The Impact of Online Learning on the Middle School Student

by

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ABSTRACT

This research will explore the impact of online education on middle school students.
Specific areas investigated include why more middle school students are seeking online courses, how these students feel about the online courses compared to the traditional classroom experience, and what impact, if any, there is on the middle school student in such an isolated learning environment.
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TABLE OF CONTENTS

ABSTRACT ........................................................................................................ iii

Chapter I: Introduction .................................................................................. 6

Statement of the Problem ............................................................................. 8
Purpose of the Study ...................................................................................... 8
Research Questions ....................................................................................... 8
Definition of Terms ...................................................................................... 8
Assumptions and Limitations of the Study .................................................. 9

Chapter II: Literature Review .................................................................. 11

Categories of Online Education ................................................................. 11
Online Learners ............................................................................................. 12
Online Community ....................................................................................... 14
Online Skills ................................................................................................. 16
Skills Needed ................................................................................................. 20
Online Educators ......................................................................................... 24
Advantages of Online Educators ............................................................... 29

Chapter III: Methodology ....................................................................... 33

Selection and Description of the Sample ................................................ 33
Instrumentation ............................................................................................ 34
Data Collection Procedures ....................................................................... 35
Data Analysis ................................................................................................. 36
Limitations .................................................................................................... 36

Chapter IV: Results ................................................................................. 39
<table>
<thead>
<tr>
<th>Section</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Research Adaptations</strong></td>
</tr>
<tr>
<td><strong>Item Analysis</strong></td>
</tr>
<tr>
<td><strong>Table 1 Learning Environment Preferences</strong></td>
</tr>
<tr>
<td><strong>Table 2 Students Comments on Environment Preferences</strong></td>
</tr>
<tr>
<td><strong>Table 3 Student Participation</strong></td>
</tr>
<tr>
<td><strong>Table 4 Student Comments Regarding Satisfaction Levels</strong></td>
</tr>
<tr>
<td><strong>Chapter V: Discussion</strong></td>
</tr>
<tr>
<td><strong>Limitations</strong></td>
</tr>
<tr>
<td><strong>Conclusions</strong></td>
</tr>
<tr>
<td><strong>Recommendations</strong></td>
</tr>
<tr>
<td><strong>References</strong></td>
</tr>
<tr>
<td><strong>Appendix A: Readiness for online learning questionnaire</strong></td>
</tr>
<tr>
<td><strong>Appendix B: Consent form</strong></td>
</tr>
<tr>
<td><strong>Appendix C: Impact of online education survey</strong></td>
</tr>
<tr>
<td><strong>Appendix C: Summary of responses to multiple choice, multiple select, and Likert scale questions</strong></td>
</tr>
<tr>
<td><strong>Appendix C: Open-ended questions and responses</strong></td>
</tr>
</tbody>
</table>

Page numbers: 39, 41, 41, 42, 44, 45, 46, 46, 47, 48, 49, 55, 56, 58, 60, 62
Chapter 1: Introduction

Online courses are becoming increasingly popular for a number of reasons: ability to fit classes into work schedules, no travel time is required, flexible meeting times, etc. As the popularity of online learning grows, schools and universities are targeting younger and younger students (Lake & Pushchak, 2006). Many universities and private companies now offer some form of outreach program in which students as young as the third and fourth grades are enrolled in a variety of core classes such as English, math, and science and enrichment style classes such as Modern Language Association (MLA) Writing, Graphic Art Design, and Computer Programming. The National Center for Education Statistics (NCES) has reported that availability, courses offered, and numbers of enrollment have increased dramatically since the early 1990’s. In another study conducted by the Sloan Consortium, indicators predicted that online education would continue to increase at a rate of about 20% in the next few years (Allen & Seaman, 2003). With increasing numbers of students enrolling in these courses, it is increasingly vital that we look closely at what is attracting younger learners to this environment to ensure that any potential negative repercussions are dealt with quickly.

The middle school years are so turbulent in a person’s life due to physical and psychological changes occurring (Manning & Bucher, 2001). The online environment may seem to some students to offer them a safe haven where they are able to develop their minds without fear of recrimination or reprisal from their peers. The online learning format can provide students with a sense of relative obscurity (Cheng, 2008). Students are not sitting in a classroom with as many as 30 other students, some of whom will physically turn and look at them when or if they ask or answer a question. This
anonymity enables these students to truly express their thoughts and feelings on a huge variety of topics while at the same time empowering this unique group of learners to assume responsibility for what, how, and how much they learn (Westhoff & Francis, 2003).

While there are a growing number of studies being conducted regarding the effectiveness of the online learning environment for middle level learners, the work previously done regarding student performance and satisfaction has been mixed thus far. Some studies have indicated there is no difference between how students in traditional classes feel about their education and themselves, while other studies point out significant improvement in overall satisfaction regarding school and self-image for those students enrolled in at least one online course (Lim, Kim, Chen, & Ryder, 2008). Research such as that conducted by Manning and Bucher (2001) has proven when students feel they are in a safe and protective learning environment they feel better about themselves and are more willing to participate in class discussions and produce higher quality work. When students are not happy with themselves, their environment, their lives, they often begin to place the blame for their failures on external factors and begin to shut down and adapt a kind of *why should I bother, I'm always going to fail* attitude (Howe, 1999). Because the learning environment is important for both the traditional classroom and the cyber classroom, instructors must provide a framework where students can experience both successes and failures in a safe, comfortable environment. This is especially true of the middle level learner who is going through numerous changes both physical and emotional.
Statement of the Problem

This study will attempt to show that online learning is attractive to middle school learners for a number of reasons. One problem is that middle level learners have traditionally held a fairly poor reputation with regards to interest in learning and willingness to assume responsibility for their education and their actions as some teachers report. In the online environment because there is no instructor guiding the class from one topic or assignment to another, students must become more self-motivated and self-regulating (Downing & Chim, 2004). Online educators must know and understand what motivates these students so they can better help them reach their potential.

Purpose of the Study

The purpose of this study will be to determine how middle level learners feel about their online learning experiences and what educators can do to improve the positive aspects of this experience and decrease the negative aspects.

Research Questions

This research study seeks to find answers to the following questions:

1. Why are middle level learners increasingly drawn to online learning?

2. How do students participating in the online learning environment feel about their education compared with students in the traditional classroom?

3. What can be done to improve students’ online learning experiences?

Definition of Terms

Middle level learners. Middle level learners are those students in grades 6-8.

Online education. Online education refers to courses completely taken via computers and the Internet.
Blended classroom. The blended classroom uses a combination of traditional classroom time and online requirements.

Virtual academy. The virtual academy is a school setting, usually high school or middle school, which is completely online and does not involved any actual physical classroom time.

Traditional classroom. The traditional classroom is set entirely in a physical classroom which students must attend on a regular basis.

Cyber. Cyber is a term which refers to the Internet.

Assumptions and Limitations of the Study

One assumption is that middle level learners are becoming increasingly interested in and attracted to online learning (NCES, 2003). There are more companies and universities who are providing educational opportunities for this range of students, as these offerings increase, and as perceived problems with traditional education also rise, more students and their parents will look to the online environment to provide or at least supplement their education.

One limitation of the study is finding an adequate number of students willing to participate with parental permission in this particular study. This study will utilize students enrolled in a gifted outreach program offered through a Midwestern university, School A and a privately owned company which contracts to write curriculum for various states and other organizations and offers a limited number online courses for students grades 6 through 12, Company B. There are just over 100 students enrolled in the programs offered at School A while there are fewer than 100 students enrolled in Company B’s strictly online program. With both of these programs, fewer than half of the
students could be considered middle level learners. Students participating in School A have been identified as gifted students and have passed rigorous testing in order to enroll in the courses. Students with Company B have not been identified in any way to indicate level of academic ability-level.

Students' socioeconomic backgrounds may also be a limiting factor. Nearly all of the online courses available to students cost a considerable amount of money. The range tends to be as little as $500 for one course at a particular, private company and as much as $1,500 for one course offered through a major university's gifted outreach program. This fee is not covered by any state and while some programs sponsored by universities do offer some scholarships, students are still required to pay for these courses out of pocket. Because of these fees, this could additionally result in a demographic limitation because many minority students' parents' incomes are at the poverty level which would mean these students would be unable to afford online education.

Another limitation of this study is ensuring that the targeted students are the ones actually taking part in the survey. Because the survey will be completely online, it would be very easy for students to have someone else take the survey for them. To help counter this issue, each student would receive a number from his/her teacher that they will have to enter at the survey site. Students could still give their number to someone else, but it is hoped that because the number will be coming from their teacher, that students will feel more inclined to take the survey themselves.
Chapter 2: Literature Review

As technology becomes more and more advanced, there are more choices for the middle level learner in terms of how they will actually be taught. Online education has been increasingly popular at the college and post-graduate levels for a number of years. In the mid-1980's the Internet was still relatively new and it was very difficult to find any courses offered online. Even into the 90's, online courses were not available at all universities, and there was some skepticism as to how valid and reliable these courses were. Thanks to advances in technology, students are able to earn degrees of all levels, various certifications, and pursue general interests completely online. However, in recent years the number of courses available to younger learners has increased (Supporting Learners, n.d.). Furthermore, the National Center for Education Statistics (NCES) reports that these offerings will increase at a rate of nearly 20% in the next 10 years (NCES, 2003). If you go to a search engine and type in online middle school programs, you will get a list of over 10,000,000 websites dealing with various aspects of online learning directed specifically to the middle level learner. Some of these listings are for completely online education opportunities where students can take all of their courses at a virtual academy. Other listings are for a blend of the traditional classroom with the cyber classroom. And still other listings are for a combination of mail-in courses with face-to-face requirements and online chats. There is a huge realm of choices now available for the middle level learner.

Categories of Online Education
In general, the research conducted by Downing and Chim (2004) indicated there are five categories of online education:

1. The first category of online education is the *minimal* category in which the use of the Internet is not necessary and has no impact on the course-related learning.

2. The second category of online education is the *supplemental* category in which using the Internet is relevant but still is not required and has a very limited impact on the course-related learning.

3. The third category of online education is the *integral* category in which using the Internet is relevant and contributes a moderate amount resulting in a fair impact on course-related learning.

4. The fourth category of online education is the *central* category in which using the Internet is both relevant and necessary and has a high degree of impact on course-related learning.

5. The fifth category of online education is the *exclusive* category in which using the Internet is highly relevant, required and has a major impact on course-related learning. This study will be focusing on this particular category of online learning.

*Online Learners*

There have been a number of studies conducted which attempt to understand the *typical* online learner which is usually someone in college or doing post-graduate work. A study conducted by Lim, Kim, Chen and Ryder (2008) showed there were significant differences in the levels of satisfaction with the amount of work required and the learning obtained among various groups of students at the college level. They targeted three groups: a. those enrolled in online courses; b. those enrolled in a blended course; c. those
enrolled in traditional courses. Surprisingly the students who showed the highest levels of satisfaction with the education received were those students enrolled in the combination courses of online and traditional coursework. There was no significant difference reported in terms of satisfaction between the students enrolled solely in online courses compared to those enrolled in traditional courses. However, this study was limited by having to use students who self-selected their courses which may indicate interest levels which would be different from those students who were taking required courses. In a separate study by Leonard and Guha (2001), students indicated high levels of satisfaction with their courses and the amount of learning regardless of whether or not the students were in an online course, a blended course, or a traditional course. One major difference of the Leonard/Guha study compared with the Lim et al study is students participating in the Leonard/Guha study were randomly assigned to the style of course and did not self-select. Additionally, the courses selected were required courses for the students’ degree program.

Hoskins and van Hooff (2005) looked at the types of students who typically enrolled in online courses at the high school and college level. They found that one of the factors which seem to indicate overall success and satisfaction with online learning was the student’s age. In general, they found that more mature students (mature students in the Hoskins and van Hooff study were defined as being 25-40 years of age) participated more in the online discussions and were more actively engaged in the class than were younger students. The older students appeared to be inclined to contribute more in terms of numbers of postings and the quality of those postings to the discussion board postings than were the younger students. The older students were more active participants in the
discussions than were the younger students, so perhaps this increased participation accounts for their indications of higher levels of satisfaction with the online environment. Developing an electronic personality requires a student to be able to express emotional concerns through written expression, and because younger students have not mastered this technique, younger students may often find it difficult to participate in discussion boards (Palloff & Pratt, 1999). However, it is generally through these discussion boards that a sense of community is created online and provides the social connectedness which constructivist theorists feel is so vital to learning. The discussion boards function as the online version of the verbal classroom discussion in which there is a back and forth conversation among participants on a specific topic (i.e. discussing symbolism in a story, arguing points in a mathematical theorem, determining why a particular species adapted in a certain way over time). It is through these types of discussions that students get to know one another in the academic setting both in the traditional classroom and in the online classroom and thus help to create a sense of belonging to the group or community. Once again, however, this study focused on students at the college level, not high school or middle level learners.

*Online Community*

There are some steps that should be taken in order to help promote a sense of community in the cyber classroom through the use of discussion boards. The use of the discussion boards should be very clear and a code of conduct established. There should be distinct guidelines regarding types of postings expected to help avoid having students post a simple yes or no response to posts made by other students. Generally the discussion boards will be covering specific topics which will also need to be very clearly
explained. A code of conduct will need to be established just as would be expected in a
verbal discussion in a traditional classroom where rules may include not interrupting
another student. For the online environment, this may include some aspects of acceptable
online behaviors (often referred to as netiquette). For example, typing in all capital letters
is viewed as yelling in the online environment and should probably be avoided in
discussion boards. Posts using angry words (often referred to as flaming posts) would
probably not be beneficial to creating a comfortable environment in the online classroom.

In the discussion boards, the teacher or facilitator should model appropriate
postings and encourage discussions. This means that the facilitator will need to join in the
discussion postings to show students acceptable responses. Students may also need some
guidance when asking questions to other students in order to avoid sounding negative and
to learn to use open-ended questions. The facilitator will also need to provide
opportunities for further discourse much in the same manner as the traditional classroom
teacher might direct a verbal discussion.

Students should be provided an area where they can “meet” to chat about non-
class related issues. In the traditional classroom, there may be times when students are
working together on a project in one class and are discussing events which occurred in
another class or on another day. Students need to be able to interact with each other and
provide each other support like this even in the online classroom. Sometimes students
prefer to ask other classmates about the course rather than going to the facilitator.
Providing students with a separate chat area where they can help each other, socialize,
and have off-topic discussions helps to instill that necessary sense of community.
Any disputes which occur should be given some time to resolve themselves before the instructor intervenes. As in the traditional classroom, sometimes the teacher has to step back and allow students to work issues out on their own, so does the online instructor. Often disputes in the online environment are caused by reading or posting responses when the student is feeling negative and this comes through in their writing, but when given some time, these students often realize what’s happened and will step in to rectify the situation themselves (this is also where having clear guidelines which might include the suggestion not to post when upset, angry, or irritated) (Palloff & Pratt, 1999).

Palloff and Pratt also indicated there was an age limiting cap for the results. If a student was “too” old then the satisfactions levels declined considerably when compared to the mature and younger students. Hoskins and van Hooff determined the age at which a student is “too” old as being 55 or older. Although, at some point this age will no longer be a viable cap as people who are computer literate in their earlier years reach this age and new studies will need to be conducted. This study indicated this decline was due in part to the students’ lack of computer knowledge. Research conducted by Morrell, Mayhorn, and Bennett (2000) indicated that adults over 55 had less interest in using the Internet for any purpose than did younger people and sometimes did not possess the requisite computer skills necessary to be a successful online learner. Naturally, this impacted their view of online education.

*Online Skills*

One of the concerns of offering online education to younger learners is they may not yet possess the necessary skills to be highly successful in this particular environment (Wallace & Clariana, 2005). Many of these students are adept at browsing the Internet,
talking with their friends in chat rooms, playing video games, and posting images to various sites. However, since they have not participated formally in an online course, these same students are often unfamiliar with how to carry on a discussion using critical thinking or knowing how to ask others questions which will require more than a simple *yes* or *no* answer. Additionally, the skill of prodding others for more suggestions or input is something middle students struggle with. They may even have issues with the proper use of the discussion boards and the vocabulary/terminology for posting to discussion boards (Smith, 2005). Students have to understand many aspects of computer use including word processing, Internet research, and e-mail (including attaching various files) to name a few. Typing a research report using a word processor is not the same as using typing skills to chat with friends as word processors often utilize automatic formatting elements which are lacking in most instant messaging services. In online classes, students often have to follow certain guidelines for naming their files to allow easy identification for instructors who may be teaching more than one online class. For example, the instructor may instruct the student to save something as *assignment1 lastname* and may even require the document to be saved as a specific format like *.doc*, *.docx*, or *.rtf* (rich text file) so to help ensure that the instructor will be able to actually open files generated in any word processing program that is currently available. Saving files as a different format may be something with which the student is unfamiliar. Students also have to be willing and able to communicate electronically. They must be highly self-motivated as much of the learning acquired through the cyber classroom is dependent on the student’s intrinsic motivation since there is no teacher there with the
student to ensure the student is doing the required work in a timely manner (Smith, 2005).

To this end McVay (2001) developed a Readiness for Online Learning questionnaire (Appendix A). The questions on the Readiness Questionnaire focus on how the college level student feels about his/her degree of ability to take a course online. Some questions asked include: “I am able to easily access the Internet as needed for my studies,” “I am willing to dedicate 8 to 10 hours per week for my studies,” and “As a student, I enjoy working independently” (Smith, 2005, p. 9). There are two major factors assessed in this questionnaire: self-management of learning and comfort with e-learning.

Self-management of learning refers to a student’s ability to learn in an environment where there is no teacher or other authority figure to tell you when to do the activities. In an online learning environment, it is entirely up to the students to do the readings. Stories will not be read as a group in class, the teacher will not direct the students to read certain pages, passages, or quotes at a specific time. If the student does not understand the material in the online environment, the student must be responsible enough to either do further research on their own to grasp the material being covered, or the student must take the initiative to contact the teacher to ask for assistance. If a student cannot or will not do these things independently, that student will not benefit from the online learning environment (Smith, 2005).

The willingness on the part of the student ties directly to the student’s level of comfort with electronic learning because the student has to be able to figure out where to get further help (whether that’s the instructor or independent research—both physical as in going to a library and electronic by using search engines). Comfort with e-learning is also
related to the student’s degree of comfort in posting to discussion boards, using a learning platform, and ease of using additional software such as word processors, spreadsheets, and slide show generators. A learning platform is the program used by an organization which allows an entire course to be taken online. Most learning platforms have common features such as discussion boards, access to readings or lectures, an area where assignments are both given and received (usually there is some sort of digital drop box- a kind of online folder-where students submit their work), and contains any links which might be helpful. A couple examples of a learning platform are Blackboard, Desire 2 Learn (D2L), and ROADS (thus named because it provides students with a “road” to learning). At one online university, prior to students being able to sign-up for an online course, they are asked to take an online learning readiness assessment. The results of the assessments are for the student only and ask students questions regarding their comfort level with different types of communication tools (i.e. cell phone, computer, face to face), how supportive their friends and family members are regarding online learning, and even about how much work and effort the student expects to put into an online course compared to a traditional course. At the end of the assessment students receive a score and a legend which shows where they are in a range of readiness to participate in an online course (RROL, 2006).

Students respond using a four point Likert scale where 1 indicates a low level of agreement and 4 a high level of agreement. A Likert scale is a method of scaling answers to varying degrees of measurement such as strongly agree or strongly disagree and other points in between. The Likert scale is generally used to measure attitudes, preferences, and subjective reactions. Thus far, the McVay questionnaire has only been used with
college level students, not with any students below that point in their academic careers. The reliability of the questionnaire has been satisfactory as it has been used and provides a factor framework which is easy to interpret and correlates to other research findings in the area of readiness for online learning (Smith, 2003).

Survey research centers on using questionnaires and interviews in order to gather information (Ary, Jacobs, & Razavieh, 2002). Surveys enable information to be collected regarding attitudes and opinions depending on the type and focus of the questions which is why this particular method of data collecting will be viable for this study as the study is focusing on the attitudes of middle level learners towards their educational environment and their preferences. Qualitative surveys are designed to gather information in the natural setting and then analyzing those results. This type of survey is geared more towards figuring out the underlying causes for an occurrence such as more students taking online courses. A qualitative survey would be less structured than a quantitative survey and may rely more on interview techniques which are designed to draw out a respondent’s thoughts and feelings. With this format, there are usually fewer participants and the results are not used to determine a course of action, but rather to explain why a course of action is being taken. Quantitative surveys attempt to gather numerical data regarding behaviors and then analyzing this information (Gall, Gall, & Borg, 2003). The qualitative survey is intended to be more structured with all participants responding to the exact same questions. The purpose of the quantitative survey is to suggest a course of action which needs to be taken and to generalize the results to a larger population.

Skills Needed
Online education is now targeting younger students thus it is necessary for these online courses to take into account that younger learners will need more assistance in order to become successful online learners. Students who are introverts are often drawn to the online learning environment because they tend to naturally turn inward when processing information and rely less on those around them (friends, peers, adults, etc.) for emotional input (Russell, 2002; Lin & Cranton, 2003). An introverted learner is usually someone who prefers to work independently and likes to have time to ponder responses before sharing their thoughts with others. The introvert learner will often spend more time thinking about their responses (Palloff & Pratt, 1999). Middle level learners may need help acquiring the scaffolding strategies, those skills that are necessary in order for learning to be transferred from short-term memory to long-term memory (Bruning, Schau, Norby, & Ronning, 2004).

A scaffolding strategy is a process which allows learners to add new information to prior knowledge which also helps to encode new information into long-term memory because the student receives the support needed while gradually becoming more responsible for the learning. In the online learning environment, Cagiltay (2006) identified four basic scaffolding strategies which are beneficial for the online learner: conceptual, metacognitive, procedural, and strategic.

With conceptual scaffolding, learners are guided through what and how they should think about the concepts being covered in the online course. Students may be studying creative writing and have to be shown that writing can be approached from more than one direction. Often conceptual scaffolding will take the form of providing feedback and advice or asking thought-provoking questions.
Metacognition is defined as thinking about thinking so metacognitive scaffolding involves getting the student to actually think about what they’re doing and why they’re doing it. Perhaps students might be prompted to think about why they want to write a story with certain elements in it.

Procedural scaffolding involves helping the student become familiar with and a master of using the resources available to them. Perhaps the student has never had to remove a hyperlink in a document and doesn’t know how to do so. Coaching the student through this process is providing them with the scaffold necessary to then go on and remove other hyperlinks on their own.

With strategic scaffolding, students are coached to analyze the situation and develop their own approaches for solving the problems and for using their existing knowledge in the new situation (Cagiltay, 2006). This could entail something as simple as helping students understand that items intended for one use, such as a pencil, could also be used in another way for a different situation, such as using that same pencil as a ruler.

In theory, using scaffolding techniques means that middle level learners will probably require more support at the beginning stages of a course than would a more mature learner. To this end, a number of online programs have added a week-long module at the beginning of their courses which walks students through some of the typical requirements for participating in the online classroom such as posting to the drop box, participating in an online discussion, and how to navigate using the learning platform. This serves as a form of school tour which many traditional schools offer students prior to their first days entering a new school. These modules are usually
completely separate from the actual courses and, literally, teach the student how to make a discussion board post, both initiating a response and replying to others. They will show the student how to submit an assignment to the digital drop box with and without an attachment. This module helps to increase the confidence level of the students as they begin their foray into online learning. In some cases, students must show a specific level of computer literacy prior to being permitted to enroll in online courses (Wagner, 2008).

Online middle level learners will need more help with process modeling in order to become more cognitively aware of their thoughts processes as they acquire new knowledge and information (Ge & Land, 2003). Process modeling is very similar to the think aloud strategy utilized in many traditional classroom where the teacher shares their thought processes as they work through questions or issues raised in class. The difference is that with process modeling the instructor is sharing the steps and their thoughts as they work through a process in the online classroom. The instructor might use this strategy when helping students learn to participate actively in a discussion board thread on a specific topic by showing the student how to generate a thoughtful response which is more elaborative than a terse yes, or no. There is some software available such as Model-It that helps to model the thinking strategies as students go through scientific inquiry such as determining a theory or course of action, the steps that will need to be worked through to prove or disprove theory, whether the theory is valid or needs to be revised.

Additionally, providing thought-provoking questions for the discussion boards will help promote quality responses. Simply asking if the student enjoyed the reading or agreed with an issue tends to promote terse responses. However, rephrasing questions by asking students to tell what they liked about a reading or what aspects of an issue they
agree or disagree with tend to incite more thought and encourage more quality responses. Younger students will need more help utilizing discussion boards in terms of conducting appropriate discussions and staying focused on the required task/topic (Suler, 2004). Middle level learners would find it very easy for middle level learners to turn a discussion board posting into a conversation about the newest music trend or, even worse, a bash session on another student (Lim, 2004).

*Online Educators*

Consequently, online educators will also need to understand how to monitor these boards and guide the students without squashing their interest in learning (Suler, 2004). Online educators will need to model appropriate degrees of interaction and be more sensitive to what students are posting and how they’re posting. Determining the levels of comprehension is much easier in the traditional classroom by observing body language and facial expressions, but this is not necessarily possible in the online classroom. Often the traditional classroom teacher can tell just by looking at the students whether or not any of them are struggling with a concept. Since the online teacher is rarely actually looking at the students when they are going through the readings and activities which have been designed to teach them new concepts, the online instructor has to rely on the students to take the initiative and actually speak up to let the instructor know they do not understand. The online classroom could also offer an opportunity for what might be perceived as an easy grade which requires less work or which provides an opportunity to get away with cheating. The online course has to be very carefully designed to help eliminate these issues (Palloff & Pratt, 1999; Olt, 2008).
By remaining approachable through communication tools such as e-mail, online chat, participation in discussion boards, the online teacher can keep the lines of communication open so that students will feel more comfortable asking for assistance. Providing timely responses to such requests shows the instructor is concerned with the students’ learning and generates a sense of ‘presence’ in the online classroom. Ensuring the coursework is neither too hard nor too easy will eliminate the perception that online learning is an easier option to the traditional classroom (Palloff & Pratt, 1999).

Many of the teaching issues and techniques that are used in the traditional classroom also work in the electronic environment such as using effective communication, providing quality instruction, materials, and assignments, and meeting the needs of a diverse student population (Young, 2006). Just as in the traditional classroom, teachers need to provide time for students to work together, interact, and practice, this needs to be part of the cyber classroom as well. In the traditional classroom, a class might participate in a class discussion of a story or novel by orally or textually sharing their thoughts and ideas; in the online classroom, this class discussion might take place in a discussion board, chat room, or virtual conference. In the traditional and online classrooms, students will expect to receive assignments which should be based on their readings and concepts being studied at the time. Positive, timely feedback is vital in both environments to help redirect students when they are heading in the wrong direction or to praise them and point out their successes (Taylor & MacKenney, 2008). In the traditional classroom, feedback can take the shape of speaking with the student, comments written on the student’s paper, or a separate grade sheet which is given to the students. These forms of feedback are much the same in the online classroom depending on the
technology utilized by the instructor. Instructors are able to provide verbal feedback through the use of voice recording technology such as Captivate where the instructor can “tell” a student how they did in the assignment while the student watches a video while listening to the instructor’s voice. Most word processing programs offer the ability to highlight sections of text and then provide an area where the instructor can type in comments which is very similar to having the teacher write comments in the margins. In a study conducted by Young (2006) regarding what students feel constitutes an effective online teacher, there were seven areas that students felt were the most critical to making their online experience successful: “adapting to student needs, using meaningful examples, motivating students to do their best, facilitating the course effectively, delivering a valuable course, communicating effectively, and showing concern for student learning” (Smith, 2006, p. 5). Students appreciated having an instructor who was willing and able to tailor the readings, activities, or assignments to meet the individual needs of each student. When the instructor finds a student in a class who is functioning above the level of the other students, the online environment provides the instructor the ability to easily tailor the course by providing the student with links to information at their ability level. Students always appreciate having an instructor who displays a high degree of competence in their subject area and who is able to interact with the students through participating in the class discussions and e-mail. Online instructors are able to show their concern for students by communicating with them their expectations and keeping up with those students who may be more reluctant to participate and can encourage these students through e-mails and sometimes even phone calls.
Just as traditional classroom teachers often conduct some form of introductory activity within the first few class meetings to get to know the students better, the online teacher also needs to find some method for getting to know the students enrolled in the course as more than just a name and number (Meyen & Lian, 1997). There are a number of techniques for doing this including icebreakers where the students e-mail each other or post to a discussion board providing information about themselves or profile sheets which are completed and then posted somewhere on the course site. Some instructors might pair students up and have them introduce their partners to the class. Another online icebreaking activity could include having a group of students work together to create a brief slide show presentation about the group members. Depending on class size and instructor availability, the instructor may also opt to contact the students via telephone to verbally convey their expectations and requirements directly to the students.

Effective communication can be tricky in the online environment when compared with the traditional classroom (Finley, 2000). In the e-classroom, teachers cannot be sure that students will understand the gist of an e-mail or that the author’s intent will be understood. Miscommunication can occur very easily when one person interprets written communication in a way other than what was intended depending on their state of mind at that precise moment. If a student has just had an argument with someone, that student is more likely to interpret an instructor’s request for more information on a topic as a form of chastisement simply because that student has a negative mental state at that time even though that was not the instructor’s intention at all. Miscommunications and misunderstandings occur when readers do not have the benefit of hearing the tone of voice or seeing the speaker’s (in this case, the writer’s) facial expressions. Online
teachers will have to work much harder in this sense than the traditional classroom teacher to overcome these obstacles in order to ensure comprehension and to avoid issues of hurt feelings (Finley, 2000). Guidelines will need to be in place for both students and instructors to follow with regards to how to address each other appropriately in discussion boards, chat rooms, etc. With some online courses, the instructors tend to come across as more of a friend than a professor and will have students address them by first name. Other instructors prefer to remain more formal and will use a title. Additionally, some online instructors may require students to post questions regarding assignments in one specific place rather than contacting the instructor directly.

All of these issues need to be addressed at the beginning of the course in order to avoid confusion and frustration for both the students and the instructor. Students will often come to the course already competent in conducting online conversations with their friends (Shiu & Lenhart, 2004). This same format which consists largely of abbreviated forms of words, however, is probably not going to be acceptable for the online classroom anymore than it would be acceptable in the traditional classroom (Young, 2006) where the emphasis is on learning “business” or “formal” communication. Turning in papers using abbreviations using the letter “u” for the pronoun “you,” or “w8” which is a common texting abbreviation for the word “wait” is generally not a good idea. Students may also need to be reminded to capitalize the pronoun i when referring to themselves in their writing.

Halsne and Gatta (2002) and many others have attempted to determine what common characteristics students have that are drawn to online education. However, in nearly every case these studies targeted college students and post-graduate students. Not
surprisingly then, most of these studies indicate that students between the ages of 20-45 are drawn to the online classroom because of the convenience and flexibility this venue affords them. Thanks to modern technology, they can take the classroom with them wherever they go, and are often seen working on assignments in such diverse places as the subway, park bench, and the corner coffee shop. However as younger students, such as those at the middle and high school levels, begin turning more frequently to online education, there will need to be more research conducted on the impact that solitary learning has on these learners. Many of these students are turning to the online environment as a means of supplementing the education that is offered in the public school setting. Often schools are unable to provide a huge array of courses due to budget constraints and manpower issues. Some districts just have the budgets to hire someone to teach Latin for one student in a school, thus this student has to seek other means for taking this course. Schools also frequently provide programs which have been developed by companies and are then put out to entire school districts without regard for what the students in that specific school actually need. Universities like Northwestern University offer enrichment courses for identified gifted students in grades 4-12 to help supplement their education. Many of the students enrolled in this program attend classes in their local community and also participate in online courses. Other typical online students are those students who are home-schooled. Some parents opt to home-school their children in an effort to avoid some of the negative aspects of attending a public middle school such as teasing and bullying (Reschly, 2008).

*Advantages of Online Education*
There are a number of advantages to online learning when compared with the traditional classroom. Feldman and McPhee (2008) discuss a number of advantages of online learning compared with the traditional classroom. Online learning provides students with more opportunities for personal and hands-on experience. There are simply some concepts which are very difficult to teach in the traditional classroom for which the online environment provides a great deal of experience such as effective communication skills. There is no way a student can be successful in the online environment without being able to communicate effectively with other students and the facilitator.

Another benefit to online learning is the fact that discussions and other materials can then be archived and remains accessible to students for the duration of the course. Thanks to discussion boards where threaded discussions are visible to the students for any length of time, students are able to return to these frequently to continue discussions or to re-read the postings. Additionally, e-mail communications can be stored indefinitely to enable all participants to maintain accurate records. Students can usually go back to previous modules, weeks, assignments, readings, etc. in order to refresh their memories on subject material or to double-check information. Additionally, students and faculty members are able to use a wide variety of up-to-date technologies in the online environment such as streaming video, podcasting, WIKIs, real time video conferencing and many other which frequently take years to make their way into the traditional classroom.

Online education provides a much greater degree of flexibility and adaptability to the course and the materials used in the course. The instructor can usually update information presented in the online classroom by simply editing the text in a module.
However, it's much more difficult to update textbooks which have been adopted by a school system, usually for a specified number of years before a school system will even begin looking for update versions. The online environment often provides more opportunities for meeting the diverse needs of students by providing more advanced students with opportunities to delve deeper into subjects of interest and providing additional help for those students who are struggling to master a concept because the students are generally working at their own paces and are all at different points in the online course.

Students and instructors have time to think about and respond to communications. Because the online classroom relies so heavily on written communication, teachers and students have time to stop and think about what questions they need/want answered and what their responses are going to be. Teachers are able to really tailor their responses to meet that particular student's needs rather than necessarily having to phrase their answers to an entire classroom of 30+ students.

The online learning environment provides the opportunity for more collaboration among teacher, student, and subject. Because students have to take a great deal more responsibility for their own education in the online classroom, learning becomes more collaborative between students and teacher, and students and other students. The online classroom frequently becomes more of a factor in a student's life because they find themselves returning to the course periodically throughout the day to check on postings, respond to other students or the teacher, and to do the readings or the required work; thus online students often find themselves actually spending more time "in" class than they
would in the traditional classroom, but at times when it’s more convenient for them or when it’s more conducive.

In the online environment, there is the ability to provide every student with “equal time to be heard.” Because students don’t have to feel the eyes of thirty or more other students on them when they ask or answer questions, many students feel much freer to share their thoughts and opinions in the online environment. Some students might feel more comfortable answering questions and challenging other’s ideas in the online environment because they are able to have more think time than in the traditional classroom environment.

Regardless of why increasing numbers of students are being drawn to the online classroom, the fact is middle school students are becoming increasingly interested in and targeted by online course companies. Further research needs to be conducted to better understand why these students are being drawn to this environment and the potential impact the online learning environment will have on these learners. These middle level learners are often at a critical point in their academic development where positive experiences can lead them to love education and become life-long learners and where negative experiences can turn them off of education forever.
Chapter 3: Methodology

As online education becomes more and more available and acceptable, younger and younger students are turning to this venue for their educational needs. While there has been a tremendous amount of research conducted on the impact of the cyber classroom on high school and college students, there has been relatively little work done to assess the impact of this environment on middle level learners whose personalities are still in the developing stages. Educators need to know what impact, if any, this relatively solitary form of learning will have on developing minds and to understand why more and more students are seeking this form of education.

Selection and Description of Sample

The students used in this survey will come from School A, which is part of a gifted outreach program implemented by a midwestern university and from Company B which is a private company which contracts to write curriculum for online programs being implemented by numerous states and which also offers a limited number of courses to students in grades 7-12. Students must pass rigorous testing in order to take courses through School A. However, this is the only restriction for students as all students regardless of economic or ethnic backgrounds are able to attend the online courses once they have proceeded through the testing restrictions. Those students who do not choose to take the tests may submit a portfolio of their work instead. For Company B, the only regulation for enrolling in the courses provided is the student’s parents must pay for the courses. There is no form of testing or screening for participation in Company B’s online offerings. For both School A and Company B, students are not centrally located and a few do not even live in the United States. School A provides courses for students in
grades K-12, and Company B provides courses for grades 7-12. This study will focus on students enrolled in the middle level programs designed for sixth graders through eighth graders as there has been very little or no research conducted regarding the potential impact of online learning for this level of student. This age student is also the group that is now experiencing the largest growth in terms of registering for online courses. This study will not look at students in kindergarten through grades five because this population is very small and tends to consist solely of gifted students and home-schooled students. All students enrolled in School A and Company B’s middle school courses will be invited to participate in the study.

*Instrumentation*

Data will be gathered using a fourteen question online survey. Parents will be e-mailed a consent form (see Appendix B) which contains the required human rights information and allowing them the opportunity to decline having their student participate and also an opportunity to take a look at the survey. The link provided to the parents for this purpose will take them to an inactive version of the survey. This is so the parents may not respond to the survey questions for their students and contaminate the information gathered. Once permission for participation has been obtained, the students will be provided a link to the survey via e-mail. The survey will assess how students feel about their online learning classroom experiences compared with their feelings in the traditional classroom. Students will click on the link embedded in the e-mail sent to them so there will be no need for them to mail in any documentation. This is appropriate as the majorities of the students in this study were familiar with the online environment and were more likely to respond to an online survey than they would if the survey were a hard
copy. This also provides for complete anonymity for responses as no names, numbers, or other methods of identification will be used. The survey will use a variety of questions such as multiple choice, multiple select, Likert scale responses, and open-ended questions to determine how students feel about their online learning compared with learning in the traditional classroom. Multiple choice questions will ask a question, offer four options, and will require students to select one of the options. Multiple select questions are set up similar to the multiple choice questions, however, there may be more options available from which to choose, and students will be able to select as many options as apply. The Likert scale is an attitudinal rating scale where respondents indicate the extent to which they agree or disagree with a statement within a range. The five point scale is most commonly used in this format and is the degree that will be used in this survey. Open-ended questions require students to type in a response of their own wording. Questions will focus on satisfactions levels, degree of participation, and amount of learning assumed by the student in both settings. The survey should take no more than about twenty minutes for students to complete.

Data Collection

Students will receive an e-mailed link to the online survey (see Appendix C). All students whose parents permit and who are enrolled in School A and Company B’s programs during the spring 09 term for grades six through eight will receive the survey. This will include students enrolled in both enrichment and core courses. The e-mail will contain a short note explaining that the information will be used for information purposes only and that student names will not be included in any way. The e-mail received by the students will also go to the parents of each student as required by School A and Company
B's research boards. The parents, however, will not be asked to participate in this survey. Students will click on the link which will take them to the survey site. All responses will be recorded and stored at the survey site.

Data Analysis

The survey site used is www.surveymonkey.com. This site provides storage and analysis for surveys created at the site. This site was selected based on ease of use, variety of question options available, and because this site does not use other advertisements in the navigation bars across the top and sides of the screen where inappropriate items might be seen by minors. The surveymonkey website was also selected because this site allows the researcher to select a number of filters for disaggregating the data collected. Information is provided for each question showing the percentage of participants who responded with a specific answer or who skipped the question. The filters can be set to provide detailed information for various requirements and can be changed as needed while collecting the data. There is also an option to browse responses in order to scrutinize the open-ended questions and see what comments respondents included.

Limitations

One of the most significant limitations of this study is the sample population. The students used for this study from School A are all either identified as gifted students or have passed testing requirements to enroll in the courses which would indicate a high degree of intelligence. There will be no cognitively learning disabled students in terms of mental capabilities in these courses. The only disabilities might be physical. There are two students currently enrolled in the School A programs with visual disabilities which
require special screen readers, but these are the only identified students with any form of a disability. Students enrolled in Company B’s program have not been identified with any learning disability or giftedness. Because the sample used from School A is fairly homogenous as all students enrolled in those courses have passed rigorous academic testing, any results may not be generalizeable to a larger population. Another limiting factor of this study is the small number of students being studied. Due to the rigorous testing requirements of School A, there are only a few hundred students enrolled. Of these students, there are fewer than 80 middle level learners. There are fewer than one hundred students enrolled in Company B’s courses with approximately twenty enrolled in the middle school offerings. The majority of students enrolled in School A and Company B’s programs are high school students. Also, there are a higher number of students who have been homeschooled throughout their education and would, therefore, be unable to provide a comparison between the online environment and the traditional classroom environment.

Another limiting factor of this study was knowing whether or not the intended student takes the survey and not someone else such as a parent or friend. To help reduce the impact of this limitation, students will be given a specific number which will be sent to them via the instructor of the course they are enrolled in at School A. Students will need to enter this number on the survey. While there is still the chance that the students will give their number to someone else to have them complete the survey for them, this process will, hopefully, reduce the number of instances of this happening. Another factor to aid in this dilemma is the fact that students and their parents have to sign a pledge of honesty prior to beginning any coursework in School A’s program. This pledge of
honesty is intended to ensure that students are submitting their own work to the courses and not that of someone who is not actually enrolled. Because this study is being conducted using students who have signed this pledge of honesty, they may feel more compelled to complete the survey on their own. Company B prefers not to have the survey conducted through the teachers as they feel this would lend the students to believe this is a course requirement which might impact their grades. Therefore, for Company B, the researcher will send the students the e-mail and the link directly. Students in Company B are also required to sign a type of honesty pledge, but since the survey will not be obtained through the teacher, there may be no implied impact based on that pledge.
Chapter 4: Results

As computers begin to take an ever larger role in our lives with more and more people finding themselves working from home, using the Internet for shopping, research, entertainment, and keeping in touch, it should be no surprise that there’s an increasing number of students looking to this medium for educational purposes. Schools are finding increasing numbers of students around the world are turning to the Internet to meet their educational needs. This trend, which began with non-traditional students turning to the Internet to further their education while continuing to work full-time, is now appealing to younger and younger students. However, there has been very little research conducted thus far to determine why these students are turning to the Internet and what impact this more solitary learning medium will have on these impressionable minds. Because of this growing virtual student population, it is vital that educators and administrators determine how to meet these needs and how to best prepare to accommodate these younger learners.

Research Adaptations

When this research study began, there were to be two external sources of student participation: a gifted outreach program from a large, midwestern university (School A) and a private company which contracts to write curriculum for online programs developed by states and other organizations and which also maintains a very small number of online students (Company B). During the course of this study, changes occurred within both organizations which prevented them from participating in the study. School A changed directors and the new director felt that because the students enrolled in the gifted outreach program had to go through enough testing and other requirements that it was unfair to ask them to participate in one more. The concern was also that students
and parents might feel obligated to participate if the survey were done through the teachers. School A politely withdrew from participation for these reasons.

Company B found itself in a situation where, due to economic constraints, they were being forced to downsize their entire workforce and felt that they just couldn’t dedicate the resources necessary to ensure compliance with company policy for conducting surveys with their students, and so they also chose not to participate in this research at this time.

In an attempt to drum up some participants, the researcher then looked up the names of online middle schools and private corporations which utilize middle level learners in their programs. The researcher contacted the directors, principals, presidents, and numerous other officials within these organizations, explained the purpose of the research, shared the focus, included links to appropriate documentation (i.e. survey, IRB approval, consent forms), and invited these groups to participate in the research. There were well over thirty invitations extended. Unfortunately, to this date, all groups have declined participation stating a variety of reasons including concern over the general reputation that tends to be associated with middle schools and middle level learners, the primary concern being that if the survey results show a negative impact on this age student, they will lose clients.

The researcher then went to a number of home school discussion boards to attempt to enlist the aid of students in the home school environment who might also take advantage of course offerings in the online environment. It has been the researchers experience through friends and families that many homeschooled students are increasingly turning to online education when they get past the elementary level where
their parents’ knowledge and abilities might be inadequate. The researcher posted to
generic home school discussion boards where general information was posted and did not
post to discussion boards dealing with specific issues or curriculum matters. These posts
included a brief introduction to the researcher providing them with some background and
why the researcher was interested in this particular area of information. Parents were
invited to contact the researcher to ask questions, read the report at its current incarnation,
look over the IRB approval, and a link to the survey was included in the post so that
parents could look over the survey in order to ensure there was nothing inappropriate in
the survey or at the website. To date there have been 24 people who have taken the online
survey through the link provided at these discussion boards.

Item Analysis

The survey created through the software at www.surveymonkey.com asked
students to reflect on their online learning experiences. The results of the multiple choice,
multiple select, and Likert scale questions appear to follow the same results shown in
other studies of online learning which were conducted using older test subjects (Table 1).

Table 1.
Learning Environment Preferences

<table>
<thead>
<tr>
<th>Question and response options</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>In which learning environment do you feel you</td>
<td></td>
<td></td>
</tr>
<tr>
<td>gained the most knowledge?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Online</td>
<td>13%</td>
<td>3</td>
</tr>
<tr>
<td>Traditional</td>
<td>25%</td>
<td>6</td>
</tr>
<tr>
<td>About the same</td>
<td>63%</td>
<td>15</td>
</tr>
<tr>
<td>Neither</td>
<td>0%</td>
<td>0</td>
</tr>
</tbody>
</table>

How willing/interested are you in
enrolling/participating in another online course?
| Absolutely will never take another online | 8%  | 2  |
| Slightly willing/interested             | 13% | 3  |
| Pretty willing/interested               | 21% | 5  |
| Very willing/interested                 | 33% | 8  |
| Absolutely will take another online course | 25% | 6  |

Which learning environment do you feel best suits your needs?

| Online classroom | 17% | 4  |
| Traditional classroom | 22% | 5  |
| Both were about equal | 61% | 14 |
| Neither suits my needs | 0%  | 0  |

There does not appear to be a huge preference for learning in either the online classroom or in the traditional classroom. The student’s preference tends to be dictated by their personal needs (the desire for immediate feedback and human interaction) and the general experience in either setting. If a student had a recent negative experience in the online classroom, that student tended to feel more drawn to the traditional classroom. However, if the student had a positive online learning experience, this did not necessarily translate into the student feeling more drawn to the online environment. Instead, it made that student more open to the online learning environment.

Table 2

*Student Comments on Environment Preferences.*

<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
</tr>
</thead>
</table>
| Please explain why you prefer one learning environment (online or traditional) over the other. | No preference, although the internal debate between online and traditional still goes on.  
No preference.  
Honestly, I feel I overcame most of the difficulties and would do an online course again. I am not worried so much about the grade as I am about keeping myself current. I think I have relaxed some of my hang-ups on appearing in online settings and would perhaps do better in this arena in the future.  
I prefer the traditional environment because I love constructive criticism, instant feedback, and the personal interest from peers and educators. |
I prefer the feedback of the traditional class and the self pace of online learning.

I like them both, but if I had to pick it would be online because there is no time restrictions. I can learn whenever I want, and participate whenever I want.

More interaction in the traditional environment.

I prefer personal interaction. However, I enjoyed my class and would be willing to take another.

I like being able to go to class in my jammies. It is more convenient because I can do my work whenever I need to. Also, absences are not really an issue- I’m able to work on my assignments whether I’m at home or on vacation. I really felt my online classes were less strenuous than traditional ones.

It just depends upon the subject matter of the course.

It really depends on the situation; I do not think taking a foreign language online is a good option at all.

I don’t.

I prefer a schedule without deadlines. That’s one thing I really like about home schooling.

I like being with people more than being online.

I prefer face to face interaction and not having to check in every day for class to make sure I’m not missing anything. I felt like I was more obligated online to take care of everyone else’s schedule and not just my own.

Flexibility of schedule, repetition of exercises as often as you like.

I prefer the online learning environment because of flexibility.

Traditional.

Both are equal. I like the variety of doing both online and traditional. I prefer different aspect of both type of learning.

It’s more convenient and can be done without leaving your home.

At this point in my life, online classes are more practical.

I prefer traditional classrooms because I feel that I learned more content, it allowed me easier access to the professor (much easier to discuss something with someone when they are physically in your presence as opposed to relying on someone to answer an e-mail), and I got to know my classmates with whom I worked. I never met my group members in my online courses other than through a few brief e-mails.

N/A

Actual participation in both the online learning environment and the traditional environment appears to be about equal with about 38% of the respondents indicating they participate about the same in both settings and that they acquired the same amount of knowledge in both settings as well (Table 3).
Table 3.
Student Participation.

<table>
<thead>
<tr>
<th>Question and response options</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>How often did you view the course discussion boards?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>13%</td>
<td>3</td>
</tr>
<tr>
<td>Rarely (less than 2 times/week)</td>
<td>4%</td>
<td>1</td>
</tr>
<tr>
<td>Sometimes (3-4 times/week)</td>
<td>33%</td>
<td>8</td>
</tr>
<tr>
<td>Often (1-2 times/day)</td>
<td>42%</td>
<td>10</td>
</tr>
<tr>
<td>Frequently (3+ time/day)</td>
<td>8%</td>
<td>2</td>
</tr>
<tr>
<td>How frequently did you post to the discussion boards?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>13%</td>
<td>3</td>
</tr>
<tr>
<td>Rarely (1 time/week)</td>
<td>4%</td>
<td>1</td>
</tr>
<tr>
<td>Seldom (1-2 times/week)</td>
<td>17%</td>
<td>4</td>
</tr>
<tr>
<td>Occasionally (3-4 times/week)</td>
<td>38%</td>
<td>9</td>
</tr>
<tr>
<td>Often (1-2 times/day)</td>
<td>29%</td>
<td>7</td>
</tr>
<tr>
<td>Frequently (3+ time/day)</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>How did your postings compare to your traditional classroom?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>More in the traditional classroom</td>
<td>29%</td>
<td>7</td>
</tr>
<tr>
<td>More online</td>
<td>17%</td>
<td>4</td>
</tr>
<tr>
<td>About the same in both</td>
<td>50%</td>
<td>12</td>
</tr>
<tr>
<td>No participation in either</td>
<td>4%</td>
<td>1</td>
</tr>
<tr>
<td>No participation in the traditional classroom</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>No participation online</td>
<td>0%</td>
<td>0</td>
</tr>
</tbody>
</table>

The open-ended questions appear to indicate that facilitator involvement and feedback were crucial to the student's overall sense of satisfaction with the online learning environment (Table 4). When the student felt the facilitator was not fully participating and interacting with the students in the course, students indicate feelings of frustration and confusion.
<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>What made this a good/bad/neutral experience?</td>
<td>Interaction with my fellow students and instructors.</td>
</tr>
<tr>
<td></td>
<td>The convenience of taking a class on my own time.</td>
</tr>
<tr>
<td></td>
<td>For me, the differences had an impact. I was not always getting the feedback in a timely manner as the sleep cycles did not match up. It didn’t matter if I was waiting for a peer to answer re: an assignment we had together or the instructor which led to some frustration.</td>
</tr>
<tr>
<td></td>
<td>There was no enforcement of due dates or sense of urgency during the discussions so I had no interest in contributing.</td>
</tr>
<tr>
<td></td>
<td>It was good as in it was self paced and I could finish as quickly as I liked, but would have been more effective had the teacher been more involved with the discussions and answering questions.</td>
</tr>
<tr>
<td></td>
<td>I was able to learn at my own pace, in my own home. And had no restrictions as to when I had to attend a class or listen to a lecture.</td>
</tr>
<tr>
<td></td>
<td>I could study and learn on my time. I was not fully aware of all of the online course capabilities and almost missed some of my assignments because of the separate email address.</td>
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<td></td>
<td>The information was easy to access but the expectations were not clearly outlined.</td>
</tr>
<tr>
<td></td>
<td>Not having to go to class, being able to work at my own pace, classes seemed easier.</td>
</tr>
<tr>
<td></td>
<td>More convenient—less personal time involved. Could complete it at my own pace.</td>
</tr>
<tr>
<td></td>
<td>It was a foreign language course online.</td>
</tr>
<tr>
<td></td>
<td>I learned a lot in an efficient manner.</td>
</tr>
<tr>
<td></td>
<td>My teacher was very positive.</td>
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</tbody>
</table>
Chapter 5: Discussion

As computers become more widely available and accessible to everyone in the population, people are beginning to use these resources more and more. US Census statistics indicated that in 2002 over 60% of Americans owned at least one personal computer, and this percentage continues to increase. Many people spend a large portion of their time working; shopping, learning and interacting with others via these tools so there should be no surprise that this trend is now being seen with younger and younger people. Because younger people are beginning to do more with the virtual environment, it is imperative that researchers discover their needs, the effect of these environments on this group, and ensure these needs are met. This is one of the goals of this research- to determine the impact of the virtual classroom on the middle school student and to help ensure their needs are being met.

Limitations

This study was intended and designed to include middle school students, but because of the sensitivity of people to this particular age group, the organizations which had agreed to help provide students to take the survey were unable to do so. Therefore, the researcher had to scramble to find anyone to participate and turned to requesting help from online discussion boards directed at home schooled students. One of the largest limitations with collecting data from random hits generated by posting to discussion boards is there is no way of knowing or telling exactly who is taking the survey. While the request was made, specifically, for the students to participate in the survey, there is no guarantee that these results are from middle school students and not from adults or
someone just playing around in discussion boards. Therefore, the researcher believes the results are not generalizeable.

Conclusions

One of the research questions investigated was how do students participating in the online learning environment feel about their education compared with students in the traditional classroom. The results of the survey tend to follow the same results seen in other research such as the study by Lim, Kim, Chen, and Ryder (2008) and McFarland and Hamilton (2006). Those studies were conducted using older students but still showed mixed results with no one area clearly being preferred by students. In this research, the majority of the respondents indicated they did not really prefer one learning environment over the other. There were some aspects of online learning which many of the respondents appreciated such as being able to work on assignments wherever and whenever they wished, being able to take a course that fit into their schedules instead of having to work their schedules around the course, and many of the students indicated they appreciated having the time to consider their responses. However, quite a few of the participants also indicated that they simply prefer the traditional classroom because of the interplay between students and instructor. They need that human contact and preferred being able to use cues such as tone of voice, facial expressions, and body language to having to post to an online discussion board.

Another of the questions addressed by this research dealt with what can be done to improve students’ online learning experiences. In this survey, most of the students indicated they had higher levels of satisfaction with their online learning experience when the expectations for the course (i.e. assignments, postings, participation) were clearly
outlined from the beginning. Confusion with these areas often resulted in frustration on the part of the students. Students also preferred having a facilitator who had a clear presence in the online class and participated in the discussion boards and responded promptly to queries from the students. These are details that educators wishing to move to the online environment must take into consideration.

This study also explored the reasons middle level learners are turning to online education. The research indicates that students are looking to online education to supplement the course offerings in their local areas since school budgets are constantly under threat of reduction. They are also looking to online education as a means of avoiding some of the negative aspects of traditional classrooms such as bullying and overcrowding. A number of online middle level learners are home schooled students who are utilizing the Internet to take courses in subjects where their parents or tutors are not as strong. In short, there are a huge number of reasons why students are turning to the growing field of online education.

Recommendations

This study indicates further research into the impact of online education on middle school students be conducted using verifiable middle school students. Hopefully, as time goes on, organizations and online school systems will be open to and actually encourage this type of research in order to better prepare their students for an increasingly technologically advanced future.
References


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Appendix A

Readiness for Online Learning Questionnaire:

1. I am able to easily access the Internet as needed for my studies.
2. I am comfortable communicating electronically.
3. I am willing to actively communicate with my classmates and instructors electronically.
4. I am willing to dedicate 8 to 10 hours per week for my studies.
5. I feel that online learning is of at least equal quality to traditional classroom learning.
6. I feel that my background and experience will be beneficial to my studies.
7. I am comfortable with written communication.
8. When it comes to learning and studying, I am a self-directed person.
9. I believe looking back on what I have learned in a course will help me to remember it better.
10. In my studies, I am self-disciplined and find it easy to set aside reading and homework time.
11. As a student, I enjoy working independently.
12. In my studies, I set goals and have a high degree of initiative.
Appendix B

UW-Stout Signed Consent Form for Research Involving Human Subjects

Consent to Participate In UW-Stout Approved Research

Title: The Impact of Online Learning on the Middle School

Student Investigator: Joy Nehr
E-mail: nehrj@uwstout.edu or mrsnehr@aol.com

Research Sponsor: Dr. James Lehmann
E-mail: lehmannj@uwstout.edu

To Whom It May Concern:

Description:
More and more middle school students are being attracted to and sought after as students by various educational associations, yet there has been very little research conducted to determine the impact this solitary learning environment may have on this impressionable group of students. Additionally, we do not know how the students themselves feel about the education they receive online compared with the education offered in the traditional classroom. Through the use of a survey, this study will gather information to determine how students feel about their online education compared to that of the traditional classroom. The survey is designed to assess whether or not students participate more in the online environment, and whether they prefer the online environment to that of the traditional, face-to-face classroom.

Risks and Benefits:
There are no mental or physical risks to students by participating in this survey. The benefits of participation include increased understanding of the impact of online learning on young adults and additional information regarding how the students actually feel about the virtual learning environment.

Special Populations:
This study will use information provided via confidential surveys taken by middle school students in grades 6 through 8. Any research involving minors must have informed consent addressed to the parent or guardian and include a signature line for them (see below).

Time Commitment:
Students will be provided a link to the survey site. The survey will be available for a period of one month after which time students will be unable to answer survey questions. The survey itself should not require more than 20 minutes maximum of the student’s time.

Confidentiality:
Students’ names will not be included on any documents. We do not believe that you can be identified from any of this information. This informed consent will not be kept with any of the other documents completed with this project.

**Right to Withdraw:**
No one should ever feel obligated to participate or continue participation in a project with which they are uncomfortable. Your student’s participation in this study is entirely voluntary. You and your student may choose not to participate without any adverse consequences. Should you choose to participate and later wish to withdraw from the study, you may discontinue your participation at that time without incurring adverse consequences.

**IRB Approval:**
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.

**Investigator:**
Joy E. Nehr  
Services  
e-mail: nehrj@uwstout.edu or mrsnehr@aol.com  
**Advisor:**  
Dr. James Lehmann  
lehmannj@uwstout.edu  
**IRB Administrator**  
Sue Foxwell, Director, Research  
152 Vocational Rehabilitation Bldg.  
UW-Stout  
Menomonie, WI 54751  
715-232-2477  
foxwells@uwstout.edu

**Statement of Consent:**
By clicking the “Yes” button of this e-mail you agree to participate in the project entitled, “The Impact of Online Education on Middle Level Learners.”

______________________________  
Signature.............................................................................................................. Date

______________________________  
Signature of parent or guardian:............................................................... Date  
(If minors are involved)
Appendix C

Impact of Online Education for Middle Level Learners Survey

1. To what extent are you satisfied with your online learning experience?
   Not at all     Somewhat     Fairly     Very     Not Sure

2. What made this a good/bad/neutral online experience? (open-ended)

3. What feelings were generated by the experience? (open-ended)

4. What mental changes/states were you aware of related to the online learning experience? (open-ended)

5. How often did you view the course discussion boards?
   Never
   Rarely (less than two times per week)
   Sometimes (3-4 times per week)
   Often (1-2 times per day)
   Frequently (3+ times per day)

6. How frequently did you post to the discussion boards?
   Never
   Rarely (one time per week)
   Seldom (1-2 times per week)
   Occasionally (3-4 times per week)
   Often (1-2 times per day)
   Frequently (3+ times per day)

7. How did your postings compare to your traditional classroom participation?
   I participate more in the traditional classroom.
   I participate more in the online classroom.
   I participate about the same in both classrooms.
   I didn’t participate in either classroom.
   I didn’t participate in the traditional classroom.
   I didn’t participate in the online classroom.

8. If there was a difference in your participation in the online classroom compared to the traditional classroom, please comment on potential causes for this difference. (open-ended)

9. In which learning environment do you feel you gained the most knowledge?
   Online
   Traditional
   About the same
   Neither
10. Is there anything the online facilitator could/should do to improve your learning experience? (open-ended)

11. How willing/interested are you in enrolling/participating in another online course?
   Absolutely will never take another online course.
   Slightly willing/interested.
   Pretty willing/interested.
   Very willing/interested.
   Absolutely will take another online course.

12. What made your online learning experience better/worse than your traditional classroom learning experience? (Open-ended)

13. Which learning environment do you feel best suits your needs?
   Online classroom.
   Traditional classroom.
   Both were about equal.
   Neither suits my needs.

14. Please explain why you prefer one learning environment (online or traditional) over the other. (Open-ended)
# Appendix D

*Summary of Responses to Multiple Choice, Multiple Select, and Likert Scale Questions*

<table>
<thead>
<tr>
<th>Question and response options</th>
<th>Response Percent</th>
<th>Response Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>To what extent are you satisfied with your online learning experience?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Not at all</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>Somewhat</td>
<td>13%</td>
<td>3</td>
</tr>
<tr>
<td>Fairly</td>
<td>42%</td>
<td>10</td>
</tr>
<tr>
<td>Very</td>
<td>46%</td>
<td>11</td>
</tr>
<tr>
<td>Not sure</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>How often did you view the course discussion boards?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>13%</td>
<td>3</td>
</tr>
<tr>
<td>Rarely (less than 2 times/week)</td>
<td>4%</td>
<td>1</td>
</tr>
<tr>
<td>Sometimes (3-4 times/week)</td>
<td>33%</td>
<td>8</td>
</tr>
<tr>
<td>Often (1-2 times/day)</td>
<td>42%</td>
<td>10</td>
</tr>
<tr>
<td>Frequently (3+ time/day)</td>
<td>8%</td>
<td>2</td>
</tr>
<tr>
<td>How frequently did you post to the discussion boards?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>13%</td>
<td>3</td>
</tr>
<tr>
<td>Rarely (1 time/week)</td>
<td>4%</td>
<td>1</td>
</tr>
<tr>
<td>Seldom (1-2 times/week)</td>
<td>17%</td>
<td>4</td>
</tr>
<tr>
<td>Occasionally (3-4 times/week)</td>
<td>38%</td>
<td>9</td>
</tr>
<tr>
<td>Often (1-2 times/day)</td>
<td>29%</td>
<td>7</td>
</tr>
<tr>
<td>Frequently (3+ time/day)</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>How did your postings compare to your traditional classroom participation?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>More in the traditional classroom</td>
<td>29%</td>
<td>7</td>
</tr>
<tr>
<td>More online</td>
<td>17%</td>
<td>4</td>
</tr>
<tr>
<td>About the same in both</td>
<td>50%</td>
<td>12</td>
</tr>
<tr>
<td>No participation in either</td>
<td>4%</td>
<td>1</td>
</tr>
<tr>
<td>No participation in the traditional classroom</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>No participation online</td>
<td>0%</td>
<td>0</td>
</tr>
<tr>
<td>In which learning environment do you feel you gained the most knowledge?</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Online</td>
<td>13%</td>
<td>3</td>
</tr>
<tr>
<td>Traditional</td>
<td>25%</td>
<td>6</td>
</tr>
<tr>
<td>About the same</td>
<td>63%</td>
<td>15</td>
</tr>
<tr>
<td></td>
<td>%</td>
<td></td>
</tr>
</tbody>
</table>
|----------------------|----|---  
| **Neither**          | 0% | 0  
| **How willing/interested are you in enrolling/participating in another online course?** | |   
| Absolutely will never take another online | 8% | 2  
| Slightly willing/interested | 13% | 3  
| Pretty willing/interested | 21% | 5  
| Very willing/interested | 33% | 8  
| Absolutely will take another online course | 25% | 6  
| **Which learning environment do you feel best suits your needs?** | |   
| Online classroom | 17% | 4  
| Traditional classroom | 22% | 5  
| Both were about equal | 61% | 14  
| Neither suits my needs | 0% | 0  

*Note. *Indicates one respondent skipped the question.
<table>
<thead>
<tr>
<th>Question</th>
<th>Response</th>
</tr>
</thead>
<tbody>
<tr>
<td>What made this a good/bad/neutral experience?</td>
<td>Interaction with my fellow students and instructors.</td>
</tr>
<tr>
<td></td>
<td>The convenience of taking a class on my own time.</td>
</tr>
<tr>
<td></td>
<td>For me, the differences had an impact. I was not always getting the feedback in a timely manner as the sleep cycles did not match up. It didn’t matter if I was waiting for a peer to answer re: an assignment we had together or the instructor which led to some frustration.</td>
</tr>
<tr>
<td></td>
<td>There was no enforcement of due dates or sense of urgency during the discussions so I had no interest in contributing.</td>
</tr>
<tr>
<td></td>
<td>It was good as in it was self paced and I could finish as quickly as I liked, but would have been more effective had the teacher been more involved with the discussions and answering questions.</td>
</tr>
<tr>
<td></td>
<td>I was able to learn at my own pace, in my own home. And had no restrictions as to when I had to attend a class or listen to a lecture.</td>
</tr>
<tr>
<td></td>
<td>I could study and learn on my time. I was not fully aware of all of the online course capabilities and almost missed some of my assignments because of the separate email address.</td>
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<td></td>
<td>The information was easy to access but the expectations were not clearly outlined.</td>
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<td></td>
<td>Not having to go to class, being able to work at my own pace, classes seemed easier.</td>
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<td>More convenient—less personal time involved. Could complete it at my own pace.</td>
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<td></td>
<td>It was a foreign language course online.</td>
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<tr>
<td></td>
<td>I learned a lot in an efficient manner.</td>
</tr>
<tr>
<td></td>
<td>My teacher was very positive.</td>
</tr>
<tr>
<td></td>
<td>A sense of belonging/being in the same boat together; when my instructors were involved, I felt like part of something special—like it mattered and I really liked the personal attention.</td>
</tr>
<tr>
<td></td>
<td>It was a very positive experience.</td>
</tr>
<tr>
<td></td>
<td>Some frustration as we went—satisfaction when I was finished.</td>
</tr>
<tr>
<td></td>
<td>Online classes would be great for self-motivated individual that felt that traditional learning environments moved too slow.</td>
</tr>
<tr>
<td></td>
<td>Online learning is great for students who feel like they are held back by other classmates lack of understanding.</td>
</tr>
</tbody>
</table>
I really enjoyed my online class, and would be very happy to take another one.
I felt more responsible for my work.
Confidence and freedom.

Good feelings, but also some stress because we didn’t have face to face contact to get the full information that might have been necessary to complete assignments.
I was pleased that I could accomplish so much at so little expense of time.

Frustiation, it was Latin 1 and I had no idea if I was pronouncing the words correctly or if my grammar was correct.

Interest.
I had fun researching for my project.
None.

Sometimes frustration at bad communication of team members not getting their work done on time for a team project.
Wanted to work harder to succeed.
My learning experience was not as good.

Frustiation.

I liked the flexibility of online classes. I liked participating on discussion boards and enjoyed seeing what other students in the class posted each day.

Satisfied.

Feeling of accomplishment.

Work at my own pace, good use of time.

Overall, it was positive - I would take an online course again.

Nonstressful, relaxed.

Not sure about this one: I felt good about myself working towards a goal; if the class was tougher, I worked harder on my own time to better understand the subject; overall, I guess I felt really good about myself for the first reason.

You have to be self motivated and have good time management skills.

I definitely edited many of my original thoughts as I tried to convey my opinion. I was more aware that some of what I said could be misinterpreted and needed to be worded carefully.

I always felt like I could do my work anytime and because of that a lot of work never was even started before the class ended.

Continuous pondering and motivation.

I was held more responsible for my learning, because it was up to me to read or listen to the lectures.

What mental changes/states were you aware of related to the online learning experience?*
Doing the work on your own time allows for better quality in your work. Also, assignments were easier to plan for as the dates never changed.

A more intense thought process was necessary.

It was a high school level course so it was a lot different than the middle school courses I was taking at the time.

Had to make time.

Stress, frustration, fear of not getting assignments done on time.

Positive - great success when a hard assignment was completed on time and received a good grade.

I refused to be beaten (algebra) and was able to keep practicing exercises dozens of times.

I had to make mental adjustments because I did not have one-on-one contact with my facilitator.

Addicted.

I learned to work independently rather than as part of a group.

It was difficult to separate home life from school work while at home, it takes self-discipline.

I found that I was more disciplined than I knew I was.

Challenging course work.

Worry about having to rely on others for participation in projects when I did not know them (could easily happen in a regular classroom environment, too, though).

I could concentrate more online versus in the classroom. I am easily distracted by others in the room.

If there was a difference in your participation in the online classroom compared to the traditional classroom, please comment on potential causes for this difference.

No difference: I love to share my thoughts and questions.

No difference (5 respondents)

To begin with, I was deemed a “lurker” as I watched how the class progressed. Because we were graded on our responses, I had to step up my participation. It could not be spontaneous (in my opinion), as too much could be misinterpreted. In a traditional classroom, you have other signals - body language, tone, etc. which tempers your responses. Not so in the online setting! I am the type of person who is overly concerned with emotions/feelings of others. I felt handicapped in some ways by the limitations of the computer screen.
One of the most prominent differences is in immediate gratification. When you’re in the classroom with your peers you can bounce ideas off of each other and follow your stream-of-consciousness; whereas, in an online setting you can read and re-read any thought before you decide to publish it.

I never received feedback from my classmates or teacher and therefore was less likely to continue posting.

Because I was required to comment in the discussion boards, I actually participated. In a traditional classroom, I usually just take notes and listen.

It’s easier to participate in class than online when you are not engaged face to face.

Online classrooms allow for further research through Internet links.

Interactions with live human beings; less stilted means of communication.

You could not interact with other students or the teacher themselves and could not really get any real feedback.

I had a chance to think out my answers more thoroughly and do research before responding.

It’s more anonymous and I can think about what I say or edit before I post.

Yes, participation is different due to the fact that the online classroom and the traditional classroom are different.

More human contact makes me feel more related and taken into consideration.

The online discussion gives the student a chance to write and rewrite their feelings and topics. In class, many times the answers given in class are impromptu and not well thought out.

I am shy and was more inclined to post online than speak up in a classroom.

You can have time to write your thoughts out and think of what you want to say online versus saying it out loud in a classroom.

Not really any difference, but I was required to participate in discussion boards on a daily basis in the online classroom. I typically do participate when I am in the traditional classroom, but I probably would NOT have made entries in the message board discussions had it not been required of me.

There was no discussion board for my online class.

Is there anything the online facilitator could/should do to improve your learning experience?

Just be very involved: my best course was also my toughest one, but because my instructor was right there with all of us along the way I feel I got the most out of it.

There must be a good teacher/facilitator to encourage participation.
Drive home the importance of the assignments.

She could have provided immediate responses and more feedback to questions as well as discussions.

I feel my learning experience was great.

The online facilitator should make clear their expectations and maybe provide some examples for discussion posts.

More frequent feedback, is receptive to questions, and checks their own discussion boards often to be able to answer questions posted.

More interaction from the teacher/professor.

I have generally been satisfied with my experiences.

I like it when my teachers reply to my messages sooner rather than later.

No (6 respondents)

Lots of feedback.

Can't remember.

Yes, online facilitator should provide examples to improve the learning experience.

Videos of the information studied, add more powerpoints...just more visual aids.

Have more discussions/interaction with the students.

E-mail all students at the start of class to offer contact info in a more personal setting.

What made your online learning experience better/worse than your traditional classroom learning experience?*

I got to take class on my own time.

I could participate when MY time allowed rather than be forced to give up something already on my schedule.

My online experience was bad mostly because the subject lacked interest. I think if it was something I was interested in and motivated to learn the whole experience would have been much better.

Not being able to see my classmates allowed me more freedom to speak my mind as I did not feel embarrassed when I had a different viewpoint. It also allowed me to work at my own pace and finish the entire course three weeks before the final.

They were about the same!

Could do work on own time.

It was easier to access and the resources were readily available.

Sometimes the lack of personal contact is preferred. Other times, it's better.

It was at your own pace, which was nice.
It was better in that it was more flexible and I could think over my answers before submitting them. It was worse in that it could sometimes be hard to carry on meaningful conversations with other participants.

I am home schooled, I like that the online class is different than my usual work.

I like being with people more than being online.

Worse, it was a lot more time consuming.

Being able to repeat algebra exercises over and over until the light came on.

Because I didn’t not have one one on one contact with my facilitator, my learning experiences was not as good.

It was better because I could do it at home and still work with classmates on assignments through the discussion board.

I could do it on my own time.

I was able to do it on my own time.

I do like to be in a classroom but for the technical program I took and my current time commitments, it was perfect to take an online class.

I enjoyed taking online courses because they were usually easier than the traditional courses and much more convenient that I did not have to travel at all to participate.

I like how I can concentrate more online, but I also like having a human being at my fingertips if I need more help understanding the content.

No preference, although the internal debate between online and traditional still goes on.

No preference.

Honestly, I feel I overcame most of the difficulties and would do an online course again. I am not worried so much about the grade as I am about keeping myself current. I think I have relaxed some of my hang-ups on appearing in online settings and would perhaps do better in this arena in the future.

I prefer the traditional environment because I love constructive criticism, instant feedback, and the personal interest from peers and educators.

I prefer the feedback of the traditional class and the self pace of online learning.

I like them both, but if I had to pick it would be online because there is no time restrictions. I can learn whenever I want, and participate whenever I want.

More interaction in the traditional environment.
I prefer personal interaction. However, I enjoyed my class and would be willing to take another.

I like being able to go to class in my jammin's. It is more convenient because I can do my work whenever I need to. Also, absences are not really an issue- I'm able to work on my assignments whether I'm at home or on vacation. I really felt my online classes were less strenuous than traditional ones.

It just depends upon the subject matter of the course.

It really depends on the situation, I do not think taking a foreign language online is a good option at all.

I don't.

I prefer a schedule without deadlines. That's one thing I really like about home schooling.

I like being with people more than being online.

I prefer face to face interaction and not having to check in every day for class to make sure I'm not missing anything. I felt like I was more obligated online to take care of everyone else's schedule and not just my own.

Flexibility of schedule, repetition of exercises as often as you like.

I prefer the online learning environment because of flexibility.

Traditional.

Both are equal. I like the variety of doing both online and traditional.

I prefer different aspect of both type of learning.

It's more convenient and can be done without leaving your home.

At this point in my life, online classes are more practical.

I prefer traditional classrooms because I feel that I learned more content, it allowed me easier access to the professor (much easier to discuss something with someone when they are physically in your presence as opposed to relying on someone to answer an e-mail), and I got to know my classmates with whom I worked. I never met my group members in my online courses other than through a few brief e-mails.

N/A

Note. *Indicates one or more respondents chose to skip this question.