they had not considered was a typical behavior of

group members. One hundred ten (25%) females and 73 (16%) males responded that group members usually help them to think about views they had not considered.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on helping to think about view they had not considered. The responses were different between male and female students. More females than males responded to this item, χ^2 (1) = 14.82, p = < .001. The Cramer's V statistic of .18 indicates a weak, yet minimally acceptable, effect size between the responses of males and females.

A total of 92 participants responded to group members usually helping them admit uncertainty when in doubt. One hundred sixty-six (37%) females and 185 (42%) males did not respond that helping them admit uncertainty when in doubt was a typical behavior of group members. Fifty-two (12%) females and 40 (9%) males responded that group members usually help them to admit uncertainty when in doubt.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on helping to admit uncertainty when in doubt. The responses were not different between male and female students, χ^2 (1) = 2.48, p = .11.

A total of 106 participants responded to group members usually helping them by taking time to plan how to proceed. One hundred sixty-seven (38%) females and 170 (38%) males did not respond that taking time to plan how to proceed was a typical behavior of group members. Fifty-one (12%) females and 55 (12%) males responded that group members usually help them by taking time to plan how to proceed.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on helping by taking time to plan how to proceed. The responses were not different between male and female students, χ^2 (1) = 0.067, p = .79.

Table 33

Helping Group Members

Item 8: My group members usually help me to	Females N=218	Males N=225	χ²	df	p Value	Cramer's V
(a) stay focused on the assignment	60 (14%)	84 (19%)	4.857	1	.028*	.105
(b) think about views I had not considered	110 (25%)	73 (16%)	14.820	1	< .001***	.183
(c) admit uncertainty when in doubt	52 (12%)	40 (9%)	2.484	1	.115	.075
(d) take time to plan how we will proceed	51 (12%)	55 (12%)	0.067	1	.796	.012

*=less than .01   ***=less than .001

Item 15: When making group assignments, I find that we struggle with. A total of

183 participants responded to identifying fair and equal tasks to be carried out as a struggle when

making group assignments. One hundred sixteen (26%) females and 144 (33%) males did not

respond that identifying fair and equal tasks to be carried out by each person was a struggle when

making group assignments. One hundred two (23%) females and 81 (18%) males responded that

identifying fair and equal tasks to be carried out by each person was a struggle when making

group assignments.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and

females on identifying fair and equal tasks to be carried out by each person. The responses were

different between male and female students. More females than males responded to this item, χ²

(1) = 5.31, *p* = .02. The Cramer's *V* statistic of .11 indicates a very weak effect size between the

responses of males and females.

A total of 159 participants responded to deciding who will do a task when more than one

person wants it as a struggle when making group assignments. One hundred thirty-seven (31%)

females and 147 (33%) males did not respond that deciding who will do a task when more than

one person wants it was a struggle when making group assignments. Eighty-one (18%) females

and 78 (18%) males responded that deciding who will do a task when more than one person wants it was a struggle when making group assignments.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on identifying fair and equal tasks to be carried out by each person. The responses were not different between male and female students, χ^2 (1) = 0.298, p = .58.

A total of 89 participants identified determining a due date for work so that things were ready on time as a struggle when making group assignments. One hundred seventy (38%) females and 184 (42%) males did not respond that determining a due date for work so that things were ready on time was a struggle when making group assignments. Forty-eight (11%) females and 41 (9%) males responded that determining a due date for work so that things were ready on time was a struggle when making group assignments.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on identifying fair and equal tasks to be carried out by each person. The responses were not different between male and female students, χ^2 (1) = 0.994, p = .31.

A total of 116 participants identified figuring out best ways for each member to share what they learned as a struggle when making group assignments. One hundred fifty-seven (35%) females and 170 (38%) males did not respond that figuring out best ways for each member to share what they learned was a struggle when making group assignments. Sixty-one (14%) females and 55 (12%) males responded that figuring out best ways for each member to share what they learned was a struggle when making group assignments.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on figuring out best ways for each member to share what they have learned. The responses were not different between male and female students, χ^2 (1) = 0.717, p = .39.

Table 34

Struggles with Group Assignments

Item 15: When making group assignments, I find that we struggle with	Females N=218	Males N=225	χ²	df	p Value	Cramer's V
(a) identifying fair and equal tasks to be carried out by each person	102 (23%)	81 (18%)	5.316	1	.021*	.110
(b) deciding who will do a task when more than one person wants it	81 (18%)	78 (18%)	0.298	1	.585	.026
(c) determining a due date for work so that things are ready on time	48 (11%)	41 (9%)	0.994	1	.319	.047
(d) figuring out best ways for each member to share what they learned	61 (14%)	55 (12%)	0.717	1	.397	.040

*=less than .05

Research Question 5: How are student perceptions on needs for assessment of interpersonal/team task functioning reported on the Peer Support Poll influenced by gender?

Items 7, 9, 10, and 16 were related to assessment and feedback. All items relate to the students' needs for assessment and feedback. These items were analyzed to answer research question 5.

Item 7: I would like feedback from my group to. A total of 155 participants responded to wanting group feedback to identify strengths shown in group work. One hundred forty-three (32%) females and 145 (33%) males did not respond that they wanted feedback from their group to identify their strengths shown during group work. Seventy-five (17%) females and 80 (18%) males responded that identifying strengths shown in group work was a type of feedback they desire from their group.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on receiving feedback to identify strengths shown during group work. The responses were not different between male and female students, χ^2 (1) = 0.065, p = .79.

A total of 103 participants responded to wanting group feedback to learn behaviors that need improvement. One hundred seventy-two (39%) females and 168 (38%) males did not respond that they wanted feedback from their group to learn behaviors they need to improve. Forty-six (10%) females and 57 (13%) males responded that learning those behaviors that they need to improve was a type of feedback they desire from their group.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on receiving feedback to learn behaviors they need to improve. The responses were not different between male and female students, χ^2 (1) = 1.11, p = .29.

A total of 125 participants responded to wanting group feedback to recognize improvements in group work skills. One hundred forty-seven (33%) females and 171 (39%) males did not respond that they wanted feedback from their group to recognize improvement in group work skills. Seventy-one (16%) females and 54 (12%) males responded that recognizing improvement in group work skills was a type of feedback they desire from their group.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on receiving feedback to recognize improvement in group work skills. The responses were different between male and female students. More females than males responded to this item, χ^2 (1) = 4.01, p = .04. The Cramer's V statistic of .09 indicates a very weak effect size between the responses of males and females.

A total of 198 participants responded to wanting group feedback to correct mistakes. One hundred four (23%) females and 141 (32%) males did not respond that they wanted feedback

from their group to correct mistakes they made. One hundred fourteen (26%) females and 84

(19%) males responded that correcting mistakes they made was a type of feedback they desire

from their group.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and

females on receiving feedback to correct mistakes they made. The responses were different

between male and female students. More females than males responded to this item, χ^2 (1) =

10.02, p = .002. The Cramer's V statistic of .15 indicates a weak, yet minimally acceptable,

effect size between the responses of males and females.

Table 35

Group Feedback

Item 7: I would like feedback from my group to	Females N=218	Males N=225	χ^2	df	p Value	Cramer's V
(a) identify my strengths shown in group work	75 (17%)	80 (18%)	0.065	1	.799	.012
(b) learn those behaviors that I need to improve	46 (10%)	57 (13%)	1.111	1	.292	.050
(c) recognize improvement in group work skills	71 (16%)	54 (12%)	4.014	1	.045*	.095
(d) correct the mistakes that I make	114 (26%)	84 (19%)	10.025	1	.002**	.150

*=less than .05   **=less than .01

Item 9: I would like to learn how to. A total of 159 participants responded to wanting to

learn how to give constructive feedback to group members. One hundred thirty-six (31%)

females and 148 (33%) males did not respond that they wanted to learn how to give constructive

feedback. Eighty-two (19%) females and 77 (17%) males responded that giving constructive

feedback to group members was something they would like to learn how to do.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on learning to give constructive feedback to group members. The responses were not different between male and female students, χ^2 (1) = 0.554, p = .45.

A total of 99 participants responded to wanting to learn how to take constructive feedback from group members. One hundred sixty-nine (38%) females and 175 (40%) males did not respond that they wanted to learn how to take constructive feedback. Forty-nine (11%) females and 50 (11%) males responded that taking constructive feedback from group members was something they would like to learn how to do.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on learning to take constructive feedback from group members. The responses were not different between male and female students, χ^2 (1) = 0.004, p = .94.

A total of 129 participants responded to wanting to learn how to compare how group members see them with how they see themselves. One hundred forty-nine (34%) females and 165 (37%) males did not respond that they wanted to learn how to compare how group members see them versus how they see themselves. Sixty-nine (16%) females and 60 (14%) males responded that comparing how group members see them versus how they see themselves was something they would like to learn how to do.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on learning to compare how group members see them with how they see themselves. The responses were not different between male and female students, χ^2 (1) = 1.33, p = .24.

A total of 150 participants responded to wanting to learn how to provide honest feedback to all members of the group. One hundred thirty-four (30%) females and 159 (36%) males did not respond that they wanted to learn how to provide honest feedback to all members of their

group. Eighty-four (19%) females and 66 (15%) males responded that providing honest feedback

to group members was something they would like to learn how to do.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and

females on learning to provide honest feedback to all members of their group. The responses

were different between male and female students. More females than males responded to this

item, χ^2 (1) = 4.18, *p* = .04. The Cramer's *V* statistic of .09 indicates a very weak effect size

between the responses of males and females.

Table 36

Individual Learning

Item 9: I would like to learn how to	Females N=218	Males N=225	χ^2	df	p Value	Cramer's V
(a) give constructive feedback to group members	82 (19%)	77 (17%)	0.554	1	.457	.035
(b) take constructive feedback from group members	49 (11%)	50 (11%)	0.004	1	.949	.003
(c) compare how group members see me with how I see myself	69 (16%)	60 (14%)	1.333	1	.248	.055
(d) provide honest feedback to all members of my group	84 (19%)	66 (15%)	4.184	1	.041*	.097

*=less than .05

Item 10: I prefer that the evaluation of group work skills. A total of 177 participants

responded to student observations of what occurs in groups as the preferred evaluation method of

group work skills. One hundred thirty-two (30%) females and 134 (30%) males did not respond

that they prefer evaluation of group work skills be based on student observations of what occurs

in groups. Eighty-six (19%) females and 91 (21%) males responded that they prefer group work

skills were evaluated based on student observation of what occurs in groups.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and

females on evaluation of group work skills be based on student observations. The responses were

not different between male and female students, χ^2 (1) = 0.046, *p* = .83.

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A total of 155 participants responded to teacher decision of student performance as the preferred evaluation method of group work skills. One hundred thirty-five (30%) females and 153 (35%) males did not respond that they prefer evaluation of group work skills be based on teacher decision on how each student was performing. Eighty-three (19%) females and 72 (16%) males responded that they prefer group work skills were evaluated based on teacher decision.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on evaluation of group work skills be based on teacher decision on how each student was performing. The responses were not different between male and female students, χ^2 (1) = 1.79, p = .18.

A total of 82 participants responded to shows peer feedback that can be kept in a school portfolio as the preferred evaluation method of group work skills. One hundred eighty (41%) females and 181 (41%) males did not respond that they prefer evaluation of group work skills be based on peer feedback that can be kept in a school portfolio. Thirty-eight (9%) females and 44 (10%) males responded that they prefer group work skills were evaluated based on peer feedback that can be kept in a school portfolio.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on evaluation of group work skills be based on peer feedback that can be kept in a school portfolio. The responses were not different between male and female students, χ^2 (1) = 0.331, p = .56.

A total of 78 participants responded to occurs in every subject that I am enrolled in at school as the preferred evaluation method of group work skills. One hundred seventy-six (40%) females and 189 (43%) males did not respond that they prefer evaluation of group work skills occur in every subject in which they were enrolled. Forty-two (9%) females and 36 (8%) males

responded that they prefer group work skills were evaluated in every course in which they were

enrolled at school.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and

females on evaluation of group work skills occur in every subject in which they were enrolled.

The responses were not different between male and female students, χ^2 (1) = 0.814, p = .36.

Table 37

Group Work Evaluation

Item 10: I prefer that the evaluation of group work skills	Females N=218	Males N=225	χ^2	df	p Value	Cramer's V
(a) is based on student observations of what occurs in groups	86 (19%)	91 (21%)	0.046	1	.831	.010
(b) be left up to the teacher to decide how each student is performing	83 (19%)	72 (16%)	1.795	1	.180	.064
(c) shows peer feedback that can be kept in my school portfolio	38 (9%)	44 (10%)	0.331	1	.565	.027
(d) occurs in every subject that I am enrolled in at school	42 (9%)	36 (8%)	0.814	1	.367	.043

Item 16: The group work skills that individuals demonstrate should be. A total of 84

participants responded to group work skills being shown on report cards. One hundred seventy-

three (39%) females and 186 (42%) males did not respond that group work skills that individuals

demonstrate should be shown on report cards in the same way as reading and mathematics skills.

Forty-five (10%) females and 39 (9%) males responded that demonstrated group work skills

should be shown on report cards.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and

females on group work skills being shown on report cards in the same way as reading and

mathematics skills. The responses were not different between male and female students, $\chi^2 (1) = 0.789$, $p = .37$.

A total of 169 participants responded to group work skills being determined by students who observe each other's behavior in groups. One hundred thirty-nine (31%) females and 135 (30%) males did not respond that group work skills that individuals demonstrate should be determined by students who observe each other's behavior in groups. Seventy-nine (18%) females and 90 (20%) males responded that demonstrated group work skills should be determined by students who observe each other's behavior in groups.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on group work skills being determined by students who observe each other's behavior in groups. The responses were not different between male and female students, $\chi^2 (1) = 0.664$, $p = .41$.

A total of 182 participants responded to group work skills being decided by the teacher who evaluates everyone in the class. One hundred sixteen (26%) females and 145 (33%) males did not respond that group work skills that individuals demonstrate should be decided by the teacher who evaluates everyone in the class. One hundred two (23%) females and 80 (18%) males responded that demonstrated group work skills should be decided by the teacher who evaluates everyone in the class.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on group work skills being decided by the teacher who evaluates everyone in the class. The responses were different between male and female students. More females than males responded to this item, $\chi^2 (1) = 5.77$, $p = .01$. The Cramer's *V* statistic of .11 indicates a very weak effect size between the responses of males and females.

A total of 66 participants responded to group work skills being considered acceptable unless peers complain. One hundred eighty-three (41%) females and 194 (44%) males did not respond that group work skills that individuals demonstrate should be considered acceptable unless peers complain. Thirty-five (8%) females and 31 (7%) males responded that demonstrated group work skills should be considered acceptable unless peers complain.

A Chi-square goodness-of-fit test was conducted to assess the responses for males and females on group work skills being considered acceptable unless peers complain. The responses were not different between male and female students, χ^2 (1) = 0.453, p = .50.

Table 38

Individuals' Group Work Skills

Item 16: The group work skills that individuals demonstrate should be	Females N=218	Males N=225	χ^2	df	p Value	Cramer's V
(a) shown on report cards in the same way as reading and mathematics skills	45 (10%)	39 (9%)	0.789	1	.374	.042
(b) determined by students who observe each other's behavior in groups	79 (18%)	90 (20%)	0.664	1	.415	.039
(c) decided by the teacher who evaluates everyone in the class	102 (23%)	80 (18%)	5.772	1	.016*	.114
(d) considered acceptable unless peers complain	35 (8%)	31 (7%)	0.453	1	.501	.032

*=less than .05

Summary of Quantitative Findings

When assessing the differences in the responses of females and males for each item, some similarities and differences were noted. Some items showed greater significance than others in the responses of females and males.

On the Learning from the Internet Poll, differences in female and male responses were noted in every item except for items 10 and 12. For the Peer Support Poll, differences between the responses of females and males were identified in all items except for item 1, 10, 12, and 13.

Qualitative Data Results

The Learning from the Internet Poll and the Peer Support Poll provide an opportunity for students to give open-ended responses. This allowed for collection of qualitative data that gave greater insight and depth into individual perceptions and does not limit answer selection to only the given choices. For items 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 16, 17 on the Learning from the Internet Poll, students were able to submit open-ended responses. On items 1, 2, 3, 4, 5, 6, 7, 8, 9, 10, 11, 13, 14, 15, and 16 on the Peer Support Poll, students have an option to give an open-ended response. When all polls were completed, the responses were entered into an Excel document for analysis. The results were used to create concept maps so that the general areas of responses can be compared to quantitative results. In comparing the concept maps with the quantitative results, the development of patterns can be identified and aligned with multiple-choice responses. Recurring similarities in the open-ended responses can be identified when compared to the multiple-choice items.

Learning from the Internet Poll.

Item 1: Homework assignments on the Internet. There were five general categories prevalent in students' responses to item 1(see figure 3): (1) do not like Internet homework, (2) causes distraction, (3) difficult due to Internet issues at home, (4) more appealing than paper assignments, and (5) allows students to cheat. The response of "encourage me to learn independently" from the multiple-choice items overlapped the idea associated with encouraging independent learning. The responses "gives me more resources" and "finding notes easily" fall

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under the multiple-choice item "provide more information about a topic." Both of these results indicate consistency between the multiple-choice items and the students' answers.
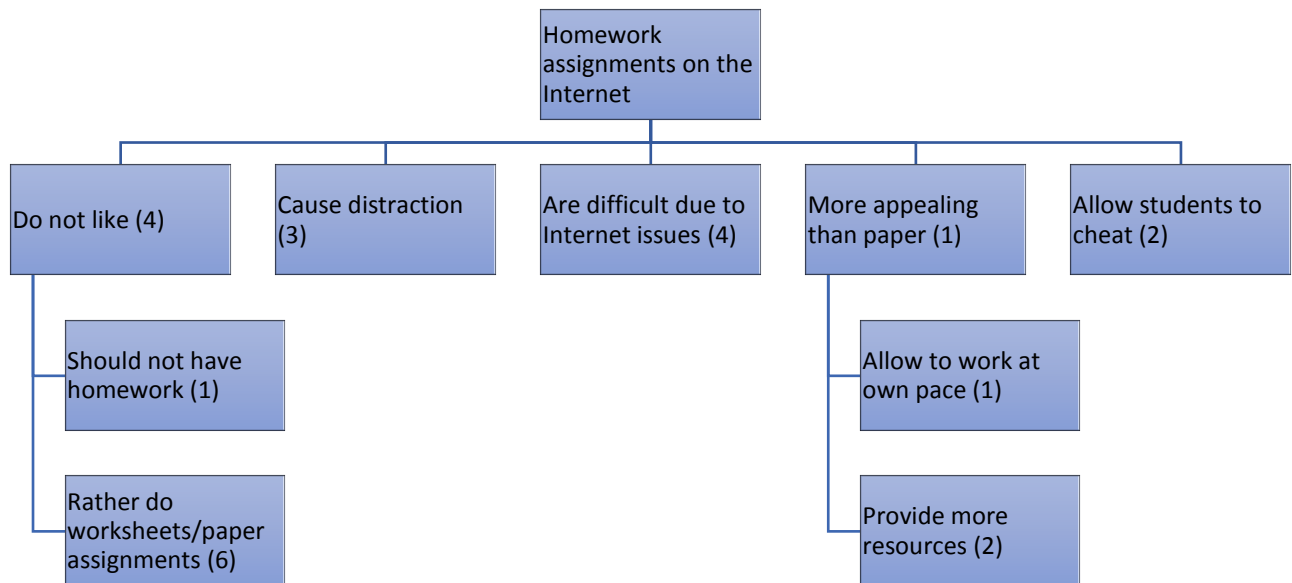
Figure 3. Item 1 – Homework Assignments on the Internet.

Students mention distractions and cheating as negative aspects of Internet homework. Four students' responses aligned with difficulties such as lack of Internet and computer access in completing Internet-based homework assignments.

Dislike for Internet-based homework assignments was indicated in the qualitative results. However, multiple-choice responses to did not present the idea of dislike for Internet-based homework assignments. In reference to the do not like category, students answered, "It's irrelevant. We should learn all we need to know in class." They also respond they would "rather write because that makes me understand more" and "more homework on paper instead of online." Others simply write "I like book work" or "have more homework on paper instead of online."

Item 2: The ways my parents can support Internet learning are. For item 2, only two

general categories were prevalent in student responses (see figure 4): (1) provide

computer/Internet access at home and (2) allow me to work independently.

The response of "provide computer access at home" from the multiple-choice items

overlapped ideas associated with "provide WIFI" and "provide Internet connection" from the

Excel spreadsheet. Computer access was both a category in multiple-choice response and

qualitative analysis. These results showed consistency in answers provided by students and

multiple-choice selections.
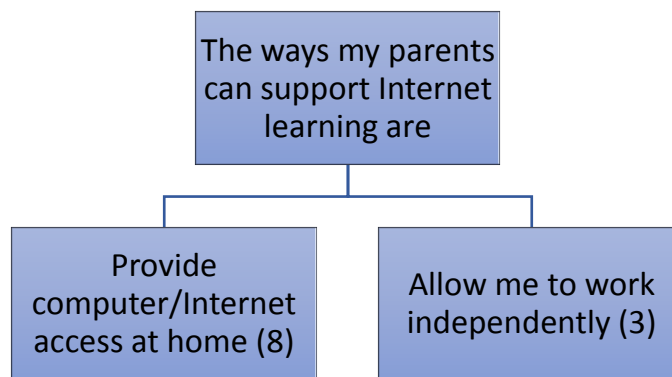
Figure 4. Item 2 – The ways my parents can support Internet learning are.

The responses "leaving me alone" and "letting me do it on my own" were in opposition

to the multiple-choice selection "assisting me in doing online research." These responses

reflected the low selection numbers for the multiple-choice item as few students selected parental

assistance as a way for parents to support Internet learning.

Item 3: Web sites I find most worthwhile contain. There were three general categories

prevalent in student responses to item 3 (see figure 5): (1) learning resources, (2) entertainment,

and (3) social networking. The response of "resources that instruct and direct" and "examples,

videos, and explanations" aligned with multiple-choice items "streaming video" and "written

summaries." These results showed consistency in answers provided by students and multiple-choice selections.


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Web sites I find
most worthwhile
contain
```

| Learning Resources (2) | Entertainment (1) | Social networking (1) |
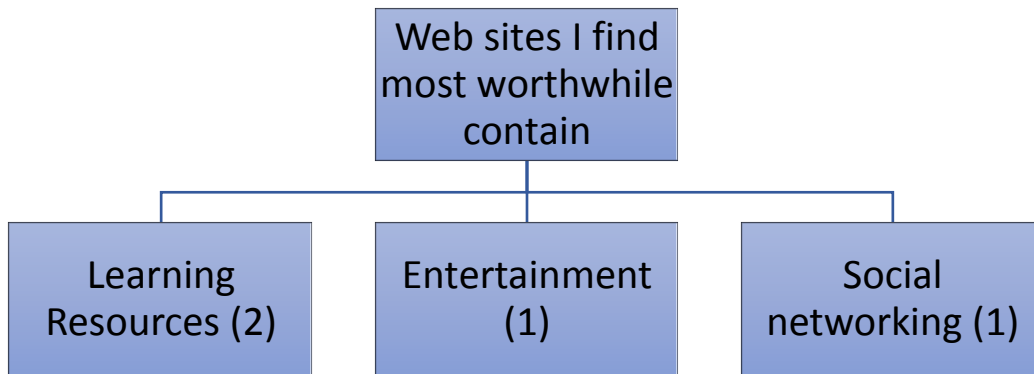
Figure 5. Item 3 – Web sites I find more worthwhile contain.

Item 4: My teachers could use training about how to. There was only one prevalent category that emerged in student responses to item 4 (see figure 6): (1) teach. Within the teach category, students gave answers such as "simply explain online assignments" and "actually teach their subjects."

The responses from the Excel spreadsheet did not overlap directly with the multiple-choice answers but all were related to the teachers learning something about teaching. The low numbers of respondents on the open-ended responses and the multiple-choice items were consistent.


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My teachers could
use training about
how to
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Teach (6)
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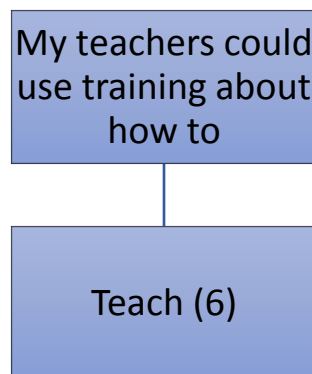
Figure 6. Item 4 – My teachers could use training about how to.

Item 5: Virtual schools where students can study from their home. There were three general categories prevalent in student responses to item 5 (see figure 7): (1) not good, (2) difficult for people without Internet, and (3) focus on learning. The responses of "help responsible students make more progress" and "would motivate students to be more self-directed" from the multiple-choice items overlap ideas associated with "focus on learning" drawn from the Excel spreadsheet. These results showed consistency in answers provided by students and multiple-choice selections.
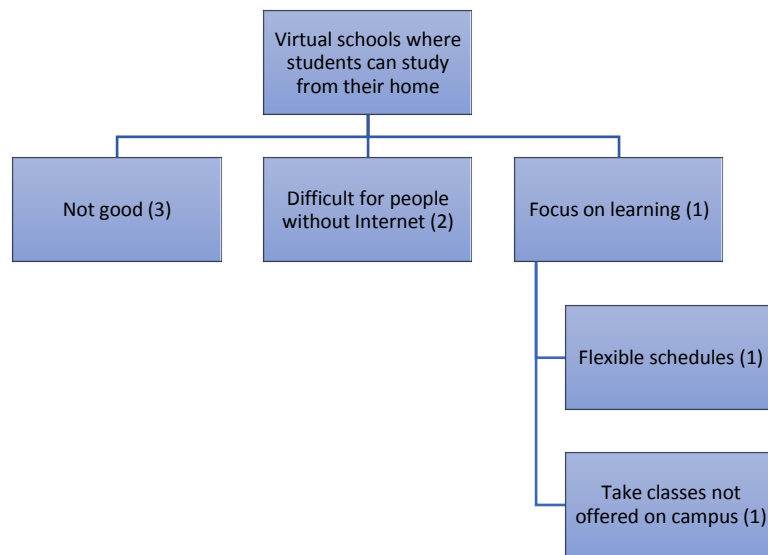
Figure 7. Item 5 – Virtual schools were students can study from their home.

Item 6: The main reasons I use the Internet are to. There were four general categories prevalent in student responses to item 6 (see figure 8): (1) gaming, (2) do not use, (3) research/schoolwork, and (4) other. Within the other category, students gave answers such as "look up videos." This falls under the multiple-choice item "watch videos on favorite web sites." The response of "locate information for school work" from the multiple-choice items overlapped ideas associated with "research/school-related" drawn from the Excel spreadsheet. Schoolwork was a category in multiple-choice and qualitative analysis. These results showed consistency in answers provided by students and multiple-choice selections.
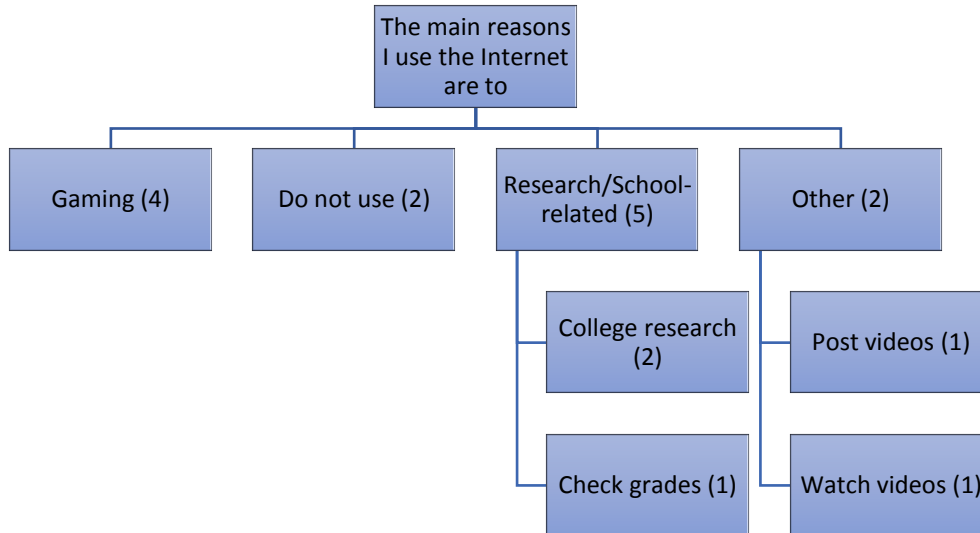
Figure 8. Item 6 – The main reasons I use the Internet are to.

Item 7: The web site of my school could be improved by. There were three general categories prevalent in student responses to item 7 (see figure 9): (1) being updated, (2) good as is, and (3) other. Within the other category, students gave answers such as "made more fun" and "not blocking every site."
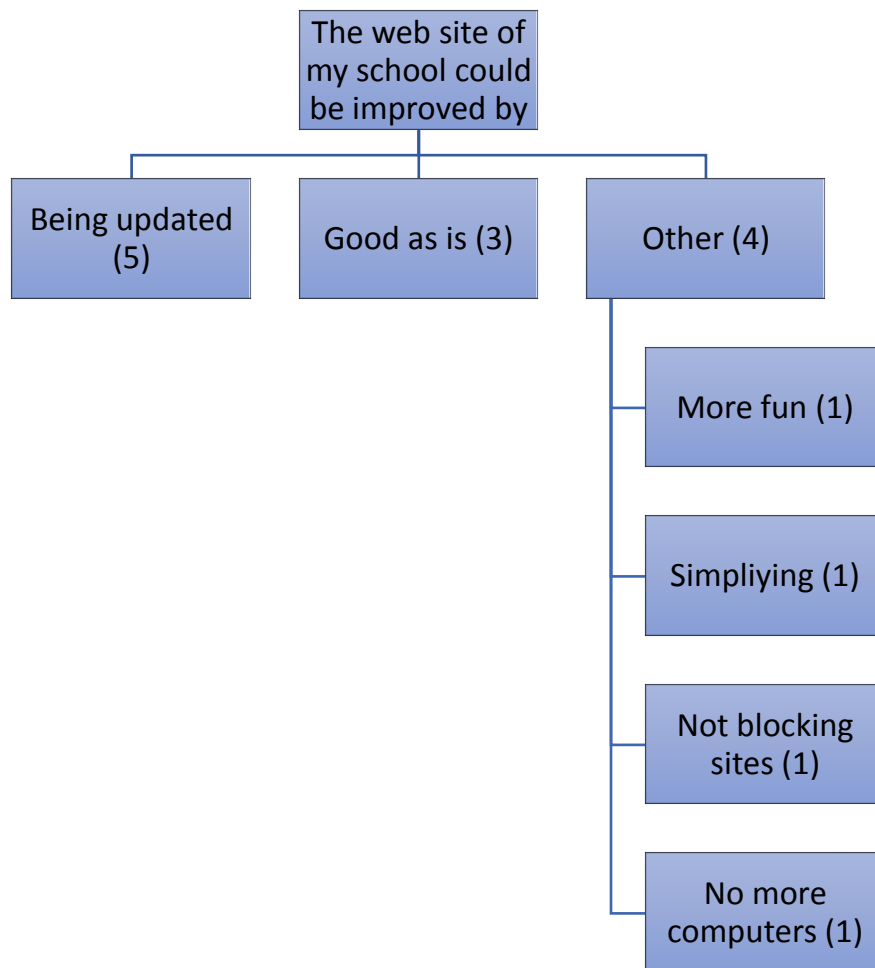
Figure 9. Item 7 – The web site of my school could be improved by.

The response of "listing events with schedules and locations" from the multiple-choice items overlapped ideas associated with "being updated" drawn from the Excel spreadsheet. Updating information was both a category in multiple-choice and qualitative analysis. Results showed consistency in answers provided by students and multiple-choice selections.

Item 8: The ways I learn most subjects best are. There were four general categories prevalent in student responses to item 8 (see figure 10): (1) hands-on, (2) visually, (3) independently, and (4) other. Within the other category, students gave answers such as "by the teacher being excited about the topic."
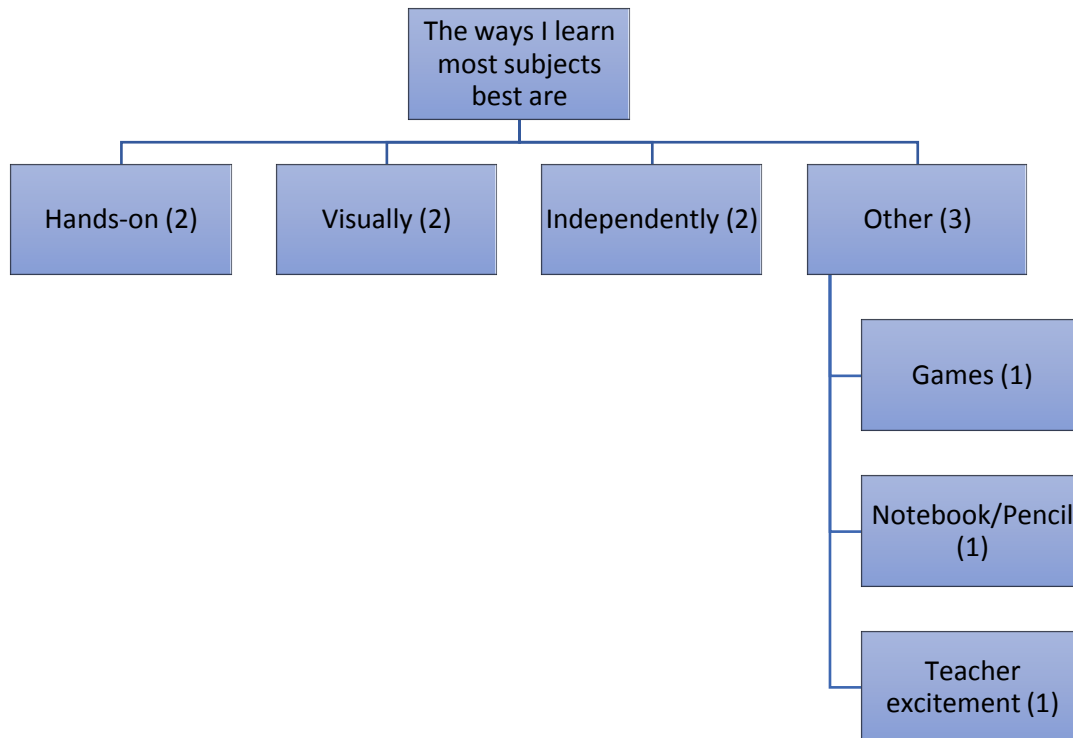
Figure 10. Item 8 – The ways I learn most subjects best are.

The response of "reading" from the multiple-choice items overlapped ideas associated with "independently" drawn from the Excel spreadsheet. This showed consistency in answers provided by students and multiple-choice selections.

Item 9: The ways I learn math and science best are. There were three general categories prevalent in student responses to item 9 (see figure 11): (1) demonstrations, (2) practice, and (3) other. Ideas presented in the "other" category overlap ideas from the multiple-choice responses "reading" and "guided practice activities." The categories "demonstrations" and "practice" also overlap multiple-choice items "demonstrations in class or on videos" and "guided practice activities." This showed alignment amongst answers on the multiple-choice items and the open-ended response items.
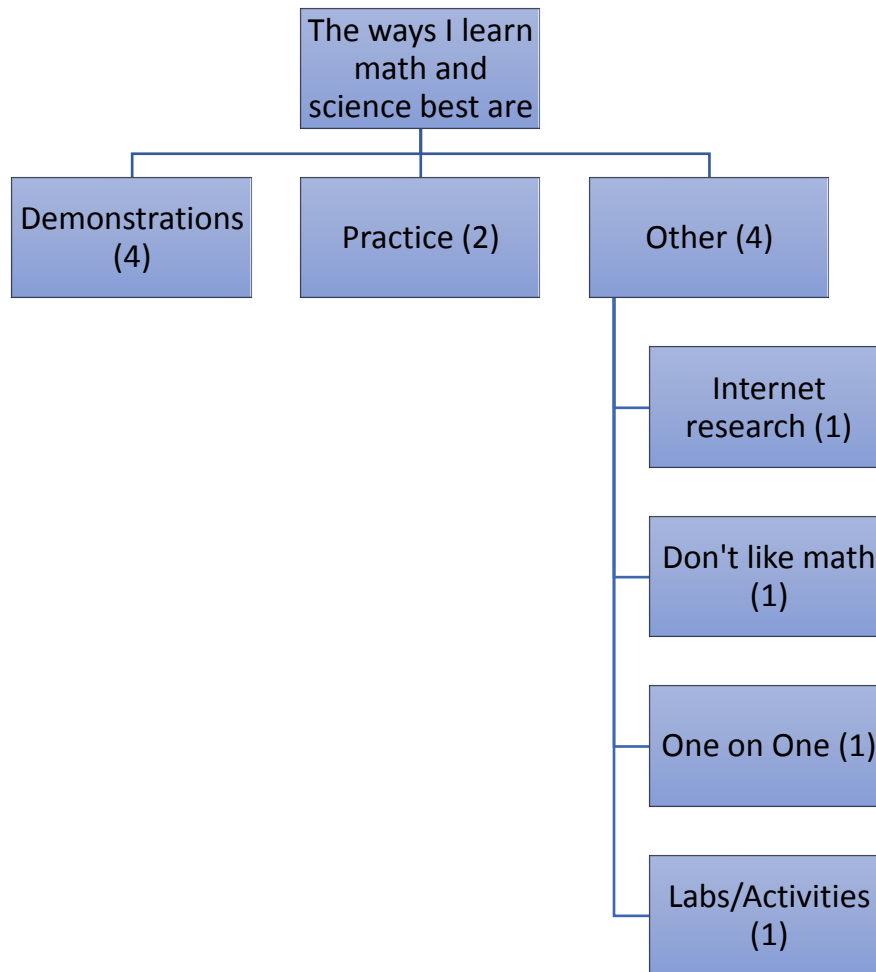
Figure 11. Item 9 – The ways I learn math and science best are.

Item 10: I wish my school taught me about. There were three general categories

prevalent in student responses to item 10 (see figure 12): (1) real life skills, (2) computer

programming, and (3). Responses in the "other" category included "how to get the career I want"

and "self-defense." Under real life skills, students listed things such as "taxes" and "how to deal

with real life problems." However, multiple-choice responses did not present the idea of real life

skills that have nothing to do with Internet learning. There were 19 students who responded that

real life skills were things they wish their school taught them.
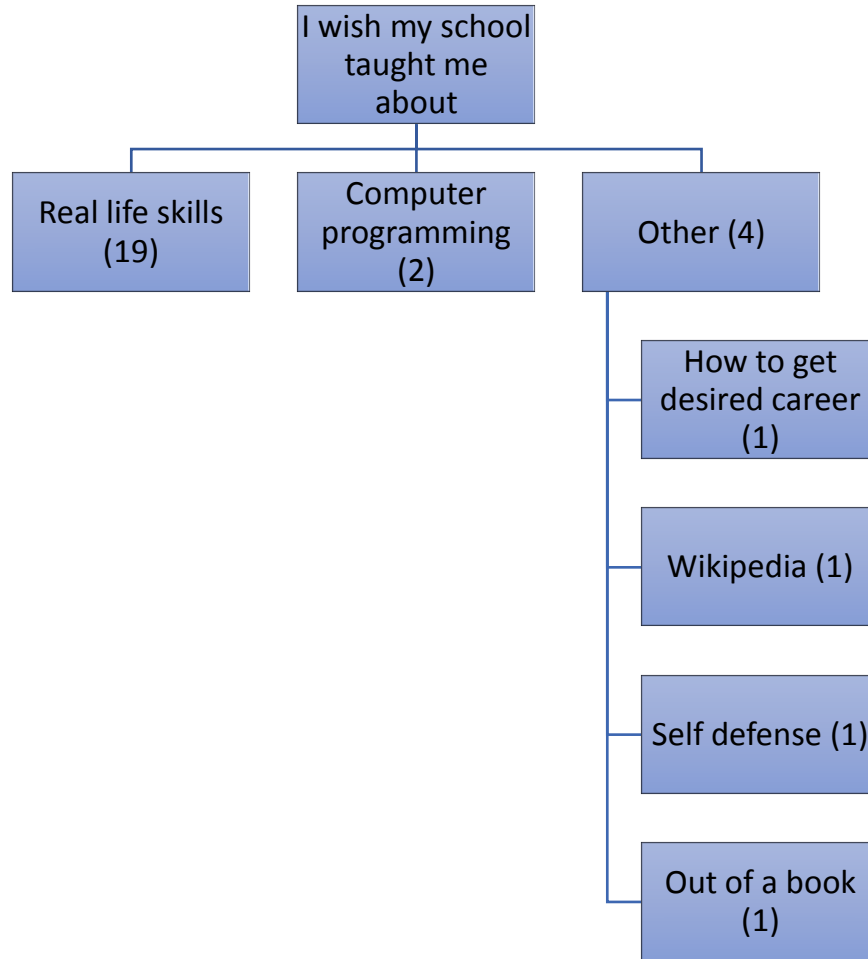
Figure 12. Item 10 – I wish my school had taught me about.

Item 11: To support safety on the Internet, I choose to. There were only two general categories prevalent in student responses to item 11 (see figure 13) : (1) use personal judgment and (2) other. Ideas presented in the multiple-choice responses were very specific as compared to those reflected in the open-ended responses. The open-ended responses were vague, and several students responded "use common sense."
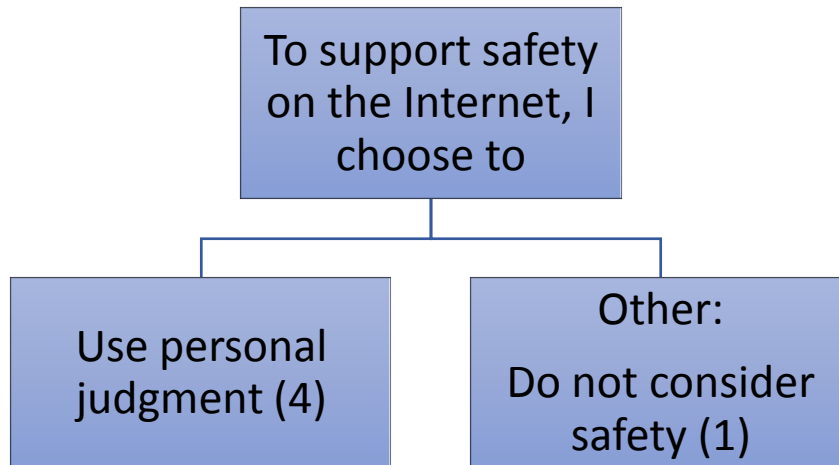
Figure 13. Item 11 – To support safety on the Internet, I choose to.

Item 13: When doing homework on the Internet. There were four prevalent categories in student responses to item 13 (see figure 14): (1) easier, (2) have problems, (3) figure out the best way for me, and (4) other. In the other category, one student commented, "I don't do homework." In the multiple-choice responses, students were given options that reflected negative aspects of Internet homework. The open-ended responses yielded 9 responses that indicated problems with Internet homework. Nine other students believed homework on the Internet was easier.
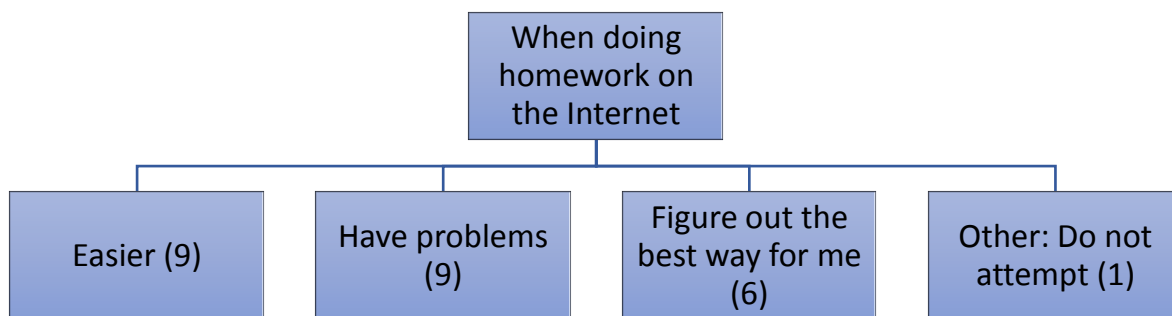
Figure 14. Item 13 – When doing homework on the Internet

Item 14: I like learning from the Internet because it. There were three prevalent categories in student responses to item 14 (see figure 15): (1) don't like, (2) extends learning, (3) other. In the multiple-choice responses, students were not given the option to indicate they

disliked Internet learning. This was a recurring theme in the open-ended responses as 15 students indicated dislike for Internet learning. Other students indicate that the Internet provides opportunities to learn more beyond the classroom. This was congruent with the multiple-choice response, "lets me make discoveries on my own."
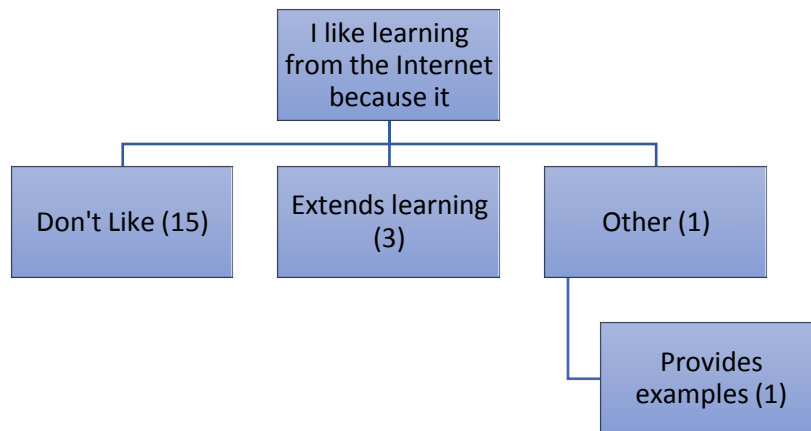
Figure 15. Item 14 – I like learning from the Internet because it.

Item 16: My school can support Internet learning by. For item 16 (see figure 16), only one category was repeated in student responses: unblocking restricted sites. The response to give students the option to take online classes overlapped with the multiple-choice response "permitting students to take some of their courses online." One student indicates satisfactions with the school's support of Internet learning while another indicates the need for teachers to be understanding when the Internet was not working properly.

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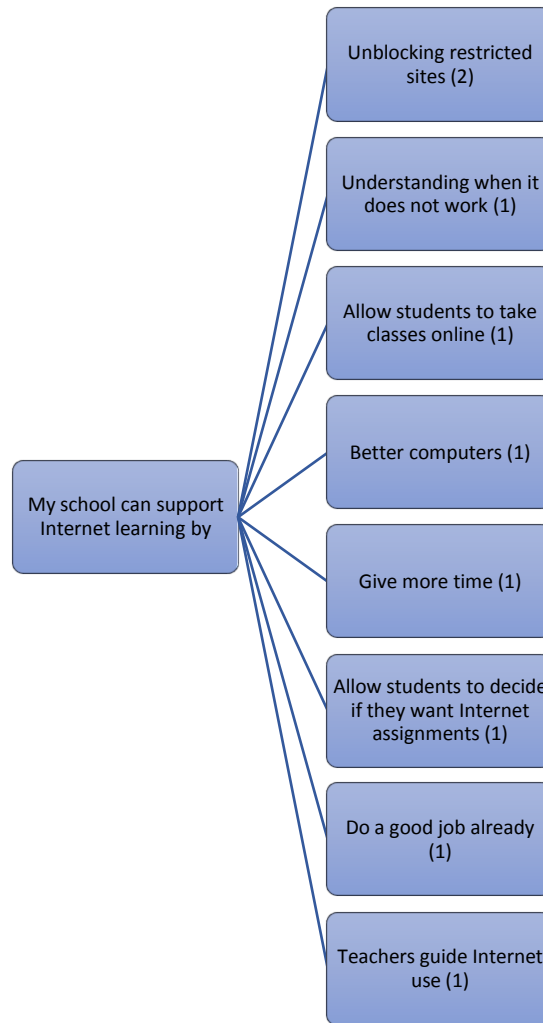
Figure 16. Item 16 – My school can support Internet Learning by.

Item 17: My greatest obstacles to learning on the Internet are. There were four

general categories prevalent in student responses to item 17 (see figure 17): (1) finding what I

need, (2) getting distracted, (3) Internet availability, and (4) other. Internet availability

overlapped with the multiple-choice item, lack of access to the use of a computer in my own

home. Other responses included ideas about being unable to locate desired information
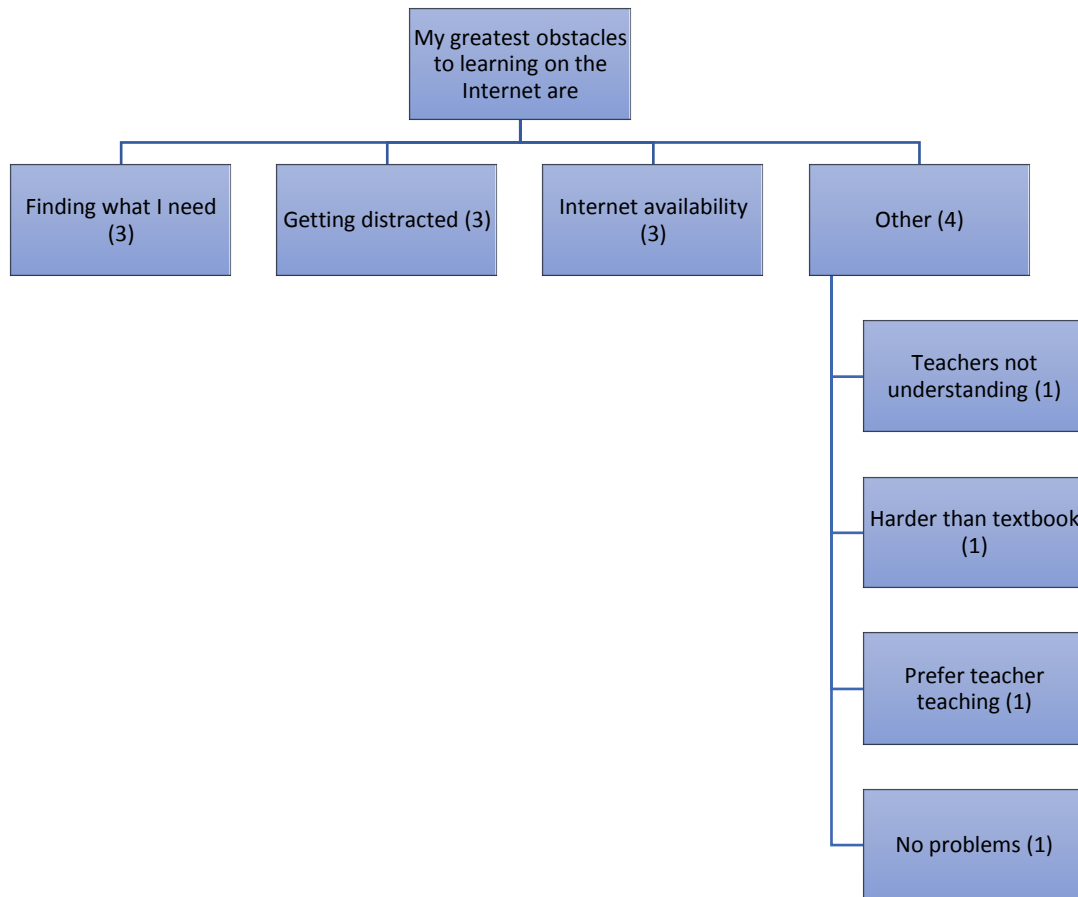
Figure 17. Item 17 – My greatest obstacles to learning on the Internet are.

Peer Support Poll.

Item 1: Students in my classroom learning group usually. There were six general categories prevalent in student responses to item 1: (1) talk/work together, (2) work alone, (3) do nothing, (4) ignore/put me down, (5) are friends, (6) other. Within the talk/work together category, students gave answers such as "we all work together" and "I talk to everyone in my group." Within the reference to work alone category, students gave such answers as "I work by myself" and "I don't really talk." Within the do nothing category, students gave the responses, "don't do anything" and don't do their work so I do the whole project." In the ignore/put me down category, student responses included "put me down a lot and make me feel inferior." In the other category, two students gave unrelated answers such as "do you really want to know."

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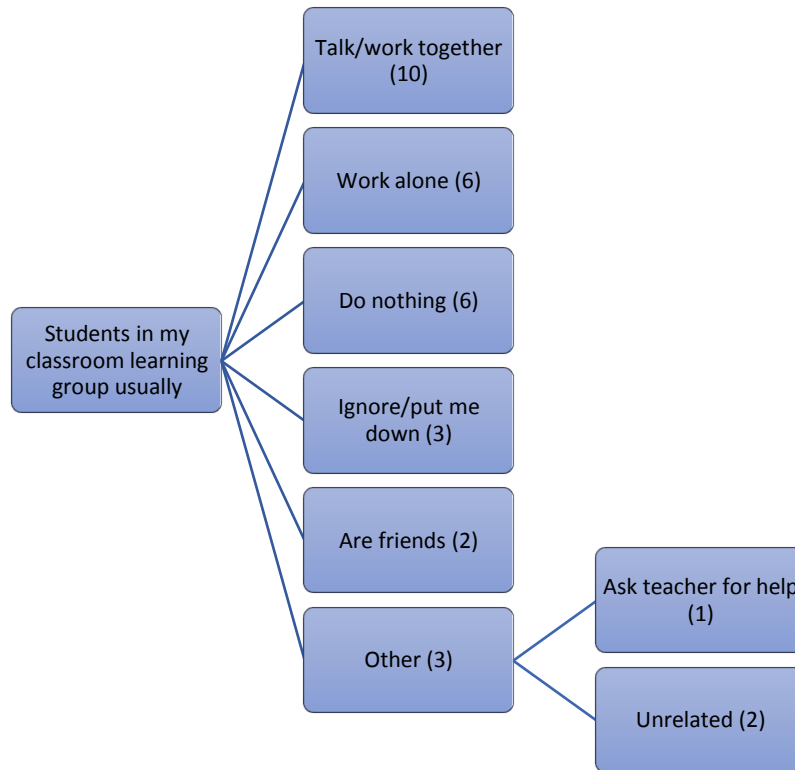
Figure 18. Item 1 – Students in my classroom group usually

Item 2: The group work tasks that seem most difficult are. There were three general categories prevalent in student responses to item 2: (1) everyone doing equal work, (2) understanding others' perspectives, (3) other. Within the everyone doing equal work category, students gave answers such as "getting each member to complete their work" and "they don't do nothing." The multiple-choice response "deciding what part of the total task each group member should do" overlapped ideas presented in the "everyone doing equal work" category thus showing alignment amongst answers. Multiple-choice responses did not present the idea of understanding the perspectives of others nor finding time outside of school to work.

```
                    The group work
                    tasks that seem
                    most difficult  are


   Everyone doing      Understanding
   equal work (12)        others'              Other (2)
                      perspectives (2)


                                          Finding time
                                         outside of school
                                           to work (1)


                                          Not laughing (1)
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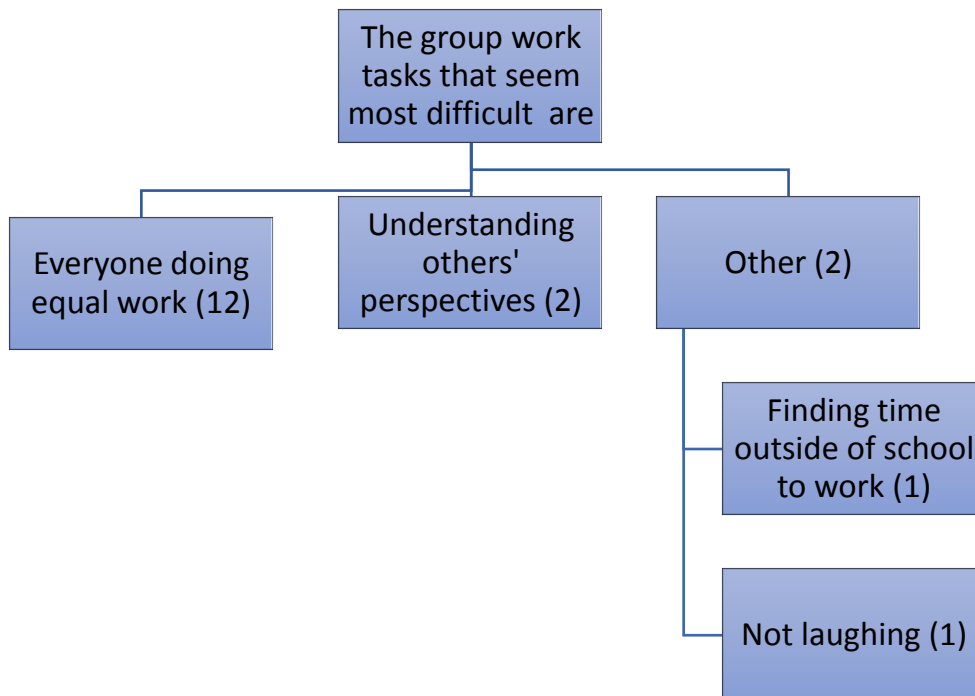
Figure 19. Item 2 – The Group work tasks that seem difficult are.

Item 3: In group work situations I usually. There were three general categories
prevalent in student responses to item 3: (1) do most of the work, (2) prefer to work alone, (3)
other. In the other category, students gave these responses "talk" and "I do what is asked of me
& keep everyone on task." For the "do most of the work category," students answered, "have to
do someone else's work because they didn't do anything & the project doesn't account for the
work put in by each student" and "do all the work because the other people don't/were
incapable." Ideas presented in the do most of the work category overlap the multiple-choice
category "take on too much of the load." This showed alignment amongst answers. Two students
indicate they prefer to work alone. This overlapped the multiple-choice item "dislike working in
the group."

Figure 20. Item 3 – In group work situations I usually.

There were three general categories prevalent in student responses to item 3: (1) do most of the work, (2) prefer to work alone, (3) other. In the other category, students gave these responses "talk" and "I do what is asked of me & keep everyone on task." For the "do most of the work category," students answered, "have to do someone else's work because they didn't do anything & the project doesn't account for the work put in by each student" and "do all the work because the other people don't/were incapable." Ideas presented in the do most of the work category overlap the multiple-choice category "take on too much of the load." This showed alignment amongst answers. Two students indicate they prefer to work alone. This overlapped the multiple-choice item "dislike working in the group."

Item 4: The problems with group discussions are. There were four general categories prevalent in student responses to item 4: (1) not talking/getting along, (2) unfair workload for some, (3) dislike working with others, and (4) other. Ideas presented in the multiple-choice response of "someone takes over and dominates" overlap with ideas presented in the "unfair

workload for some" category. The multiple-choice response "quiet people are not asked to talk" overlapped with ideas presented in the "not talking/getting along" category. The response, "People just agree with me" in the "other" category overlapped with the multiple-choice item "no one challenges group thinking."
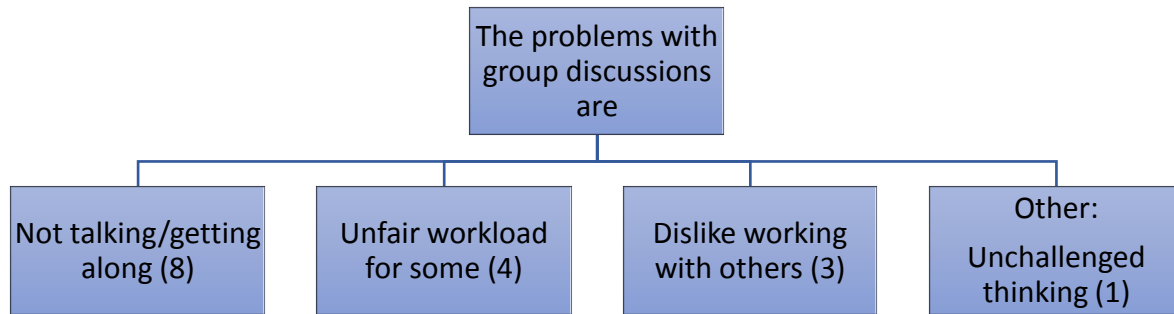
Figure 21. Item 4 – The problems with group discussions are.

Item 5: Our teachers prepare us for group work tasks by. There were two general categories prevalent in student responses to item 5: (1) no preparation and (2) moving desks. In the "no preparation" category, students gave responses such as "they don't" and "we are just kind of thrown into it." The other category "moving desks" suggests a physical preparation to the classroom. Multiple-choice responses did not present ideas of no preparation or physical preparations to room. There were 13 students who responded that no preparation by the teacher was provided when group work assignments were given.
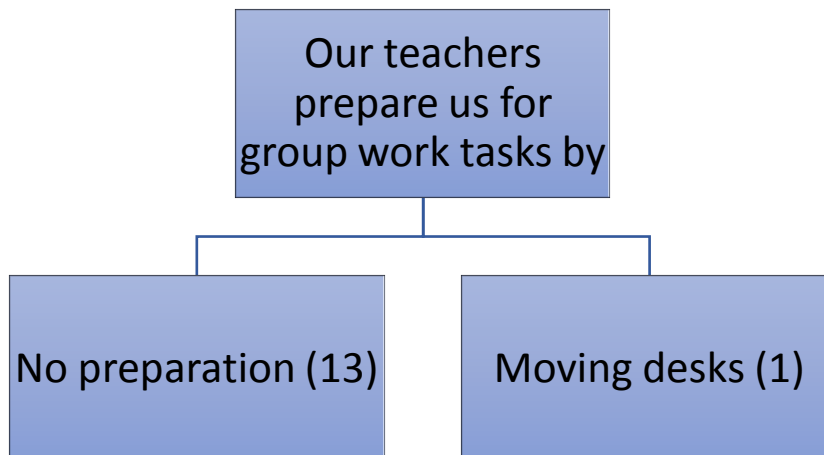
Item 6: I find that group members typically. There were three general categories

prevalent in student responses to item 6: (1) don't work/depend on others, (2) don't get along,

and (3) other. In the "other" category, student responses included "are a mess" and "change the

subject a lot." Multiple-choice responses did not present ideas on group members not

contributing or not getting along. Thirteen students indicated that students not working and not

getting along in group work situations were typical behaviors.

There were three general categories prevalent in student responses to item 6: (1) don't

work/depend on others, (2) don't get along, and (3) other. In the "other" category, student

responses included "are a mess" and "change the subject a lot." Multiple-choice responses did

not present ideas on group members not contributing or not getting along. Thirteen students

indicated that students not working and not getting along in group work situations were typical

behaviors.
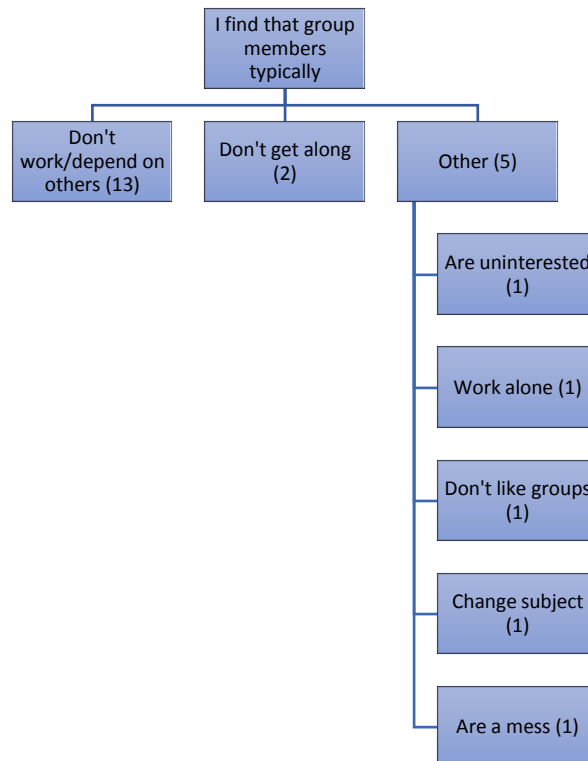
Figure 23. Item 6 – I find that group members typically.

Item 7: I would like feedback from my group to. There were two categories prevalent in student responses to item 7: (1) help others and (2) improve personal learning. The category "improve personal learning" overlapped the ideas presented in the multiple-choice responses. However, multiple-choice responses did not present the idea of "help others."
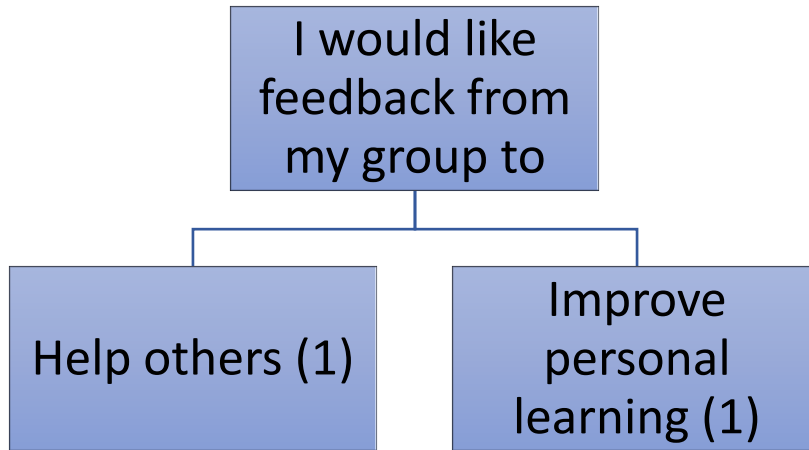
Figure 24. Item 7 – I would like feedback from my group to.

Item 8: My group members usually help me to. There were two general categories prevalent in student responses to item 8: (1) do not help me and (2) other. In the other category, student responses included "not think about work:" and "some of the group members help me on website info." These answers were vague as compared to those ideas presented in the multiple-choice responses. Multiple-choice responses did not present the idea of group members not helping each other. Ten students indicated group members do not help them.
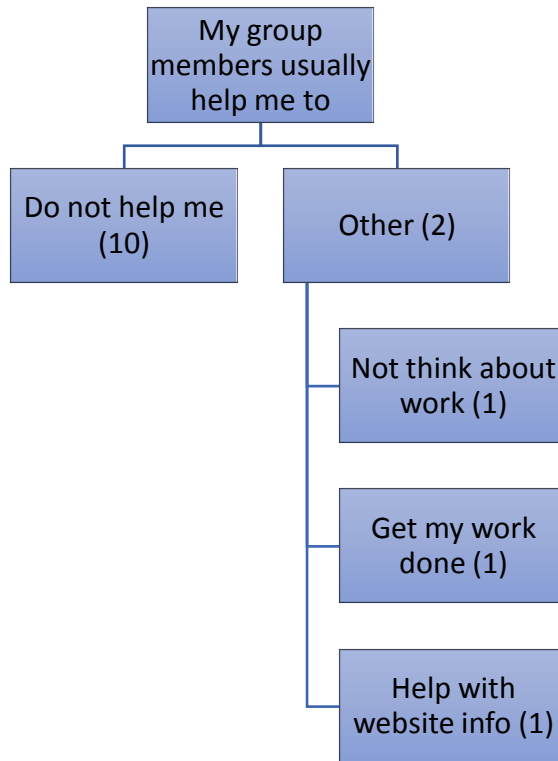
Figure 25. Item 8 – My group members usually help me to.

Item 9: I would like to learn how to. There were two general categories prevalent in student responses to item 9: (1) consider ideas of others and (2) encourage others to work. Student responses in the "consider ideas of others" category included "consider other group members' ideas" and "work with others." One student indicated a desire to learn how to encourage group members to work. Multiple-choice responses did not include ideas on considering the ideas of others or encouraging others to work.

There were two general categories prevalent in student responses to item 9: (1) consider ideas of others and (2) encourage others to work. Student responses in the "consider ideas of others" category included "consider other group members' ideas" and "work with others." One student indicated a desire to learn how to encourage group members to work. Multiple-choice responses did not include ideas on considering the ideas of others or encouraging others to work.
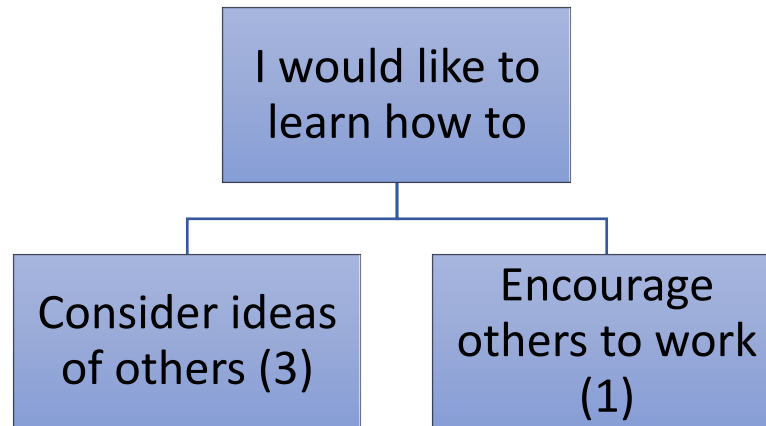
Figure 26. Item 9 – I would like to learn how to.

Item 10: I prefer that the evaluations of group work skills. There were two general categories prevalent in student responses to item 10: (1) be anonymous from students and (2) less likely to work in groups. The multiple-choice response "be based on student observations of what occurs in groups" overlapped with the idea "be anonymous from students." This showed alignment amongst answers.
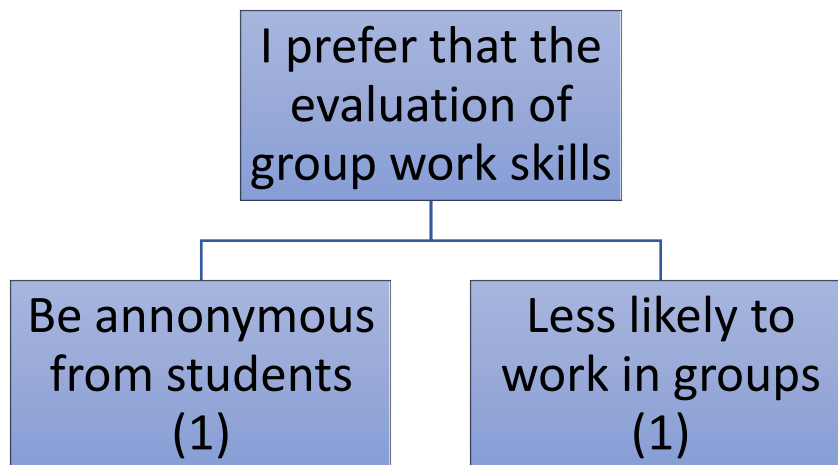
Figure 27. Item 10 – I prefer that the evaluation of group work skills.

Item 11: When I express ideas, my group members usually. There were two general categories prevalent in student responses to item 11: (1) listen and agree and (2) do not listen/agree. The multiple-choice response "consider my ideas and how to make use of them"

overlapped ideas presented in the "listen and agree" category. This showed alignment amongst

answers. However, multiple-choice responses did not present the idea of failing to listen and

agree with the ideas of group members. There were three students that indicated group members

did not listen to or agree to their ideas.
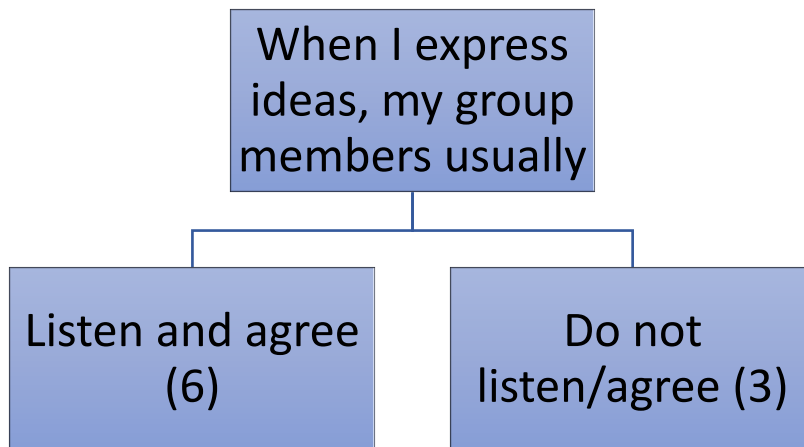
Figure 28. Item 11 – When I express ideas, my group members usually.

Item 13: My experience working in groups could be improved by. There were two

general categories prevalent in student responses to item 13: (1) working with people that

care/participate and (2) other. Within the "other" category, students gave answers such as

"listening to everyone in the group," "not working in groups," having the teacher pick the groups

instead of the students," and "having people of my intellect." Multiple-choice responses did not

present the idea of working with people that care and want to participate. Three students

responded that working with people that care and want to participate could improve the group

work experience.
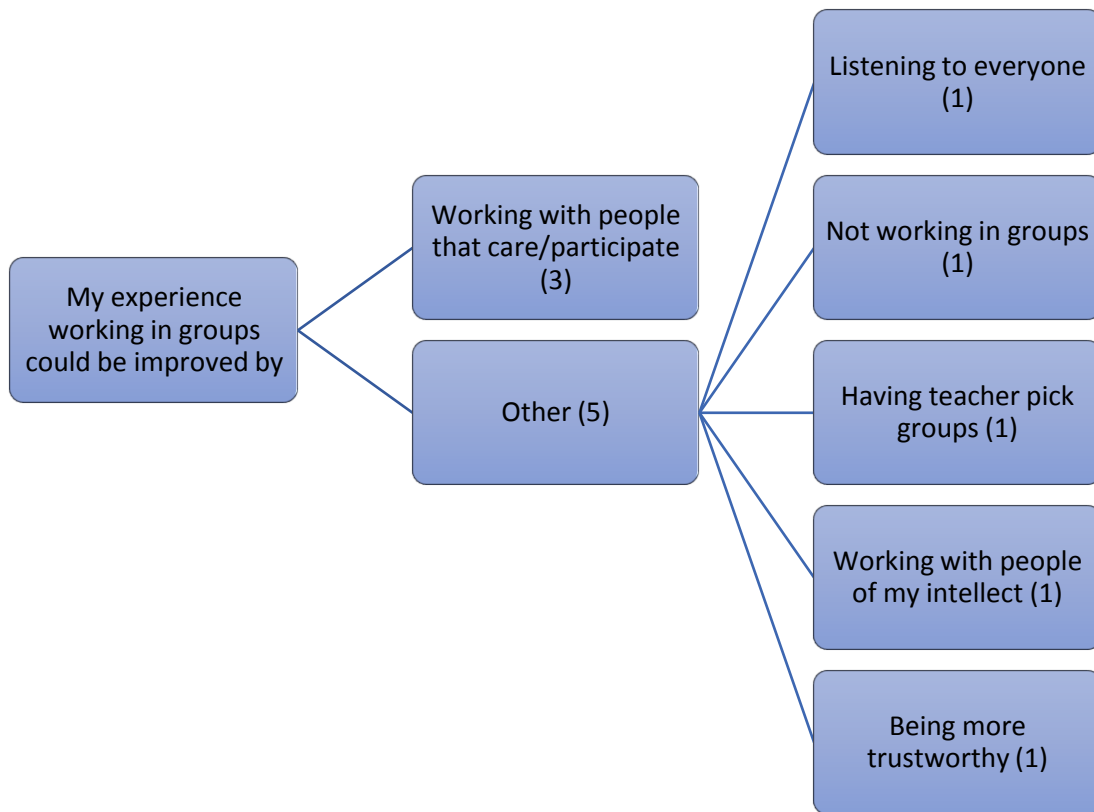
Figure 29. Item 13 – My experience working in groups could be improved by.

Item 14: I think groups could encourage full participation in discussions by. There were three general categories prevalent in student responses to item 14: (1) making them more interesting, (2) grading work of individual students, and (3) raising expectations. Within the making them more interesting category, students gave answers that included "make the discussions fun" and "talking about something we like." In the raising expectations category, students answered "grading the work of individual work of students" and "they could push us more" Multiple-choice responses did not include ideas about making discussions more interesting or raising the expectations of group members.
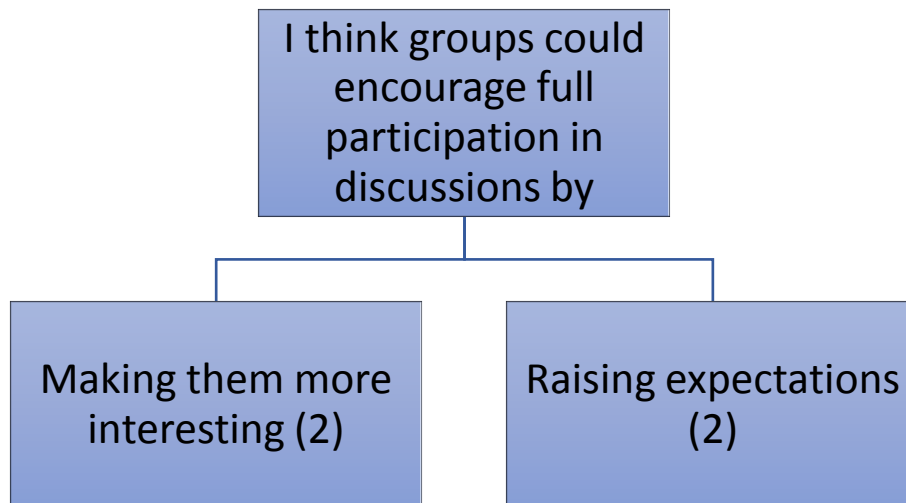
Figure 30. Item 14 – I think groups could encourage full participation in discussions by.

Item 15: When making group assignments, I find that we struggle with. There were

two general categories prevalent in student responses to item 15: (1) doing the assignments and

(2) completing the work on time. Students' responses included "doing the work" and "making

sure each person does their fair share." This overlapped with ideas presented in the multiple-

choice responses "identifying fair and equal tasks to be carried out by each person." The

completing work on time category overlapped with the multiple-choice response "determining a

due date for work so that things are ready on time." These answers showed alignment with ideas

presented in the multiple-choice responses.
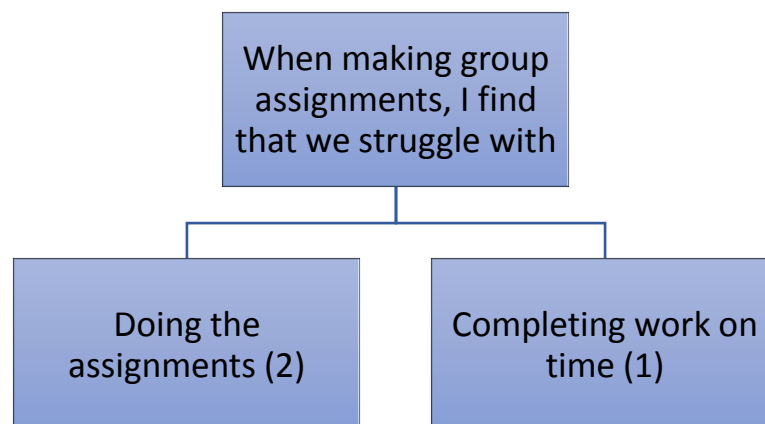
Figure 31. Item 15 – When making group assignments, I find that we struggle with.

Item 16: The group work skills that individuals demonstrate should be. There were

three general categories prevalent in student responses to item 16: (1) determined by students and

teachers, (2) shown on report cards, and (3) not considered. The response in the determined by

students and teachers category overlapped ideas presented in the multiple-choice items

"determined by students who observe each other's behavior in groups" and "decided by the

teacher who evaluates everyone in the class." The response of "shown on report cards in the

same way as reading and mathematics skills" from the multiple-choice items overlapped the idea

of "shown on report cards" drawn from the Excel spreadsheet. The multiple-choice responses did

not present a "not considered" idea.

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┌─────────────────────────────┐
│     The group work skills    │
│       that individuals       │
│    demonstrate should be     │
└─────────────────────────────┘
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| Determined by students and teachers (1) | Shown on report cards (1) | Not considered (1) |
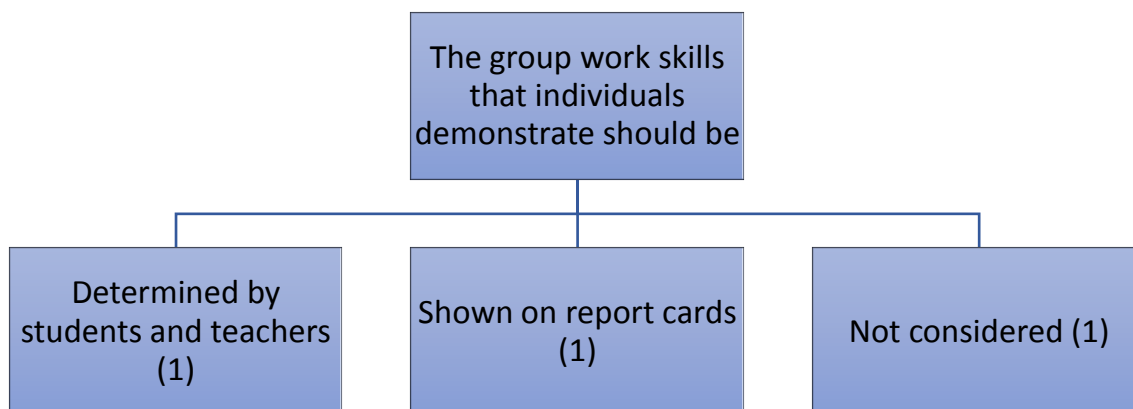
Figure 32. Item 16 – The group work skills that individuals demonstrate should be.

Summary of Qualitative Findings

Many similarities exist between the multiple-choice items on the Learning from the

Internet and Peer Support Polls and the open-ended responses. There was much overlap in

answers given on the open-ended responses, and several ideas such as "fair share of the work"

were prevalent throughout both polls.

On the Learning from the Internet Poll, many overlaps were noted. For item 1, the

response of "encourage me to learn independently" from the multiple-choice items overlapped

the idea associated with encouraging independent learning. The responses "gives me more resources" and "finding notes easily" fall under the multiple-choice item "provide more information about a topic." In item 2, the response of "provide computer access at home" from the multiple-choice items overlapped ideas associated with "provide WIFI" and "provide Internet connection" from the Excel spreadsheet. The response of "resources that instruct and direct" and "examples, videos, and explanations" aligned with multiple-choice items "streaming video" and "written summaries" in item 3. On item 5, the responses of "help responsible students make more progress" and "would motivate students to be more self-directed" from the multiple-choice items overlap ideas associated with "focus on learning" drawn from the Excel spreadsheet. For item 6, the response of "locate information for school work" from the multiple-choice items overlapped ideas associated with "research/school-related" drawn from the Excel spreadsheet. Overlap was seen in item 7; the response of "listing events with schedules and locations" from the multiple-choice items overlapped ideas associated with "being updated" drawn from the Excel spreadsheet. In item 8, the response of "reading" from the multiple-choice items overlapped ideas associated with "independently" drawn from the Excel spreadsheet. The categories "demonstrations" and "practice" in item 9 overlap with multiple-choice items "demonstrations in class or on videos" and "guided practice activities." In item 14, students indicate the Internet provides opportunities to learn more beyond the classroom which was congruent with the multiple-choice response, "lets me make discoveries on my own." For item 16, the response to give students the option to take online classes overlapped with the multiple-choice response "permitting students to take some of their courses online." Overlap between open-ended and multiple-choice items was seen in item 17: Internet availability overlapped with the multiple-choice item, lack of access to the use of a computer in my own home.

Much overlap between multiple-choice and open-ended responses was noted on the Peer Support Poll. For item 2, the multiple-choice response "deciding what part of the total task each group member should do" overlapped ideas presented in the "everyone doing equal work" category. In item 3, ideas presented in the do most of the work category overlap the multiple-choice category "take on too much of the load." Ideas presented in the multiple-choice response of "someone takes over and dominates" overlap with ideas presented in the "unfair workload for some" category in item 4. For item 7, the category "improve personal learning" overlapped the ideas presented in the multiple-choice responses. Item 10 indicates overlap; the multiple-choice response "be based on student observations of what occurs in groups" overlapped with the idea "be anonymous from students." For item 11, the multiple-choice response "consider my ideas and how to make use of them" overlapped ideas presented in the "listen and agree" category. In item 12, the multiple-choice response "consider my ideas and how to make use of them" overlapped ideas presented in the "listen and agree" category. For item 15, students' responses included "doing the work" and "making sure each person does their fair share." This overlapped with ideas presented in the multiple-choice responses "identifying fair and equal tasks to be carried out by each person." The response in the determined by students and teachers category in item 16 overlapped ideas presented in the multiple-choice items "determined by students who observe each other's behavior in groups" and "decided by the teacher who evaluates everyone in the class."

In giving students the opportunity to respond to open-ended items, further insight into the perceptions of students on Internet and peer supported learning were seen.

Chapter V: Conclusion

The purpose of this study was to use polling, a form of survey research, to better understand the perceptions of students on learning from the Internet and from peer support groups. The study looked specifically at differences in perception between females and males. Varying factors and influences pertaining to Internet learning and peer-supported learning were addressed and analyzed. A review of the literature indicated a deficit in research as it relates to the use of student opinion polling to gather information on Internet and peer-supported learning to make school improvements. Internet and peer-supported learning are very prevalent practices in schools, and research indicated the fusing of adult and student opinions could reflect a more accurate portrayal of needed school improvements (Strom, Strom, & Wing, 2008).

A Chi-square goodness-of-fit test was conducted on all polling items, with the exception of three, as they each included a nominal response. For the three items where students were instructed to select only one response, Chi-square tests of independence were used. Cramer's *V* was looked at to determine effect size for those items showing significance with the Chi-square analysis. Each answer choice was analyzed independently as students were given the option to select multiple responses unless otherwise noted. The open-ended responses were analyzed using concept maps to identify overlap between the multiple choice and open-ended responses as well as allow students to present ideas not listed as a response choice.

The items on the Learning from the Internet Poll dealt with homework assignments, parental support, web sites, virtual schools, teacher training, purposes for Internet use, time spent on the Internet, obstacles to Internet learning, and Internet safety. The Peer Support Poll dealt

with typical behaviors in classroom learning groups, obstacles to learning, preparation for group tasks, group discussions, and feedback and evaluation of group work. The purpose of this research was to understand student opinions and ideas related to Internet learning as students are an invaluable resource when seeking to understand the best ways to teach and to prepare students for higher education and careers. A poll was conducted to gather the opinions and perceptions of students on Internet and peer-supported learning for the purposes of improving classroom instruction. The research further examined the differences in responses between males and females as gender served as the variable.

Research Questions

1. How are student perceptions on purposes for Internet use reported on the Learning from the Internet Poll influenced by gender?

2. How are student perceptions on supports for Internet use reported on the Learning from the Internet Poll influenced by gender?

3. How are student perceptions on learning needs for interpersonal functioning reported on the Peer Support Poll influenced by gender?

4. How are student perceptions on learning needs for team task functioning reported on the Peer Support Poll influenced by gender?

5. How are student perceptions on needs for assessment of interpersonal/team task functioning reported on the Peer Support Poll influenced by gender?

Implications for School Wide Improvement

Internet Learning. Findings from the Learning from the Internet Poll (Appendix C) revealed that students use the Internet for varying purposes and lengths of time. They have varied

opinions on how they learn best and on virtual schools. Several items denoted significance in responses between females and males.

Item 1 indicated 40% of students, a majority, viewed homework assignments on the Internet as a way to provide more information about a topic. Students tend to use the Internet to further their knowledge on particular subjects. Item 12 revealed that 51% of students use the Internet daily to complete homework assignments. Another 37% claimed to use the Internet for homework assignments at least weekly. This implicated that teachers are making homework assignments to extend knowledge beyond the classroom yielding a positive aspect of Internet learning.

Item 2, parent support of Internet learning, indicated that students (48%) primarily want parents to provide Internet service. Not many students desired for their parents to help by monitoring websites they visit or to discuss subjects found online (monitoring 15%; discussing 20%). Students tend to prefer that parents not interject in their online activities. Because Internet access appears to be a barrier to Internet learning, a recommendation to schools is to attempt to provide Internet access beyond school hours and to explore cost efficient options for parents. However, for safety purposes, it is possible that parents should more closely monitor Internet activities. In item 11, only 12% indicated they ask parents before downloading software while only 13% indicated they inform their parents if they see unsafe materials. A large portion (72%) claimed they protect themselves on the Internet by not revealing personal information. Internet safety should be addressed by teachers and parents so students understand Internet dangers.

Students found websites that contain quizzes with corrective feedback to be most worthwhile (42%). This suggests teachers might seek more of these types of websites to incorporate into classroom instruction. More students (35%) believed teachers need training to

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make assignments involving the Internet. These results suggested teachers might need further professional development and training on ways to incorporate Internet use into classroom instruction.

Students (54%), in item 6, claimed the main reason they use the Internet is to locate information for schoolwork. Another 35% indicated the main reason they use the Internet is to communicate and network with friends using sites such as Facebook. This indicated that teachers are utilizing the Internet in the classroom, and students are using it for educational purposes. One suggestion for teachers is to incorporate networking sites into classroom activities.

Students (40%) believed the school web site could best be improved by posting homework assignments for classes. An almost equal amount (37%) believed the site could best be improved by listing events with schedules and locations. Open-ended responses indicated a need for updated information on the web site. School officials should consider methods for strategically updating information so information about current events and upcoming activities is available. Another suggestion is to allow teachers to post homework assignments on the school website.

The majority (38%) of students believed they learn most subjects best by having class discussions. A very close percentage (37%) believed they learn most subjects best through class lectures or demonstrations either in class or on video. When asked the ways in which they best learned math and science, student responses differed. Forty-five percent stated they learn math and science best through lectures or demonstrations in class or on videos. Others indicated they learn math and science best through guided practice activities (39%) and class discussions (32%). These results reflect different types of learning styles (visual, kinesthetic, and verbal)

indicating that teachers should incorporate multiple strategies into classroom instruction so that all learners can learn. Results also suggest that classes be taught differently according to subject.

Findings from item 10 revealed that students need help to improve their research skills. Forty-nine percent of students stated a need for methods to improve research skills. Specific teaching instruction is needed to help students learn how to properly conduct Internet research. On item 13, students (48%) noted difficulty in deciding what sites to use for homework purposes. This further solidified that students need direct instruction on methods for conducting Internet research.

Item 5 is related to virtual schools. Students certainly favored traditional schools over virtual schools. Only 14% of students believed virtual schools should replace traditional schools. However, they agreed (37%) that virtual schools could help responsible students make more progress. The greatest benefit, according to students (43%), to learning from the Internet was that it allows them to learn at their own pace. Another 40% of students stated that learning from the Internet allows them to make discoveries on their own. For item 16, students (40%) thought their school could best support Internet learning by permitting students to take some of their courses online. Although they prefer traditional schools, students like the option to take classes online. Schools could meet the needs of students by offering a variety of online course options.

On item 15, students (25%) responded they spend 2 to 3 hours per day on the Internet. In total, 66% of the students polled indicated they spend 2 or more hours per day on the Internet. This further necessitates the need to provide quality instruction that incorporates Internet learning. The Internet is a part of daily life for a large majority of the population, and many jobs and careers rely on Internet use.

Peer Supported Learning. Findings from the Peer Support Poll (Appendix D) revealed that students have varying preferences when working in peer groups. A continuous strand throughout the poll results indicated that doing a fair share of the work and staying focused seem to be the greatest issues when working with peer groups. Students have varied opinions on how they prefer to receive feedback and to be evaluated.

Item 1 revealed that most students (45%) believed students in their classroom learning group usually make them feel like they belong in the group. However, 11% suggested that group members usually treat them like outsiders. Although most students appear to be treated well in groups, teachers need to be vigilant in monitoring group behaviors as 11% is a fairly large percentage of students feeling like they do not belong. Students perform better when they are happy and content.

In item 2, students responded the most difficult tasks in group work are focusing and paying attention (36%) and deciding what part of the total task each group member should do (34%). Item 3, behavior of individuals in group work situations, revealed that most students (52%) believed they did their fair share of the tasks. Another 26% believed they took on too much of the load. Ten percent of students indicated they did not have to work as hard in group situations. Most students appear satisfied with the amount of work they put into group work situations. A way to ensure that group work tasks are delegated fairly might be for the teacher to assign roles and responsibilities to each group member. The teacher should set clear expectations before allowing students to begin group work.

In item 4, focusing during group discussions appeared to be a problem as 47% of students responded that people drift away from the topic during discussions. Teachers might select one particular student to be responsible for redirecting the group when the discussion veers from the

topic. In item 6, 31% of students identified allowing everyone an equal chance to talk and trying to build on the ideas presented by others as typical group member behaviors. A tactic to ensure fairness in group discussions is to use an equitable teaching strategy such as requiring students to earn two cards before leaving class. Students earn cards when they make contributions to the discussion.

Item 7 showed that students (45%) want feedback from group members to correct mistakes, and another 35% wanted group members to identify strengths shown in group work. These responses signify that students are being courteous to one another, and most students seem to have pleasant group experiences. They are receptive to feedback and want to learn from other group members. Teachers can create an atmosphere where students accept constructive criticism in order to learn more. Students can also be taught how to tactfully give constructive criticism without it having negative implications. Thirty-seven percent of students indicated they would like to learn how to give constructive feedback to group members.

Item 5 relates to how teachers prepare students for group work tasks. Forty-two percent of students responded that teachers prepare them by discussing possible ways to proceed. Thirty percent said teachers prepare them by defining the group work skills expected of them. This indicates an area in which teachers could prevent issues with students taking on too much of the work load, focusing, and veering from topic. By better preparing students and providing clear expectations, students would have a better understanding of the work required of them. Students also need to be explicitly taught group work skills such as delegating tasks, designing specific objectives, and listening and supporting fellow group members.

Item 11 dealt with behaviors of group members when ideas are expressed. Most students (56%) stated that group members usually consider their ideas and how to make use of them. In

item 12, Fifty-five percent of students said when group members make negative or hurtful comments, they choose to ignore them and move on. Both of these items reflect the classroom environment. In order to work well in groups, students must be engaged in team building activities as well as taught team work skills. When students feel comfortable with each other, they are generally more willing to talk and share thoughts.

Item 13 dealt with improving group work experiences. Students (49%) believed group work experiences could be improved by avoiding distractions that prevent them from paying attention. This might be a reflection of distracting classroom behaviors or distractions created by the school in general such as announcements. While there are some things teachers are unable to control, classroom behaviors can be controlled and kept to a level where they are not creating distractions.

In question 15, students (41%) reiterated the idea of identifying fair and equal tasks to be carried out by each person. By assigning each student in the group a role and providing job responsibilities for each, teachers can alleviate some of the stress of figuring out who is responsible for each task.

When evaluating group work skills, students have mixed opinions on who should provide the evaluation. Forty percent of respondents preferred that evaluation be based on student observations of what occurs in groups. Another 41% of students believed evaluation should be decided by the teacher who evaluates everyone in the class. The solution to this might be to have students complete an evaluation for each member in their group but to leave the final evaluation up to the teacher. The teacher could take student evaluations into consideration when awarding grades.

Summary of Findings

All summaries correlate directly to items addressed in the findings section of this research. Additional findings could be pertinent to the overall differences and similarities in each area. All 17 items on the Learning from the Internet Poll and 16 items from the Peer Support Poll were addressed in this study. Each of these items relate to either Internet or peer-supported learning.

Learning from the Internet. On the Learning from the Internet Poll, the data for items 10 and 12 show no significant differences in all possibilities of response. Item 1 (Homework assignments on the Internet) showed statistical significance for gender response to the C (allow for practice with research skills) response. The Chi-square statistic was $\chi^2 (1) = 4.51$, $p = .03$. A greater number of males believed that Internet homework assignments allowed for practice with research skills. Item 2 (The ways my parents can support Internet learning are) showed statistical significance for gender response to the B (discussing subjects that I find online) response, $\chi^2 (1) = 12.48$, $p = < .001$. More females than males preferred to discuss with parents subjects they found online.

Item 3 (Web sites I find most worthwhile contain) showed statistical significance for gender response to the B (quizzes with corrective feedback), $\chi^2 (1) = 12.45$, $p = < .001$, and D (written summaries of the content), $\chi^2 (1) = 8.33$, $p = .004$, responses. More females than males preferred sites with quizzes that give corrective feedback and written summaries of the content. Item 4 (My teachers could use training about how to) showed statistical significance for gender response to the D (help students understand Internet ethics) response, $\chi^2 (1) = 6.61$, $p = .01$. More females than males believed their teachers needed training to help students understand Internet ethics.

Item 5 (Virtual schools where students can study from their home) showed statistical significance for responses based on gender for response A (help responsible students make more progress); χ^2 (1) = 9.54, p = .002. More females than males believed virtual schools help responsible students make more progress. Item 6 (The main reasons I use the Internet are to) showed statistical significance for gender responses to A (locate information for school work), χ^2 (1) = 14.62, p = < .001, B (communicate with network friends such as Facebook), χ^2 (1) = 5.87, p = .01, and C (watch videos on favorite web sites), χ^2 (1) = 9.26, p = .002. More females indicated they use the Internet to locate information for school work and to communicate with network friends such as Facebook than did males. More males responded they use the Internet mainly to watch videos on favorite web sites.

Item 7 (The web site of my school could be improved by) showed statistical significance for gender response to the C (providing contact information for tutoring) response, χ^2 (1) = 7.54, p = .006. More females wished to have tutoring information added to the school web site. Item 8 (The ways I learn most subjects best are) showed statistical significance for gender response to the C (lectures/demonstrations in class or on videos) response, χ^2 (1) = 5.31, p = .02. More females preferred lectures/demonstrations. Item 9 (The ways I learn math and science best are) showed statistical significance for gender response to the C (lectures/demonstrations in class or on videos) response, χ^2 = 6.53, p = .01. Again, more females preferred lectures/demonstrations in class or on videos.

Item 11 (To support safety on the Internet, I choose) showed statistical significance for gender response to the D (let parents know if I see unsafe materials), χ^2 (1) = 10.06, p = .002. More females indicated they notify their parents when they see unsafe materials. Item 13 (When doing homework on the Internet) showed statistical significance for responses based on gender

on responses B (I copy and paste instead of using my own words), χ^2 (1) = 11.28, p = .001, and D (I cannot identify key words for online searches), χ^2 (1) = 5.13, p = .02. More males indicated they copy and paste rather than do their own work, and more females indicated they cannot identify key words for online searches. Item 14 (I like learning from the Internet because it) showed statistical significance for gender response to the E (allows me to learn at my own pace) response, χ^2 (1) = 11.07, p = .001. More females prefer Internet learning as it allows them to learn at their own pace.

Item 15 (The amount of time I spend daily on the Internet is) showed statistical significance for gender response in the amount of time they spend daily on the Internet, χ^2 (4) = 10.08, p = .03. Males indicated they spend the least amount of time on the Internet daily, 3 hours or less, while females indicated they spend the greatest amount of time on the Internet daily; 3 or more hours. Item 16 (My school can support Internet learning by) showed statistical significance for gender response to the D (providing assignments that require the Internet) response, χ^2 (1) = 3.87, p = .04. More females believed providing assignments that require the Internet is a way schools can support Internet learning. Item 17 (My greatest obstacles to learning on the Internet are) showed statistical significance for gender response to the C (too many filtering restrictions that limit ability to search) response, χ^2 (1) = 9.12, p = .003. More females noted that filtering restrictions are an obstacle to learning.

When looking at literature to see what is already known about Internet use and the differences in male and female Internet practices, several ideas are reiterated. Wang et al. (2011), studies found the top uses of the Internet amongst high school students included education, communication, and entertainment. These were the top reported uses in this study as well. Wang et al. (2011) found that the average time adolescents spend weekly on the Internet is 16.5 hours.

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The students in the current study indicated they spend an average of 2 to 3 hours per day (14-21 hours per week) on the Internet. In *Gender Differences in Internet Use and Internet Problems Among Quebec High School Students* (2016), the study found that boys spent a significantly greater amount of time on the Internet than did girls. The current study indicated that girls spend more time on the Internet than do boys.

Peer Support

Ding and Harskamp (2006) found females tend to perform better and learn more when paired with other females. In their study, females that were paired with males performed worse in post-tests than did their female counterparts that were paired with other females. The study found males tend to learn more when paired with female partners, but the female does not benefit as much from the partnership. Ding and Harskamp (2006) found their results to be congruent with previous studies where females are disadvantaged in mixed gender groups. The females in the all female groups demonstrated greater levels of confidence.

Harskamp, Ding, and Suhre (2008) continued exploration further into their studies on the impact of group composition and its effects on problem-solving. Their findings reiterated previous research supporting that partner gender is a significant factor in learning achievement. When working in mixed pairs, males outperformed females, but when females were placed with other females, they did just as well as males. The authors suggested communication styles as a big factor in the difference of achievement.

Results from the current study further solidify these previous findings from the literature. In the current study, females indicated they take on more than their fair share of the work, and more males indicated their thinking is challenged in peer supported learning situations thus leading to the acquisition of more knowledge.

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On the Peer Support Poll, the data for items 1, 10, 12, and 13 show no significant difference in all possibilities of response. Item 2 (The group work tasks that seem most difficult are) showed statistical significance for gender response to the D (planning and meeting deadlines to get all of our work done) response, χ^2 (1) = 7.59, p = .006. More females indicated planning and meeting deadlines to get work done is a difficult task in group work. Item 3 (In group work situations I usually) showed statistical significance for gender responses to the A (take on too much of the load), χ^2 (1) = 5.13, p = .02, and C (do not have to work as hard), χ^2 (1) = 8.64, p = .003, responses. More females indicated they took on too much of the load with males believed they did not have to work as hard.

Item 4 (The problems with group discussions are) showed statistical significance for gender responses to the C (people drift away from the topic), χ^2 (1) = 5.34, p = .02, and D (no one challenges group thinking), χ^2 (1) = 4.41, p = .03, responses. More females responded that people drift away from the topic and no one challenges group thinking as problems with group discussions. Item 5 (Our teachers prepare us for group work tasks by) showed statistical significance for gender responses to the D (defining the group work skills expected of us) response, χ^2 (1) = 11.11, p = .001. More females suggested teachers prepare students for group work by defining the expected skills.

Item 6 (I find that group members typically) showed statistical significance for gender responses to the C (bring reading materials they share with us), χ^2 (1) = 5.91, p = .01, D (recognize the contribution of individuals), χ^2 (1) = 4.20, p = .04, and E (try to build on ideas presented by others), χ^2 (1) = 9.58, p = .002, responses. More males believed group members typically bring reading material to share while more females believed group members try to

recognize contributions and build on ideas of others. Item 7 (I would like feedback from my group to) showed statistical significance for gender responses to the C (recognize improvement in group work skills), χ^2 (1) = 4.01, p = .04, and D (correct the mistakes that I make), χ^2 (1) = 10.02, p = .002, responses. More females desired feedback to recognize improvement in group skills and to correct mistakes.

Item 8 (My group members usually help me to) showed statistical significance for gender responses to the A (stay focused on the assignment), χ^2 (1) = 4.85, p = .02, and B (think about views I had not considered), χ^2 (1) = 14.82, p = < .001, responses. More males claimed group members helped them stay focused on the assignment while more females claimed group members helped them think about views they had not considered. Item 9 (I would like to learn how to) showed statistical significance for gender responses on the D (provide honest feedback to all members of my group) response, χ^2 (1) = 4.18, p = .04. More females showed interest in learning to provide honest feedback to group members. Item 11 (When I express ideas, my group members usually) showed statistical significance for gender responses in the A (consider my ideas and how to make use of them) response, χ^2 (1) = 8.70, p = .003. More females thought group members considered and made use of their ideas.

Item 14 (I think groups could encourage full participation in discussions by) showed statistical significance for gender responses in the A (making sure each person talks before considering another topic) response, χ^2 (1) = 7.29, p = .007. More females thought groups could encourage participation by making sure everyone talks before considering another topic. Item 15 (When making group assignments, I find that we struggle with) showed statistical significance for gender responses in the A (identifying fair and equal tasks to be carried out by each person)

response, $\chi^2 (1) = 5.31$, $p = .02$. More females responded that dividing group tasks fairly and equally is a struggle in group work.

Item 16 (The group work skills that individuals demonstrate should be) showed statistical significance for gender responses in the C (decided by the teacher who evaluates everyone in the class) response, $\chi^2 (1) = 5.77$, $p = .01$. More females desired for the teacher to be the one doing group evaluations.

Conclusions

Gender. Most items were relatively close in correlation to response percentages. For each item that indicated significance, a Cramer's *V* analysis was conducted to determine the strength of the relationship in female and male responses. Cramer's *V* indicated that when sample size was factored out, only a weak relationship was apparent thus indicating gender has little intimation in determining students' thoughts and perceptions on Internet and peer-supported learning.

Though more males believed Internet homework assignments allowed for practice with research skills, the significance is very weak. Females selected lectures and/or demonstrations in class or on video as their preferred instructional mode.

Females appear to be more safety conscious when working online. Though more females preferred to discuss with parents subjects they found online, the significance was somewhat weak. More females believed their teachers needed training to help students understand Internet ethics, but the difference is statistically very weak. Females also are more likely to notify their parents when they see unsafe materials on the Internet.

More females than male preferred site with quizzes that give corrective feedback and written summaries of the content, but the significance between responses based on gender is

somewhat weak. More females believed virtual schools help responsible students make more progress, but the significance is very weak.

The research suggested females use the Internet to network more with friends and to locate information for schoolwork while males tend to use it more to watch videos on their favorite web sites. These research findings reiterated findings from the review of literature. Jackson et al. (2007) found that females tend to prefer the Internet's communication tools while males preferred to use the Internet for video games and entertainment. Findings suggested that females are conscientious of schoolwork and assignments as more females wished to have tutoring information added to the school web site, and they claimed to have more difficulty identifying key words for online searches. Males indicated they are more likely to copy and paste rather than do their own work.

Males spend less time on the Internet than do females. Though statistically weak, more females believed providing assignments that require Internet use is a way schools can support Internet learning. More females found Internet learning to be hindered by Internet filtering restrictions.

The research suggested females are harder workers in group work situations. This correlated with research conducted by Woolley et al. (2011) in which they found the more women involved in a group, the better when it comes to intelligence. Females claimed they took on too much of the workload while their male counterparts thought group work meant they did not have to work as hard. Females indicated panning and meeting deadlines to get work done and dividing tasks fairly and equally are difficult tasks. More females also believed more people drift away from the topic during group work discussions, and no one truly challenges group thinking.

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According to females, teachers prepared students for group work by defining the skills that were expected. More females believed group members try to recognize contributions and built on the ideas of others while more males believed group members typically bring reading material to share. A greater number of females thought group members considered and made use of their ideas. Females also thought group participation could be encouraged by ensuring everyone talks before considering a new topic.

Females showed more concern with the outcome of group work. They desired feedback to recognize improvement on group skills and to correct their mistakes. Females demonstrated a desire to learn how to provide honest feedback to group members, and they claimed group members helped them consider views they had not previously considered. Females wanted the teacher to be the one conducting group evaluations. In research by Strom and Strom (2011), more females rated themselves higher in terms of team skills. This research might justify their desires to improve on those skills in which they are not comfortable. More males claimed group members helped them to stay focused on assignments.

Overall, findings suggested that gender is not a major factor in determining the parameters for Internet and peer-supported learning. Findings supported information gathered from the literature review. Jackson et al., (2007) found females and males have different preferences for Internet use. This research found that to be true. However, despite the statistical significance prevalent in gender responses amongst most items, the effect size is weak.

Implications for Classroom Instruction and School Community

The Learning from the Internet and Peer Support Polls were administered in a rural, central Alabama high school. The results were intended for the purpose of school improvement. Gender was explored as a variable to determine the implications it might have upon influences

and ideas about Internet and peer-supported learning. Although administrators reviewed the findings for improvement purposes, communication with community stakeholders, teachers, students, and parents was minimal. A need for more discussion about poll findings with all stakeholders exists.

Findings suggest a need for direct instruction on Internet safety as well as on strategies for conducting Internet research. Students enjoy using the Internet for learning, and they prefer websites where corrective feedback is given after taking quizzes. Because students regularly use the Internet for social networking, teachers could incorporate social media into classroom lessons as to keep students engaged.

When working with peers, research findings suggest a feed for clearly outlined expectations as well as direction for help in delegating job assignments. With clear expectations for all group members, the temptation to do more or less than a fair share of the work could be eliminated. Students tend to have difficulty staying on task and setting group work goals. With clear expectations and initial guidance from the teacher, students can learn to do these things more independently.

The research findings provide implications for minor classroom practices that could yield big results. By making a few changes and providing some direct instruction, students will better understand what is expected, and they can perfect their group work skills. As Internet and peer-supported instruction enhance student learning, teachers can listen to student feedback to maximize the effectiveness of these practices.

Limitations

The purpose of this research study was to gain a better understanding of students'

thoughts and perceptions on Internet and peer-supported learning. Results should be used by

classroom teachers for planning and professional growth purposes.

Because the poll might be considered lengthy by some students, blind answering must be

acknowledged. It is possible that students answered without reading the poll questions entirely.

The accuracy of the results is dependent upon students answering truthfully. Measures such as an

announcement from the principal were put into place to ensure students answered truthfully.

The data serve as a strong and generalizable source of information for the particular

school from which it was collected. The data cannot be generalized to the region, state, or

country in which the school is located. Generally speaking, demographic differences,

community, life experiences, and other factors play a significant role in the outcome of student

polling. The purpose of this poll was not to be generalized to other regions, states, or countries.

Information contained in this research is specific and representative of this school only. The

intended purpose was to provide information to this specific school for the purpose for the

purpose of school improvement.

Recommendations

Recommended actions for improving the polling process. In order to maximize the

potential of the Learning from the Internet and Peer Support Polls, this study recommends that

students be well-informed of the value and benefit of student voice in the school improvement

process. Follow-up conversations with students to discuss findings are recommended.

Due to timing issues, the polls were administered in late spring. Ideally, polls should be

administered in the fall so that the results can be implemented during the school year for which

responses are collected. This would allow students to see how valuable their input is. The polls for this study were conducted using a paper and pencil format. For purposes of analyzing data, an online poll would be more time efficient.

Recommendations for practices.

1. Information—Through school text, phone call, assembly, email, or letter, students, parents, and teachers should be provided with information about the importance of student polling.

2. Consistency—Provide formal training for staff members so that administration of the polls is conducted the same for each group of students and that all students are given the same information.

3. Data Interpretation—Within a two-week span of poll completion, a time should be set for polling administrators to meet with the school principal to interpret results and to answer any questions. The principal should in turn meet with faculty and students to present the data.

4. Data Dissemination—Stakeholders such as community members, teachers, and students should be provided a copy of the poll results. All students should receive a copy of results as well as a plan for how the results will be used for school improvement purposes.

5. Post Poll—Administer the same poll in the spring to determine if changes have been implemented. Compare pre-and post-poll results.

6. School Improvement—Use results from the two polls more formally in an improvement plan to improve learning conditions within the school rather than only for informative purposes.

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Recommendation for further studies. Because this study was conducted in only one rural, central Alabama high school, a recommendation is to administer the polls in schools in different locations and with demographics different than those of the selected school. Recommendations are to look for schools that serve higher populations of socioeconomically challenged students as well as schools that serve lower numbers of socioeconomically challenged students. The study should also include students attending schools in rural, suburban, and heavily populated areas. Schools with heavily populations of one ethnicity should be examined. Also recommended is to include schools where technology is available to every student every day and those that have not yet fully implemented a technology plan. By conducting the same polls within schools of varying demographics, a greater understanding of how to best serve students might emerge. When comparing data from schools of difference contexts and demographics, patterns and trends that could be generalized to other schools might emerge.

Another recommendation is to analyze the response choices of this particular study based on other variables such as ethnicity, age, or grade to determine if other factors produced more statistical significance. Interviews with students could also be conducted to provide greater insight into student thinking. This would provide administrators an even greater insight into needed improvements.

References

Billy, V. M. (2015). A discussion with Khan Academy's founder. *Education Digest*, *81*(1), 28-
   35.

Browne, N. (2004). *Gender equity in the early years*. Open University Press.

Buckingham, D. (2013). Making sense of the digital generation: Growing up with digital media.
   Self & Society, 40(3). Retrieved October 21, 2016, from
   https://ddbuckingham.files.wordpress.com/2015/04/digital-generation-ss.pdf.

Cicconi, M. (2014). Vygotsky meets technology: A reinvention of collaboration in the early
   childhood mathematics classroom. *Early Childhood Education, (42)*, 57-65.

Conner, J. O., Ebby-Rosin, R., & Brown, A. S. (2015). Introduction to student voice in American
   education policy. *Teachers College Record, 117*(13), 119-134.

Creswell, J.W. (2003). *Research design: Qualitative, quantitative, and mixed methods
   approaches.* Thousand Oaks, CA: Sage Publications, Inc.

Davidson, K. (2016, August 30). The 'soft skills' employers are looking for. *The Wall Street
   Journal*. Retrieved January 24, 2017, from http://blogs.wsj.com/economics/2016/08/30/
   the-soft-skills-employers-are-looking-for/

Davis, J. (2013, October 15). A radical way of unleashing a generation of geniuses (S. Dadich,
   Ed.). *Wired*. Retrieved June 17, 2016, from www.wired.com/2013/10/free-thinkers/all/

Ding, N., & Harskamp, E. (2006). How partner gender influences female students' problem solving in physics education. *Journal of Science Education and Technology,15*(5), 331-343. doi:10.1007/s10956-006-9021-7

Dufour, M., Brunelle, N., Tremblay, J., Leclerc, D., Cousineau, M., Khazaal, Y., . . . Berbiche, D. (2016). Gender differences in internet use and internet problems among Quebec high school students. *The Canadian Journal of Psychiatry,61*(10), 663-668. Retrieved March 16, 2017, from https://www.ncbi.nlm.nih.gov/pubmed/27310231.

Friend, J., & Caruthers, L. (2012). Reconstructing the cultural context of urban schools: listening to the voices of high school students. *Educational Studies*, *48*(4), 366-388.

Harskamp, E., Ding, N., & Suhre, C. (2008). Group composition and its effect on female and male problem-solving in science education. *Educational Research,50*(4), 307-318. Retrieved March 18, 2017.

Hart, J. (1998). The perils of polling and how to avoid them. *Editor & Publisher, 131*(33), 5.

Holt, B., & Walker, J. (2012, April). Peer Tutoring. Retrieved December 12, 2016, from http://www.council-for-learning-disabilities.org/peer-tutoring-flexible-peer-mediated-strategy-that-involves-students-serving-as-academic-tutors

Horrigan, J. B. (2016a, March 22). *Lifelong learning and technology*. Retrieved August 8, 2016, from http://www.pewinternet.org/2016/03/22/lifelong-learning-and-technology/

Horrigan, J. B. (2016b, March 22). *The joy-and urgency-of learning*. Retrieved August 8, 2016, from http://www.pewinternet.org/2016/03/22/the-joy-and-urgency-of-learning/

Igo, S.E. (2006). A gold mine and a tool for democracy: George Gallup, Elmo Roper, and the Business of scientific polling, 1935-1955. *Journal of the History of the Behavioral Sciences, 42*(2), 109-134.

Ito, M., Baumer, S., Bittani, M., Boyd, D., Cody, R., Herr-Stephenson, B., . . . Tripp, L. (2015). *Hanging out, messing around, and geeking out*. Cambridge, MA: Massachusetts Institute of Technology.

Jackson, L. A., Yong, Z., Kolenic III, A., Fitzgerald, H. E., Harold, R., & Von Eye, A. (2008). Race, gender, and information technology use: The new digital divide. *Cyberpsychology & Behavior*, *11*(4), 437-442.

Johnson, D. W., & Johnson, R. T. (n.d.). *An overview of cooperative learning*. Retrieved June 22, 2016, from http://www.co-operation.org/what-is-cooperative-learning/

Klein, A. (2016, March 31). The every student succeeds act: An essay overview. *Education Week*.

Kroeger, S., Burton, C., Comarata, A., Combs, C., Hamm, C., Hopkins, R., & Kouche, B. (2004). Student voice and critical reflection. *Teaching Exceptional Children*, *36*(3), 50-57.

Lake, C. C. (1987). Public opinion polling: A handbook for public interest and citizen advocacy groups. Washington, D.C.: Island Press.

Larmer, J. (2014, January 6). *Project-based learning vs. problem-based learning vs. x-bl*. Retrieved August 23, 2016, from http://www.edutopia.org/blog/pbl-vs-pbl-vs-xbl-john-larmer

Levin, B.B. & Schrum, L. (2013). Using systems thinking to leverage technology for school improvement: Lessons learned from award-winning secondary schools/districts. *Journal of Research on Technology in Education, 46*(1), 29-51.

McLeod, S. (2010). *Zone of proximal development*. Retrieved August 31, 2016, from http://www.simplypsychology.org/Zone-of-Proximal-Development.html Updated 2012

Mesecar, D. (2016, March 22). *From good to great through personalized learning in Loudoun County, Virginia.* Retrieved June 18, 2016, from http://lexingtoninstitute.org/good-great-personalized-learning-loudoun-county-virginia/

Mitra, D. L. (2004). The significance of students: Can increasing "student voice" in schools lead to gains in youth development?. *Teachers College Record*, *106*(4), 651-688.

Neff, L. S. (n.d.). Lev vygotsky and social learning theories. Retrieved January 4, 2017, from http://jan.ucc.nau.edu/lsn/educator/edtech/learningtheorieswebsite/vygotsky.htm

O'Conner, R. & Rossellini, G. (Directors). (2002). The Story. In G. D'Ercole (Producer). *Frontline*. Retrieved June 16, 2016 from www.pbs.org/ frontlineworld/stories/ india/thestory.html

Peterson, T. (2002). The hole-in-the-wall computer. *Whole Earth*, *(109)*, 76.

Pinkus, A. (2015). Toward a one world schoolhouse. *Independent School*, *74*(2), 42-46.

Problem-Based Learning. (n.d.). Retrieved December 12, 2016, from https://www.cte.cornell.edu/teaching-ideas/engaging-students/problem-based-learning.html

Shein, E. (2014). How to go digital. *Administrator Magazine,* 30-32.

Strom, P. S., & Strom, R. D. (2011, August). Teamwork skills assessment for cooperative learning. *Educational Research and Evaluation, 17*(4), 233-251.

Strom, P.S. & Strom, R.D. (2016) *Polling students for school improvement and reform* (Lifespan Learning). Charlotte, NC: Information Age Publishing, Inc.

Strom, P. S., Strom, R. D., & Beckert, T. (2011). Examining stakeholder expectations for guiding school reform: Including students. *American Secondary Education*, *39*(3), 516.

Strom, P., Strom, R., & Wing, C. (2008). Polling students about conditions of learning. *NASSP Bulletin*, *92*(4), 292-304.

Sussman, A. (2015). The student voice collaborative: An effort to systematize student participation in school and district improvement. *Teachers College Record*, *117*(13), 119-134.

Teachers not required? Absolutely untrue. (2011). *Times Educational Supplement* (TES)*, 4967,* 28-30.

Teo, T. (2010). Gender differences in the intention to use technology: A measurement invariance analysis. *British Journal of Educational Technology*, *41*(6).

Thessin, R.A. (2015). Identify the best evidence for school and student improvement. *Kappan Magazine, 97*(4), 69-73.

Wang, H., Zhou, X., Lu, C., Wu, J., Deng, X., & Hong, L. (2011). Problematic internet use in high school students in Guangdong Province, China. *Plos One,6*(5), 1-8. Retrieved March 16, 2017, from http://journals.plos.org/plosone/article?id=10.1371/journal.pone.0019660.

Webley, K. (2012). Reboot the School. *Time*, *180* (2), 36-41.

Woolley, A., Malone, T. W., & Chabris, C. F. (2015, January 16). Why some teams are smarter than others. *The New York Times*. Retrieved November 1, 2016, from http://www.nytimes.com/2015/01/18/opinion/sunday/why-some-teams-are-smarter-than-others.html?emc=eta1&_r=3

Yau, H. K., & Cheng, A. L. (2012). Gender difference of confidence in using technology for learning. *The Journal of Technology Studies, 38*(2).

Appendix A

Polling Students for School Improvement

POLLING STUDENTS FOR SCHOOL IMPROVEMENT

Reason for Polling: You are being asked to complete two school improvement polls. Your school wants to find out how you feel about <u>Learning from the Internet</u> (the first poll) and about <u>Peer Support</u> (the second poll). It is voluntary to respond to these polls. Your responses are anonymous and will be combined with other students' responses from your school.

Poll Directions: Questions in each poll allow for more than one answer to be chosen *except* a few that are clearly marked as **choose one only.** For each question, <u>circle</u> the answer(s) that apply to you. If an answer you want to give is not listed, write your answer on the line marked '<u>other</u>'. Both polls, together, should take 15 to 20 minutes to complete. When done, please return this packet to your homeroom teacher.

LEARNING FROM INTERNET POLL

Purpose: Your school wants to find out how you feel about learning from the Internet.

1. **Homework assignments on the Internet**

   (a) encourage me to learn independently

   (b) provide more information about a topic

   (c) allow for practice with research skills

   (d) include sharing my learning with peers

   (e) other _____

2. **The ways my parents can support Internet learning are**

   (a) monitoring the websites that I visit

   (b) discussing subjects that I find online

   (c) assisting me in doing online research

   (d) provide computer access at home

(e) other _____

3. Web sites I find most worthwhile contain

    (a) streaming video or audio material

    (b) quizzes with corrective feedback

    (c) visuals that help organize content

    (d) written summaries of the content

    (e) other _____

4. My teachers could use training about how to

    (a) make assignments involving the Internet

    (b) organize groups to do research searches online

    (c) give parents information about learning on the Internet

    (d) help students understand Internet ethics

    (e) other _____

5. Virtual schools where students can study from their home

    (a) help responsible students make more progress

    (b) should replace the traditional schedules at school

    (c) would motivate students to be more self-directed

    (d) cannot work for students who lack motivation to learn

    (e) other _____

6. The main reasons I use the Internet are to

    (a) locate information for school work

    (b) communicate with network friends such as Facebook

    (c) watch videos on favorite web sites

    (d) download the music I want to hear

    (e) send and receive emails to people

    (f) other _____

7. The web site of my school could be improved by

    (a) listing events with schedules and locations

    (b) posting homework assignments for classes

    (c) providing contact information for tutoring

    (d) recognizing students for achievements

    (e) other _____

8. The ways I learn <u>most subjects</u> best are

    (a) discussions

    (b) reading

    (c) lectures/demonstrations in class or on videos

    (d) guided practice activities

    (e) other _____

9. The ways I learn <u>math and science</u> best are

    (a) discussions

    (b) reading

    (c) lectures/demonstrations in class or on videos

    (d) guided practice activities

    (e) other _____

10. I wish my school taught me about

    (a) how to evaluate web site credibility

    (b) methods to improve my research skills

    (c) how to block inappropriate messages

    (d) ways to deal with cyberbullies

    (e) how to use the Internet and cell phone safely and securely

    (f) other _____

11. To support safety on the Internet, I choose to

    (a) not reveal any personal information

    (b) ask parents before downloading software

    (c) keep a log of web sites I have visited

    (d) let parents know if I see unsafe materials

    (e) attend a class on computer and cell phone safety and security

    (f) other _____

12. My homework requires that I use the Internet

   [Choose one only]

   (a) daily

   (b) weekly

   (c) monthly

   (d) never

13. When doing homework on the Internet

   (a) I find it difficult to decide what sites to use

   (b) I copy and paste instead of using my own words

   (c) I get distracted

   (d) I cannot identify key words for online searches

   (e) other _____

14. I like learning from the Internet because it

   (a) lets me make discoveries on my own

   (b) encourages a global outlook about situations

   (c) helps the teachers to learn from their students

   (d) enables information sharing among students

   (e) allows me to learn at my own pace

   (f) other _____

15. The amount of time I spend daily on the Internet is

  [Choose one only]

   (a) less than 1 hour

   (b) 1 to 2 hours

   (c) 2 to 3 hours

   (d) 3 to 5 hours

   (e) more than 5 hours

16. My school can support Internet learning by

   (a) making the computer lab available evenings and weekends

   (b) expecting cooperative learning teams to explore Internet sites

   (c) permitting students to take some of their courses online

   (d) providing assignments that require the Internet

   (e) other _____

17. My greatest obstacles to learning on the Internet are

   (a) teachers don't make assignments involving the Internet

   (b) school computers are in labs only, not in the classrooms

   (c) too many filtering restrictions that limit ability to search

   (d) lack of access to the use of a computer in my own home

   (e) other _____

My grade level is [Choose one only]

       (a) 9

       (b) 10

       (c) 11

       (d) 12

My gender is [Choose one only]

       (a) Female   (b) Male

My ethnicity is [Choose one only]

       (a) Asian

       (b) Black

       (c) Hispanic

       (d) Native American

       (e) White

       (f) Other

My age is [Choose one only]

       (a) 13

       (b) 14

       (c) 15

       (d) 16

       (e) 17

       (f) 18

       (g) 19 or older

PLEASE DO THE NEXT POLL STARTING ON THE NEXT PAGE.

Appendix B

Peer Support Poll

PEER SUPPORT POLL

Purpose: Your school wants to find out how you feel about the support you get from classmates and about your learning experiences in groups.

1. Students in my classroom learning group usually

    (a) tutor me when I need help

    (b) make me feel that I belong

    (c) treat me like an outsider

    (d) talk only to their friends

    (e) other _____

2. The group work tasks that seem most difficult are

    (a) focusing and paying attention so we can make progress

    (b) making sure group members share what they have done on their own

    (c) deciding what part of the total task each group member should do

    (d) planning and meeting deadlines to get all of our work done

    (e) other _____

3. In group work situations I usually

    (a) take on too much of the load

    (b) do my fair share of the tasks

    (c) do not have to work as hard

    (d) dislike working in the group

    (e) like working in the group

    (f) other _____

4. The problems with group discussions are

     (a) someone takes over and dominates

     (b) quiet people are not asked to talk

     (c) people drift away from the topic

     (d) no one challenges group thinking

     (e) other _____

5. Our teachers prepare us for group work tasks by

     (a) discussing possible ways to proceed

     (b) identifying obstacles that prevent success

     (c) suggesting reflection before making decisions

     (d) defining the group work skills expected of us

     (e) other _____

6. I find that group members typically

     (a) challenge the reasoning of one another

     (b) allow everyone an equal chance to talk

     (c) bring reading materials they share with us

     (d) recognize the contribution of individuals

     (e) try to build on ideas presented by others

     (f) other _____

7. I would like feedback from my group to

    (a) identify my strengths shown in group work

    (b) learn those behaviors that I need to improve

    (c) recognize improvement in group work skills

    (d) correct the mistakes that I make

    (e) other _____

8. My group members usually help me to

    (a) stay focused on the assignment

    (b) think about views I had not considered

    (c) admit uncertainty when in doubt

    (d) take time to plan how we will proceed

    (e) other _____

9. I would like to learn how to

    (a) give constructive feedback to group members

    (b) take constructive feedback from group members

    (c) compare how group members see me with how I see myself

    (d) provide honest feedback to all members of my group

    (e) other _____

10. I prefer that the evaluation of group work skills

    (a) is based on student observations of what occurs in groups

    (b) be left up to the teacher to decide how each student is performing

    (c) shows peer feedback that can be kept in my school portfolio

    (d) occurs in every subject that I am enrolled in at school

    (e) other _____

11. When I express ideas, my group members usually

    (a) consider my ideas and how to make use of them

    (b) challenge my reasoning that may be incorrect

    (c) listen but dismiss ideas without consideration

    (d) make fun of my ideas

    (e) other _____

12. When a group member makes negative or hurtful comments,

[Choose one only]

    (a) I choose to ignore it and move on to something else

    (b) I confront the person on their disappointing attitude

    (c) I tell the teacher about it but not tell the individual

    (d) I express concern to other members but not the person

13. My experience working in groups could be improved by

     (a) avoiding distractions that keep me from paying attention

     (b) knowing the importance of group skills for getting a job

     (c) honest peer feedback on how to do better in the group

     (d) the teacher talking about certain group work skills

     (e) other _____

14. I think groups could encourage full participation in discussions by

     (a) making sure each person talks before considering another topic

     (b) encouraging quiet members to feel comfortable about speaking

     (c) teaching students to discuss ideas without judging the speaker

     (d) limiting time for each member to talk

     (e) other _____

15. When making group assignments, I find that we struggle with

     (a) identifying fair and equal tasks to be carried out by each person

     (b) deciding who will do a task when more than one person wants it

     (c) determining a due date for work so that things are ready on time

     (d) figuring out best ways for each member to share what they learned

     (e) other _____

16. The group work skills that individuals demonstrate should be

    (a) shown on report cards in the same way as reading and mathematics skills

    (b) determined by students who observe each other's behavior in groups

    (c) decided by the teacher who evaluates everyone in the class

    (d) considered acceptable unless peers complain

    (e) other _____

My grade level is [Choose one only]

    (a) 9

    (b) 10

    (c) 11

    (d) 12

My gender is [Choose one only]

    (a) Female   (b) Male

My ethnicity is [Choose one only]

    (a) Asian

    (b) Black

    (c) Hispanic

    (d) Native American

    (e) White

    (f) Other

My age is [Choose one only]

    (a) 13

    (b) 14

    (c) 15

    (d) 16

    (e) 17

    (f) 18

    (g) 19 or older

When done, please return this packet to your homeroom teacher.

THANK YOU FOR PARTICIPATING!

POLLING STUDENTS FOR SCHOOL IMPROVEMENT

Appendix C

Motivation to Learn from Internet Poll

MOTIVATION TO LEARN FROM INTERNET POLL

*Please note that all questions (except 12, 15 and the demographics items) allowed for students to select <u>more than one option</u>.

Q1. Homework assignments on the Internet *(n = 444)*

Option	Count - Percent
1. encourage me to learn independently	123 - 27.70%
2. provide more information about a topic	178 - 40.09%
3. allow for practice with research skills	158 - 35.59%
4. include sharing my learning with peers	52 - 11.71%
5. other	28 - 6.31%

Q2. The ways my parents can support Internet learning are *(n = 444)*

Option	Count - Percent
1. monitoring the websites that I visit	67 - 15.09%
2. discussing subjects that I find online	89 - 20.05%
3. assisting me in doing online research	135 - 30.41%
4. provide computer access at home	213 - 47.97%
5. other	12 - 2.70%

Q3. Web sites I find most worthwhile contain *(n = 444)*

Option	Count - Percent
1. streaming video or audio material	148 - 33.33%
2. quizzes with corrective feedback	185 - 41.67%
3. visuals that help organize content	143 - 32.21%
4. written summaries of the content	74 - 16.67%
5. other	6 - 1.35%

Q4. My teachers could use training about how to *(n = 444)*

Option	Count - Percent
1. make assignments involving the Internet	153 - 34.46%
2. organize groups to do research searches online	135 - 30.41%
3. give parents information about learning on the Internet	55 - 12.39%
4. help students understand Internet ethics	142 - 31.98%
5. other	16 - 3.60%

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Q5. Virtual schools where students can study from their home *(n = 444)*

1. help responsible students make more progress	166 - 37.39%
2. should replace the traditional schedules at school	65 - 14.64%
3. would motivate students to be more self-directed	137 - 30.86%
4. cannot work for students who lack motivation to learn	144 - 32.43%
5. other	10 - 2.25%

Q6. The main reasons I use the Internet are to *(n = 444)*

1. locate information for school work	240 - 54.05%
2. communicate with network friends such as Facebook	157 - 35.36%
3. watch videos on favorite web sites	139 - 31.31%
4. download the music I want to hear	101 - 22.75%
5. send and receive emails to people	87 - 19.59%
6. other	18 - 4.05%

Q7. The web site of my school could be improved by *(n = 444)*

1. listing events with schedules and locations	163 - 36.71%
2. posting homework assignments for classes	177 - 39.86%
3. providing contact information for tutoring	110 - 24.77%
4. recognizing students for achievements	110 - 24.77%
5. other	13 - 2.93%

Q8. The ways I learn most subjects best are *(n = 444)*

1. discussions	170 - 38.29%
2. reading	82 - 18.47%
3. lectures/demonstrations in class or on videos	166 - 37.39%
4. guided practice activities	151 - 34.01%
5. other	13 - 2.93%

188

Q9. The ways I learn math and science best are *(n = 444)*

1. discussions	143 - 32.21%
2. reading	41 - 9.23%
3. lectures/demonstrations in class or on videos	199 - 44.82%
4. guided practice activities	171 - 38.51%
5. other	19 - 4.28%

Q10. I wish my school taught me about *(n = 444)*

1. how to evaluate web site credibility	128 - 28.83%
2. methods to improve my research skills	216 - 48.65%
3. how to block inappropriate messages	36 - 8.11%
4. ways to deal with cyberbullies	48 - 10.81%
5. how to use the Internet and cell phone safely and securely	39 - 8.78%
6. other	33 - 7.43%

Q11. To support safety on the Internet, I choose to *(n = 444)*

1. not reveal any personal information	320 - 72.07%
2. ask parents before downloading software	55 - 12.39%
3. keep a log of web sites I have visited	40 - 9.01%
4. let parents know if I see unsafe materials	58 - 13.06%
5. attend a class on computer and cell phone safety and security	40 - 9.01%
6. other	14 - 3.15%

189

Q12. My homework requires that I use the Internet *(n = 444)*

1. daily	228 - 51.35%
2. weekly	165 - 37.16%
3. monthly	26 - 5.86%
4. never	25 - 5.63%

0%   25%   50%   75%

Q13. When doing homework on the Internet *(n = 444)*

1. I find it difficult to decide what sites to use	215 - 48.42%
2. I copy and paste instead of using my own words	56 - 12.61%
3. I get distracted	158 - 35.59%
4. I cannot identify key words for online searches	53 - 11.94%
5. other	38 - 8.56%

0%   25%   50%   75%

Q14. I like learning from the Internet because it *(n = 444)*

1. lets me make discoveries on my own	177 - 39.86%
2. encourages a global outlook about situations	82 - 18.47%
3. helps the teachers to learn from their students	52 - 11.71%
4. enables information sharing among students	77 - 17.34%
5. allows me to learn at my own pace	191 - 43.02%
6. other	22 - 4.95%

0%   25%   50%   75%

Q15. The amount of time I spend daily on the Internet is *(n = 444)*

1. less than 1 hour	57 - 12.84%
2. 1 to 2 hours	97 - 21.85%
3. 2 to 3 hours	109 - 24.55%
4. 3 to 5 hours	75 - 16.89%
5. more than 5 hours	106 - 23.87%

0%   25%   50%   75%

190

Q16. My school can support Internet learning by *(n = 444)*

Option	Value
1. making the computer lab available evenings and weekends	78 - 17.57%
2. expecting cooperative learning teams to explore Internet sites	106 - 23.87%
3. permitting students to take some of their courses online	178 - 40.09%
4. providing assignments that require the Internet	140 - 31.53%
5. other	13 - 2.93%

Gender *(n = 444)*

Gender	Value
Male	224 - 50.45%
Female	220 - 49.55%

Grade *(n = 444)*

Average Grade: 10.43

Grade	Value
Grade 5	0 - 0.00%
Grade 6	0 - 0.00%
Grade 7	0 - 0.00%
Grade 8	0 - 0.00%
Grade 9	118 - 26.58%
Grade 10	113 - 25.45%
Grade 11	118 - 26.58%
Grade 12	95 - 21.40%

Age *(n = 444)*

Average Age: 16.27
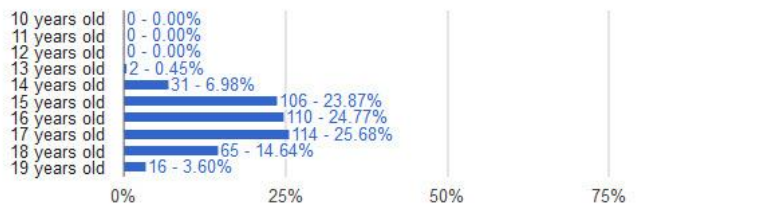
Age	Value
10 years old	0 - 0.00%
11 years old	0 - 0.00%
12 years old	0 - 0.00%
13 years old	2 - 0.45%
14 years old	31 - 6.98%
15 years old	106 - 23.87%
16 years old	110 - 24.77%
17 years old	114 - 25.68%
18 years old	65 - 14.64%
19 years old	16 - 3.60%

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Ethnicity *(n = 444)*

Asian	7 - 1.58%
Black	167 - 37.61%
Hispanic	5 - 1.13%
Native American	4 - 0.90%
White	250 - 56.31%
Other	11 - 2.48%
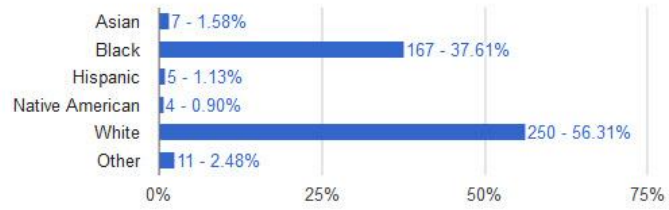
Learn about our mission to help students and their schools at www.learningpolls.org

MOTIVATION TO LEARN FROM INTERNET POLL by Paris Strom & Robert Strom©2016

Appendix D

Peer Support Poll

PEER SUPPORT POLL

*Please note that all questions (except item 12 and the demographics items) allowed for students to select <u>more than one option</u>.
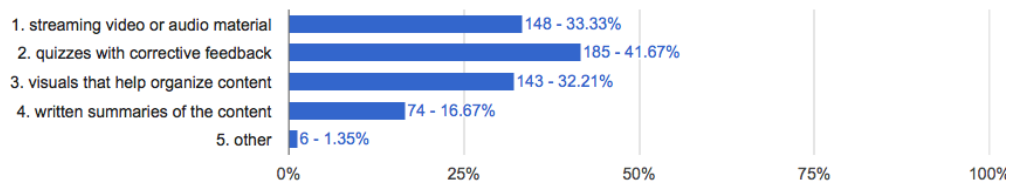
Q1. Students in my classroom learning group usually *(n = 443)*

1. tutor me when I need help	133 - 30.02%
2. make me feel that I belong	199 - 44.92%
3. treat me like an outsider	49 - 11.06%
4. talk only to their friends	93 - 20.99%
5. other	31 - 7.00%

Q2. The group work tasks that seem most difficult are *(n = 443)*

1. focusing and paying attention so we can make progress	158 - 35.67%
2. making sure group members share what they have done on thei...	135 - 30.47%
3. deciding what part of the total task each group member should do	149 - 33.63%
4. planning and meeting deadlines to get all of our work done	105 - 23.70%
5. other	17 - 3.84%

Q3. In group work situations I usually *(n = 443)*

1. take on too much of the load	113 - 25.51%
2. do my fair share of the tasks	229 - 51.69%
3. do not have to work as hard	43 - 9.71%
4. dislike working in the group	71 - 16.03%
5. like working in the group	83 - 18.74%
6. other	10 - 2.26%

194

Q4. The problems with group discussions are *(n = 443)*

1. someone takes over and dominates	144 - 32.51%
2. quiet people are not asked to talk	105 - 23.70%
3. people drift away from the topic	207 - 46.73%
4. no one challenges group thinking	84 - 18.96%
5. other	17 - 3.84%

Q5. Our teachers prepare us for group work tasks by *(n = 443)*

1. discussing possible ways to proceed	186 - 41.99%
2. identifying obstacles that prevent success	99 - 22.35%
3. suggesting reflection before making decisions	89 - 20.09%
4. defining the group work skills expected of us	132 - 29.80%
5. other	21 - 4.74%

Q6. I find that group members typically *(n = 443)*

1. challenge the reasoning of one another	120 - 27.09%
2. allow everyone an equal chance to talk	136 - 30.70%
3. bring reading materials they share with us	44 - 9.93%
4. recognize the contribution of individuals	75 - 16.93%
5. try to build on ideas presented by others	138 - 31.15%
6. other	24 - 5.42%

Q7. I would like feedback from my group to *(n = 443)*

1. identify my strengths shown in group work	155 - 34.99%
2. learn those behaviors that I need to improve	103 - 23.25%
3. recognize improvement in group work skills	125 - 28.22%
4. correct the mistakes that I make	198 - 44.70%
5. other	4 - 0.90%

195

Q8. My group members usually help me to *(n = 443)*

1. stay focused on the assignment	144 - 32.51%
2. think about views I had not considered	183 - 41.31%
3. admit uncertainty when in doubt	92 - 20.77%
4. take time to plan how we will proceed	106 - 23.93%
5. other	18 - 4.06%

Q9. I would like to learn how to *(n = 443)*

1. give constructive feedback to group members	159 - 35.89%
2. take constructive feedback from group members	99 - 22.35%
3. compare how group members see me with how I see myself	129 - 29.12%
4. provide honest feedback to all members of my group	150 - 33.86%
5. other	9 - 2.03%

Q10. I prefer that the evaluation of group work skills *(n = 443)*

1. is based on student observations of what occurs in groups	177 - 39.95%
2. be left up to the teacher to decide how each student is performing	155 - 34.99%
3. shows peer feedback that can be kept in my school portfolio	82 - 18.51%
4. occurs in every subject that I am enrolled in at school	78 - 17.61%
5. other	5 - 1.13%

196

Q11. When I express ideas, my group members usually *(n = 443)*

1. consider my ideas and how to make use of them	245 - 55.30%
2. challenge my reasoning that may be incorrect	116 - 26.19%
3. listen but dismiss ideas without consideration	95 - 21.44%
4. make fun of my ideas	42 - 9.48%
5. other	14 - 3.16%

Q12. When a group member makes negative or hurtful comments, I *(n = 443)*

1. choose to ignore it and move on to something else	243 - 54.85%
2. confront the person on their disappointing attitude	136 - 30.70%
3. tell the teacher about it but not tell the individual	42 - 9.48%
4. express concern to other members but not the person	22 - 4.97%

Q13. My experience working in groups could be improved by *(n = 443)*

1. avoiding distractions that keep me from paying attention	219 - 49.44%
2. knowing the importance of group skills for getting a job	96 - 21.67%
3. honest peer feedback on how to do better in the group	142 - 32.05%
4. the teacher talking about certain group work skills	58 - 13.09%
5. other	15 - 3.39%

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Q14. I think groups could encourage full participation in discussions by *(n = 443)*

1. making sure each person talks before considering another topic	173 - 39.05%
2. encouraging quiet members to feel comfortable about speaking	186 - 41.99%
3. teaching students to discuss ideas without judging the speaker	121 - 27.31%
4. limiting time for each member to talk	67 - 15.12%
5. other	8 - 1.81%

Q15. When making group assignments, I find that we struggle with *(n = 443)*

1. identifying fair and equal tasks to be carried out by each person	183 - 41.31%
2. deciding who will do a task when more than one person wants it	159 - 35.89%
3. determining a due date for work so that things are ready on time	89 - 20.09%
4. figuring out best ways for each member to share what they lear...	116 - 26.19%
5. other	10 - 2.26%

Q16. The group work skills that individuals demonstrate should be *(n = 443)*

1. shown on report cards in the same way as reading and mathem...	84 - 18.96%
2. determined by students who observe each other's behavior in gr...	169 - 38.15%
3. decided by the teacher who evaluates everyone in the class	182 - 41.08%
4. considered acceptable unless peers complain	66 - 14.90%
5. other	11 - 2.48%

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Gender *(n = 443)*

- Male: 225 - 50.79%
- Female: 218 - 49.21%

Ethnicity *(n = 443)*

- Asian: 6 - 1.35%
- Black: 166 - 37.47%
- Hispanic: 5 - 1.13%
- Native American: 4 - 0.90%
- White: 250 - 56.43%
- Other: 12 - 2.71%

Grade *(n = 443)*

Average Grade: 10.43

- Grade 5: 0 - 0.00%
- Grade 6: 0 - 0.00%
- Grade 7: 0 - 0.00%
- Grade 8: 0 - 0.00%
- Grade 9: 118 - 26.64%
- Grade 10: 111 - 25.06%
- Grade 11: 119 - 26.86%
- Grade 12: 95 - 21.44%
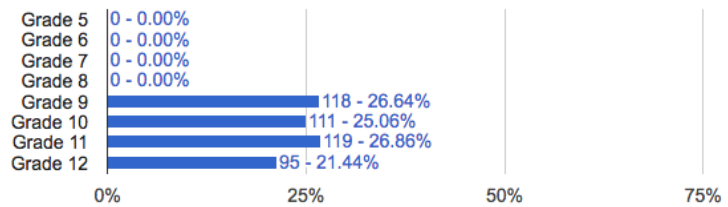
Age *(n = 443)*

Average Age: 16.26

Age	Count - Percentage
10 years old	0 - 0.00%
11 years old	0 - 0.00%
12 years old	0 - 0.00%
13 years old	1 - 0.23%
14 years old	31 - 7.00%
15 years old	110 - 24.83%
16 years old	106 - 23.93%
17 years old	115 - 25.96%
18 years old	65 - 14.67%
19 years old	15 - 3.39%
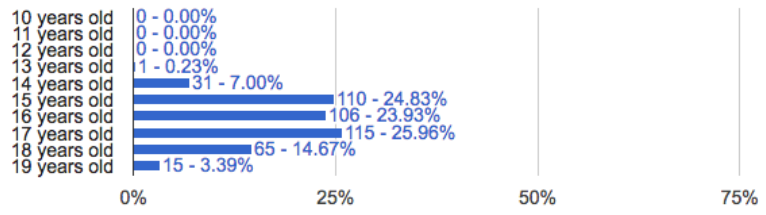
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