Less Paper, More Learning:

The Future of Education

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Thesis submitted in Partial Fulfillment of the Requirements for a Degree in Writing

Teaching of Writing Option

May 1, 2012

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Abstract

Technological advances are becoming more and more present in the modern day world, including in the school systems. In past years, schools have already been exposed to newer technology such as SMART boards, laptops, and overhead projections to enhance the learning experience. Recently, schools across the country have been introducing paperless classrooms, where a majority of assignments are completed using new innovations such as iPads, Kindles, social media web pages, laptops, and other portable devices. These technological advances are also being used outside of these paperless classrooms and incorporated into more traditional learning environments. With curriculums now changing due to the new additions to the classroom, controversy has stirred up. Many question these new methods of learning, as well as how appropriate they are to the learning environment. This project will discuss the success of adding technology to the classroom, as well as teachers’ opinions on the new changes and future funding for more paperless classrooms. It will also discuss how important it is for students to be acquainted with these new innovations in a world fueled by technology.
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Less Paper, More Learning: The Future of Education

In an age where technology is ruling the planet, just about every company, business, retailer, medical center, law enforcement, and everyday citizen are converting to the latest and greatest technological advances. Creations such as iPhones, iPads, Kindles, Androids, iPods, Netbooks and MacBooks, have all been presented to the consumer culture in such a flaunting manor, that many can’t resist acquainting themselves with these innovations. These creations have become necessities more than luxuries, and with the ways of the world constantly being updated, it would only make sense to add these new advances to school districts, as well.

Programs have been presented to both public and private schools to promote the introduction of technology to the classroom. Schools had already been exposed to newer technology such as SMART boards, laptops, and overhead projections to enhance the learning experience. These changes are beneficial, and results show how successful these much-needed changes are to the classroom. “Students in both Korea and the United States who indicated that they frequently used technology at home and at school also showed high levels of achievement, and further students who frequently used computers for schoolwork were more likely to earn high test grades” (House 1). However, school districts want to continue to grow technologically, and there has to be an even better way to update curriculum in schools, supporting new innovations and capturing the interests of students.
The Paperless Classroom

Many are well aware of past technological advances in the classroom, such as overhead projectors and laptops, which allow teachers to project their lessons onto a screen where students can follow along; however, there is an up and coming generation of technologically filled classrooms called paperless classrooms. Now that doesn’t mean there is absolutely no use for paper, but pretty close to it. Although the thought of a paperless classroom had been talked about, referred to, and promoted in many different ways, it wasn’t until 2010 when a few school systems across the country began orchestrating these new and upcoming methods of learning. Marjorie Salem is a professor at WCSU, who worked in the public school setting for over 31 years, and was able to witness the technological changes in education. “There will be a partnership between the classroom, the teacher, and technology,” Professor Salem said. “There is no educator who can halt the process of technology and the classroom.”

In a paperless classroom, a majority of the assignments are completed using innovations such as iPads, Kindles, social media web pages, laptops, and other portable devices. These new learning environments can be as simple as walking into a classroom, grabbing an iPad or Kindle assigned for the school day’s lesson, and following the teacher’s lesson instruction using either one of these learning tools. There are hundreds of new ways that teachers can incorporate their students into activities and lessons, which will keep them actively participating, as well as interest them. Whether it is following along to the teacher’s online lesson plan, posting their
thoughts on an online journal, or even downloading a book directly to their device and reading it in class, the possibilities are just about endless.

The method of organizing these classrooms is done with a system that is quick and efficient. At the beginning of the school year, each student enrolled in the class will have an assigned number which will be placed on his or her learning tool (Kindle or iPad). That device is the student’s responsibility for the rest of the school year. Any damage inflicted to the device must be accounted for at the conclusion of the semester or marking term. When class begins each school day, students will walk into the classroom and grab their device with the assigned number that has been distributed. These devices will be located on a portable cart, providing a charging station that will keep the device powered and ready to use without any problems. When class has ended, the student will return his or her assigned device to the cart, where it will be charged and ready to be used for next class.

Supplying students with learning tools such as these will eliminate the annoying excuses of kids forgetting their books or homework. Teachers can’t even begin to count how many instances they’ve been involved in, where a student will walk into the classroom and say “I left my homework at home,” or “my workbook is sitting on my dining table.” Not only does the student miss out on achieving a grade for their assignment, but they also cannot participate in the day’s lesson because they do not have the proper materials. A paperless classroom removes these types of problems, as well as the teacher’s aggravation. For example, if a grade nine Language and Literature class is reading *To Kill A Mockingbird* in today’s class, the forgetful
little Tommy will be prepared to read when Mr. Smith calls on him because he, and his other 23 classmates will be using their Kindles or iPads to follow along. Both the iPad and the Kindle allow users to download a book in its entirety, and read it directly from the device’s screen; therefore, the students of the grade nine Language and Literature class will be able to quickly and efficiently walk into the classroom, grab their assigned device, and sit in their seats ready to engage in the reading upon the teacher’s command.

Being able to complete classroom assignments on these various types of devices will save teachers from making multiple copies of different handouts for their students. Instead, the assigned classwork can either be downloaded via Adobe Reader or accessed on a classroom Wiki website. Then, students will be able to complete these assignments from their devices. For example, if this week’s lesson is focusing on The Great Gatsby, a teacher can make any and all worksheets downloadable in PDF form, allowing students to access the work from their device and start to complete the exercises. Each answer can be typed up, using the device’s keypad to enter in answers either on a Microsoft Word document, or simply entering text right on the PDF document itself. Once completed, the student will be able to submit the assignment directly to the teacher. This change will allow both teachers and Xerox machines to stop hating one another.

For all of the supporters of an eco-friendly world, a paperless classroom is right up your alley. The amount of paper used in school systems is at a ridiculous level. Schools also have to take into account the amount of money used to pay for ink
cartridges and boxes of paper. This money can be used towards something more efficient, as opposed to spending money on materials that need to be replenished.

Living in a world where almost every household has a computer, there are many different options for teachers when assigning work outside of the classroom. Since any and all worksheets are downloadable on the Internet to students enrolled in paperless classrooms, they can access them in the comfort of their own home. By using a classroom Wiki website, teachers can monitor their classes from home, as well as give students the opportunity to complete work from their households. On these websites, a teacher is able to send messages to students, post classwork or homework, and organize student-to-student sharing. This type of webpage is similar to online learning sites that most universities use, such as Blackboard Vista. Students can get into a nightly routine of checking this webpage to view upcoming assignments, communicate with classmates, or even message the teacher if he or she is having difficulties with an assignment. This is a significant feature to the webpage because many students feel embarrassed if they stay after class and ask a question pertaining to the lesson or assignment. At home, a student can privately message the teacher through this webpage, without feeling pressured, and ask his or her question. This message is instant, and can be sent directly to a teacher’s smart mobile device such as an iPhone or Android. This way, a student can expect a reply back from teachers, sometimes even within minutes. This is the same for email. If a student has a teacher’s email address, up-to-date technology will allow teacher’s to receive messages on the go, whether they are out at the supermarket or sitting on the beach
during a sunny day. These types of advances keep students and teachers constantly connected.

Many states across the nation have already adapted paperless classrooms into their school districts, as well as continuing to become familiar with new technological tools that will help students succeed. In Connecticut, Bethel High School has just recently added three paperless classrooms to their school system, and Brookfield High’s entire grade nine classrooms have gone paperless. Mr. Chris Kulenych is an educator at Jonathan Law High School in Milford, and is one of many teachers who love the new innovations in the classroom. “All of these [technological] advances have made in-class learning more entertaining and more interactive,” the Language Arts teacher said. “Using laptops and smart boards really helps kids who are visual learners, and they give kids access to incredible amounts of information - much more than any teacher can go over in a 45-minute period.” His statements are very true. In a 45-minute class period, the average amount of time a class stays in session in this country, limits teachers from being able to scratch the surface of their lesson. Not only will students learn more by using technology to answer some of their questions, but they will also be able to continue their learning at home, something that cannot be done with just paper and pencil. If a student has vague knowledge on a topic discussed in class, he or she can simply log on to the Internet at home or outside of the classroom and enhance their understanding.

As Kulenych stated earlier, not only do these technologies give students access to immeasurable amounts of information, as well as accommodate learning
outside of the classroom, but it also engages students who are hands-on visual learners. This is groundbreaking, because students with these types of learning styles are usually segregated, and put into special learning environments where they can learn in ways they are accustomed to, without feeling the frustration of falling behind their fellow classmates. With these paperless classrooms, students with hand-on visual learning styles can participate with other students in these lessons without feeling isolated.

Not only have teachers commended the new methods of teaching and learning in a paperless setting, but students have also been voicing their opinions. Students in the ninth grade class of Brookfield High School are happy to be a part of the technological advancements in the classroom. The change from middle school to high school has made students feel like they have matured, especially when they are introduced to a new style of learning. Even though most of the students at this age have already been exposed to the various technological tools incorporated in the classroom, they have never been able to use them for work purposes. This type of learning style allows students to feel like they have grown up, and is the perfect fit for incoming freshman. At this stage in life, adolescents need to start getting serious about their academic progress, and often teenagers find it very difficult to make the transition from middle school to high school. This process is the perfect method to prepare students for future high school years, and even their journey into higher education or the job market. The students at Brookfield High School refer to their paperless classes as the best part of their academic day. All students agree that
working with these new innovations in the classroom has sparked their interest to learn. While most students struggle to excel when first reaching the more difficult education in the high school environment, these paperless classrooms will wean incoming freshman to new learning challenges. Instead being lectured in a traditional learning setting, something that can be very intimidating to new students, these incoming freshmen are able to explore and work together in the classroom.

**Adding Technologies To Update Standard Curriculum**

Ideally, schools across the nation will completely convert to paperless classrooms sometime in the near future, but until then, technological advances are also being used outside of these new learning settings and incorporated into more traditional learning environments. “Today, all public schools are connected to the Internet, with 97% connected via high-speed connection, and hundreds of schools and districts are experimenting with or have put in place one-to-one laptop programs that provide each student with their own laptop” (Miranda 301). Students are using tools such as laptops, blogs, podcasts, audio-video software, and visit websites like Teacher Tube, Facebook and Twitter, while enrolled in a traditional learning setting. “These technologies have made lecture classes more engaging and more relevant to all kids.” Kulenych said. Adding technology to the classroom captures the attention of students while incorporating something they love (iPads, iPhones, Computers) and links it with educational purpose. “Kids today are constantly using technology, whether it be an iPod or smart phone, and now we as teachers get to use that same technology,”
said Kulenych. This creates a bond between teachers and students, allowing them to connect to one another through the use of technology.

The material and curriculum are still present, but the execution changes for the better. “It is all about integration of skills and technology to make the classroom a more exciting environment for students,” Salem said. Think about it, everything that needs to be accomplished in a classroom is very possible with these new innovations. Online tests can be administered, research can be conducted, papers can be produced, and sharing ideas can be done both inside and outside of the classroom. The most difficult part about teaching is keeping a student’s attention throughout class. We all remember what it was like being in high school. If it isn’t a relationship problem, then it is a problem at home. If it isn’t a problem at home, then it’s thinking about getting your driver’s license. If it isn’t about getting your driver’s license, then… well you get the point. The fact of the matter is, there is just too much on the minds of adolescents, and the last thing that will keep their attention is listening to a teacher ramble on about something they can care less about.

The new changes to curriculum demand for improved teacher quality, which is something that the “No Child Left Behind Act” (NCLB) calls for. By requiring schools to improve their performance, NCLB increases the quality of education with certified highly qualified teachers and standardized test assessments. Not only will teachers have to understand and memorize school curriculum, but they must also learn how to operate these new devices used in the classroom. In the very near future, school administrators will be looking to hire new teachers who have great
understanding of material and classroom management, as well as operational skills with the new teaching innovations. This will make for an even more competitive job market; however, assuring school administration and parents that the students will be receiving quality instruction by their teachers. It is in a teacher’s job description to not only accurately educate their students, but also maintain the focus in the classroom and accommodate students’ learning needs. These changes will make for more well-rounded teachers and force teachers of older generations to open up to new learning methods. The addition of technology helps teachers with this task that could sometimes be rigorous. Technology will have students constantly involved in the learning atmosphere, taking away the long lecture periods and the stress of making sure every student is engaged in the learning process.

A lot has changed since technology has been incorporated into the classroom, including the methods of grading. Very rarely will students see teachers walking around with grade books or attendance sheets. Everything is done using the school’s online grading system. Each individual’s grade for every single assignment is entered into the computer under the student’s name. Every student will have a username and password, so that he or she can constantly check the webpage to see the grades of any and all work completed for the class. Each one of the students’ classes and assignments will be viewable on this grading website. Now, this doesn’t mean that students won’t receive a hard copy of their graded assignments, but for those who cannot wait to see what their grade is, this process is much more efficient, as well as an organized way of keeping track of every single grade earned in the class. For
example, if Susie wants to see the grade on her last reflection paper, she will be able to go online at her leisure, enter her username and password, click on the class in which the paper was distributed in, and find the grade of the assignment. This grading system will also calculate a student’s overall grade for the class. This grade will constantly be updated each time a graded assignment is posted on the webpage. This is a quick and easy way for students to see how well they are currently doing in the class, or how much they must improve before the term ends. This grading method will also improve the system of progress reports. Instead of waiting to receive progress reports in the mail, any and all grades will be posted online, and can even be sent to a parent or guardian’s email. This is the best way of keeping parents connected with their children. There have been multiple instances where a student will check the mailbox every day after school to see if his or her progress report was sent home. If so, he or she will purposely destroy it, or hide it somewhere that will be out of sight from mom and dad. The student cleverly responds with the answer, “I think it must have gotten lost in the mail,” or, “I don’t think we got progress reports this marking period.” To the students’ dismay, this problem will never have to happen again. Parents will be notified when progress reports are available for viewing, and they can simply go online and check every single one of their child’s markings. Since this system is so organized, the parent can also see when their child has missed assignments or failed to complete their homework. Each assignment listed on the website will have a date in which the classwork or homework was asked to be due, as well as displaying up and coming assignments, allowing parents to stay constantly in
sync with their child’s school life. It has been proven that when a parent takes the time and effort to be a part of their child’s academic success, their child has a great chance of excelling. This new and improved grading system assists parents to do exactly that.

**Technological Additions To Better Shape Our Youth**

The ways of the world are constantly being updated, and technology is simply ruling the planet. In the near future, if not already, just about every job offer will entail the use of technological equipment, as well as understanding its methods operation. “By using laptops and other technology in class, we are also able to provide children with real world experience,” Kulenych said. “[Students] are going to have to use technology in almost any field they choose, and in-class use of technology gives them an opportunity to practice that.” There is no better way to prepare students for entering the job market than by exposing them to technology as soon as possible. If this type of technology weren’t in the classroom, students would be forced to learn how to use these innovations on their own. Since these tools will be incorporated into school curriculum, students will become accustomed to using technologies to complete their work, which is something that will be done in a majority of fields. Nowadays, when someone goes for a job interview, it is almost expected that he or she should have knowledge of how to use the technologies available in the work place.

Not only will exposure to technologies prepare students for the future job market, but it will also better prepare them for their future years of education. Most
universities already offer a handful of online courses. These courses require proper knowledge of programs like Blackboard Vista, Adobe Reader, Microsoft Word, Microsoft PowerPoint, as well as basic computer operation knowledge. As a freshman going through many tough changes in a short amount of time, the last thing they should need to worry about is learning a brand new system of learning. These students will already be stressing about their course load and attending new classroom environments, as well as their new social lives, and the last thing they should have to worry about is becoming familiar with new technology that they will be using up until graduation day. It is best for these students to already be introduced to the technologies that will be assisting them throughout their four plus years of higher education. Some universities demand for incoming students to have a laptop upon arrival to the school. This demand is not unreasonable, because the device will allow students to work freely anywhere on campus. This tool will also allow students to take notes in each of their classes. Organization is a very important quality to have in life, especially when striving to become a professional. These technologies are some of the most organizing tools one can ever use. A portable device, such as a laptop or MacBook, holds everything one can possibly need at the click of a trackpad. Charlie’s MacBook will hold every single school paper he has ever written, every single page of notes he has typed out in every class that he has attended, and a hard drive filled with programs that will help him put together lengthy presentations or projects, as well as having the access to an immeasurable amount of information on the world’s largest database: The Internet.
Think about it, Professor Smith’s World Governments and Economies class is filled with classroom debate, sharing ideas, and current events, but at times there are struggles to get students to actively participate in discussion. Good thing Charlie, as well as every other student brought their laptop to class to take notes, however, since students have their learning devices, Charlie can simply click a button and begin to research the latest, constantly updated information on the former Egyptian politician, Hosni Mubarak, and begin to share with the class his findings. Not only has Charlie learned something and shared the current event with others who may have not known about it, but also he has earned participation in the classroom and just engaged the entire class in discussion. Or let’s say that Mr. Smith brings up a topic that may have been mentioned in another class. Charlie can now pull up his notes from a previous class and find the answer to the professor’s question. The possibilities are just about endless.

**Educational Learning Tools**

As stated earlier, there are many educational tools that aid students and teachers, as well as the learning process in the classroom. Both new and old technologies are present in the classroom environment, and are academically beneficial to learners. These devices enable classroom discussion, attract the focus of students, and fuel the process of learning. Both students and teachers will agree that these technological advances have made the classroom a more exciting place to learn, while motivating students by using devices that are of great interest to them.
1.) Apple iPad and Kindle

Most commonly used in the paperless classroom setting, the Apple iPad (left) and Kindle Fire (right) are educational advancements that change the face of learning. Their attractive looks and style have students intrigued from the moment they walk into the classroom. Just about everything that needs to be accomplished in the classroom can be done using one of these devices.

The Apple iPad takes learning to a new level with its multi-touch textbooks. Apple believes that “some things don’t get better with age.” For example, learners have been using textbooks for hundreds of years, but people aren’t using the same technology from that time period, so why hasn’t there been an updated way of learning? In today’s world, students have grown up by being completely surrounded by new technology. They use this technology to interact with the world; therefore,
they need a textbook made for the way they learn. With Apple’s iBookstore, users can download complete textbooks that include engaging layouts, interactive diagrams and video, and 3-D graphics to both entertain the student as well as provide educational information. These downloadable textbooks that Apple refers to are called iBooks. Traditional textbooks have stayed the same for years upon years, while the way people learn has changed dramatically. Apple’s goal is to change this notion by introducing iBooks to the education world. Plus, iBooks will get rid of heavy weighted backpacks. Some textbooks and weigh up to 15 pounds alone, and two carry four to five of these books around all day, which can leave a student in extreme pain. Many students are carrying a quarter of their weight in textbooks alone, not to mention all of their binders and notebooks. Studies have proven that heavy backpacks are a leading cause of poor posture and back pain in adolescents and children. With help from the iPad, this problem is no longer an issue.

After downloading an iBook onto the iPad from the iBookstore, a user is exposed to mass amounts of information in one single book, simply by sliding his or her finger across the screen to turn pages. When given a textbook, a reader can only learn what it referenced in that single book, unless of course they have multiple books. IBooks offers multiple books within the palms of a user’s hands. There is a ton of information within one single iBook, as well as a search option to help user’s narrow down exactly what he or she is looking for. There have been multiple instances where a reader is skimming through a textbook and stumbles upon a word that is unfamiliar, forcing them to pull out a dictionary or thesaurus to gain better
understanding of that word. With iBooks, one tap will simply take the user to a glossary or thesaurus. A process that would normally take minutes only takes a few seconds using the iPad.

Visual learning is one of the most powerful ways of understanding a topic at hand. Apple makes this possible by using 3-D and interactive images. iBooks no longer limits learners to a single picture illustrating a text. There are photo galleries filled with interactive images and captions that come to life right before the eyes of users. Readers are able to manipulate objects and rotate them with a single touch. For example, if a grade 7 science class is looking at a diagram of the brain, the user can rotate the image so that he or she can visualize every part, as opposed to textbook images that are only two-dimensional. These two-dimensional photos force authors to have multiple images with different angles of the brain in order for the reader to have proper understanding. With animations bursting out of every page, it will be hard for students to not grasp the concepts discussed throughout each iBook section.

The Apple iPad is the ultimate study partner. Another significant feature iBooks has to offer is highlighting. As students read through each chapter, they have the option to highlight any important facts or material by simply brushing their finger across the desired sentences or phrases. Once the text is highlighted the user can tap the selected section and a palette will appear with different options for the user to choose from. The user can select different highlight colors, switch to underlining, or add a personal note instantly as if writing in a textbook.
Another great feature from highlighting is that every single sentence or phrase highlighted by the user will be automatically sent to a “My Notes” section to be viewed at any time. The iPad automatically organizes and updates this note section in an instant, providing the user with a quick and efficient way of taking notes. The iPad knows which section the highlighted sentence or phrase was taken from, and organizes this material with chapter headings and section numbers. What would take hours with paper and pen will only take seconds using the iPad. Not only do these highlighted sections automatically transfer to “My Notes,” but they also transform into note cards, giving students a very handy way of studying. Students can now quiz themselves with these note cards, and are able to flip the card over to check and see if their answer is correct. The iPad is able to recognize the highlighted material on the front of the note card, and provides the user with a glossary definition on the opposite side of the card. The time it would take to create these note cards by hand is done in a matter of seconds on the iPad.

IBooks Author is a feature that allows the user to completely customize, create, and publish his or her own iBook. This feature is groundbreaking for teachers because now they have the option to create his or her own iBook for students to download onto their iPad and use for the desired class, as well as give teachers a name for themselves in the publishing market. If a teacher’s iBook is a success, there might be other users who download the book outside of the school district. The teacher can include any and all content that they want to cover throughout the entire school semester, and iBooks Author allows them to organize it creatively and
effectively. A teacher can take any of their assigned teaching material, which may seem very dull or dry, and turn it into something attractive to students by using the incredible features offered on the iPad. iBooks Author provides creators with sample templates in which the user can choose to select or follow when making their iBook. Most teachers’ lessons and materials are located in PowerPoint or Microsoft Word files, which can simply be opened and imported to iBooks Author with the click of a button, so there is no need to retype all the information and curriculum that has already been organized. iBooks Author also allows the user to select images that have been saved, or images from outside sources, and simply drag-place them onto the desired iBooks page. Then, iBooks does all the work by allowing users to make the images three dimensional or interactive, just like in many existing iBooks on the market. Anything from text font, color, images, and page layout is completely customizable. Once the iBook has been successfully created, the user can now submit the finished product to the iBookstore for either purchase or free download by any iPad user. “The iPad is one of the most fascinating creations I have ever seen,” Salem said.

There are over 20,000 educational apps downloadable via Apple’s App Store, all accessible for the iPad. Apps ranging from mathematics and world geography, to language development and grammar study skills. There is no limit to learning with these applications, and most of them are free of charge. Students can constantly be learning at their fingertips, and a majority of these apps are compatible with Smart phone devices such as the iPhone. Now, students can learn on the go or outside of the
classroom. If a student has the urge to brush up on grammar skills as they ride the school bus in the morning, he or she can use their smart phone to keep them productively occupied on the way to school. I know what you’re thinking; “What adolescent will want to study when they have the freedom to do whatever they want when using a smart phone?” Well, that’s the beauty of these apps; they keep students engaged in a way that is almost as addicting as video games. They are using fun tools that entertain them, while grasping important concepts like problem solving or grammar exercises through the use of puzzles and games.

It is hard to imagine a device that can top the Apple iPad, which is why there isn’t too much to say about the Kindle Fire. This device is a sure success, and will be used in classrooms someday, if not already. The only problem with it is that it cannot surpass the tremendous advancements that the iPad offers. The Kindle Fire works in similarity to the Apple iPad, but just has fewer features. This handheld device allows users to download textbooks and read them in the palm of a hand. Similar to the iBookstore, Kindle works through Amazon, which is an online retailer for books and other products; although, the Kindle Fire has a few more attracting traits over its rival iPad. The processing speed is faster than the iPad, allowing users to download content and web browse at a slightly faster rate. Also, a huge factor is the difference in price, which is a very important detail for interested school districts. The Kindle Fire sells for $199, as opposed to the $499 iPad 3. However, the Kindle Fire doesn’t match up to Apple’s creativity spectrum, something that learners will love to get their hands on.
The Kindle does not have interactive 3-D images, rotating photos and diagrams, or the highlight and note card feature.

After hearing of all the amazing educational advancements the iPad and Kindle Fire have to offer, it is mind-blowing as to why they aren’t used in more schools. “I can honestly see every school in the country using one of these creations in the next few years,” said Salem.

2.) Blackboard Vista

As mentioned earlier, Blackboard Vista, or other online learning systems, plays a huge role in many of the classes offered at universities. Blackboard Vista is an organized way to allow students to manage their work in all of their classes that support Blackboard Vista learning. There are some professors who do not use Blackboard Vista for their course work, but a majority of professors support the use of the site. When using this webpage, students are able to receive direct mail from his
or her professor, download files, click on direct links to related course material, check grades from past assignments, as well as share ideas with fellow classmates.

Blackboard Vista is also a very useful tool for teachers, which allows them to post grades, administer assignments online, as well as tests or quizzes, post class material such as PowerPoint slides or PDF files, and send direct mail messages to students. Blackboard Vista even allows both students and teachers to instant message each other, almost exactly like AOL Instant messenger. With its tremendous versatility, it isn’t hard to see why many universities support the use of Blackboard Vista.

3.) Microsoft PowerPoint

![Microsoft PowerPoint](https://www.filewin.net/image.Microsoft.PowerPoint.jpg)

*Photo Courtesy of filewin.net*

Microsoft PowerPoint has been around for over two decades, launching in May of 1990. PowerPoint has been integrated into our lives so many different ways. Businesses, law firms, contractors, real estate, and medical fields all use Microsoft
PowerPoint. Just about every presentation imaginable is put together with the aid of PowerPoint. Every sales pitch, business analysis and lecture is supported by the use of Microsoft PowerPoint.

Not only has PowerPoint made a great name for itself in the business world, but also schools didn’t waste any time incorporating it into the classroom. There are many teachers who use PowerPoint slides to present classroom material to students. PowerPoint is a great teaching method to introduce a new lesson to students. For example, if grade 10 Language and Literature class is introducing *The Crucible*, a teacher can simply make a PowerPoint presentation discussing the Salem witch trials. The teacher can keep the students’ attention and interest by adding images of the hearings and prosecutions during this time period and the different ways in which the accused were sentenced to death. Also, there will be slides defining what witchcraft is, as well as the different kinds of accusations. This will be ten times more effective than having a 45-minute lecture explaining the Salem witch trials without any sort of visual aid.

Students may also use PowerPoint to create their own individual or group projects and present them to the class. This is a great way of preparing for the working world after school. Students are able to get familiar with composing their own thoughts and data, then recording their findings on slides in an organized way while including pictures and diagrams. In a paperless classroom setting, students can download these PowerPoint slides by using their Laptops or iPads, and follow along the presentations with these devices. However, in a more traditional learning
environment, teachers will have to make the presentation visible to the students in the classroom.

4.) Overhead Projection

Photo courtesy of wikipedia.org

Overhead projection was first introduced to schools and businesses in the late 1950s, and has been used ever since. The only problem with the early overhead projectors was that users must have their display materials pre-printed onto clear plastic sheets, because regular paper will block out the light bulb. However, these clear plastic sheets were user friendly to users because it allowed them to write directly on the sheet, displaying an illustration on the projection screen, similar to onionskin paper. Writing on the clear sheet must be done with a dry erase marker so that the sheet would be reusable. The first overhead projectors were groundbreaking creations for teachers with disabilities. Educators with wheel chairs could simply
write on the clear plastic sheets, which rested about waist high, and could illustrate lessons, as opposed to outstretching their arms to write on a chalkboard. Math and science teachers feel in love with these overhead projectors because they would allow teachers to dissect formulas in a way where students could watch from their seats.

5.) LCD Overhead Display

Overhead projection has come a long way, accommodating the needs of all the technological advancements that have been incorporated into the updated world. Today, you will find overhead projection linked to a computer. These projectors called LCD overhead displays are suspended from the ceiling in the center of a classroom, conference room, or convention hall. The LCD overhead display also projects images onto a blank screen just like the original projectors, except they now allow users to control the projection via computer. For example, these projectors are
so versatile that they allow viewers to watch anything and everything that is being
accomplished on the computer screen. A teacher can now pull up a PowerPoint
presentation using the computer, and students will be able to view the slides from
their seats. Teachers will also be able to refer to sites on the Internet and display them
on the projection screen in front of his or her students. If a teacher wants to pull up a
video on YouTube or watch a movie using the computer’s DVD player, the image
will be displayed right before the student’s eyes. Instead of having assemblies in a
school gymnasium or auditorium, teachers are now able to watch a video in the
classroom. As incredible as this technology sounds, it has been available to schools
and businesses since the early 2000s, but nonetheless, acts as the perfect visual aid in
both the classroom and office.

6.) Microsoft Word

Photo courtesy of Baycongroup.com
In today’s world, nothing is hand-written anymore. Just about everything imaginable is typed up on computer and printed out onto paper. Every important document, brochure, essay, assignment, data, and much more are produced on computer. The program that makes all of this possible is Microsoft Word. Dating back to the early 80s, the release of Microsoft word was groundbreaking. Similar to Microsoft PowerPoint, Word is a Microsoft Office program that allows users to explore creativity. Think of a blank Word document as a sheet of paper. Anything that needs to be written down can be typed up using either a Mac or PC. This has been a staple to the education and professional world for many years. Students and teachers use Microsoft Word almost daily, whenever they need to produce a piece of work. Not many teachers will accept hand-written assignments. All students are encouraged to type up any and all assigned work. Not only is this method organized, but it also provides a neat and legible final product for teachers to read and correct with ease. All of the Microsoft Office programs have the same editing options such as hundreds of fonts to choose from, a plethora of colors to use with text, and creative options for images, making these programs fun to use. Producing a piece or work on the computer is significant because it can be sent or submitted anywhere using the Internet. Word Documents can be attached to emails and sent to any destination by the click of a button. It is amazing to think how long a hand-written document would take to arrive by traveling in the mail. This process is immediate, allowing businesses to send work to clients in an instant, as well as allow students to send assignments to teachers.
There are also various programs on the web that allow teachers to verify if students have plagiarized their papers by stealing facts and information from websites or textbooks. This program would not be able to function without having the document available on computer, which is exactly what Microsoft Word makes possible. After a teacher submits a student’s paper to any of these plagiarism websites, the program identifies what materials have been stolen, and where the student stole them. This is a very helpful tool for teachers.

7.) The SMART Board

Another more recent technological advancement integrated into the classroom is the SMART Board. A SMART Board is an interactive whiteboard, which uses common techniques that Apple’s iPad encompasses, as well as the use of projection. Many schools found it to be a necessity for their classrooms. This type of technology
is incorporated in paperless and traditional classroom settings around the country, and has proven to be one of the most successful new innovations to the future of education. Whether the SMART Board is introduced in the elementary level, secondary education, or used in lecture halls at universities, the versatility of this item is astonishing. “The SMART Board has fueled most of my classroom discussions and lessons for the past few years,” Kulenych said. “It is the most excellent addition to the classroom so far.” The SMART Board’s interactive white board allows the user to simply draw and write exactly like you would on a chalk or dry-erase board, only the user is able to use his or her finger or the tip of a pen to illustrate. No ink is required to write on a SMART Board. Another predominant feature of the SMART Board is that it allows for multiple users at once. For example, if a second grade class is being quizzed on spelling vocabulary words, a teacher can call up two students at once to write the desired word on the board. To get even more creative, the SMART Board allows users to change the color in which he or she will use to write. This feature is called digital ink, and operates by determining the ink color on the SMART Board itself. The user then simply picks up one of the SMART Board’s pen tools, which holds neither ink nor technology within the pen, and begins to write in the desired color. Not only is this entertaining to the user, but it will distinguish the difference between which student is responsible for which answer. This feature simply imitates the use of an actual dry-erase board, but will cut down the cost of buying markers and erasers that are constantly being used.
The SMART Board also comes with the SMART Notebook software. This program is installed on either a computer with Windows 7 or Mac Snow Leopard. With this program, the user is able to compose notes, create and upload images, as well as use other media, which is stored into virtual notebooks and can be projected onto the SMART Board. Once displayed on the SMART Board, the user can now edit or add to the original project. This feature is extremely helpful because teachers can project materials onto the board such as graphs, fill-in worksheets, data, or any program available on the computer, and be able to edit or write on the board in front of the classroom. Schools were blown away with how technologically advanced the SMART Board was when it hit the market, and it still seems to be used by more and more educators each year. SMART Boards use interactive learning modules similar to one available on the iBookstore and allow the use of overhead projection all in one unique whiteboard. But the performance isn’t the only thing that guarantees satisfaction with this product. SMART Boards are extremely durable and the protection features make it a less attractive target to thieves. Overall, this quality product is a perfect fit for any classroom.

Opposing Thoughts Regarding Technology In The Classroom

After being enlightened with all the marvelous opportunities that technology brings to the classroom, it is hard to imagine anyone being against this notion. However, there are a handful of issues that many want to debate regarding the use of technology in the classroom setting. One great concern that parents have is the
students’ lack of focus towards their schoolwork. For example, many opposed to the
addition of technology in schools will argue that adding these new devices will draw
learners away from the task at hand, and push all of their attention towards things like
web-browsing or playing games. Professor Salem responded to this argument, and
brought up a very valid point. “In a traditional classroom setting, when a teacher
talks, students are doodling, passing notes, spacing out, etcetera. I know what it’s
like; I’ve taught through those kinds of things. So yeah, students may play around,”
Salem said. “But, so what? At least with these technologies, students are exposed to
much more knowledge than they would be when passing notes or doodling.” Salem
continued by explaining that the games they will be playing are educational games,
and the web pages they will be visiting may have some sort of information that is
educational for the student. The minds of students are overwhelmed during a normal
school day, and learners reach a point where they stop taking in information and
ignore the teacher. These types of technologies will provide students with the mental
breaks that they need to function productively throughout the day.

Others opposed to the addition of technology feel that there will be no way to
monitor the web sites that will be accessed by students when using these devices.
However, schools already are using content and web page filters to ensure that
students do not visit inappropriate web sites while on school grounds. It would only
make sense to use this same system when issuing these devices to the students. These
filters forbid students from accessing inappropriate web content while using the
school’s Internet server. With new and improving technology, these web-monitoring
systems are only getting stronger and hard to surpass. This should be reassuring to many doubters.

There are many believers who think that once the world switches over to these technologies then book collections will be worthless, newspapers will go extinct, and hard copies will never be used again. These beliefs are false. Technology only makes things easier and more efficient, but that doesn’t mean there will be no use for hard covered books. For example, when traveling, the iPad allows users to bring their entire library of books, all of their work documents, and a web-browser with them, something that is impossible to do any other way. This is simply a convenience factor; no one is banning books or hard copies from use. If a student wants to sit in the living room of their home and do some reading, it makes sense for them to go and grab a copy of the book from their bookshelf. The point trying to be made is that these technologies make daily tasks more quick and efficient.

Funding is a major concern regarding the use of technology in schools. Just by seeing the prices of some of the gadgets, many worry that there will be no way to fund school districts with the proper amount of money to organize paperless classrooms. NCLB enforces funding to all schools in need; unfortunately, there have been many lawsuits filled from school districts claiming that they have not received proper funding. This matter may grow worse once schools try to add some of the new technological advances to the classroom. However, there are some positive things to consider. The cost to both produce and purchase paper textbooks can be really expensive. This is the leading reason why schools are forced to use the same book for
several years, even if it is outdated. Even though the iPad or Kindle may seem like a lot of money at first, it is one of the greatest investments a school can make. Using the iBooks store, users are able to purchase textbooks for a fraction of the cost, as well as cut out the price of shipping these books. With the click of a button, the book can be downloaded onto the device. There is no need to purchase a book two weeks in advance just to make sure it arrives before classes begin. Some will argue that all of the iBooks available aren’t compatible with classroom lesson and curriculum, but to their surprise, all of the top K-12 publishing companies have iBooks available, or are in the process of creating them. Also, books are constantly being updated and re-issued forcing schools to pay for basically the same book with little new information. The costs of these re-issues will add up, and will continue to occur as long as book companies have the excuse to update their material. Not to mention, schools will then have to go through the hassle of shipping these new books and paying the price. With iBooks, the multi-touch textbooks receive updatable content, and with the click of a button, the iBook will be up-to-date without the cost of a single penny. Some books are out of date the second they are re-issued because information is constantly changing. The iPad and iBooks will always keep the user updated with new information free of charge, so why learn from something that isn’t up to par with the rest of the world? That’s like ordering a cheeseburger with three bites missing from it; it just should not happen.

Many people have witnessed computer and technology problems, and don’t hesitate to ask what will happen if these things occur in the classroom? As mentioned
earlier, these portable devices are constantly receiving updates to guarantee that they
are in proper working condition. In the rare chance that an iPad or Kindle stops
working, both companies have excellent customer service policies. There are special
advantages for schools when purchasing from Apple and Amazon, which allow for
discounted replacement on any and all software or hardware malfunctions. However,
while these problems are being attended to, companies may not be able to send out
replacement devices in a timely manner causing students to miss out on learning time.
Also, if a destructive student decides that he or she wants to purposely damage the
device, he or she will be held accountable for replacing or fixing the device, even if
they must pay out of pocket for repairs.

Technologically Enhanced Classrooms Are The Way Of The Future

There are too many things supporting the use of technology in the classroom
to believe that these methods of learning aren’t successful. Every question doubting
the use of technology has a sufficient solution. More students and teachers are for the
use of these new innovations rather than against. “I am proud to be a part of the future
of education,” Kulenych said. The technological advancements provide students with
immeasurable amounts of knowledge, engage each and every student in the lessons,
and capture their attention while keeping up with the ways of the changing world. In
the words of Professor Salem, “Technology in the classroom is the classroom of the
future, and if you haven’t noticed, the future is now.”
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