INTERVIEWS PERSONAS & SCENARIOS

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EXECUTIVE SUMMARY

This report documents the findings and recommendations our team has identified while conducting interviews regarding the implementation and use of technology in a primary school (K-thru-12) environment. This study was conducted in order to obtain insight of the potential strengths and weaknesses of our client's application, Qlovi. Qlovi is an eReading application with the mission of encouraging, enabling, and enhancing learning through reading in a primary school environment.

The purpose of this study was to answer three questions:

- Are teachers *comfortable* with incorporating technology such as Qlovi into their classrooms?
- Are teachers *capable* of implementing technology such as Qlovi into their classrooms?
- Are students *ready* to successfully interact with technology like Qlovi?

In order to answer these questions, our team conducted a total of six interviews; one with Qlovi stakeholders and employees, and five with primary school teachers that were identified as members of our client's target populations. These five interview subjects were recruited through two primary methods: via personal contacts and through contacts within the School of Information. While the majority of interviews were held at North Quad, some occurred at other locations such as Detroit.

Our team has identified five key findings:

- Teachers are willing to incorporate new technology into their teaching.
- Teachers want access to analytic and student performance data.
- Teachers are concerned that students will inappropriately use technology in the classroom.
- Students have difficulty navigating technology and understanding its vocabulary.
- Schools will struggle to afford and incorporate new technology into its curriculum.

Based on these, our team has identified three recommendations:

- Provide analytical data that focuses on demonstrating comprehension of the material.
- Consider implementing mechanisms that encourage students to remain on task.
- Design an interface that emphasizes ease of navigation for novice technology users.

While our team did identify a number of limitations to this study, such as suboptimal sample size, representation, and randomness, we believe that the information we gathered provides a measure of insight and that resulting recommendations should be considered in future iterations of Qlovi's development.

INTRODUCTION

EVALUATED SYSTEM

This system analyzed by this report is **Qlovi**, which is a web-based application that is currently in development by Acias LLC. The overall purpose of Qlovi is to encourage, enable, and enhance learning through reading in a primary school (K-thru-12) environment.

Qlovi has two primary target populations: English teachers in primary schools and their students. In addition to these groups, there is a secondary target population that is composed of all other teachers in primary schools that utilize either fiction or non-fiction literature in some form or fashion, such as those that administer social science or history courses.

Qlovi aims to achieve its purpose by serving as an electronic book (eBook) repository for its target populations. It has two common users: teacher and students. In regards to the former, teachers will use the system to identify appropriate literature available within Qlovi's library for assignment to students. Students will then read the specified material and answer questions or provide feedback to demonstrate their comprehension. In regards to the latter, students will identify literature of personal interest within Qlovi's selection to consume on their own.

To enable these uses, Qlovi aims to incorporate an intuitive user-interface that emphasizes choice and accessibility for its student users while simultaneously providing teachers the ability to obtain feedback and measurement of student comprehension of the assigned material. The system incorporates a number of functions and features that enhances its performance in these roles. This includes the integration of a recommendation service that allows individual students find books of interest, as well as tracking analytical information regarding student performance and activities while using the system.

STUDY PURPOSE & MOTIVATION

Our team conducted this study to answer the following three research questions:

- Are teachers *comfortable* with incorporating technology such as Qlovi into their classrooms?
- Are teachers *capable* of implementing technology such as Qlovi into their classrooms?
- Are students *ready* to successfully interact with technology like Qlovi?

The primary motivation behind these research questions is to identify any potential strengths or barriers to Qlovi's integration into the primary school system. This knowledge regarding what teachers value or are apprehensive of regarding technology in the classroom will provide insight into how Qlovi can be improved or what aspects can be emphasized as its development moves forward.

STUDY METHODOLOGY

For this phase of the project, our team interviewed potential users who fit the characteristics of Qlovi's target populations. The interviews resulted in qualitative data regarding our three research questions, upon which we based our findings and recommendations that shall be subsequently presented.

TARGET POPULATION

Our team concentrated on interviewing primary school teachers. We focused on recruiting teachers from one of Qlovi's primary target populations—those that specialized in teaching English courses. However, we also recruited from Qlovi's secondary target population—teachers that specialized in administering other academic foci that still involved assigning literature. While primary school students are also one of Qlovi's primary target populations, they were not the primary focus of this study's purpose and were not targeted for interviews.

RECRUITING METHODS

Our team incorporated two recruitment methods. First, individual team members reached out to personal contacts that had experience teaching in a primary school environment. Second, the team utilized the School of Information's mailing lists to contact local and qualified teachers that were willing to participate in this study.

SUMMARY OF PARTICIPANTS

The team interviewed a total of five participants. Of these, three were male and two were female. Two participants were English teachers and part of the system's primary target population, whereas the other three were part of the secondary target population and taught subjects such as economics, history, and politics. Four participants had primarily taught in the high school environment whereas one taught in an elementary school. In respect to participant age, one participant was in her 20's, three in their early 30's, and one in her 40's.

INSTRUMENTS

Our team utilized a number of instruments during the data collection process. This includes the use of incentives such as gift cards to recruit potential interviewees, audio recording equipment to record and transcribe interviews, and interview questionnaires to standardize and guide the process. In regards to our questionnaire (Appendix C), our question types can be grouped into four major sections:

- Demographics: Age, Subject Taught, Grades Taught, & Years of Experience
- Technology Literacy: Access, Experience, & Comfort

- Technology in the Classroom: Issues, Benefits, & Current Practices
- Students & Technology: Accessibility, Familiarity, & Uses

Analytical Methods

Once complete with collecting the necessary data, our team conducted multiple interpretation sessions centered on each interview. The individuals that had conducted each interview discussed the various trends and answers that participants had provided, upon which the team identified a number of similarities and differences. The team then decided on a number of key findings and recommendations that we could ascertain from the data and subsequently developed three personas and scenarios to help illustrate potential users (See Appendix B).

FINDINGS & RECOMMENDATIONS

SUMMARY RESULTS

Upon the completion of our analysis, we determined that there is a significant amount of support for implementing technology like Qlovi into classrooms. The majority of the interviewees indicated that the future of education is tied to technology and the success of future generations of students in both academia and in general life will be influenced by their exposure to practices such as electronic reading (eReading) today.

However, the interviewees also identified a number of potential challenges of integrating technology into the classroom, such as cost, accessibility for students, and appropriate usage. Qlovi can address and adapt to these challenges, which can make it more usable and attractive to primary school teachers and administrators.

KEY FINDINGS

#1: Teachers are willing to incorporate new technology into their teaching.

While at varying levels, all five of our interviewees expressed that they were open to incorporating new types of technology into their classrooms. Interviewees valued the features that that technology such as eReading could bring; for example, one subject stated:

> *"[eBooks are] a lot more flexible, more versatile, you can refer to it at moment's notice, and it's easier to carry than an in-print book."*

#2: Teachers want access to analytic and student performance data.

The majority of interviewees indicated that they would value analytic data about student performance. There were multiple impetuses for this response; for example, one interviewee indicated that analytics could be useful to ensure students were kept on task:

> *"Hmmm… you looked like you were reading, but you were just staring at the page because you were on this page for ten minutes." So that would be valuable to see because it could help understand if they're using their reading time appropriately.*

However, the majority of interviewees expressed a desire for analytical information that would help track an individual student's comprehension of the material:

> *"Comprehension within the text, beyond the text—what the character feels, why you think the character acted this way. Author's purpose for writing the book…"*

#3: Teachers are concerned that students will inappropriately use technology in the classroom.

Most of the participants expressed that one of the primary difficulties of using technology in the classroom is monitoring student activity and keeping them on task. Interviewees consistently brought up concerns about students navigating to sites such as Facebook and YouTube during electronic instruction. One participant's response on this subject indicated:

> *"People want to Facebook; they want to e-mail; check ESPN; look at Wikipedia and screw up it. They just want to screw around. That being said, a lot of students, they have that tendency to do that. As the instructor, I had to keep them motivated, keep their eyes on the prize."*

#4: Students have difficulty navigating technology and understanding its vocabulary.

A majority of subjects indicated that their students' limited technological abilities, across both the high school and elementary spectrums, hindered their lesson plans; some highlighted student inability to efficiently navigate applications slowed their instruction. Others expressed that students lacked an understanding of the vocabulary behind technology:

> *"The kids are really good at surfing through a browser, but when I tell them to bring up a browser they're like 'what's that?' Come on, you use it all the time. Having them know the basics and the words and vocabulary that goes with it is difficult."*

#5: Schools will struggle to afford and incorporate new technology into its curriculum.

A common concern among the interviewees was the ability for their schools to provide adequate accessibility to technology to their students. Multiple subjects indicated that they experienced limited access to technology mechanisms such as computer labs or tablets due to the school's inability to afford sufficient infrastructure:

> *"Like I said, we had two computer labs. Well, we had more than two classes in session in the school at once. So, we had to ration our use of technology even though I could find many uses for incorporating it into my classes; so you had to coordinate that finite resource…"*

RECOMMENDATIONS

#1: Provide analytical data that focuses on demonstrating comprehension of the material.

Above other uses, our interviewees were excited by the prospect of having analytical data on hand to analyze student comprehension. Teachers suggested that methods would include embedding short questions or quizzes within the reading that would allow students to demonstrate their understanding of the material, which in turn provides feedback to the teacher.

- **#2: Consider implementing mechanisms that encourage students to remain on task.**

Multiple interviewees indicated that one of the primary problems of incorporating technology in the classroom was keeping students on task. As such, one way that Qlovi could capitalize on this concern is to implement some sort of mechanism that would restrict a user's access to other applications, which would then in turn ensure that students remain on task when using the software.

- **#3: Design an interface that emphasizes ease of navigation for novice technology users.**

Teachers indicated that their students demonstrated difficulty navigating and performing common actions in various applications, such as word processors and web browsers. As such, ensuring the interface is simple to navigate is key to ensure that as few students as possible are excluded from using the system. One suggestion included modeling the interface around websites that current students use frequently to encourage familiarity, such as Facebook.

DISCUSSION

There are a few potential shortcomings of this study, the first of which is the sample size of our interviewee pool. Due to time restraints and lack of personal contacts, we interviewed only five individuals—the minimum number allowed for this study. In reality, we recognize that a selection of only five individuals is unlikely to give an accurate representation of the target populations.

A second limitation of this study is the sample's grade-level representation. Four of our five participants, or eighty percent, had experience teaching at the high school level, while the fifth had experience teaching at the elementary level. This left teachers from middle schools, grades six thru eight, completely unrepresented in our study. We recognize that this demographics' lack of representation is unlikely to paint an accurate portrayal of the overall target population.

A third shortcoming of this study is the sample's subject-level representation. While we wanted to focus on a single one of Qlovi's target populations, our team was unable to recruit more than two English-focused teachers. As such, we had to supplement our interviewee pool with members from the secondary target population—those that taught in other subjects such as art, history, and politics. While their answers and data generally coincided with the information we obtained from interviewing English-focused teachers, mixing these two populations is something we would have preferred to avoid.

The fourth limitation of the study is our team's inability to achieve a true random sample. Three of the five interview subjects were the personal contacts of team members, whereas the remaining two were contacts of the school. Due to this, our results regarding comfort and willingness to utilize technology in the classroom may have been biased, as it can be assumed that those associated with the School of Information are more likely to be comfortable with technological devices and mechanisms.

CONCLUSION

After our team's interviews with five primary school teachers, which we identified as primary and secondary target populations during our initial interview with Qlovi's stakeholders and employees, we have identified a number of strengths and challenges that Qlovi may wish to consider in its future design iterations.

These findings include a desire for analytical data that demonstrates subject comprehension, concerns regarding students and appropriate use of technology in a classroom environment, and that a number of today's students find it challenging to navigate basic applications and understand technical vocabulary. We have presented a number of recommendations help to address these findings.

However, we acknowledge that our study faced a number of limitations, to include appropriate sample size, representation, and randomness, which may have led to biased results. Our next steps will involve obtaining quantitative data by surveying Qlovi's other primary target population, primary school students, to identify what potential design decisions may be most welcomed by that group.

APPENDICES

APPENDIX A: THE PURPOSE OF PERSONAS & SCENARIOS

In order to illustrate our findings, our team has developed personas and scenarios based on the individuals that were interviewed. This information is available in Appendix B and is divided into three persona-scenario pairs, each providing a short biography of each potential user and a storyline of their interactions with the system.

In order to better define and understand these concepts, their definitions and uses are as follows:

Personas, or personifications of users, are tools that are used in the usability testing process to demonstrate what the team has identified as a potential user of the evaluated system. They are not based so much on an individual interviewee, but instead based on combinations of traits and trends that spanned across multiple interviewees. The identifying information regarding these personas are 'fake'; their names and other traits do not accurately reflect any identities of interviewees.

Scenarios are a tool that depicts how the team would anticipate a persona would interact with the evaluated system. The purpose of this tool is that it will add an additional level of understanding of the potential users and what potential strengths, uses, and challenges they may face as they attempt to work with and navigate the product.

MERLYN WALKER

AGE	45
GENDER	FEMALE
OCCUPATION	4TH GRADE TEACHER
TEACHING EXPERIENCE	13
EDUCATION	MBA IN BUSINESS OPERATION
TEACHING LEVEL	3.5 / 5
COMPUTER USE	DAILY
SCHOOL LOCATION	BRIGHTON, MI
HOMETOWN	DEXTER, MI
MARITAL STATUS	MARRIED
HOBBIES	COOKING SWEETS AND KNITING

"I THINK TECHNOLOGY IS A NECESSITY. I THINK THAT'S WHERE THIS GENERATION IS GOING"

GOALS

Provide friendly and interactive learning environment.
Introduce students to technology to enhance learning.
Use different platforms (videos, web, books) to engage students.

TECHNOLOGY IN THE CLASSROOM

Merlyn would like to see more technology used in classroom.
Using analytics to measure reading level, reading comprehension.
Use computer to administrate embedded quizzes in readings.

LIMITATION OF USE OF TECHNOLOGY IN CLASSROOM

Children are intuitive in using technology but need to learn computer terminology first.
Teacher needs to monitor students' activities online.
It is difficult to integrate digital books with existing curriculum.

PERSONAL LIFE

Merlyn is 45 years old elementary school teacher in Brighton, MI. She is married with two kids: Amanda 6 years, and Kevin 4 years. She has been elementary school teacher for 12 years. Merlyn studied psychology as undergraduate at University of Michigan. After working 3 years as assistant in Reuters Financial services, she returned to pursue MBA in Business Operation and Management at Ross School of Business. During her tenure at Ross, Merlyn worked as consulate for small nonprofit organization that promotes early access to education in Detroit. She became passionate and interested in primary education. After working for few years as an IT Solutions Analyst at intuit in Detroit, she decided to switch career to become teacher near her hometown. Merlyn moved with her husband who has medium size business in Ann Arbor.

USE OF COMPUTER

Merlyn has been using computer for work and as a student on regular basis. She uses computers for drafting reports, prepare lessons plans, professional and personal communication, and access information/news online. Merlyn is comfortable designing basic websites and using advance feature in regularly used application like Microsoft Office. Additionally, she uses IPad and Kindle with her children to read books and for gaming.

USE OF TECHNOLOGY IN CLASSROOM

Merlyn's background as an IT analyst greatly influences her teaching style. Merlyn believes that online presence creates sense of community and positive learning environment. She feels the next generation will have to use platforms like tablets daily. She often brings laptops into classroom, where students watch videos, play educational games, take quizzes through PBS's educational site. Although Merlyn is aware of problems that technology can introduce in classrooms, she thinks technology would play important role in transforming early education. She believes traditional textbooks are on the way out, and digital books would be the prominent medium of learning.

SCENARIO

Merlyn woke up 7 AM this morning. She recalls that her students have been assigned a short story that is related to today's class. It was a story about Mr. Bunny who moved to new a new city and is getting to know his new neighbors. This story was from her list of external reading list, which is also available in the school library. She instructed her students to read the story and make a suggestion on how Mr. Bunny can better befriend his new neighbors. She picks up her tablet and logs into Qlovi. She checks to see if any student who did not read the story; however, it seems that everybody has opened the story at least once.

She decides to check detailed analytics of her students' reading and comments while she commutes to school. While on the bus she opens Qlovi again. While skimming through analytical performance data, she recognizes that most of her students spent a reasonable amount time on the reading. However, she recognizes that Brad had spent a bit more time than others. She knows Brad is having difficulty with reading. She runs a comparison of Brad's previous analytics with his most recent performance. While it seems like he is getting better over time, he still needs some help on improving his reading. It especially looks as if he is having a problem with vocabulary recognition. She wonders if "that's why he takes much time on reading... is he asking his parents the meaning of every word?" Merlyn knows that his parents are supportive of Brad; after all, she and his parents communicate often about Brad's progress via email. She thinks of what possible customized solution can help Brad with his reading.

She arrives to school shortly after and begins class by asking her students how they liked the story. She pulls up a quiz that asks about some details of the reading. Students answer this quiz with their school-assigned tablets on each of their desks; however, these tablets are only workable when teacher gives electronic permission to students from her smartboard. A few students take a bit longer than others to answer. She asks her students about how they think Mr. Bunny should act to befriend his new neighbors. She already knows what her student think based on what they wrote on the comments section of the story on Qlovi, but she wants to hear from them directly. She pulled up the list of the comments from the students and asks class what do they think about one another's suggestions. While hearing from her students, she made few notes.

After the class, she emails Brad's parents about his reading performance. She some information from Qlovi, which illustrates Brad's reading performance based on the past few month's analytics. She complimented Brad's improvements on reading, and it seems like his reading speed is getting a bit faster. She then inquires Brad's parents about how he enjoys his reading assignments.

MATT BRIER

AGE	33
GENDER	MALE
OCCUPATION	HIGHSCHOOL TEACHER
TEACHING EXPERIENCE	9
EDUCATION	LIBERAL ARTS AND MASTERS IN ECONOMICS
TEACHING LEVEL	3 / 5
COMPUTER USE	6 HOURS A DAY
SCHOOL LOCATION	HUSTON, TX
HOMETOWN	MOUNTAIN VIEW, CA
MARITAL STATUS	SINGLE
HOBBIES	RUNNING AND FOOTBALL

"I think technology would facilitate learning a lot more effectively. However, there needs to be obvious controls."

GOALS

Use technology to provide personalized learning for struggling students.
Keeping students' standard performance level high.
Maintaining control for students in classroom.

TECHNOLOGY IN CLASSROOM

Would like to use analytics to provide instant feedback.
Likes spontaneity of finding information quickly.
Would want to use technology to assess reading level of students.
Build portfolio for students to illustrate performance and track progress.

LIMITATION OF USE OF TECHNOLOGY IN CLASSROOM

Accessibility issues: lack of resources in some schools and at students' homes.
Some students don't know how to use computer well.
Using online materials are not integrated into the school's curriculum.

PERSONAL LIFE

Matt is 30 years old from Mountain View, CA. He graduated from Rice University with a degree in Liberal Arts. He also has Masters degree in Economics from University of Texas in Austin. Matt has been working as a high school teacher for six years. He works in inner city school in South Houston. He teaches social science. Matt is also armature football player. He goes to his high school football games whether they play in home or on the road. Matt's school is located in multicultural neighborhood. His classroom would have students with different ethnicity groups with multiple languages spoken at home. Matt appreciates this diversity. He believes it provides stimulating environment for learning history and other social science.

USE OF COMPUTER

Matt is comfortable using technology. He has IPhone, IPad, and Macbook Pro. He uses the web to check emails, social networking and consumption of light information. He is also familiar with Microsoft Office. Mainly, Matt uses computer for communication, drafting presentation and reports, and information consumption.

USE OF TECHNOLOGY IN CLASSROOM

Matt uses PowerPoint presentations in the classroom. Matt has mixed and conflicting approach towards using technology in the classroom. On one hand, Matt posts slides on Google docs and encourages his students to bring their laptops during lab. On the other hand, he is aware of problems that come with use of technology in the classroom like increased distraction in classroom and wasting time to teach students how to use computer instead of learning about the subject. Additionally, because of lack of resources, Matt makes use of what is available in the school. He often prints out reading materials and uses the school's computer lab during writing assignment. Matt's main concern is balancing students need in familiarizing technology and limiting distracting components of using computers during in classroom.

SCENARIO

Today, Matt has his class working in a computer lab. Class's goal for today is teaching students how to use database(i.e. JSTOR) and how to implementing those resources to their final project. Mostly, students use computers in the lab but they are also allowed to bring their own laptop. The topic for the final project is 'credibility of information on the web'.

Before the class, his students supposed to read an article of 'Web Credibility Research' on Qlovi. His students can access to the article either using computer in their home or by using computers in school library. Since it was copyleft material, he could add this article to the class' reading list on Qlovi. He likes his students to read on Qlovi, because he can get analytics of students' reading. This provides information such as progress of reading, time elapsed, and pop quiz score. He use these information to measure his students' reading level. Most of students do not have problem with comprehending assigned articles accept few. Using this analytics, he can draw who's behind and who's successful readers. He also encourages students to read additional stuffs on Qlovi. Students can build their individual reading list and teachers can find out what students are interested in.

During the lecture, Matt finds out that students are having trouble with having a doubt with resources on the web. Some students do not think adopting information from Yahoo Answers and Wikipedia for their their project can cause a credibility issue. He searches Qlovi and quickly assigns additional assignment for those students and anybody who wants extra credit, summarizing an article on Qlovi. This article is a book chapter from a popular science book that talks about information inconsistency on the web. In Qlovi, Michael assigns some students, whom he wants to do this additional assignment, to the article. He also announces to class that if anybody want to do this extra credit work, they can email him to add on to the list.

MICHAEL WONG

AGE	29
GENDER	MALE
OCCUPATION	HIGHSCHOOL TEACHER
TEACHING EXPERIENCE	5
EDUCATION	ENGLISH
TEACHING LEVEL	2 / 5
COMPUTER USE	DAILY
SCHOOL LOCATION	ANN ARBOR, MI
HOMETOWN	WASHINGTON, DC
MARITAL STATUS	SINGLE
HOBBIES	THEATER AND GOLF FRISBEE

"TECHNOLOGY IS NOT THE SILVER BULLET; IT NEEDS TO BE SEAMLESSLY INTEGRATED, AND A LOT OF TEACHERS DON'T KNOW HOW TO INTEGRATE TECHNOLOGY"

GOALS

Provide strong foundation for students to learn fundamentals.
Focus on curriculum's goals.
Use technology to engage and supplement student's learning.

LIKE TO USE TECHNOLOGY IN CLASSROOM

Use technology to correct quizzes to save time.
Use technology to communicate with students and guardians.
Provide students with optional reading texts online.

DISLIKES OF USING TECHNOLOGY IN CLASSROOM

Some teachers need to learn about use of technology in classroom before implementing.
Technology can limit interaction between students and teachers.
Internet access needs to be filtered to keep students focused on classwork.

PERSONAL LIFE

Michael is 29 years from Washington DC. He moved to Michigan for graduate school. He has been teacher for six years. He worked as part teacher for 4 years in two different schools before becoming full teacher in Huron High School. He has graduate degree in English and a teaching certificate. Michael has a cat and he enjoys outdoor activities. Additionally, He likes diversity of entertainment life in Ann Arbor. He regularly attends theater and musical event around the campus.

USE OF COMPUTER

Michael uses computer regularly to check email, access information and for preparing lessons plans. Michael has feature phone, an old IPod, and Basic Amazon Kindle, beside his HP laptop. He often uses PowerPoint presentations in the classroom. He provides handwritten feedback to his students and prints out selective reading materials.

USE OF TECHNOLOGY IN CLASSROOM

Michael is passionate about teaching English, especially writing. He notes that written communication is used more often in current generation then previous ones. Additionally, he thinks using technology in the classroom is important because can it stimulate students interests and provide familiar environment. However, Michael is aware of technology limitation to address foundational learning objective like critical thinking, writing structured essays, and advancing reading comprehension. Michael considers himself a traditionalist when it comes to teaching. He aware of potential impact technology can have on learning. He believes that technology is medium like books. He believe teachers, schools administrators, publishers should work closely to introduce eReaders and other platforms into the classroom. Michael is Concerned technology is shortening students' attention span. He restricts use of mobile devices during his lecture and group work assignment.

SCENARIO

Tomorrow's in-class exercise for Michael's class is going to be writing a short essay about what students have read until now. Students are free to write on any kind of book or article.

Michael have used Qlovi from last semester. Since Michael have used Qlovi to his student for a long enough time, he knows what are each students' interested in and their thoughts on certain issues, based on students' reading list and comments on Qlovi. So he is ready to give feedback to various topics that his students going to be write on. In class, he encourages his students to read something on Qlovi and make a note on it. Sometimes it can be a simple note that indicating their preference on certain paragraph, but it also can be a student's long rebuttal about author's claim.

After school, Michael comes back to his house and checks his Qlovi account. He checks his Qlovi account regularly and see any new comments from students about their reading. He gives feedback to one of his students' comment by typing and some drawings, using his keyboard and tablet pen. He likes to give feedback to his students electronically because it is less likely to be lose, compared to the printed outs and physical sticky notes. Also, it is not much different from paper. He tried to adopt electronic feedback few years ago but it was not as comfortable as this. It surely requires less prior knowledge for using it.

APPENDIX C: INTERVIEW GUIDE

Teaching Context:

- Background: your name, age, how long have you teaching, what topic you teach?
- Tell me a little bit about what grade you teach and your daily teaching routine.

Teachers and Technology:

- How comfortable are you with using a computer? (Do you have personal computer, smartphone, etc.)
- How often do you use computers? How long have you used computers?
- Do you use tablet (Kindle, iPad) to read books?
- In your opinion, what are the differences between reading a paper book and reading electronically?
- How many computer labs are there in the school?
- Devices? Types of software used, especially for reading?
- Do you think using computers/laptops during class will facilitate or impede your teaching?
- What are some common issues you encounter when teaching to your students?
- What are some solutions you've developed?
- How children view reading in your classroom?
- How do you provide feedback to your students and parents?
- Would you be comfortable providing feedback to your students electronically?
- How do you decide what books to assign to your students (state required books, and extra curriculum)?
- What resources do you use to find these books?
- How do students get access to books?
- Do you have strategy of individualized learning for your students?
- What kind of technology would you incorporate into that strategy?

Technology in the Classroom:

- How would you rate your students' experience with computers, devices, and software applications?
- What types of devices do you employ in the classroom?
- How often does your class use the computer labs?
- What system do you use to measure a student's reading level?
- What types of applications do you use?
- What was the decision behind using these applications?
- How helpful do you find these applications?
- What do you foresee as the role of incorporating devices and applications into the classroom?
- Would it be valuable to know analytical information about your student's reading performance?
- What would you like to know about this? Any suggestion how this system should work?

Wrap-up

- We've talked about [x] and [y], if you could make one recommendation about how devices and applications could be better used in the classroom, what would it be?

Teacher 1:

Technology use
comfortable using technology devices.
using computer in classroom for
    checking attendance.
    using projector

smart board: love to use it. (used in his previous school)
    this school do not have one. - have to adjust.

using laptop carts for class.
    laptop, printer, projector module?

using google
    - google docs
    - sharing presentation
    - love to use google products
    - google e-portfolio: every writing of students made

tablet: do not use.
    tried. but more on physical book.

computer use:
    - laptop carts & computer labs (ex. engr / art students - for students enrolled in those class)
    - library
        -takes time to walk there
        - laptop: saves more time, more smooth flow of class
    -pdf: e-data base.
        -print out.
        -underlining / annotating text
            - do not know (the best way to do those) on electronic device
            - not sure / would not mind to adopt digital devices on those purpose

    - notes:
        -on e-devices, student's notes ended up as much shorter.
            - difficult to follow along
            - electronic book has its own pace (≠physical book)
        -physical device (book, paper print outs):
            more easy pagination

sticky note

using computer helps his teaching
-the problem is: how to use it.
ex) exercise: turn something in electronically
-during lesson: no open laptop (ex. g chat / facebook - possible distractors)
-allow students to use laptop, only when accountable for study purpose
-especially in big class: constantly have to check (36 students) - are they paying attention?

good to use computer on formatted assessment: with laptop.
ex) google doc for quick quiz
- easy to know whether his lesson worked to students

Reading:
students know reading is important
- some students enjoy / some slow, challenging
- some had not learned how reading can be enjoyable

reading for fun ≠ reading for school
cf) taking memo / annotation

struggling students: read180 (special program)
- teach the reading technique. (buy from private company)
-modules: mini lessons.
-using computers: to check the comprehensive lv of reading.
-getting students to ready for english class of school

(back to) Technology use:
feedback:
- write on paper(student thesis)
- feedback journal: conversation / discussion about students writing
- verbal feedback (ex. for presentation)

electronic feedback: tried
- because: physical writing : hurt.
- have used turnin.com
- physical writing -> typing.
- however,
-physical paper -> more rich feedback. ex) arrows, link to page, circles
-computer: less organic process. / eventually more time consuming.
-hard to make clear feedback
-tried one time and stopped.

readings:
- A2 school association chose the list
    - teacher picks from the list.
    - short stories, poems,
    - outside readings - student pick any book they want to read for pleasure
- from library: cause all student have access.

strategy for personalized readings.
- when hand in assignment -> based on their output. give them feedback
- one page lubric -> see how they worked -> visually sees their specific growth.
- student can lose the feedback paper.

-electronic feedback: able to keep all together (online) / his feedback less likely to be lost.

technology involved (with his assignments)?
-typing
-indv conversation : takes lots of time. / help students by asking questions.

students using computers
- they are pretty good for using applications. / especially for fun.
- but, cf) they don't know how to use email. / instead, using Facebook or Twitter.

- using database (ex. JSTORE) - had to teach
- students are so used to using Google / Wikipedia - students think that's where the information is.
    - have trouble with admitting / care about the reliability of those information.
        ex) some students thought all information on website are reliable. looks legit.

lexile score.
- test: every year (using computer) read passage and answer questions
- every student in A2.

Using Google apps / camtasia (for record video)
- in classroom - google docs / word
- using tech for projects: need to plan ahead to use it right.
    - tried some times, but came back to traditional methods.
    - did not worked well, always.

if help students engagement.
technology - so many things / care about the help learnings
- learning more.
- don't care about fun.

- fun ≠ learning. fun is not teacher's priority.

data director: data collection program (recently adopted in A2 schools)
- using electronic devices.
- multiple choice data. / quantitative
- english teacher: hard to collect. writing eval = hard
- writing is complex.
  cf) SAT ACT algorithms : may be not good.
  ex) hard to track nuance
- for reading, can be assessed
- writing (which requires reading skill) : hard to quantify.

his students: higher ordering thinking skill through writing.
- already have basic reading skills
- interaction with text. ex) annotating on text.

recommendations on electronic devices?
- ipad: it would be great to have an app, mimicking the write on the paper
  - electronic submitting & organic feedback
  - no loosing.

INTERVIEWER
Can you tell us you name, age, and how long you've been teaching?
INTERVIEWEE
31, I've been teaching for 8 years.
INTERVIEWER
What subject?
INTERVIEWEE
I teach High school english, so reading and writing.
What grade youre teaching and your daily teaching routine?
Sure. I currently teaching 9 and 10 grade students, four classes that I teach per day. they are 72min long. We do reading as well as writing, so we read literature, so novel based reading. We also do shorter readings, so short stories, poems. And we spend a lotta time analyzing in class, so a lotta time marking up text. In public school we can't write in the textbooks, but I have student to use sticky notes to mark things at they notice as they are reading. When I was teaching in private school, students can actually write in the book. So, A lot of skills I am teaching students are: how to do a text but also how to markup a text to what happen in their brain in terms of thinking. And then, in class we bring those to a larger discussion. So I am teaching them the skills of how to read the text. And then we use the skills in the writing that they do so when they do papers and when they do the informal type of writing.
We are also on trimester schedule, which is ...in 12 weeks I have to get them to learn something about thinking reading and writing. As oppose to what I taught in public school in the east coast, I have the

student for the whole year. I only have the students for the 12 weeks, and then I may or may not teach them again.
So you've taught students in east coast?
Yeah so I taught students in D.C. for about four years and I moved back to Ann Arbor in two years which I taught in Green Hill school, which is private school in town. And this is my first year back to the public school. I have both experience in public and private school.

How comfortable are you using the computers?
Very comfortable. My work gives me a laptop that is being used for daily bases, so all my teacher at my school are used to using their computer everyday, I have to take attendance, so e have projectors in our rooms. So I can connect the laptop to the projectors and show students things from my laptop.

Any smart devices?
I wish I had a smartboard. the last 2 schools I worked had smartboard.

Teacher 2:

Background

1 UMSI GSI of SI 501 and undergraduate media research
2 Taught summer classes of arts: Photographer & Painting.
3 Summer classes were in high school for junior and senior.
4 The summer classes were ran by private company
5 Most students were Jewish students or from northern New England
6 The classes were pretty casual, includes jokes.
7 He usually starts at checking students tests and homework
8 He thinks it is important to touch base of student
9 He had some boundary of the casual talks with students, Instead of just talking to them, he had some expectations on them and they were clear.
10 There were two sessions a day of photography classes. Morning and Afternoon.
a Morning session was more like lecture style, introducing history photography.
b Afternoon session was more like a workshop, doing skills-based things.
11 Painting class: less lecturing, but more hands-on activities
12 15 students per class (painting and photography)

Teachers and Technology:

1 He is comfortable of using computers. He uses computer everyday.
2 He has mac laptop, feature phone, a kindle, and an iPad now.
3 He had smart phone for two years, which is T-Mobile G2.
4 He felt smart phone is too much for him. He used only 10 % of the functions.
5 He thinks that smart phone allows reading emails and maps are handy
6 He has his kindle from fall 2011 (about a year)
7 He has his iPad from June 2012 (about 8 months)
8 He uses tablets for reading books, most are not related school
9 He also use iPad for preparing class materials.
10 He found that e-reader has the drawback of mis-turning pages
11 While physical book, which he preferred, is easier to flip pages back and forth
12 The courses he taught were summer camp outside of schools.
13 They had a mobile computer lab which includes a set of laptops, but no physical computer lab
14 Software they used were Photoshop for photographer class and web browser for painting class
15 Advantage of using computer in class: when there are some questions that he couldn't answer, he can go to the internet. This provides the continuity of the lectures
16 Disadvantage of using computer in class: easily distract students. Students were distracted from Facebook, chats, and games. And, at that time, he had no function to control all student's computers.
17 Common issues of teaching 1: Students wouldn't feel they are creative.
18 To address the issue, he spent lots of time to inspire them, and let them create something practically.
19 Common issues of teaching 2: Students usually pursue photorealistic.
20 He also send books to students to read before class. These books can show them some best painters, priming them to not expect photorealistic.

21 He asked students to purchase books from Amazon.
22 Probably e-books will make more sense
23 Most of his students read the readings before classes.
24 For each assignment, he provided feedback with hand-writing notes.
25 In the end of the term, he gave them three-paragraph evaluation article. He typed it out and sent to administration.
26 He had no experience of providing feedback electronically, but is comfortable with that. He thinks it is helpful.
27 His Resources of books/articles: graphic novel. look into few different artists.
28 He also used web links to museums for specific artists. He looked for books from amazon.
29 Students get the book by the link he put in the introduction letter (e-mail). Only in the very beginning of the whole class.
30 He is able to tailor each students because the size of the classes were not large (15 students).
31 He had a student who is a little different targets than others. He provided specific materials for him.
Technology in classroom:
1 Overall he rates his students technology savvy as 7 (from 1-10).
2 His used powerpoint, laptop, digital projectors, analog projector, scanners in his class.
3 They also used digital camera on smart phone to facilitate teaching
4 Everyday uses laptop, which is belonged to the program, to edit photos, research inspirations and back up.
5 Some reading concern of the students? he prefer not to spend time unpacking theories. He used books that contains lot of pictures.
6 He didn't measure their reading.
7 If there is a web-app to read book, will that help?
a Handy. Have my own readings of package.
8 Will pop-up reading evaluation be helpful?
a Yes. Dashboard showing students status will make grading easier. And provide teacher more time to add comments.
9 Helpful features:
a how long students to read something
b how long read on each page to know how they grasp content

Teacher 3:

Time: 6:50 PM – 7:30 PM
Date: 16 February 2013

Interviewer (C): The interview has begun. All right, I'm going to start off with some biographical questions quick and let me tell you what the interview is actually about afterwards. I'd like to get some background on your teaching experience; first of all, how old are you?

Interviewee (I): Right now I am 30 Years Old.

C: All right, and how long did you teach?

I: Well, in the K-12 environment I've taught for two years in a High School in Denver, CO.

C: All right, and what topic or topics did you teach?

I: Mostly social sciences, specific subjects include AP US History, AP Economics, Regular US History, Regular Economics, World History, Politics and Ethics.

C: Ok. Tell me about what grades you taught and what you general daily schedule was; guide me through a day in the life of you as a teacher.

I: Sure. In terms of the grades, I taught grades nine thru twelve. AP variants of the course were mostly on the junior and senior level. In terms of my daily schedule, class was from about 8 AM until 2:30 PM. I had a few planning periods, 1 or 2, depending on the academic quarter. On any particular day I was teaching up to four to five classes a day.

C: Great. All right, so now I'm moving on to a subject beyond demographic information. We're going to talk about you and your ability to incorporate technology into the learning environment. So, first of all, how comfortable are you personally with using a computer or other technological mediums in general?

I: I'm pretty comfortable, not just with a regular computer but with integrating a computer into delivering instruction in the classroom.

C: What do you personally have? Do you have a personal computer? Smart Phone? What type of devices do you have available to you?

I: At this time, I have an iPad, iPhone, and a Mac. At my office I have a Windows-based PC.

C: I see, so you have experience with iOS, Windows-based, and OSX based systems then?

I: Correct.

C: All right, how often do you use computers on a daily basis?

I: Right now I use computers pretty much throughout the day. Are we including the iPhone or iPad in this total?

C: No, just consider computers right now.

I: Ok, I would say throughout the day I interface with my computer for about 75% to 80% of the time I'm at my office.

C: So what you're saying is that six of the eight hours per day you're at the office you're interfacing with your computer.

I: Sure, I may not be typing with something but I may be viewing something on the monitor such as my calendar, perhaps a reference page, or my e-mail or other applications.

C: Ok, how long have you had exposure to computers for?

I: I've had exposure to computers for longer than a lot of other people my age. The very first time I was exposed to a computer when I was six or seven years old, which I used to play various games. I've used computers ever since that time up until the present day at the ripe old age of 30.

C: All right, so you mentioned that you have an iPad. Do you have a Kindle as well?

I: I do not.

C: Have you used your iPad as a device to read books?

I: Yes I have.

C: All right, where you taught, how many computer labs were in the school?

I: We had two computer labs, each one had about twenty-four computers. Each classroom had one instructor computer and two computers for students to utilize.

C: What type of devices were in these computer labs and what types of software were utilized?

I: Well, this is from 2005 to 2007. With that said, we just had regular Windows-based PCs, with a 14 to 15 inch monitor; nothing sophisticated. All of them had internet access.

C: Was there any type of special software on these computers to encourage or enable reading, to your knowledge?

I: When it comes to software to encourage reading, like a learning management system, we did not have anything of that nature.

C: Ok. Moving on, in your opinion what are the differences between reading a book on paper, like a physical book, and reading electronically?

I: I can tell you this. Comparing an eBook to a print book, I like the eBook a lot better. The reason being is that you're able to make electronic annotations, you can send them to various individuals, you're able to share the information more easily, you're able to look up a definition right away for any particular book. It's a lot more flexible, more versatile, you can refer to it at moment's notice, and it's easier to carry than an in-print book. I just like an eBook better due to its flexibility, adaptability, and general usefulness.

C: Okay. So, what do you think about using computers, laptops, or tablets in a K-12 teaching environment? Do you think it would enhance or impede teaching?

I: I think it would facilitate learning a lot more effectively. However, there needs to be obvious controls. For example, you need to be sure students are not surfing the internet, checking e-mail, or browsing various forms of social media. What that really means is that the instructor, the teacher, has to be a good classroom manager. So there has to be effective controls on that device when being used in a classroom by students.

C: So, thinking back to your experiences as a teacher, do you trust your students enough to be able to control themselves when using these technological devices?

I: And the answer to that question would be yes. The reason being, and not to toot my own horn, is that I'm pretty effective at managing a classroom environment. A lot of teachers, in my experience, at all different levels just use the computer as an electronic babysitter so-to-speak. They say "go research a paper" or "go look this up" and then they don't monitor them. I myself would move around the classroom or computer lab and make sure they're on task and answering questions, instead of just sitting at my desk and not being in control. That being said, even with careful and prudent monitoring I don't believe that an instructor can view every student at every single moment. But they at least can mitigate the situation by being proactive and monitoring the classroom.

C: So what are some common issues you've encountered when teaching to your students?

I: Well…

C: That may be a little vague, let me try to refine that a little for you. When trying to incorporate technology into the learning environment, what were the common issues you came across?

I: I would say there were three common issues that I probably faced teaching in the high school environment. The first would be students not being comfortable with the technology being employed. For example, one of the first things that I encountered my first year of teaching were smart boards, which are great because they connect to the instructor or teacher's computer and can manipulate the screen via touch or with a pen. I was comfortable with it, a lot of students were, but you did have some students that were relatively uncomfortable or had some apprehension. So trying to get them to become comfortable with the technology was one common issue, I guess. It wasn't often.

Another issue is monitoring students when using technology for an appropriate classroom purpose. People want to Facebook, they want to e-mail, check ESPN, look at Wikipedia and screw up it. They just want to screw around. That being said, a lot of students, they have that tendency to do that. As the instructor, I had to keep them motivated, keep their eyes on the prize.

The third thing I encountered would be lack of technology available for the students. Like I said, we had two computer labs. Well, we had more than two classes in session in the school at once. So, we had to ration our use of technology even though I could find many uses for incorporating it into my classes; so you had to coordinate that finite resources across all the teachers.

C: Ok, so what were some solutions you developed to address these problems?

I: Well, the first issue I addressed, making students comfortable with technology, I would attempt to model the technology for the students to show how to exactly do something instead of saying 'oh, go do what you want, go hog wild' and then had them practice in front of me. That typically wasn't a problem, we just had some students that had some apprehension. Typically they were the younger students, in grades nine and ten.

Looking at the second issue, students not appropriately using the resources that we had, there were two things I did. Monitoring, as I spoke about previously, and looking at accountability in the classroom. If they're not using it appropriately, we just took the technology away. Proper management encouraged proper use of the resources.

And third, lack of accessibility, that's where you deal with administrators and budgets to get more resources for the students. During my two years we didn't have an opportunity to build more labs, but to my understanding there are more technological options in the school I taught; they could be COWS, computers on wheels, or iPads, or additional computer labs, they're able to incorporate more technology into the budget process.

C: All right, I'm going to skip ahead a little bit and ask you more about literature you actually used in your classroom. As you mentioned, you taught economics, politics, general social sciences; beyond textbooks, did you assign any literature for your students to read?

I: Beyond the simple textbook, especially in the AP classes, I assigned supplementary readings. Either I would photocopy the material or assign a companion book; not necessarily a textbook but more like a collection of readings or articles. I also did assign novels as well. For the people in the non-AP or honors classes, we typically did stick to the textbook, but I did introduce supplementary readings now and then.

C: All right, so how did you decide what books to assign to your students? Was it some state curriculum, your own choice, or some other method?

I: When I taught in the state of Colorado, we had content standards, which determined what specifically had to be taught. But the content standards did not dictate what book needed to be used. Books were selected by the department; it had a chairman and two or three other individuals that

looked at the curriculum, what publishers offered, and then made a decision as to which textbook was appropriate for that class.

C: I see, but you also mentioned that you assigned novels to your students. How did you determine that? Was that department selected, did you have to ask for permission? Or did you just decide that this is appropriate for what I'm teaching, I'm going to assign it to my students?

I: Interesting question. That's something I decided on my own, but I did have to get approval from the assistant principal for academics. I thought these books would be appropriate because they would supplement material well.

C: How did students get access to these books that you assigned?

I: The book would be purchased by the institution.

C: Oh, so you would have a number of these books on hand, physically, for each member of the class?

I: Yes, for example, we had one called 'The Invisible Heart: An Economic Romance' for the AP Economics class. We had 30 people in the class, the institution bought 30 copies, and we distributed them to the members of the class before the class began.

C: Ok, jumping ahead a little bit; providing feedback, how did you provide feedback to your students and their parents? Beyond a simple report card, that is.

I: Well, regarding feedback, that's a loaded question, let me know if you want me to get into a particular area a little more. I'm a big advocate of providing student feedback because if we do not provide feedback, students do not learn.

C: How did you do it, though?

I: When it comes to providing feedback, I made sure it was substantive and meaningful, and it was often. That meant that I would provide on a formative and summative basis. On a formative basis, it could be somewhat informal; say if students were in class and discussing a particular topic, I would let them know if they were on the right track or not, but it could also be formal, where they receive written feedback from me; comments on a paper or perhaps my completing a predefined rubric and returning that feedback to them. Summative assessments, projects, exams, tests… I would usually have a rubric that would accompany that particular item. I would complete that and return it to the students. We also had performance assessments. These were summative, but went above and beyond actual paper and pencil tests, where students would actually have to complete a task. I would normally have a rubric for that.

When I say rubrics of course, I'm talking about those matrixes or matrices that define student achievement standards to determine their mastery. We also had items such as checklists and that nature for our students.

C: Many of the ways you've just described of providing feedback, it sounded like it was verbal, written down—did you ever provide feedback electronically to your students? Perhaps through e-mail or some other source?

I: In terms of substantive feedback, no. We did have an ability to let them know if a project or assignment was completed or not completed through an internet resource; students and parents both had access to that system. They could just log online and see whether or not they had something complete and their grade. But in terms of substantive and meaningful feedback, no, none of that was provided online at the time but this was around 2005 to 2007.

C: Okay. Thinking now, in a K-12 environment would you be comfortable providing feedback to your students in an electronic manner?

I: Absolutely. Both now and then.

C: Do you have any strategy of personalized learning for your students? So if you had a student that was struggling, what type of strategy would you employ in order to bring them back up to speed with the rest of the class?

I: That's something that I would try to do to the best of my ability, like any instructor. What I would do is try to conference with the student to assess their difficulty and come up with an individualized plan of action, trying to catch them up. We used supplementary assignments, after-school tutoring; I would try to catch them up to the best of my ability. What it really came down to, though was the student—what they wanted to do, how much effort and work they were willing to put in.

C: Did you incorporate any type of technology into that strategy?

I: Yes, the technology I used was the online school software. We could mandate that students complete certain missed assignments or raise certain grades. That school or web-based application helped out tremendously. Beyond that, I created electronic lesson plans in Excel. It was very helpful; I could plan for exceptional circumstances when students in my class had challenges. It also helped me refer back to the material and make appropriate changes and adaptations for students that may be struggling.

C: Ok, now we're going to be moving away from you and focusing more on your students. How would you rate your student's ability to work with computers and other information technology devices? I know it's probably a broad group—some are computer wizzes, others not so much—but how would you describe your average, middle of the road student?

I: I would say that when it came to the average student, between 2005 and 2007, they would be technologically adept. They would know how to use the computer—this was around the advent of the semi-smart phone. They would be texting, using their iPods, they would be pretty technologically savvy and up to my level.

C: And for orientation purposes we are still talking about ninth thru twelfth graders at a high school, right?

I: Absolutely.

C: Now, what types of devices did you employ in the classroom while teaching?

I: The primary device I used was a personal computer; either one of the computers in the classroom or one of the computers in the computer lab. We also had a few smart boards, which were helpful, but we didn't have anything more modern like tablets at our disposal.

C: Did you use anything more mundane, though? Like overheads, how did you project those to your students, if you did so at all?

I: Actually, we used an analog device for that, the good old transparency sheets.

C: Oh, so very old fashioned.

I: Yep, so what I would is design the slide on the computer and print them off onto a translucent or transparency sheet, and then put them on the projector.

C: So when you say slide, do you mean you designed them on a PowerPoint slide?

I: Well, it wouldn't be PowerPoint per se. We're talking about a piece of paper 8 ½ by 11, so I would just design it in Microsoft Word and print it off.

C: You mentioned that your school had two computer labs that you incorporated into your lesson plans; how often did that happen?

I: I would say we would be in the computer labs at least once a week, and our classes met every day.

C: Okay. What system did you or your school use to measure a student's reading level?

I: Well, I can tell you that we had a Catholic high school entrance exam to ascertain their reading level, which was on the computer. However, beyond the entrance exam, after they got in, that would be something that would be done by the English department—students were mandated to take English every year—and that was done in an analog format. So students would be given actual passages to read and instructors would grade them manually.

C: Were you aware of your students' individual levels at the start of each semester? Were you perhaps given the initial or updating reading level results?

I: Implicitly I knew, explicitly not. I say implicitly because the entrance exam would place them into particular classes. So we had them at the regular, honors, and advanced placement level. So I could generally make a good guess.

C: Did you take this into consideration when determining what literature to assign to your students to read?

I: Absolutely, because you have to start where your students are at. Doesn't mean you dumb down the things you have to teach, but you try to give them the appropriate tools so there's an appropriate fit, and then they inevitably learn.

C: Okay, I don't mean this to sound like a leading question, and it's somewhat off the script, but you mentioned 'dumbing down'. I assumed that the individuals in each class were not all at the same reading level.

I: They were close, but you're right, no class was composed of students all at the same level.

C: So did you assign readings based on the lowest or perhaps the mean reading level that you assumed your students had? How did you go about accommodating those that were less talented?

I: I think that's a great question because you'll find a different answer for every person. For me, I did not go to the lowest common denominator. That was not my approach. I focused on meeting the content standards and what they required; for example, for AP Economics or US History I did assign a lot of primary texts. That wasn't at my discretion, it was mandated by the state. But for regular classes, I would give them textbooks, which were primarily designed for particular students at that reading level. If you had someone above, or below, that's where the instructor would have to come in and help the student personally.

C: Ok, moving on, what do you foresee the role of incorporating technology in the classroom?

I: I think that technology and academic success are inextricably linked. I think that this relationship will continue to grow. I think that eBooks are going to be terribly important in order to give students a variety of tools, tips, and techniques to delve into the readings—for example, if you go to the NY Times website on a tablet I can read an article, get definitions for words in that article, find some other source, I can do all that stuff right there. It's going to be terribly important going forward.

C: Let's move on to one final question, then back to some demographics that I missed at the start. Do you think it would be valuable to know analytical information about your students' reading performance?

I: I think that's terribly important. However, what I do think as well, even though you do have a precise measure of a student's reading level it might be difficult to cater to every single student. Maybe not necessarily that every student is in a certain band, but if you have people all over the map then it becomes hard. Regardless, I still want to know.

C: Now, why do you think it would be difficult? Because you don't have enough time, don't know the right materials to assign to each reading level, or something else?

I: Well, we're talking about individualized instruction? I don't think there's a problem or time or energy or anything like that. But in a classroom, not everything is, or can be, individualized. If you reading publications or journals about educations you read that teachers have to meet students where they're at—which his fine, there's no complaint about that. The problem is when you actually have general instruction to the whole class. With that said, you can't tailor that to any one specific student, it has to be generalized to the population in front of you. And you can't give different assignments to different people all the time as well, you have to be firm, fair, and consistent. Plus you have the content standards to consider, which mandates not just what you teach, but how you teach. With all that said, that's why it's kind of difficult to reach every single student. You can mitigate this by employing the best classroom techniques we have, but you can't really 'solve' the issue, there's no way you can do that. Technology can help, but it's just one tool in the toolbox, there's no silver bullet.

C: All right, I want to move back to a little more demographic information to wrap up. I would like to know more about the school that you taught at; you said it was in Denver, what type of students did you have?

I: I taught at REDACTED High School. The student body was somewhat small, about five-hundred students. Socio-economically, it was sort of like an inverted bell curve. You had people very rich, white, came from well to do families. Then you had other individuals there primarily on scholarship. They made up about 30 to 40% of the student base. They were mostly minorities, didn't come from families with a lot of resources, and were probably the very first generation in their families with a good shot at college.

C: Tell me more about the socio-economic status of the whole student body. If you tried to assign something like a reading on the internet when they got home, like homework, how many do you think would have the capability—hardware and knowledge—to be able to accomplish that task?

I: I would say that the majority of them, 2005 to 2007, would have the ability. You might have some problems with those on the left hand side of the inverted bell curve in terms of having the hardware, but there were programs at the school that would allow students to check out laptops.

C: And under this program, students could take these laptops home?

I: They could take them home, yes. But this was limited, we had about 3 or 4 for the entire student body.

C: Tell me more about the classroom environment; how many students were in the average class?

I: We're looking at about 15 to 20 students per class on average.

C: You taught multiple different classes; about how many students would you have as a whole per semester?

I: Oh… five classes, twenty students each, maybe around 100 students. But probably not all unique students, as there was some overlap, so maybe ninety unique students.

C: So, wrapping up, we've talked a lot about your ability to incorporate technology into the classroom, your comfort in doing so, and the ability of your students to interact with technology. If you could make one recommendation about how devices and applications could be used better in the classroom, what would it be?

I: My recommendation would be that there needs to be more of an emphasis on really integrating technology well with the curriculum. Too often people think that technology is the silver bullet and exposure will guarantee learning. Technology is not the silver bullet; it needs to be seamlessly integrated, and I think a lot of teachers don't know how to integrate technology, they utilize it as a virtual babysitter. I think that's a problem and that's a mistake. What needs to happen is that there needs to be close communication between publishers, people who design curriculums, and those that determine state standards. This way they can integrate technology. So an individual in an economics class can have an iPad and manipulate a supply and demand curve via touch as opposed to researching an economic news story and searching the internet for twenty minutes. There needs to be more content, more substance to promote academic achievement because without that I really see the status quo of what I experienced back in the 90s when I was in school perpetuating into the future.

C: I see. Well, that is the conclusion of the interview. Thank you for your time.

Teacher 4:

Background

1 4-year teaching experience

2 25 years old

3 biology physics computer programming

4 9-12 grade, 1.5hours classes, 4 classes each day

5 1)physics 2) computer programming 2) biology 9-10 graders 4) computer programming

Teachers and Technology:

1 Very comfortable of using laptop and computer. Use computer everyday, all day everyday.

2 No general tablet. Have a smart board interactive white board, which is connected with a tablet to write remotely.

3 No computer labs. Have laptops that students can borrow and return. With Microsoft office, python program, and vm ware.

4 reading related: read the website out to you

5 She thinks computer /laptops help to facilitate teaching, if students are focused. Otherwise, a lot of time students spends on Facebook which is not helpful.

6 Sometimes she will upload her powerpoint online and let the students preview them before her class. This is helpful

7 During lecture, students can use their computers, but she'll check them once in a while

8 Common teaching issue?

a Making sure that the assignment is difficult enough but not so difficult

b Keep students focused. They generally have only 20 minutes attention.

9 Students generally perform better in reading assignment than math. They are really good at reading things. (High reading level)

10 Students have difficulty when reading scientific terms instead of general terms

11 To help them get through reading scientific terms articles,

a She gives them practices (easier articles) to help them

b She talks a lot about current events

c Some of them are understood and were interested but some were not

12 She generally not providing feedback in electronic. Most are face-to-face, or papers back and then talk to them

13 She is comfortable of providing feedback electronically.

14 When students are doing assignments at home and they can contact teacher whenever they want.

15 In her classes, she assigns articles. They actually are not using text books. Every things are electronics.

16 Articles resources: scientific american magazine, from friends, other coworkers, or generally just look online

17 Students get "paper form" of articles. Not all students have computer, so she prints out.

18 She also posts articles on website and some students will download them and look at them there.

19 Her school pays attention on personalized learning. Each student will have to choose a way to show their knowledge. Students in different ability levels we will give them different requirements and encourage them toward a higher work.
20 Students do their research online. They use computers for typing assignment, for research, for making powerpoint, or for communicate with each other. They use dropbox, google drive and share back and forth.
Technology in Classroom

1 Students are very good at using the program but they are really bad at researching and searching online.
2 If you give students Microsoft Word, they know how to type or email something, But if you tell them to look this up, they don't know how to or what to do to find the answer.
3 If you give them a question, they will just go to yahoo.answer, and if there is no such questions, they stopped.
4 She uses electronic grading software like "sky world" keeping track of their attendance, their medical history, and their performance.
5 She also uses report card comment
6 She also uses spreadsheet to track student's progress. keep track of what questions of students keep having trouble with and then go back and reteach that topic.
7 She thinks some of them are challenging to use
8 She thinks incorporating with electronic devices is the future.
9 She thinks in order to make this become popular, we need more teachers to try it.
10 There are a lot of older teachers are not willing to learn it. They need to have trainings for older teachers how to use it and how useful it is
11 She thinks it is valuable to know some analytical information about students performance. It helps you change what you teach based on ability levels.
12 What would she like to know about the analysis?
a A graph of student's progress all the time.
b Specific skills that you can track from teachers to teachers.
i (Because students will be in class with lots of different teachers. While teachers are not always talk to each other about their skills. If it is online of part of the system, then I can review other teachers say and may inspire me. That helps teachers to share teaching skills with each other.)

Teacher 5:

Time: 1:40 PM –2:22 PM
Date: 22 February 2013

Interviewer (C): So, I've already given you the impetus behind the background and would like to begin with a few demographic questions if you don't mind. Now, I should never ask a woman her age but… if you'd be willing to share that information.

Interviewee (I): Um, in my 40s.

C: Okay, I'll take that. About how long have you been teaching?

I: I've been teaching full time for three years but I have been teaching part time since 2003.

C: Okay. What topic do you teach?

I: I'm a classroom teacher, general education, for fourth grade.

C: For fourth grade? So you teach a wide range of subjects; mainly everything but physical education?

I: I teach everything but physical education, music, media center, and art.

C: So just about everything else? Math, science, literature…

I: Yep. Math, science, poetry, writer's workshop.

C: So all the cool stuff then. Okay, could you tell me a little about your daily teaching routine?

I: We have math and our literacy block, which is writing and reading, every day. Depending on the day we have science, social sciences. We have poetry once a week, and specials (art, music, etc.) vary each day.

C: And those are the classes you don't teach.

I: That's correct, they leave my room at that point.

C: What hours do you work? When does class begin and end each day?

I: 8:48 AM to 3:42 PM, about six hours.

C: So about six hours, but not all of that time belongs to you; there's lunch, recess, special classes…

I: Right, there's lunch, recess, and a half hour to an hour and a half depending on the special class.

C: I see. So you only have one class you teach?

I: Yes, I only have one class this year. It's kind of low this year, about twenty children, but normally I have about twenty-seven.

C: Okay, great. I want to move away a bit from the demographics and go on towards you and your ability to interact with technology. So how comfortable are you using a computer?

I: Very, very comfortable. And compared to my peers while at SI I felt very inadequate with my computer skills—I was behind—but when I got to the workplace I was the authority. So, night and day, but I'm normally the go-to guy at school.

C: I guess SI trained you very well for the workplace, then?

I: I guess, yeah.

C: So what do you own personally? Computer, smart phone, iPad, anything like that?

I: My laptop is from work. I have an iPhone, an iPad, I have a Mac computer at home, AppleTV. Anything Apple we love.

C: That work computer you mentioned; is that Windows-based?

I: No, Apple.

C: Everything is Apple for you then?

I: Everything is basically Apple, yeah. I prefer Word, but I have to use Apple Works at school because that's what the kids use.

C: So how often do you use computers on a daily basis?

I: Every day.

C: Every day? About how many hours a day would you estimate?

I: Six hours. I use my laptop as my projector during lessons, so I show something off the internet or information from a database I have access to.

C: Neat, so how long have you had exposure to computers to? Ten years, twenty years, a long time?

I: A long time… ever since undergrad, which was in the 90s, so a long time—twenty years, maybe?

C: You mentioned you have an iPad, do you have a Kindle or any other type of eBook reader?

I: They're in our house; my daughters have Kindles but I don't use them, I use my iPad.

C: But you have used your iPad to read books, then?

I: Yes.

C: Then in your opinion, as an education professional, what are the differences between a paper book and reading electronically?

I: Being older, I think it's more tactile. It just doesn't feel like a book; using an eBook doesn't feel like a book, even though they try to mimic it. Having gone to school, reading on screen just feels more academic, it doesn't seem like leisurely, for me. But for my daughters, they read books on their Kindles all the time, so I'm sure it's going to be a different experience for them. We always go to bookstores and libraries all the time—my husband also graduated from the School of Information—so we're very much into books and libraries and all that.

C: So you believe there's some type of intrinsic value to actually having a physical book in your hands?

I: Yes, but that may be on the wayside with the new generation. The millennials may have a different experience. A lot of my students have iPads and Kindles at home that they talk about, and it's definitely out there.

C: So where you currently work, could you give me the school district?

I: Ann Arbor Public Schools.

Banter about growing up in Detroit

C: So you work at Ann Arbor Public Schools; how many computer labs are available at your school?

I: There's one physical computer lab and then we have two sets of laptop carts that can be wheeled into classrooms, about 35 laptops each, so we have about three computer labs if you count those.

C: Okay, what kind of devices are these? Are they all laptops, even the physical computer lab?

I: No, the stationary computer lab are desktops. But yeah, the carts are all laptops.

C: Okay, and all these devices are Windows-based? Apple-based?

I: Apple-based.

C: I should've guessed it being Ann Arbor.

I: Yeah, you get the school discount and all that, but yeah, it's an Apple school.

C: Okay; do you think that using these computers, these laptops, during class facilitates or impedes your teaching?

I: Um… at the elementary school level there's a really wide range with using a laptop or the programs on a laptop. The kids are really good at surfing through a browser, but when I tell them to bring up a browser they're like "what's that?" Come on, you use it all the time. Having them know the basics and the words and vocabulary that goes with it is difficult. Yes, this is a browser, you use it all the time, there are two types, we prefer this one but you can use the other if you'd like. Open a new tab, hit refresh; they don't know what it means, but they know how to do it.

So there's a lot of backpedaling to get them to understand the vocabulary, but they're used to doing it. So we don't get through the lesson as we have to get them to the basics first, but once we get them going it's a very rich experience. They're used to playing on a laptop, so once you gets the basics down it speeds up and gets a bit more efficient.

C: Okay, so do you experience any other problems, like keeping them on topic? Do they go off to YouTube or something like that?

I: There are some students that will do that; and of course we're all savvy about taking screenshots and sending it off to Mom and Dad. We have them sign a waiver that says if they misuse the technology they can't use the technology. Some students were suspended for misuse in the past.

C: When trying to incorporate this technology into the classroom you've already mentioned some common issues; the vocabulary, and to a lesser extent keeping them on topic. Are there any other common issues that you encounter when trying to incorporate technology in the classroom?

I: Um… no, not really. They're getting from the media specialist how to use the computers ethically. They're getting that, but it's just primarily the vocabulary and knowing how to use the computers and browsers and tab; that stuff is usually is the biggest hurdle. Oh, and keyboarding, this school doesn't have strong keyboarding.

C: Oh, typing classes?

I: They call it keyboarding, yeah. Other schools start it in Kindergarten.

C: Okay, so what are some solutions you've developed to try to handle these problems?

I: Well, it ends up being—thank god I have the laptop and projector—I just hook it up and show them, walking them through it. That circle-arrow means refresh, so Ms. REDACTED says 'refresh' and that's what you click. Things like that, it helps them get the vocabulary with what they're doing. Some things I'll post on the computer bulletin board and they'll get it and I'll say "go look at the bulletin board and if you have questions come back". But it still needs direct lessons to get them to understand the usability part.

C: Okay; how do you provide feedback to your students and parents? Beyond a report card, that is.

I: The way I communicate to the parents is through a weekly newsletter that is available in printed copy but also available online on my website, and then there's a million e-mails that are just constantly coming in and going out. I have a list of e-mails of parents; they'll send me questions they have, some that I can help and some that I can't. But there's a lot of communication.

C: So you do a lot of communication to parents through electronic means, then? You mentioned that you have a website; what kind of information do you keep on this website?

I: We have photo albums of all the events that we do with the kids—parties, field trips, so forth—which is hosted and password protected. There's a whole page of useful links like practice MEAP tests or if we're working on math there's links to multiplication tables or fractions or so forth. Fractions to percents, percents to decimals, and so forth.

C: Moving on to your children a little bit—er.. your classroom students, not your children per se—how do your students view reading in the classroom? Do they enjoy it, not like it that much?

I: We do the Fountas & Pinnell guided reading and so that they've been doing that since… forever. So they're very used to and comfortable with what to do. Some students are a little bit more… reluctant to read, but I usually find some topic that they're passionate about, and we focus on that topic for that child. It's normally informational or a novel or whatever. I don't know if it's Ann Arbor or not, but I usually have students that are reading too often. I have to tell them to put the book away and listen to the Spanish teacher, so, things like that.

C: Really? Spanish in fourth grade?

I: Yeah, it's part of the UofM program. They come in for about a half hour a week and give a little bit, it's not much but it's a UofM language program.

C: I see. You mentioned the Fountas & Pinnell reading program; could you expand on that a little?

I: Fountas & Pinnell, it's both reading and writing. You use real novels and books that the kids can recognize. Kids are leveled and you create small groups based on these levels. Then we assign them books that are appropriate for each; we rate them at PQR, so at Q then need to work on these skills, and at R they need to work on other skills, and so forth. And we also write about our reading, pull vocabulary from our reading; it's kind of like a cross-cirricular language arts program, but a lot of schools across the country use it.

C: Is this program digital in any way? Or is it all just hard copy with analog tests?

I: It's called benchmarking, which we use books that we don't keep in the reading library because they need to be fresh and new for testing, and students need to read them and answer questions. There's like ten questions about the text, beyond the text, and the author's purpose. How they answer determines their reading level. They also have to read aloud, but by the fourth grade they're normally pretty comfortable doing that. We really focus on the comprehension part.

C: I see. So how do you, as a fourth grade teacher, determine what books to assign to your students? Both textbooks and novels?

I: Well, textbooks are determined by the cirricullum, so that's what we get.

C: And that's determined by the state? Or some sort of board perhaps?

I: The Ann Arbor Public Schools determines that. But within that what I do is enhance my classroom library that will enhance the topics for my students. So I'll have a ton of informational stuff, so I have textbooks that support that. So when we have Friday Free Reads students will go to the library and pull this stuff out because it's short reading and stuff like that.

Within guided reading it depends upon the makeup; sometimes I'll do something like divide the class up into all boys and all girls, and for the boys I'll assign "The Red Wall" but the girls would have no interest in that so they'll get "The Babysitter's Club" or something like that. But then you have them go a little outside the box and have the girls do something informational about something gross and then end up liking it and you're like "See? Told ya. It's not just a boy thing". So it depends on the makeup of the group; if you do have a student that's a reluctant reader but he really likes to read a certain type of book you pull him along that certain genre to keep him going.

C: I see, so just so that I understand textbooks for the most part are determined by your school district; so textbooks in your class may not be the same book used to teach in a fourth grade class in Detroit?

I: Yep, that's right.

C: But past that you supplement those textbooks with your own choices; do you have to get permission or guidance when making those choices, or is it completely up to you?

I: It's entirely up to me what I want to put in my classroom library. I have to make sure it's age-appropriate and G-Rated, but usually most of my choices come from Scholastic and it's nice because they've already done the leveling for you; they'll level it by Fountas & Pinnell and by other metrics.

C: So it sounds like you do a lot of personalized reading then; you don't have anything where you assign the entire class "Cather in the Rye" or something like that. Do I have that right?

I: That's right; we normally go to a small group thing. Not everyone would probably be at a Cather in the Rye level. I have a number of students that aren't reading at the fourth

grade level that need to go to get external help, so when we break up they go work with the second grade level, and so forth. So we can't do like a blanket assigned reading across the whole class. So you would have to do something close to their level.

C: So one of my follow up questions is how students get access to the books you assign them; are they all held at your classroom library?

I: We have a classroom library that has one or two copies of each book, but what we also have is a reading room which has six copies of each. And that way you can have your smaller groups of five or less. So that's how you figure out who reads what and rotate books between the levels.

C: How often do you get new books for the library, reading room, for example?

I: My library? Probably too often. If parents order books for their kids online then I get a stipend of three dollars to spend, so it racks up. Then I go on a buying spree--$1.99? Whooo, I'll take that book, that book, and that book. So I get a lot, almost too many books. But for the book room that's a little more pricy because you need to buy six at a time. And with the common core you need to be a little more choosey, so a lot of our books for the reading room are more informational.

C: Next question would be do you have any strategy of personalized learning for your students? You mentioned something like that earlier—sending students to second-grade level teaching if they need assistance during reading times.

I: Yeah, students are leveled by the MWA—some people call it MAP—and we also get reading levels that way. And it also gives us a little bit of information about what parts of the reading experience they're struggling with.

C: And do you incorporate any type of technology beyond hard-copy books in this? Do you assign eBooks, online readings, or anything of that sort in order to try to bring your students back up to speed?

I: While the struggling program—the students are really far behind—we are using 'System 44' and 'Read 180', which are also through Scholastic. Some hate it, but I have students move back up—not rapidly—but they have moved back up using these programs. It's a little more computer based than what we normally do in the classroom.

C: You mentioned System 44 and Read 180; could you elaborate on those systems a little more?

I: Well, I don't teach that, so unfortunately I can't speak too much about it. But I'm sure you could learn a bit more about them doing some searches online. Read 180 is a Scholastic program for some struggling readers—but I also have some students that can't spell either, so that's where System 44 comes in.

C: Gotcha, I'll look into that. So, I want to talk a little bit more about your ability to incorporate technology into the classroom, if I could. How would you rate your students' experiences with devices, computers, and so forth? You mentioned a 'verbal disconnect' earlier.

I: Yeah, their experience with it is high. Students regularly come in talking about playing games at home, reading articles at home. I found a note, it was the sweetest thing, the custodian found it and it was a handwritten note with directions on how to change the skin for Minecraft. On your whatever, and I thought this was the cutest thing ever. So the students are proficient with technology, they're comfortable with technology, they want more exposure to it. They'll ask me if they can go on the computer and research so-and-so. The biggest hurdles is, well, number one is money, because we can't have a computer per person or an iPad per person, or even an iPad per table.

C: Do you have iPads in the school already?

I: No, ideally I would like an iPad for each table. You can't use them everyday, but I think it's a good tool for teamwork, because everyone can touch it, interact with it, and see it. Ideally I would love an iPad per table for kids to do group work with. Because with laptops they'll ask their neighbor for help and they'll turn their laptop and it should be more social than that. But I know my students have those things at home and they talk about it and they're comfortable with it, but the actual school doesn't use it as much as they probably should. Especially elementary.

C: What kind of devices do you incorporate into your teaching? You mentioned using your laptop and a projector?

I: I use my laptop for instructional purposes and project it onto a screen so as a class we can surf the internet together. For health, we analyzed advertisements about health so we went to a PBS site and we looked at it, answered questions—there was a quiz, so we did the quiz together as a class. So we explored websites and videos and whatever together as a class. I also use it to project the lesson for the day. We have three computers in the classroom that students can use at times. We do online math drilling, called Extra Math, so they get quicker on their easier computations such as addition, subtraction, multiplication, and division—this drilling thing gets them faster.

C: These computers you mentioned that are in the classroom—they're laptops?

I: They're desktops. So there's three—depending on how many students are in your class, it's about seven to one. Because there's only three you have to sort of rotate through and each student doesn't get as much time as they probably should.

C: Okay, so you did mention that your school has one standing computer lab. How often do you use it as a class?

I: Um, I know for their media center they use it a lot with the librarian and they do things in there. There's a sign up sheet and it fills up pretty quickly. It does get used a lot, but I normally sign up for laptop carts to come in, because they normally forget to bring their

notebooks and stuff to the lab so they have to go back and get them. With the laptop carts everything's right there already.

C: And there's enough for your entire class?

I: Yes.

C: Okay, how often do you estimate that bring these laptops into your classroom?

I: I bring them in about once a week, at least. If not more.

C: You mentioned multiple systems earlier that are used to measure your student's reading level; how often does this occur?

I: The SRI, Scholastic Reading Index, is once a year. The MAP is three times a year. We also have the MEAP once a year that measures reading. And then we do benchmarks four times a year.

C: So what kind of applications do you use when you do bring computers into your classroom?

I: Lots of word processing, so we use the AppleWorks for their writing workshops. We do research—for February we're studying African American history so they have to create biography trading cards, so they had to research different events or historical figures, so we visit certain kid-safe websites.

C: So you're using a browser application for this, then.

I: Yep. Then that's pretty much it, the word processing and browsers.

C: What do you see as the role of incorporating technology and devices in the classroom of the future? Do you think it's valuable, do you think we're going too far with technology?

I: Oh, not too far. I think it's a necessity. I think that's where this generation is going—this class grew up with laptops and computers. It's funny talking to them and telling them that "when I was your age, there was no internet" and they're like "what?!" So they're just used to the internet and having information at their fingertips and being able to communicate with their friends. They laugh when I tell them that phones used to be on the wall and they were attached to cords and they're like "that's funny" and I'm thinking no, really. And I think in time schools will be much more invested in technology.

C: Taking that one step further, then, and focusing on eBooks and electronic reading, do you see that being valuable in the classroom environment in the future?

I: I think it should be taught because you do more reading online either on your laptop or phone, and an eReader just have different skills. How do you turn the page, how to zoom in or zoom out, some applications are different, and all those things are different. You need to get the basics taught so you can work with them later on. I think teaching it would be necessary.

C: Okay, so then hypothetically let's say your principal or super-intendant came down tomorrow and said "Hey, we're going to incorporate eBooks into your curriculum instead of this library and reading room you have", would you be comfortable with that?

I: Um, well, the reality is that they don't have rights to all the books that we already have. But many of the books we already possess have pre-defined lessons already and keywords and key lessons, so I know you don't have rights to all of them, so the reality is that you'd have to keep the book room and you'd have to bring in eReaders.

C: But you'd be comfortable trying to incorporate eReaders?

I: Oh yeah, absolutely.

C: What about your peers, though? Do you think they'd be up for it?

I: My peers? Well, some of the older teachers would be like "What? Why? We've always done it this way…" and so on. Primarily with the Lower-L. It's also a money thing, I'm worried the kids would drop it. It's going to drop and it's going to break. Until it gets cheaper, you'd have to consider that. Books get trashed when they use books, so if you give them eReaders they're going to get trashed too. They'll drop them, spill stuff on them. The reality is that the Lower-L teachers would be like "Yeah, no, I'll stick to paper books for now, thanks."

C: Now when you say Lower-L, you're talking about grades, 1, 2?

I: K thru 2. Upper-L is 3, 4, and 5.

C: Could you tell me a little bit more about the technological literacy of students in your classroom? You mentioned they're very comfortable with…

I: They're very comfortable, eager, and not afraid of the computers. They know how to use it but they don't know they know how to use it. For example, the other day I was teaching adverbs and I asked for examples and they didn't know, but I gave them some examples and they're all like "Oh, yeah, I know adverbs!" Yeah, I know you know adverbs, you just didn't know it. And technology is the same way. They know, click this button and this happens, but they don't know that this is called the refresh button, this is the back button, this button makes a new tab. It's intuitive for them, and they know it, but they don't know they know it.

C: What about accessibility, though? If you sent your students home with homework saying that hey, I need you to go home and look up X on Wikipedia, or do some research on Y and Z, would they be able to do that?

I: Right now we can't do that because we can't assume that everyone has a computer at home. Some families fall under certain demographics where we can't assume. But I do get some families send me e-mails saying that their printer is broken and we can't print it out at home, can we print it at school? So I know that families have technology, but we just can't assume—they may have an iPad, but they don't have a printer, and so on.

C: If you had to make an estimation though, how many would have access to the internet via a tablet, laptop, against those that do not, what do you think it would be?

I: Um… I would say, maybe 90% I know would have printers and all that stuff. And the others just have an iPad or smart phone or something like that.

C: I see. Are there any school programs or anything like that that would be able to provide access to technology for these ten percent?

I: Not right now, not that I know of.

C: By the by, you mentioned a 'media specialist' a couple times during the interview. What is that specifically?

I: It's the librarian, they call it the media specialist because they also handle administering the computers.

C: So a couple more questions. Would it be valuable for you to know analytical information about your students' reading performances?

I: Yes, that's what education is about these days, analytics.

C: It's all big-data driven then?

I: Yep.

C: So if you knew how many minutes your students spent on a page, or something like that, that would be valuable to you?

I: That would be valuable because when they turned in their eReader at the end of guided reading you could say "Hmmm… you looked like you were reading, but you were just staring at the page because you were on this page for ten minutes." So that would be valuable to see because it could help understand if they're using their reading time appropriately. It can be hard to tell, because one of our first lessons is What a Good Reader Looks Like.

So that would be helpful because we have this data and it says you're not reading or struggling, what can we do to fix this? So it could be helpful but… I don't know, I'd have to see if reading rate and comprehension were the same and it also depends on understanding. So what if a second grader can read Harry Potter if they don't understand it? Do they understand this behind it? Can they tell you about it? Just because you can flip the page and read it out loud doesn't mean you're understanding it.

C: So in this example then what if you could incorporate questions into the readings to try to test their understanding or comprehension? Would that be useful?

I: Yeah, that would definitely be helpful.

C: Going back to analytical information though, what kind of information would you think would be most helpful to your teaching?

I: Um… comprehension is the biggest one because that's what they're tested on. Comprehension within the text, beyond the text—what the character feels, why you think the character acted this way. Author's purpose for writing the book, why did the author choose to use penguins in this book? Because they like them? No, that's not the answer, this book was about adaptation and all that. So questions that would help them on the test, I guess—which is kind of sad.

C: Is that what reading in school has become? Teaching to the test?

I: It feels like it, yeah. I try to keep it for enjoyment—I'm a huge Harry Potter fan, so my kids are immersed in it. And we try to show it's fun, so we do things with mythology and trying to spot it in Harry Potter so the kids are like "Oh, that's where the three headed dog comes from!"

C: Oh, and that's what Gryffindor means and all that.

I: Yep, I've separated them into houses and we have house points and all that. And we them playing in a Quidditch team next Friday.

Banter about Harry Potter & UofM Quidditch

I: So, I try to make reading fun. This year I have a student who is really into astronomy. So I found him a few astronomy books and we've been talking about movies and all that and he's been getting into it, so I try to make it fun. The curriculum side, not so much.

C: Seems like you have a good handle on it; but if you had to estimate, how many students do you think read because they enjoy it, compared to those that are doing it simply because you're forcing them to do it?

I: I think Ann Arbor is very unique because it's such an academic environment and students enjoy reading, it's not that hard. Once you find an area of interest for a kid you start throwing books at them or pulling them into the book room, or hook them up with another teacher that likes that kind of stuff. It's not that hard to get them into it.

I had one student who thought reading was stupid until I introduced him into this series called Fudge, and he loved them. His mom later contacted me and said "Oh my god, I can't believe he asked me to go to the book store with him to buy more Fudge books". But there are so many good authors out now that it's not hard to get kids interested in reading, finding something they like. You just try to find a genre.

C: Okay, so just to wrap up real quick, we talked quite a bit about your ability to incorporate technology into the classroom, your comfort with it, and your students' comfort as well—if you could make one recommendation that devices and applications could be used in the classroom, what would it be? Kind of open-ended.

I: Just get them into the classroom. If there was a way to get them into the classroom the kids would be excited to use it, and that's half the battle. The problem is where you get the money to bring them in and the time to train the teachers to use them effectively and things like that. But, um, I think it's necessary because I think there should be eReaders and technology in school because that's part of the path—you're going to be reading electronically for the rest of your lives.

C: So it sounds like the will is there, just the money isn't?

I: Yep, it's always the money.

C: Okay. Well, that is the conclusion of the interview, thanks for your time.