

Technology Skills and Perceptions of Online Classes in the Social Studies
Department at Merrill Senior High School as a Foundation
for Organizational Change

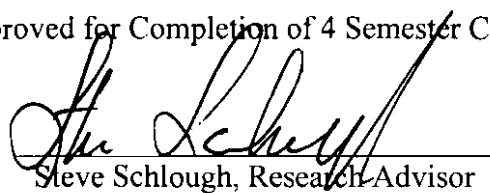
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ABSTRACT

A literature review of change effort methodology, technology skills, and online class perceptions was assessed in this research effort. In order to lay the foundation for an organizational change, the staff of the Merrill Social Studies Department and students taking the United State's History course were surveyed in order to determine the perceptions of online classes and their software and hardware skill levels. The results of the survey and literature review culminated in a series of recommendations for an organizational change towards the implementation of online classes.

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Chapter I: Introduction

In the Merrill Area Public School (MAPS) District there has been a push for incorporating online experiences into the Social Studies curriculum. District efforts have culminated in offering an online Holocaust class in the spring semester of 2009; however, interest has been high, but enrollment is low. Students have expressed anxiety to both administration and staff regarding how an online class works and how such experiences differ from traditional classes. As the 2007-08 school year concluded, MAPS has begun considering how online learning in Social Studies can be best implemented in order to ensure student and staff readiness for online learning experiences. In order to ensure the best possible online program that is widely accepted, determining perceptions and skill levels of both staff and students is foundational to the success of the change effort and will ensure the solution is made specifically for Merrill's unique situation. As education evolves Merrill wishes to stay current, and an analysis of how such learning can be best implemented is essential for the future.

Statement of the Problem

The Social Studies department needs to identify student and staff technology skills and perceptions of online classes to lay the foundation for an organizational change towards the inclusion of online classes.

Purpose of the Study

Upon completion of the study several key objectives were met. First the perception of online classes and the technological skill level of Social Studies staff and students were surveyed. From the results of both the survey and the literature reviewed, an organizational change plan was developed.

Assumptions of the Study

Academic departments often have similar components; however, implementing electronic learning in the Social Studies department may be different than the procedures used for other content areas. Also, the survey responses will be treated as truthful and accurate.

Definition of Terms

Online learning. Instructional experiences mediated by the Internet where content and classroom interactions are presented through a learning management system to encourage the development of knowledge and personal growth (Ally, 2004).

Organizational change effort. A change effort that occurs at an organizational level can also occur within a component of an organization. A school district could be subject to an organizational change, just as a single academic department could, for example.

Administration. Superintendents, school boards, and the school principals form the overall administration of a district and the individual academic departments. A union of teachers also forms an aspect of the administration, which represents and protects the rights of the staff.

Limitations of the Study

Recommendations generated from the literature review regarding organizational change may be more easily generalized than the results of the survey. Also, while the fundamentals of good education are consistent in many ways for all academic areas, the following study is specific to Social Studies and does not explore issues related to other departments. Furthermore, the study relates most fully with secondary education, rather than elementary, middle, or post secondary experiences. In addition, this study examines how to implement online courses, not how to teach an online course.

Methodology

The methods utilized include both a literature review and a survey, administered to both the Social Studies staff and students currently taking the United States History class. From the review of literature and the findings of the survey, recommendations were derived for the organizational change effort regarding the embrace of electronic learning experiences.

Chapter II: Literature Review

As online learning has emerged as a powerful medium for educational opportunity, there has been growing demand for asynchronous learning experiences that utilize a more flexible student centered approach. Online classes, like any educational format, can be used to create effective courses where students learn a great deal in an authentic manner, or can devolve into reading and summarizing. By reviewing the research of student and staff skills and perceptions, one can set a foundation for a well constructed online experience. An older topic, but essential to the current study, is organizational change, or a process of system wide modifications. The goal of this literature review is to reveal the trends of student and staff perceptions and skill levels regarding online education and how organizational change can occur within a secondary Social Studies academic department for the embrace of online learning.

Student Skills and Perceptions of Technology

In many ways skills and perceptions of technology are intertwined as successful experiences lead to positive perceptions. However, the perceptions and skills of students are undoubtedly affected by the availability of technology, which is often limited by the expense of computers and internet connectivity. As the expense of staying up to date is continual in an age of rapidly changing technologies, even in the late 1990's researchers were acutely aware of the problems of technology availability and funding in urban centers (Walker, 1997). The future, Walker contends, will hold harsh realities for those without the necessary technology skills. Given that technology availability is not uniform, skill levels will vary greatly, despite the much discussed technology skills of the Millennial Generation, which spans from 1982 to present (Strauss, 2005). In an era with many youth multi-tasking (i.e. listening to iPods, working with laptops to complete assignments while talking on the phone), some are concerned that children today are getting too much exposure to technology (Wallis, Cole, Steptoe & Sturmon, 2006).

Ultimately, the technology skills of high school students will be based, in part, on availability. However, ensuring a high skill base is costly and has not been considered a public priority, though technological skill will be needed in order to advance in most professions (Walker, 1997).

More immediate than career aspirations, giving students the opportunity to interact in online classes will become a major priority as colleges move towards online coursework. Research has indicated that students can overcome initial anxiety over online classes but unless the course is carefully developed constructivist goals will not be met, which will affect both the perceptions and skills of both teachers and students who use technology (Hughes & Daykin, 2002). From the Hughes & Daykins report, online communication was mandatory in order to create online work groups but the collaborative nature of constructivist learning was not met, as people did not discuss the content and often found it hard to critique the work of their peers. However, through discussion and introductory experiences like signing into the learning management system the initial stress of taking an online class was quickly alleviated.

A particularly interesting study was conducted regarding personality traits and the perception of learning in the online class format. Interestingly, while online students thought they would have learned more in the traditional format, these perceptions were not backed by the research (Kelly & Schorger, 2002). Students did not perform significantly different from those participating in the traditional setting, and though some found the self paced atmosphere liberating, others found online classes to be a source of irritation. Perhaps the most interesting conclusion from the research was how little specific personality traits influenced student achievement. While the study had been primarily interested in extroversion, thinking, judging, and intuition the only difference was that those with three of the four traits tended to favor the online experience (Kelly & Schorger, 2002). As the report concluded, an especially insightful statement was included

regarding the nature of online classes and how such experiences will continue to be demanded as a part of our rapidly evolving world.

While some students may feel uneasy about the online experience, some students have an expectation that online courses lacking traditional structure are somehow easier, or do not require the same time commitment (Harding & Mainka, n.d.). Online classes can seem harder as they require motivation and discipline in a way that is different than the traditional classroom. Several other mistaken perceptions include the idea that by taking online classes one can carry a heavier load, or that once a person has posted to a threaded discussion, there is no need for follow up comments. Perhaps the strangest perception that some students hold relates to deadlines. While many students would perhaps not make this mistake, some apparently believe that deadlines do not have to be followed in online classes and that meeting deadlines will not be considered in the final grade. Another myth regards grammar; within discussion, scholarly writing was not considered essential. Even plagiarism is listed as an action that may be taken with impunity. Teachers of all online classes would do well to address these myths immediately on the first day of class (Harding & Mainka, n.d.). While teachers of online classes often embrace different methodologies and expectations, the authors state expectations must be made clear at the beginning to ensure each student moves forward in the class without these misconceptions.

Teacher Skills and Perceptions of Technology

Staff perceptions of technology have often been positive as research indicates the incredible educational opportunities that technology can provide. As a vehicle for authentic projects, the computer and Internet offer ways to complete tasks similar to those performed by experts (Woo, Herrington, Agostinho & Reeves, 2007). As constructivist learning has been a goal of educators for many years, technology and computer based activities offer the hallmarks of effective authentic instruction (Herrington & Reeves,

2003). Authentic student centered work often includes projects with practical applications. The project's goal may be defined, but the path towards completion is not made fully clear, allowing students to confront the problem in the way an expert would: by creating sub problems and timelines for completion of the larger goal. Furthermore, the students are expected to spend greater time thinking about the problem by collecting more information and considering the problem from more than one perspective. Students in such tasks will also be required to work in teams and reflect on the project in greater depth. Authentic tasks, while challenging, also provide an opportunity to evaluate how other academic disciplines would evaluate the issue (Herrington & Reeves, 2003). From the teacher's perspective, the authentic task will be tied directly to assessment and the final product can be treated as an end in itself, not used to achieve another goal. Finally, and perhaps most importantly, students will gain the opportunity to see how several viable solutions can be developed from an authentic task (Herrington & Reeves, 2003). While educators have strived to create activities from a constructivist perspective for many years, the possibilities offered through effective learning technologies are both useful and exciting, allowing for students to work as experts do, creating knowledge in a substantive and authentic way.

While research has shown that technology can be used to create worthwhile educational experiences, which has enhanced the perception of online experiences, the individual skill set of the teacher has an impact on what will happen in the classroom. Such phenomenon has been noted in a variety of professions, including medicine, where many generations work together as colleagues (Baum & Dowling, 2007). Within the medical profession, several generations work together, similar to how teachers work. First identified is the Traditionalists, including those born 1930-1945, the Baby Boomers, born between 1946 – 64, and Generation X, 1946 -1980 (Baum & Dowling, 2007). While broad labels, applied to large groups are perhaps unwieldy, characteristics have been

identified for each generation. The Traditionalists as a whole are approaching retirement and are not as likely to pursue high technology opportunities for either recreation or for their practice. Given the proximity to retirement, little gain is perceived for learning what may not be considered essential. Greater emphasis is placed on their wealth of experience rather than high technology (Baum & Dowling, 2007). The Baby Boomers are more likely to use electronic means of communication, but for the most part will still be interested in printed materials to keep up to date in their profession. Retirement is also not far away and may still occupy a role in the consideration of whether or not to pursue technology training.

Perhaps the biggest break with the past comes with Generations X and Y. Generation X often uses technology as a way to enhance their abilities, given the comparative inexperience with those of the Traditionalist generation (Baum & Dowling, 2007). Interestingly, Baumer & Dowling note doctors from Generation X may not own the volume of medical texts like prior generations, as electronic copy and digital resources have reduced the need for a paper copy. Perhaps within the medical field, like in many others, staff from Generation X will be more comfortable with the notion that knowledge is growing at such a pace that owning a hard copy of new research will quickly become too space intensive. Educators belonging to Generation Y, the group of educators born 1977 to 1989, further the trend of high technology usage (Wong & Wong, 2007). The newest teachers will generally be excited to use technology in their classroom and will often turn use technology for entertainment, education, and as a primary news source. In particular, Generation Y will be accompanied by the newest trends in technology including social networking sites and a growing trend towards global citizenship (Wong & Wong, 2007).

Organizational Change

In a change effort there are a variety of methodologies that can be used. One such method, Critical Research has been used to identify the ideology of a group undergoing a change effort in order to address what is happening verses what should be occurring (Rothwell, Sullivan, & McClean, 1995). Critical Research was derived from Marxist techniques which utilize dialectic to address the struggle between how the organization is functioning and how it should be.

However, in terms of an educational system intervention, Action Research, first developed by Kurt Lewin, has been identified as an excellent way to approach change. Lewin viewed the ideal change effort as a spiraling process of initial data collection, actions taken based on the findings, followed by evaluations through further data collection (as cited in Calhoun, 2004). The idea for Action Research, originally stated in his 1946 paper *Action Research and Minority Problems*, offers a way to envision how change can be accomplished in a way that blends practice with research. Lewin's ideas have undergone important revisions to address problems in a richer manner, while leaving the ability for actions to be taken in research directed way. As an extension of Lewin's original three-step model of Action Research, later researchers have developed an eight-step technique that describes the role of the consultant or human resources to implement change (Rothwell, et al., 1995). Using the Action Research Model's eight step method is particularly useful as it provides a framework for a change effort in a component of an organization; in this case, a Social Studies department. To give an overall structure to the Organizational Change section of the literature review the following outline from Rothwell's eight stages of Action Research will be used, while other researchers will also be noted as sources relevant to online learning implementation:

1. Entry

2. Start-Up
3. Assessment and Feedback
4. Action Planning
5. Intervention
6. Evaluation
7. Adoption
8. Separation

During the entry stage the initial problem is identified followed by start-up which entails the consultant moving into the environment, refining the problem and creating enthusiasm for the change effort (Rothwell, et al., 1995). Especially important during the start up phase is talking with individuals from diverse positions within the organization. While upper management is likely to have invited the change effort, working with staff, students, the technology department, and even human resources is essential for a successful program (Davis, 2004). During start-up, the technology department's involvement will be needed to predict the bandwidth needs, the availability of the help desk, and policies for technology use. The foundation to online education is the learning management system (LMS) that will be used. As online classes and training have become more common, several LMS have become available. After evaluating the courses to be supported and the availability of technical assistance, an organization's first decision will be whether to buy an LMS or to use one of the free systems available (Davis, 2004). Regarding the decision about which LMS to use, considerations for training and technical support must be examined as one can go to conferences and receive advance notices of future software changes for software that is bought. However, if a free LMS is to be used staff and students will receive all assistance from the technology staff. An additional consideration mentioned includes the problems associated with adding more functionality or choosing a complicated LMS. All changes or complications will lead to potentially

higher levels of student and staff stress and greater resources being dedicated to the help desk. Finally, while the initial predictions are important, consideration must also be given to how the system will evolve over time to meet future needs.

Meeting with human resources is also essential during the start up stage as many groups have a collective bargaining agreement, which will likely need to be modified given the alternate schedules online classes provide (Davis, 2004). Also not to be overlooked are the librarians or media specialists, whose insight may prove indispensable as teachers begin to gather electronic courseware to support their curriculum. After diverse consultation with those involved in the change, results and feedback are given to management who then move into the action planning stage in which a plan is developed followed by implementation. Within the implementation stage, staff and students must be encouraged to hold the right mindset, by consistently emphasizing that educational initiatives are based upon the needs of students, changes in technology, and instructional best practice in order to meet educational goals as well as possible (Davis, 2004). According to Davis (2004) teachers and students must remember that all teaching and learning is based upon the academic needs of the learners and the objectives of the course, which is true regardless of how the curriculum is delivered.

As the implementation continues the change effort is evaluated for its level of success and is then hopefully adopted as the company takes responsibility for the effort's continued maintenance and improvement. Especially during the adoption stage, the continued importance of leadership cannot be overemphasized. The creation of a governance board, carefully balanced between educational experts, the technology department, teachers and even students can be used to monitor and advocate changes that will best meet the needs of those using the online platform (Davis, 2004). Having set a mechanism in place for the change's continuance, the consultant leaves the company. Within the Critical Research method, which is both a model for change and a process, the

consultant must leave in order for the company to move forward. As human resources or the consultant assumes new projects, senior management or their delegates must assume responsibility and be given the authority to ensure the change effort is maintained (Rothwell, et al., 1995).

In order to identify what sorts of change efforts succeed, given the potentially high cost of major changes, several recommendations have emerged (Cowley, 2007). In the first case senior leadership involvement must be emphasized through both formal and informal means of communication to motivate employees for change. While the recommendations include senior leadership involvement, getting members from all levels of an organization to the table is important in order to see a change effort succeed. Without a constant call from management, change efforts will not be seen as important or even valued. Therefore, there is a high need for leadership to state the effort's importance through formal means by selecting credible project leaders, developing measures to determine the effort's success, and appointing funds to the project. Without such concrete measures, many will not take the effort seriously. Once the formal set up is complete and continuously maintained informal discussions with key personnel and building teams committed to the change will impact the culture of the organization to enhance the effort's chances of success. The key to a successful change is not simply eloquently speaking on the need for change and outlining brilliant ideas. While philosophical discussion can be great, resources must be assigned to the change effort for people to move forward (Cowley, 2007). Within the research an interesting dichotomy occurred between technical and non-technical change efforts. In a technical change sometimes formal avenues are emphasized to create goals and allocate resources without consideration to the informal means of gaining support for an organizational change. The opposite problem occurred within non technical changes as people began to focus on informal means of change over the formal; both leading to less than enviable results.

Therefore both formal and informal methods should be initiated, emphasized, and maintained by senior management and their delegates (Cowley, 2007).

Conclusion

In conclusion, both the skills of students and teachers have been reviewed. While many students may have access to computers and Internet, students will come to class with a variety of skills. Teachers will also have diverse skills partly dependent on their age and interest in technology. From the review of organizational change and issues relating to online learning, one may note that each academic department may have unique needs as online education is incorporated into the school systems. Also, gaining both student and staff acceptance of online learning is one of the key tasks of implementing a successful program, as acceptance will lay the foundation for a change that will persist and become the norm as online classes become an unquestioned part of the secondary high school experience. One cannot over emphasize the importance of careful implementation as organizational change efforts fail over half of the time (Maurer, 1996).

Chapter III: Methodology

In order to develop an effective online program, identifying the skills of staff and students in technology and their perceptions of online classes is an important first step. Upon completion of research, student and staff skills and perceptions of online classes were assessed to lay the foundation for an organizational change towards the inclusion of online classes. Specifically, students and staff were asked questions about their skill level with both hardware and software, though not specific to a type of computer or operating system. The final part of the survey focused on perceptions of online learning, including questions on how online experiences compare to traditional education in meeting instructional objectives. From the results of the survey, training needs were determined as well as perceptions that needed to be addressed in the buy in stages of implementation. Presented here is a description of the sample to be surveyed, a description of the survey instrument used, and how the data was collected and analyzed. Finally, the limitations of the study are identified, as well as how the literature review will be used to develop an organizational change plan.

Subject Selection and Description

The sample for the study is both the Social Studies staff and the students of the US History classes. US History was selected as it is one of the last required classes students take in Social Studies and is just before any online classes would be taken in the department. While the class is mostly sophomores, a limited number of juniors and seniors may be included in the population. Also, several special education sections will be included in the sample, as one of the future goals for MAPS is to require an online experience for all students. The final sample included five out of seven Social Studies teachers and 266 US History students out of 306.

Instrumentation

The twenty-four question Skills and Technology Perception Survey (STPS) was created to explicitly ask about specific usage of both software and hardware and the perceptions of online courses. The first eight questions focus on hardware skills, the following seven emphasize software. In addition, a nine question section was created to address the perceptions of taking online classes. The instrument was reviewed by both teachers of online classes and the technology department to ensure the validity of the survey.

Data Collection Procedures

A twenty-four question survey was administered to the US History students and the Social Studies staff in early September. Students and staff used the UW – Stout survey tool. Students were taken to the computer lab during their assigned US History period where they completed the survey. The staff was able to complete the survey during their preparatory period. A literature review was also used to determine how online classes should be implemented. Those students who did not wish to complete the survey were exempted and no personally identifiable information was collected in the course of the survey.

Data Analysis

Once the survey was completed descriptive statistics were used to draw both a mean score for each question, as well as standard deviations to determine training needs as well as perceptions needing to be addressed in order to sell the online program to both staff and students. The results of the survey and the literature review were refined into guidelines for the implementation of online learning in the Merrill High School Social Studies department. In order to act upon the results of the survey the following decision table was used, adapted from a table developed by Nelson & Lee (2006):

Table 1

Decision Table

Mean	SD	Rating	Decision
3.5 – 5.0	≤ 1.0	Low	Not a Training/ Perception Concern
3.5 – 5.0	> 1.0	Medium	Possible Training/ Perception Concern
1.0 – 3.49	≥ 1.0	High	Definite Training/Perception Concern

Questions receiving a Low rating will be treated as needing no further investigation in the change effort. Selections with a Medium rating will be evaluated in terms of first how high the mean is and then by standard deviation, as well as how foundational the question is deemed to be for a successful online experience. Those questions receiving a High rating will be considered essential for consideration as either training issues or perceptions needing to be addressed in the change effort.

Limitations

While potentially interesting, statistics were not run to compare teachers and student survey responses. Staff results may be misleading, as the teaching staff contains a fairly even mix of those commonly described as Baby Boomers and those who would belong to Generation X, who often have dissimilar skill sets and perceptions regarding technology. The main purpose of giving the survey was to gain insight into how to market the change effort to both students and staff and to determine training needs, making such comparisons unnecessary.

Chapter IV: Results

Using both a survey and a literature review this research effort sought to develop an organizational change plan to begin an effective online program. By identifying the skills of staff and students in technology and their perceptions of online classes and completing the literature review a unique implementation plan was developed specific to Merrill's needs. Students and staff were asked questions about their skill level with both hardware and software to complete common technology tasks. The survey concluded by asking questions about perceptions of online learning, including selections addressing the subject's willingness to take such a course, as well as online education's usefulness in one's academic future. From the results of the survey, training needs were determined as well as perceptions that needed to be addressed in the buy in stages of implementation.

Analysis of Literature

Student skills and perceptions of online classes. From the findings of the literature review technology skill levels and perceptions of students are a complicated issue. Technology availability is simply not uniform, especially in major urban centers which will lead to differing skill levels. Merrill, a small community with a \$17,940 per capita income in 1999, and 13.6% having a bachelor's degree, lags the state average of \$21,271 and 22.4% respectively (U.S. Census Bureau, 2008). Given these statistics, one can safely assume that technology access may be variable within the district. Access to technology will likely have an impact on technology skills and perceptions, especially for students who are often dependent on their parents. Perceptions of online classes will likely include initial anxiety, however, as is true in many situations, successful exposure leads to more positive perceptions of online classes.

Student personalities may play a role in how online classes are viewed. From the literature review those students with markedly high traits of extroversion, thinking, judging, and intuition liked the online experience more, however, individuals with these

traits do not necessarily perform better than those without. Perhaps issues of personality in online classes is a lesser point, as many students regardless of personality may take an online course for a variety of reasons including an expansion of their educational experiences and skill base.

Perhaps the most important aspect of student perception's regarding online education is the myths surrounding the nature of an online course. Especially important for students to remember is many conventions of the classroom experience are expected regardless of the method of classroom delivery. Adherence to due dates, good grammar, and the understanding that online courses are not easier than traditional courses are very important for students to remember. Plagiarism is never allowed, nor is the idea that online classes cannot hold discussions albeit in virtual form. Students would do well to work conscientiously in the online format just as they would in the traditional format.

Teacher skills and perceptions of online classes. From the research that has been collected regarding the benefits of online education, teachers often have positive views of technology that can enhance instructional goals. Authentic tasks, those activities that mirror the work professionals perform in their careers, can be developed using computers and the Internet. While authenticity in classroom activities can be time consuming to create, computer based, higher order thinking activities are often compelling for students of all abilities.

Perhaps the greatest barrier in a general sense is the generational divide that teachers experience among themselves. Those close to retirement may not pursue technology as the time spent may not translate into a long lasting professional investment. Those ten to fifteen years out from retirement may use technology as a matter of convenience, but may not pursue technology training when traditional alternatives seem to work just as well. For those who are a part of Generation X and Y, technology will probably be used to its greatest extent; however, notable exceptions will likely occur

within all generational groups regarding technology usage. One would do well to resist too readily accepting generational categorizations regarding attitudes towards technology.

Organizational Change. In education systems the results of the literature review indicate that using the Action Research model is an excellent way to both understand the process of a change effort and how to go about making a change. Determining the problem, talking to those who will be affected and planning how the change will occur provides a solid foundation to start. After the intervention, the Action Research model guides the change agent to evaluate progress and encourage adoption of the change effort. In two stages in the model data is collected and evaluated to ensure the project stays on track, while ensuring the change effort moves forward.

Within an organizational change effort many groups within a district must be consulted, especially with implementing online education. Staff and students must be educated about the nature of online classes and be willing to take one; however, the technology department takes one of the leading roles once a need for such a course has been demonstrated. Choosing the LMS by considering current and future needs is an important component, as well as creating a help desk resource for both students and staff. Given the flexible nature of an online course, meeting with both union officials and human resources is also necessary to consider the contract and compensation issues regarding the new online offerings. Media specialists or librarians will often need to be included, especially as teachers may need assistance finding materials suitable for the online platform. Finally, while the objectives of an excellent education remain the same regardless of format, the literature indicates opportunities for authentic lessons that effectively utilize technology, which is exciting for teachers looking to provide real world lessons to their students.

While the support of the technology department and the administrative support of human resources and the teacher's union is essential, gaining the clear interest of upper

management, including principles and superintendents is exceedingly important. While initial spirited discussion is necessary, leaders must also create enthusiasm for the project by appointing project leaders and designating resources to advance the project. Without the physical support of leadership, resources, and consistent attention, a change effort, which is in the domain of senior management, will not likely meet with full success.

Analysis of Student Responses to the Survey

For ease of interpreting the survey data, both student and teacher responses have been organized into hardware, software, and perceptions of online classes categories.

Table 2

Student Hardware Skills

Question	1	2	3	4	5	6	7	8
Mean	3.06	4.33	3.37	3.06	3.75	4.78	4.37	3.00
Standard Deviation	1.41	0.94	1.37	1.37	1.26	0.66	1.00	1.26

Students have some difficulties identifying components of a computer with their proper names. Peripheral equipment like keyboards and scanners are areas students may need training in. Students may not have suitable technical support should they have technology trouble at home. However, keyboarding skills appear to be relatively high, as well as using computer mouse.

Table 3

Student Software Skills

Question	9	10	11	12	13	14	15
Mean	4.58	3.89	4.37	4.53	4.33	4.75	3.08
Standard Deviation	0.77	1.42	1.24	0.84	0.91	0.70	1.30

Software skills appear to be a strong area for students. Using word processors, saving files to a specific fold, and retrieving specific files seem to be tasks students are

comfortable with. Furthermore, students seem to comfortable using search engines like Google to find information. Students do have difficulty with PowerPoint, email access, and troubleshooting resources.

Table 4

Student Perceptions of Online Classes

Question	16	17	18	19	20	21	22	23	24
Mean	3.72	3.82	3.54	3.81	3.72	3.57	3.54	2.99	3.97
Standard Deviation	1.15	1.52	1.20	1.27	1.32	1.28	1.18	1.36	1.19

Students have widely divergent views about online education. While individual averages for perception questions are high, no question has a high consensus. Overall, student perceptions of online classes must be addressed in order for the change effort to be successful. All questions regarding perception must be considered when addressing the concerns of the sophomore class, especially as all standard deviations are especially high in the perception category.

Analysis of Teacher Responses to the Survey

Staff trends offer intriguing insights as the results were highly divergent. Despite relatively high overall means for individual questions, standard deviations offer a wide set of differences among staff.

Table 5

Teacher Hardware Skills

Question	1	2	3	4	5	6	7	8
Mean	4	3.8	3.2	3.8	4.2	4.2	4.2	3.6
Standard Deviation	1.73	1.64	1.64	1.78	1.78	1.78	1.78	1.67

Teacher hardware skills are high in terms of the mean results. Some teachers have a high skill level, while others are at a lower skill level. Each question offers a potential training need, except for a clear deficiency in keyboarding skills.

Table 6

Teacher Software Skills

Question	9	10	11	12	13	14	15
Mean	4.2	4.4	4.2	4.2	4	4.2	4
Standard Deviation	1.78	1.34	1.78	1.78	1.73	1.78	1.73

The results of the software skills section continue to show a wide dichotomy between those with high skill levels and those that do not. Especially interesting is the high mean for each section, while the standard deviations are quite high. At least some staff will need training before an online class would be a reasonable course of action.

Table 7

Teacher Perceptions of Online Classes

Question	16	17	18	19	20	21	22	23	24
Mean	3.6	3.6	3	4	4.4	4.8	4.6	4.4	3.6
Standard Deviation	1.34	1.94	0.70	0.70	0.54	0.44	0.89	0.89	1.67

The most intriguing section of the staff responses relates to the perceptions of online classes. There is a great division regarding the availability of resources to take online classes and those with dependable internet access at home. On whether or not traditional classes offer the same educational value, teachers are neutral, however, on the whole most seemed to support the benefits of an online education. However, teachers do have divergent views on whether or not they would have dependable internet access at school.

Within the final chapter conclusions will be drawn and the limitations of the study will be reiterated. Finally overall recommendations derived from both the literature review and survey will be provided.

Chapter V: Discussion

As MAPS considers the implementation of online courses several information sources have been analyzed to lay a foundation for a successful organizational change effort. First, a literature review of successful organizational change methodologies have been reviewed, as well as staff and student perceptions and skill levels relevant to online education. While the literature review provides an excellent foundation for creating recommendations for implementing online classes, a survey measuring technology skills and perceptions of online classes was administered to both sophomore US History classes and the Social Studies staff of Merrill Senior High School. The findings of the literature review offer several insights into trends within online class implementation and perceptions of students and staff. In combination with the analysis of the survey, the literature review has been evaluated to create a set of recommendations to guide the online organizational change effort.

Limitations

Recommendations generated from the literature review regarding organizational change may be more easily generalized than the results of the survey. Also, while the fundamentals of good education are consistent in many ways for all academic areas, the following study is specific to Social Studies and does not explore issues related to other departments. Furthermore, the study relates most fully with secondary education, rather than elementary, middle, or post secondary experiences. In addition, this study examines how to implement online courses, not how to teach an online course.

Conclusions

Several important conclusions can be drawn from the literature review. First, considering the technology needs of students is essential, in terms of both the equipment, and the skills needed to use technology effectively. As MAPS has a great deal of variability in the availability of technology and skill levels, addressing training needs will

be crucial. Students must also be made aware of the challenges of online courses, while potentially unique, still require hard work and diligent attention. For the Social Studies staff, sharing the benefits of authentic technology based instruction may prove to be an effective way to motivate and intrigue staff about the possibilities of technology related activities. However, one must be careful to demonstrate online education's benefits in a non threatening way to ensure that Traditionalists, as well as Baby Boomers and those of Generation X and Y find the possibilities compelling but not overwhelming.

While teachers may get excited about technology based education, the method of implementing online courses must be carefully chosen. Online courses include a fundamental organizational change in how teachers and students interact and must be rooted in research, yet nimble enough to react to student and staff needs quickly, which is an important advantage of the Action Research model. Within the change effort, clarifying the nature of the issue, acting upon careful planning and evaluating the results for future improvements will ensure the change effort's success. If appropriate district wide individuals are invited to help coordinate and advocate for online courses, under the guidance of passionate upper leadership, the organizational change will succeed.

The survey administered to both staff and students offer important insight into the technology skills, perceptions of online education, and the training needs of both groups. Training for students seems essential for students in both hardware and software. Identifying the components of a computer, keyboarding skills, and peripheral equipment like scanners are areas identified by students as training needs. Students will likely need help with technical support and help with software like PowerPoint and email services. Student perceptions will also need to be addressed in marketing online classes as nearly all questions have high average responses, however the standard deviations are large enough to suggest some students are not excited by online educational experiences. Teacher hardware skills are all potential training needs; despite the high average

response. Standard deviations are all quite high, with the exception of keyboarding skills, which staff responses indicate is a definite training need. Software skills overall are quite high, but software training is potentially needed as the standard deviations are large. Finally, the overall perception of online classes is positive, with the only issues being dependable home and school internet access, and adequate home resources to take such a class. Interestingly, staff is neutral on whether online education is as effective as the traditional format, but generally agrees an online course should be a part of the Merrill Senior High education.

Recommendations

In order to put the findings of the survey and the literature review into a workable context, a model of the Merrill Social Studies Department has been developed to provide structure for the recommendations. Organizational change efforts are challenging and complex to implement, which require the coordination of the entire system. A change effort cannot be sustained by one person or group, nor can the effort reach full success without the support of diverse groups within the organization. In order to make a change effort the most successful and the least stressful, a key notion is to ensure that each group in the system is invited to participate and be a part of the decision making process. An additional consideration exists as the first online classes will likely set precedents that may have a district wide impact. Important issues will have to be resolved including the duties of online teachers and how the teaching union will advocate for online teachers. Therefore, the first online class will operate as a pilot for other online Social Study classes and set precedents that other teachers will encounter in other departments. Viewing the first online class as a pilot offering with district wide implications is a proper context in which to view the class. As a pilot offering, the class must also be successful in order to justify the costs of such a course and to create acceptance and enthusiasm among staff and students.

The model below describes the components of an academic department and the interactions of its groups. At the center of the model is the teaching staff that works under the direction of the administration and the school board and draws upon the support of the technology department and the curriculum to create relevant learning experiences for students. While technology, curriculum, and district and school leadership clearly affect students their influence is often indirect. Students most commonly experience the effects of groups other than the teachers through the expectations, constraints, and opportunities that teachers work under. The following includes specific recommendations for each component of the social studies department and how the change effort could be conducted in a way that encourages interventions supported by research.

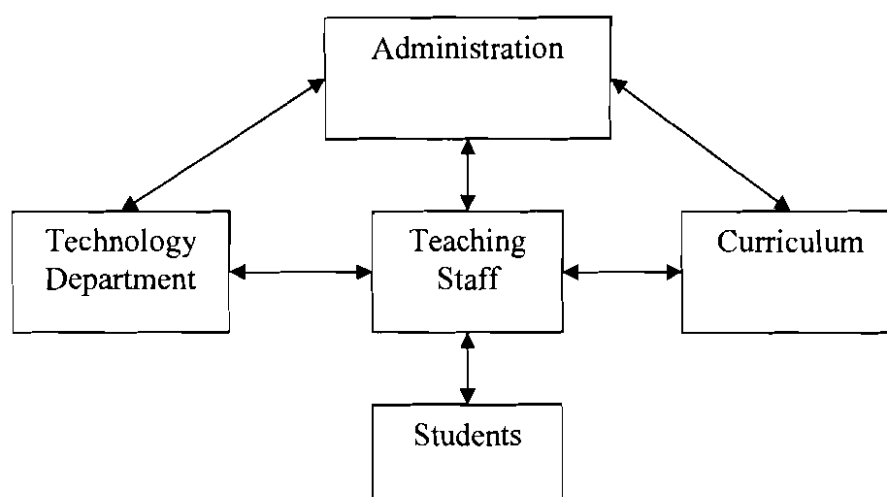


Figure 1. Model of the Merrill Social Studies Department

Administration. As the senior most officials at the local level, the school board and the superintendent must be encouraged to develop an initiative for online learning that is supported by encouragement and resources for the building principal and teachers.

Recommendations include:

1. Wide discussion of the benefits of online education perhaps using a focus group to bring members from all affected departments, including students to explore the goals of the new initiative.

2. Appoint a project leader for online learning, with the resources and authority to make the online initiative successful.
3. Create benchmarks for successful implementation of online classes to measure the success of the initiative and make changes as appropriate.
4. Celebrate the success of the initiative as the implementation moves forward by recognizing early participants, including both students and staff.

The teaching union has a special role in a district, which must safeguard the rights and jobs of the staff. As online education offers an enormous change from the traditional teaching environment the union should address several concerns during bargaining:

1. How online classes will be scheduled.
2. Requirements for the teacher's physical presence when teaching an online course.
3. Identify the availability needs of the physical teacher despite the nature of online classes and the potential salary implications.
4. The possibilities of teaching students from other districts.

Technology Department. The requirements of the technology department will be large if the online class initiative will be successful. The following recommendations outline some the major technology needs:

1. Select and maintain an appropriate learning management system that meets the needs of all departments, while anticipating future needs.
2. Ensure a continuously operating help desk to ensure students and staff productivity and problem resolution.
3. Develop student and staff training as needed to ensure the users have the appropriate skills for teaching and learning in the online format.

Curriculum. While the practices of effective online classes is outside the scope of this research effort, several recommendations have emerged from the literature regarding how the classroom information delivery system evolves with the new online format:

1. Media specialists and curriculum experts may be of great assistance to teachers looking for electronic learning materials.
2. Review class activities with a focus on increasing the authenticity of classroom tasks. Media specialists and curriculum experts can potentially assist in finding new resources.
3. Ensure teachers have the curricular resources to teach their classes before the online class is launched. This will ensure that the class is taught with the least possible stress to both teachers and students.

Teaching Staff. The results of the technology skills and perception survey indicate that teachers and students have opposing views. While teachers have a positive view of online education, teachers may not have the skills to immediately start teaching online. Students, however, have superior skills overall, but are wary of taking a course online. An open discussion of varying perceptions and skill levels may be a useful dialogue between staff and students. However, online teachers must have a mastery over both educational technology and their content areas. Students will expect immediate help with technology related problems and teachers will likely be the first resource pursued to resolve such issues. The following recommendations include:

1. Provide both software and hardware training to staff teaching online courses if an individual technology competency need is determined.
2. Teachers must have ready access to both technical support and resources to ensure lessons and activities are authentic.
3. Take advantage of the favorable perception of online courses. Teachers can help advertise the preparatory and educational benefits of online education.

Furthermore, positive teacher impressions can be used to help motivate teachers to accept training that will fill in the gaps of their knowledge.

Students. Of all the participants the students are the most important customer of online education. The organizational change effort towards online classes must be a success for online courses to gain a place in the Social Studies Department. Several actions will maximize the chances of a positive online program:

1. Use the preexisting technology skill levels of students to create successful initial experiences within the online educational format. Positive experiences showing high technology competency is a way to encourage students to take online courses and see such opportunities as a safe experience.
2. Student participation in an online seminar that incorporates important technology skills will enhance student comfort with taking an online course.
3. Provide training to students needing higher educational competencies. A technology practical exam would be an appropriate way to determine those students needing training.
4. Ensure students have the appropriate technology available to complete a course online. Students should have dependable internet access at home as well as a recent copy of word processing and presentation software.

Method of Organizational Change. The way in which a change effort is implemented has a great impact upon the success of an initiative. Without careful consideration of the complex nature of beginning online classes and laying a strong system wide foundation, long term success is hard to achieve. As Merrill has an online class scheduled for the spring of 2009, there is a sense of urgency for carefully considering how the change process should occur. Online classes offer a new way to engage, teach, and prepare students for a potential aspect of their educational future. Using the online Holocaust class as a pilot allows for an interesting backdrop for the overall change to occur and can be used to enhance the care and urgent need of discussing the implication of implementing online classes. Implementing one online class has the potential to set

precedents for all teachers and departments that look to start their own online programs.

The move to online classes must be a priority in all affected areas of the department, which allows the overall success of the initiative, even if key members should leave the district. Several recommendations for the method of organizational change include:

1. Adapt the Action Research Model to Merrill's needs, which advocates actions based on situation specific research. While an online class is scheduled for the spring semester of the 2008-09 school year considering the steps of the Action Research model can help clarify the path of online implementation.
 - a. If the Entry and Start-Up stages included participation from representatives of each component of the Social Studies department model these initial stages may be complete. Formalizing initial findings will address the Assessment and Feedback stages and provide information to those who have a stake in the effort.
 - b. Within the Action Planning stage setting up a standard framework for online classes would help students and teachers adjust to the new online format. The framework may include procedures for classroom activities, homework, and discussions.
 - c. The Intervention stage is the launch of the online class; begun after completing the preliminary work of setting procedures for how the class will function.
 - d. By determining in advance the goals of the new online classes, during the Evaluation stage data should be collected by the school board or its representative to assess the overall success of the classes and recommend changes and celebrate an effective implementation as the results warrant.

- e. A formal statement during the Adoption stage regarding the results of the change effort is a way to inform staff, students, and the community about the success of the online class initiative.
 - f. Given that a special consultant may not to assist in the organizational change, the Separation stage will likely begin as the foundation for online classes has been achieved and new initiatives or projects are begun.
2. The online offering for the 2008-09 must be a positive experience for both staff and students to ensure the success and development of new online courses.
 3. A district level administrator must assess the Social Studies online class implementation and apply lessons to online initiatives in other departments.
 4. Consider a virtual “open house” to showcase effective teaching and learning experiences.

As MAPS considers the implementation of online learning, the overall initiative will have the greatest chance of success by carefully selecting the appropriate change model. Furthermore, surveying both teachers and students as well as completing a literature review of change efforts and best practices in implementing electronic learning will contribute to the success of the new program. The goal of this research is to illuminate one possible way in which such a change could be best achieved in a secondary level Social Studies Department.

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Appendix A:

August 30, 2008

Title: Technology Skills and Perceptions of Online Classes in the Social Studies Department at Merrill Senior High School as a Foundation for Organizational Change

As Merrill Senior High School begins to implement online classes into the curriculum there has been a growing interest in the skill level of students in technology and their perceptions of online classes. In order to assess student technology skills and perceptions of online classes a survey has been developed for the US History students to take. Participation in the survey is a cornerstone to a study in which two important objectives will be met:

- Identify how online classes should be implemented using both a survey and a review of successful change practices.
- Determine skill levels of students and staff with both hardware and software in order to determine training needs and identify perceptions of online classes.

Student participation is strictly voluntary and students may stop the survey at any time. However, as US History is the last required class before students would be eligible to take an online class, participation will be highly appreciated. In order to make the survey easily administered, students will take the survey online. During the survey no personally identifiable information will be collected, leaving responses strictly confidential.

This study has been reviewed and approved by The University of Wisconsin-Stout's Institutional Review Board (IRB). The IRB has determined that this study meets the ethical obligations required by federal law and University policies. If you have questions or concerns regarding this study please contact the Investigator or Advisor. If you have any questions, concerns, or reports regarding your rights as a research subject, please contact the IRB Administrator.

Thank you for your support and we look forward to your participation in order to create a quality online education program at Merrill Senior High!

Sincerely,

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Technology Skills & Perceptions of Online Classes

Using the following scale, please complete the following questions. The results of the survey will be used to help determine the training needs and perceptions of online classes that may need to be addressed as Merrill Senior High School considers the implementation of online courses. Your participation is highly appreciated! 1 Strongly Disagree, 2 Disagree, 3 Unsure, 4 Agree, 5 Strongly Agree.

1. Given a computer, I could point to the central processing unit.

Select One: 1 2 3 4 5

2. I can turn on a computer that is unfamiliar to me.

Turning on a computer requires turning on the monitor as well as the central processing unit.

Select One: 1 2 3 4 5

3. When typing I don't need to look at the keyboard.

Select One: 1 2 3 4 5

4. I can use a scanner to create a digital image.

Select One: 1 2 3 4 5

5. I can use a printer to make a paper copy of digital information.

Select One: 1 2 3 4 5

6. I can use a mouse to select items on a computer screen.

Select One: 1 2 3 4 5

7. I can adjust the computer monitor to the appropriate height to reduce glare on the screen.

Select One: 1 2 3 4 5

8. If I have trouble with a piece of hardware, I have access to troubleshooting resources to resolve the issue.

Technical support phone numbers and technical manuals are both troubleshooting resources.

Select One: 1 2 3 4 5

9. I can use a word processor to write a paper.

Select One: 1 2 3 4 5

10. I have created presentations using software like Microsoft PowerPoint using my computer at home.

Select One: 1 2 3 4 5

11. I know how to access my email account.

Select One: 1 2 3 4 5

12. I can save files to a specific folder on a computer.

Select One: 1 2 3 4 5

13. I can find a file I am looking for on a computer.

Select One: 1 2 3 4 5

14. I have used a search engine like Google to find information.

Select One: 1 2 3 4 5

15. I have access to troubleshooting resources if I have problems with software.
Technical support phone numbers and technical manuals are both troubleshooting resources.

Select One: 1 2 3 4 5

16. If I were given the resources to complete class activities, I would not need the physical presence of a teacher.
You would still be able to ask questions and advice from your teacher.

Select One: 1 2 3 4 5

17. I have a computer at home with dependable Internet access.

Select One: 1 2 3 4 5

18. I can learn just as much online as in a traditional class.

Select One: 1 2 3 4 5

19. Having the freedom to work at my own pace would encourage me to take an online class.

Select One: 1 2 3 4 5

20. I would take an online class in order to reduce scheduling conflicts with other classes.

Select One: 1 2 3 4 5

21. I would take an online course if I was given the opportunity.

Select One: 1 2 3 4 5

22. Taking an online course would help me prepare for college.

Select One: 1 2 3 4 5

23. Taking an online course should be a required experience for all students of Merrill Senior High.

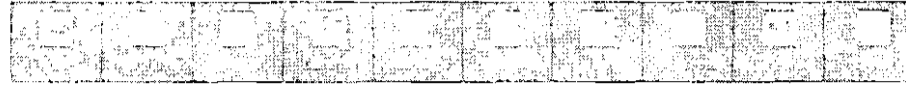
Select One: 1 2 3 4 5

24. If I were to take an online course I have dependable Internet access at school.

Select One: 1 2 3 4 5

Appendix B

Student Results



Survey Results -- Overview

Export Data

Individual Response

S - Tech Skills and Perceptions of Online Classes

Respondents: 266 displayed, 266 total

Status: Closed

Launched Date: 08/12/2008

Closed Date: 09/08/2008

Display: Display all pages and questions

Manage Filters

0 filters

Share Results

Disabled

1. Given a computer, I could point to the central processing unit.

	1	2	3	4	5	Response Total	Response Average
Select One	22% (58)	9% (23)	34% (90)	13% (34)	23% (61)	266	3.1
Total Respondents						266	

2. I can turn on a computer that is unfamiliar to me.

	1	2	3	4	5	Response Total	Response Average
Select One	3% (8)	2% (4)	11% (29)	28% (74)	57% (151)	266	4.3
Total Respondents						266	

3. When typing I don't need to look at the keyboard.

	1	2	3	4	5	Response Total	Response Average
Select One	15% (39)	13% (34)	18% (48)	29% (77)	26% (68)	266	3.4
Total Respondents						266	

4. I can use a scanner to create a digital image.

	1	2	3	4	5	Response Total	Response Average
Select One	17% (46)	18% (48)	26% (69)	18% (48)	21% (55)	266	3.1
Total Respondents						266	

5. I can use a printer to make a paper copy of digital information.

	1	2	3	4	5	Response Total	Response Average

Select One	7% (18)	11% (29)	21% (57)	22% (58)	39% (104)	266	3.8
						Total Respondents	266

6. I can use a mouse to select items on a computer screen.

	1	2	3	4	5	Response Total	Response Average
Select One	2% (4)	1% (2)	3% (7)	8% (20)	88% (233)	266	4.8
						Total Respondents	266

7. I can adjust the computer monitor to the appropriate height to reduce glare on the screen.

	1	2	3	4	5	Response Total	Response Average
Select One	3% (7)	4% (10)	12% (32)	17% (45)	65% (172)	266	4.4
						Total Respondents	266

8. If I have trouble with a piece of hardware, I have access to troubleshooting resources to resolve the issue.

	1	2	3	4	5	Response Total	Response Average
Select One	17% (44)	14% (37)	38% (101)	15% (41)	16% (43)	266	3.0
						Total Respondents	266

9. I can use a word processor to write a paper.

	1	2	3	4	5	Response Total	Response Average
Select One	1% (2)	2% (5)	8% (21)	17% (46)	72% (192)	266	4.6
						Total Respondents	266

10. I have created presentations using software like Microsoft PowerPoint using my computer at home.

	1	2	3	4	5	Response Total	Response Average
Select One	13% (34)	7% (18)	10% (27)	19% (51)	51% (136)	266	3.9
						Total Respondents	266

11. I know how to access my email account.

	1	2	3	4	5	Response Total	Response Average
Select One	9% (24)	2% (4)	6% (17)	9% (23)	74% (198)	266	4.4
						Total Respondents	266

12. I can save files to a specific folder on a computer.

	1	2	3	4	5	Response Total	Response Average
Select One							
						Total Respondents	266

						Total	Average
Select One	2% (5)	2% (4)	8% (20)	20% (52)	70% (185)	266	4.5
						Total Respondents	266

13. I can find a file I am looking for on a computer.

	1	2	3	4	5	Response Total	Response Average
Select One	2% (5)	3% (8)	10% (26)	30% (80)	55% (147)	266	4.3
						Total Respondents	266

14. I have used a search engine like Google to find information.

	1	2	3	4	5	Response Total	Response Average
Select One	1% (3)	2% (5)	3% (8)	8% (21)	86% (229)	266	4.8
						Total Respondents	266

15. I have access to troubleshooting resources if I have problems with software.

	1	2	3	4	5	Response Total	Response Average
Select One	17% (45)	10% (26)	41% (109)	12% (33)	20% (53)	266	3.1
						Total Respondents	266

16. If I were given the resources to complete class activities, I would not need the physical presence of a teacher.

	1	2	3	4	5	Response Total	Response Average
Select One	6% (16)	6% (17)	29% (78)	26% (69)	32% (86)	266	3.7
						Total Respondents	266

17. I have a computer at home with dependable Internet access.

	1	2	3	4	5	Response Total	Response Average
Select One	16% (43)	7% (18)	9% (24)	14% (38)	54% (143)	266	3.8
						Total Respondents	266

18. I can learn just as much online as in a traditional class.

	1	2	3	4	5	Response Total	Response Average
Select One	7% (19)	10% (27)	32% (86)	21% (57)	29% (77)	266	3.5
						Total Respondents	266

19. Having the freedom to work at my own pace would encourage me to take an online class.

	1	2	3	4	5	Response Total	Response Average
Select One	8% (21)	7% (19)	23% (60)	20% (53)	42% (113)	266	3.8
	Total Respondents					266	

20. I would take an online class in order to reduce scheduling conflicts with other classes

	1	2	3	4	5	Response Total	Response Average
Select One	10% (27)	8% (22)	20% (52)	23% (61)	39% (104)	266	3.7
	Total Respondents					266	

21. I would take an online course if I was given the opportunity.

	1	2	3	4	5	Response Total	Response Average
Select One	9% (25)	8% (22)	30% (81)	19% (50)	33% (88)	266	3.6
	Total Respondents					266	

22. Taking an online course would help me prepare for college.

	1	2	3	4	5	Response Total	Response Average
Select One	9% (23)	6% (17)	32% (86)	27% (72)	26% (68)	266	3.5
	Total Respondents					266	

23. Taking an online course should be a required experience for all students of Merrill Senior High.

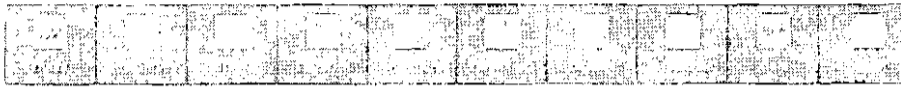
	1	2	3	4	5	Response Total	Response Average
Select One	19% (50)	18% (49)	25% (67)	20% (52)	18% (48)	266	3.0
	Total Respondents					266	

24. If I were to take an online course I have dependable Internet access at school.

	1	2	3	4	5	Response Total	Response Average
Select One	7% (19)	3% (7)	22% (58)	22% (59)	46% (123)	266	4.0
	Total Respondents					266	

Survey Results -- Overview

Survey Results -- Overview



Survey Results -- Overview

Export Data

Individual Responses

T - Tech Skills and Perceptions of Online Classes

Respondents: 5 displayed, 5 total

Status: Closed

Launched Date: 09/08/2008

Closed Date: 09/13/2008

Display: Display all pages and questions

Manage Filters

0 filters

Share Results

Disabled

1. Given a computer, I could point to the central processing unit.

	1	2	3	4	5	Response Total	Response Average
Select One	20% (1)	0% (0)	0% (0)	20% (1)	60% (3)	5	4.0
	Total Respondents						5

2. I can turn on a computer that is unfamiliar to me.

	1	2	3	4	5	Response Total	Response Average
Select One	20% (1)	0% (0)	0% (0)	40% (2)	40% (2)	5	3.8
	Total Respondents						5

3. When typing I don't need to look at the keyboard.

	1	2	3	4	5	Response Total	Response Average
Select One	20% (1)	20% (1)	0% (0)	40% (2)	20% (1)	5	3.2
	Total Respondents						5

4. I can use a scanner to create a digital image.

	1	2	3	4	5	Response Total	Response Average
Select One	20% (1)	0% (0)	20% (1)	0% (0)	60% (3)	5	3.8
	Total Respondents						5

5. I can use a printer to make a paper copy of digital information.

	1	2	3	4	5	Response Total	Response Average
	Total Respondents						5

Select One	20% (1)	0% (0)	0% (0)	0% (0)	80% (4)	5	4.2
						Total Respondents	5

6. I can use a mouse to select items on a computer screen.

	1	2	3	4	5	Response Total	Response Average
Select One	20% (1)	0% (0)	0% (0)	0% (0)	80% (4)	5	4.2
						Total Respondents	5

7. I can adjust the computer monitor to the appropriate height to reduce glare on the screen.

	1	2	3	4	5	Response Total	Response Average
Select One	20% (1)	0% (0)	0% (0)	0% (0)	80% (4)	5	4.2
						Total Respondents	5

8. If I have trouble with a piece of hardware, I have access to troubleshooting resources to resolve the issue.

	1	2	3	4	5	Response Total	Response Average
Select One	20% (1)	0% (0)	20% (1)	20% (1)	40% (2)	5	3.6
						Total Respondents	5

9. I can use a word processor to write a paper.

	1	2	3	4	5	Response Total	Response Average
Select One	20% (1)	0% (0)	0% (0)	0% (0)	80% (4)	5	4.2
						Total Respondents	5

10. I have created presentations using software like Microsoft PowerPoint using my computer at home.

	1	2	3	4	5	Response Total	Response Average
Select One	0% (0)	20% (1)	0% (0)	0% (0)	80% (4)	5	4.4
						Total Respondents	5

11. I know how to access my email account.

	1	2	3	4	5	Response Total	Response Average
Select One	20% (1)	0% (0)	0% (0)	0% (0)	80% (4)	5	4.2
						Total Respondents	5

12. I can save files to a specific folder on a computer.

	1	2	3	4	5	Response Total	Response Average
Select One							
						Total Respondents	5

						Total	Average
Select One	20% (1)	0% (0)	0% (0)	0% (0)	80% (4)	5	4.2
						Total Respondents	5

13. I can find a file I am looking for on a computer.

	1	2	3	4	5	Response Total	Response Average
Select One	20% (1)	0% (0)	0% (0)	20% (1)	60% (3)	5	4.0
						Total Respondents	5

14. I have used a search engine like Google to find information.

	1	2	3	4	5	Response Total	Response Average
Select One	20% (1)	0% (0)	0% (0)	0% (0)	80% (4)	5	4.2
						Total Respondents	5

15. I have access to troubleshooting resources if I have problems with software.

	1	2	3	4	5	Response Total	Response Average
Select One	20% (1)	0% (0)	0% (0)	20% (1)	60% (3)	5	4.0
						Total Respondents	5

16. If I were given the resources to complete class activities, I would not need the physical presence of a teacher.

	1	2	3	4	5	Response Total	Response Average
Select One	0% (0)	20% (1)	40% (2)	0% (0)	40% (2)	5	3.6
						Total Respondents	5

17. I have a computer at home with dependable Internet access.

	1	2	3	4	5	Response Total	Response Average
Select One	20% (1)	20% (1)	0% (0)	0% (0)	60% (3)	5	3.6
						Total Respondents	5

18. I can learn just as much online as in a traditional class.

	1	2	3	4	5	Response Total	Response Average
Select One	0% (0)	20% (1)	60% (3)	20% (1)	0% (0)	5	3.0
						Total Respondents	5

19. Having the freedom to work at my own pace would encourage me to take an online class.

	1	2	3	4	5	Response Total	Response Average
Select One	0% (0)	0% (0)	20% (1)	60% (3)	20% (1)	5	4.0
	Total Respondents					5	

20. I would take an online class in order to reduce scheduling conflicts with other classes.

	1	2	3	4	5	Response Total	Response Average
Select One	0% (0)	0% (0)	0% (0)	60% (3)	40% (2)	5	4.4
	Total Respondents					5	

21. I would take an online course if I was given the opportunity.

	1	2	3	4	5	Response Total	Response Average
Select One	0% (0)	0% (0)	0% (0)	20% (1)	80% (4)	5	4.8
	Total Respondents					5	

22. Taking an online course would help me prepare for college.

	1	2	3	4	5	Response Total	Response Average
Select One	0% (0)	0% (0)	20% (1)	0% (0)	80% (4)	5	4.6
	Total Respondents					5	

23. Taking an online course should be a required experience for all students of Merrill Senior High.

	1	2	3	4	5	Response Total	Response Average
Select One	0% (0)	0% (0)	20% (1)	20% (1)	60% (3)	5	4.4
	Total Respondents					5	

24. If I were to take an online course I have dependable Internet access at school.

	1	2	3	4	5	Response Total	Response Average
Select One	20% (1)	0% (0)	20% (1)	20% (1)	40% (2)	5	3.6
	Total Respondents					5	

Class Systems 32804
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