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Blue Collar Literacy: Using Situated Literacy To Build A Curriculum In Support Of Vocational Education

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BLUE COLLAR LITERACY: USING SITUATED LITERACY TO BUILD A
CURRICULUM IN SUPPORT OF VOCATIONAL EDUCATION

by

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A capstone submitted in partial fulfillment of the requirements
for the degree of Master of Arts in Literacy Education.

Hamline University

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To NP

Without you, I would have never seen the changes that needed to be made.

To my students

I want to make the world a better place for you. I hope this is a step in the right direction.

To Abel, Tev, and Juliette (and all future children in my family)

Making the educational world a place where you can pursue whatever dream God has laid on your hearts is my goal. I pray that this will encourage you to not just do it because people say it's right, but to do it because you know it's right.

To Dad and Mom

Thanks for being an inspiration and an encouragement throughout this process. Dad, thanks for affirming that my notions were right on. Mom, thanks for being my biggest cheerleader.

“Thus it is that those teachers who do work diligently at the breadth between the academic and the vocational are engaged in a kind of applied political philosophy. They challenge the culture’s assumptions about hand and brain, and the rigid system of educational theory and method that emerged from them, making the schoolhouse more truly democratic by honoring the fundamental intelligence of a broad range of human activity.”

--Mike Rose, *The Mind at Work*

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CHAPTER ONE

Introduction

Writing is hard. As an English major and teacher, I have written many essays, each a different structure and topic. However, I have always found the process of writing hard. Once I start putting words on the page, they tend to flow, but the process leading up to that, the desire to get the words right even before I sit down and type, can be debilitating. Additionally, reading can be hard, though not necessarily the task of reading (comprehension or decoding) but reading a book or short story or essay that is not of your own choosing. In life, I have watched people reject reading of that sort and have done it myself. Therefore, if writing and reading can be challenging for an English major with years of experience, it is no wonder that students often claim the same things, and even more so, if their passions in life do not fall in English class.

Looking at the trends in United States' education, one can see that 4-year liberal-arts bound students are a priority. Though many would argue that college is defined as all post-secondary work, the implication in most schools is that a liberal arts education at a university is truly college. Schools emphasize this through mandated standardized tests that determine college acceptance; liberal-arts focused courses; and options of levels which point to a university education, such as honors/advanced, Advanced Placement, College in Schools. With all this emphasis on these types of advancements, there are students who slip through the cracks: students looking to do

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technical work. These students need to have a base for their own future, which is not necessarily the future current American high schools are preparing them for. These students need skills that are not presented in the general classroom, specifically in light of literacy. Literacy is defined as the ability to read and write, but it can be considered the ability to communicate in all forms. These vocationally-inclined students need situated literacy: literacy that is placed in a specific context such as medical literacy, culinary literacy, or mechanical literacy. These literacy skills in comparison to what a university requires are vastly different, and therefore the question must be: *through projects founded in situated literacy, how can high schools give vocationally-inclined students the literacy skills they need in their chosen field?*

Though there is nothing wrong with the idea of college-readiness and getting a four-year degree, some students do not fit into this category. They stumble around high school, trying to understand the expectations and how they relate to their own lives. Most of the time they decide that school is not for them, and they retreat. Simply put, United States schools are alienating students who will become the backbone of our society: skilled workers.

Personal Connection

“I hated English in school, and look at me now,” my father laughed, “Both my children grew up to be English majors.” I have heard this from my father on many occasions, and though it seems flippant, I understand now where he is coming from. When I was a child, all I did was read. I would read books of every shape and size, and I

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prided myself in the fact that I never abandoned a book (though that has since changed). I never really understood how someone could dislike reading.

I grew up in a blue-collar family. My dad has two technical degrees: automotive mechanics and toolmaking. He's incredibly intelligent; he could have been an architect or an engineer, but he grew up in a small town during the late 1960s and had limited opportunities. He has always loved cars and working with his hands and hated English. He thinks it's hilarious that both my brother and I became English majors in our undergraduate studies. Because of my father's work, and both my grandfathers before him, my heart has always been a little blue-collar.

Growing up, most of my friends liked to read, so it took until I started teaching high school English to see apathy toward reading. Students would often admit to me that they did not like reading, that they did not finish the book we were reading in class, that they had not finished a book in years. I struggled with this; I had never realized that the task of reading could truly be a challenge. The only difficulty that I encountered in my youth was the time-consuming nature of the task. However, the more I listened to my students and discussed this with my father who disliked English class, the more I realized that maybe I was wrong. Reading could be hard and not only because of the lack of skills or comprehension, but also because of the lack of motivation or connection to the text.

After three years of battling the reading apathy of my students, I finally confronted it head on. I started to see that if I just listened to a student's passion, he or she would be more motivated to listen to mine. So I started to listen. Students in my classes were very honest about "hating" English class. Their passions lay with trucks and

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metalworking rather than reading the *Declaration of Independence* or Ralph Waldo Emerson. They preferred mudding on the weekend to reading poetry. They would excitedly tell me about catalytic converters when all I really wanted them to do was research a famous author. As I listened to them, the wheels began to turn in my head and my heart. These students were passionate, and though traditional academics were not for them, they had an intelligence that was different than anything I had.

These students are those who participate in my American Literature course but don't need the literary analysis skills that I attempt to teach them. Their education does not need to be geared toward a liberal arts post-secondary ideal; they need more practical knowledge: manuals and blueprints and reports and computer code. As I discussed my emerging ideas with my father, he affirmed the fact that technical fields are dependent on reading comprehension. If a tool designer cannot create an intelligible design, even the best toolmaker will not be able to understand it. If an auto-mechanic cannot read a manual, it is unlikely that the car will be fixed efficiently. If a carpenter cannot decipher what a blueprint is telling him, the house he builds will be structurally unsound. If these people were given tools earlier, say in high school, it could be possible to stem the tide of underprepared individuals in these fields. It would also provide the students whose passions lie elsewhere a feeling of success in a literacy-based classroom.

Often students who are more mechanically- or technically-inclined struggle with the traditional structure of school. Courses which are more dependent on reading and writing or lecture tend to lose students such as these. They need a more kinesthetic, or physical and hands-on, learning environment. Therefore, when they look at their grades,

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their GPA, or their desire for knowledge (or lack thereof), they believe themselves to be unintelligent. They often give up because none of this feels right for them.

As I examine this, I can't help but feel disheartened. These students feel undervalued and underappreciated. I want to remind and show them that technical college is valid and encouraged. In our current culture, college-knowledge is important; students are encouraged to look at schools and prepare for college, but often the post-secondary option feels limited to a four-year university. Students who want to go to a technical college are often looked down upon. "Blue collar" is not the current American Dream; generations of technology have transformed what work is in our society. I want to show students that if they are passionate about technical fields, their passion is good.

After staring down the nose of this issue for a few months, a question started turning in my head: how could I help change the culture of my school to encourage literacy in Industrial Technology Education classes? The idea began to grow from there, evolving into the question, *through projects founded in situated literacy, how can high schools give vocationally-inclined students the literacy skills they need in their chosen field?*

To answer this question, I will build a project that could potentially change the way school looks to these students. My goal is to change school for these students with embedded kinesthetic literacy projects that will better serve their needs.

Summary

I teach American Literature. I teach poetry and literary analysis. However, some of my students neither need these skills nor care about them; what they truly need is a

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pragmatic education that can help them achieve their particular goals for life. That means that they might not need what America considers to be a classical education. They require a class that is geared toward teaching them enhanced technical comprehension. They might need instruction that integrates comprehension strategies to read a blueprint or a manual and also how on how to read a YouTube video or audio instructions and be able to apply it to the small gas engine or chair they are building in front of them.

Throughout this curriculum process, I will be attempting to answer the question: *through projects founded in situated literacy, how can high schools give vocationally-inclined students the literacy skills they need in their chosen field?*

Chapter two will discuss research that has previously been done on the job market, the state of education (college-for-all culture), technical reading, situated literacy, and curriculum writing. Chapter three discusses the methods used to create this curriculum and the theories that it will be based in. After the curriculum is completed, chapter four focuses on the realities of the curriculum, how it was created and how it can be implemented. Chapter five revisits the most important findings of the curriculum development and discusses the changes that need to be made to better serve students interested in technical careers.

CHAPTER TWO

Literature Review

Students who are inclined toward Technical Education tend to have specific literacy needs, and because they are more kinesthetic or hands-on, teachers need to approach their learning in specific ways. In an examination of literacy and vocational education, one needs to look at many different criteria. Not only is it important to understand technical literacy, but also it is important to focus on engineering literacy, current technical literacy curricula (STEM, CEMS, etc.), and kinesthetic learning styles. In an examination of the question *through projects founded in situated literacy, how can high schools give vocationally-inclined students the literacy skills they need in their chosen field?*, I research each of these topics in kind: job market, the state of current education, kinesthetic learning styles, and situated and technical literacy. Additionally, I look into curriculum writing and how to create a class for these specific students to meet their specific comprehension needs.

Job Market

In our current society, the United States has been pushing students to become more focused on their job future. They are to go to a four-year university, get a money-making degree, and try to find a job. However, this isn't always the reality for many students. They are successful in getting a degree, but they are unable to get the job they desire.

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What if we encouraged students to do something different? Our world is changing again, as it does with the changing of the generations, and this time, it has to do with our workforce. The Baby Boomers (those born between 1946-1964) are soon entering retirement. As Edward Gordan writes in *The 2010 Meltdown*, during the next 18 years there will be a significant decrease in the workforce with 70 million exiting and only 40 million workers entering (as cited in Howlett, 2008, para. 6). When these people entered the workforce, the massive influx of workers was beneficial, but as they retire, the United States is facing a crisis.

Some may say that we should look to technology to fill those gaps, and many companies have increased their automation to accomplish this (DePass, 2016, para. 17). However, technology cannot do everything a human can do. Matthew B. Crawford, in his book *Shop Class as Soulcraft* (2009), writes,

Our ability to make good judgments is holistic in character, and arises from repeated confrontations with real things: comprehensive entities that are grasped all at once, in a manner that may be incapable of explicit articulation. This tacit dimension of knowledge puts limits on the reduction of jobs to rule following. (p. 169).

Humans have knowledge that a machine cannot gain: wisdom. As people encounter conflict or issues in their working, they are able to make decisions based on past experience. A machine is unable to do that. Crawford (2009) also writes, “Practical know-how...is always tied to the experience of a particular person. It can’t be downloaded, it can only be lived” (p. 162). Therefore, jobs cannot be relegated to

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machines but need to have people who are trained and have experience to complete the tasks well.

We need to start there and encourage our students to consider filling the skills gap. Mike Rowe (n.d.), host of *Dirty Jobs* and *Someone's Gotta Do It* as well as founder of the mikeroweWORKS, writes, "Right now, according to the Bureau of Labor Statistics, nearly 3,000,000 jobs are available for those who are willing to learn a skill that's in demand" (para. 5). With millions of jobs up for grabs, our students have more opportunities than ever; they just need to know of the possibilities and be provided with appropriate training and preparation.

To fill those jobs and encourage our students to become more vocationally, or blue-collar, minded, education needs to return to the programs of the past. Vocational education, which has morphed and changed over the last 100 years, needs to be reexamined to give students more options for their futures. To repopularize traditional "shop classes" cannot be the sole goal, but they need to be updated to reflect new technology. Mike Rose (2016), author of the article "Vocational education and the new world of work," writes that educators are dissatisfied with the the state of academic curriculum. They state that "the wide variety of student interests and aptitudes" is not served by the current curriculum (p. 96). To make these vocational classes applicable and relevant to students, teachers need to be willing to revamp their curriculum to reflect new technologies and roles within the manufacturing markets. By integrating autonomy and Makerspaces or Fabrication Labs into schools, most schools are becoming more equipped to be able to do this well. All students need to be encouraged to see the value in

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blue collar positions, which can earn more money annually than white collar positions at the outset (Rose, 2016, p. 96).

When looking at the coming deficit in technical workers (Howlett, 2008), the push in education needs to swing the pendulum back in the direction of vocational education. Schools consistently push the “college-for-all” mantra, but if educators were realistic about the state of the economy and the workforce, they would see that a different sort of postsecondary education such as trade school or technical school might be the best for those more technically inclined (Hoffman, 2011, p. 6). Society often takes the “physical and technological infrastructure upon which everyone relies” for granted (Gordan as cited in Howlett, 2008, para. 6). Without the linemen, toolmakers, and auto mechanics, most people would have a difficult time in life, and our society would live in a world that was more dark, less convenient, and much slower.

Job Market in Minnesota

In April of 2016, the Minneapolis *Star Tribune* published an article addressing the difficulties being faced by manufacturing companies. The article’s author, Dee DePass (2016), interviewed CEOs at Minnesota Department of Employment and Economic Development (DEED) to discuss the specifics of the issue within the state. Each of these people emphasized the skills gap that is not only approaching but is already evident in Minnesota manufacturing. Since “...25 percent of manufacturing jobs in Minnesota...held by people over age 55” (DePass, 2016, para. 12), the difficulty filling these jobs will only get worse over the next few years.

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Multiple different companies have added benefits, increased wages, even built housing or daycare centers to draw in more workers. Because over 26 percent of their workforce is nearing retirement age, Alexandra Industries, an aluminum extrusion plant, had to find a draw to attract new workers: “So the company scrambled to add 60 workers and is now converting part of a strip shopping mall into a \$300,000 employee health clinic one block from its aluminum extrusion plant. It is also paying workers’ tuition for degrees in engineering and machine tooling and automation” (DePass, 2016, para. 3). Not only did they add the health clinic, but also they are paying for their employees’ educations to ensure the quality of their workers. These benefits show that companies are willing to spend more money to draw more workers to blue collar positions to fill the deficit.

Additionally, wages are increasing in manufacturing to entice young people to work for these companies. Starting wages can be significantly higher than many jobs that require four-year degrees: the Minnesota Department of Employment and Economic Development (DEED) has declared in recent reports that people in manufacturing industries are making \$10,000 to \$15,000 more than people in other jobs (DePass, 2016, para. 9). However, the American perception of blue-collar work being “lesser” is still prevalent. This mentality affects the industry, as fewer people want to go into “dirty” work (DePass, 2016, para. 10).

This misguided aversion to manufacturing work is harming the economy within Minnesota and will continue to be a problem unless educators see the value of blue-collar

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work and encourage students who are passionate about hands-on work to pursue it. We need to inspire a culture shift.

State of Education

The crux of the gap in job market stems from the values that are presented in society and in education. Most recently, the focus has been a “college-for-all” goal (Hoffman, 2011, p. 6), and though college is often defined as education beyond high school that results in a certification, license or degree, students’ perception is that true “college” is being a four-year university.

Mike Rowe has become an advocate for, as he puts it, “jobs that actually exist.” He has spent time with the people who do these jobs: welders, farmers, sewer maintenance men, etc., and he has done his research. Looking at the state of education, Rowe (2016) states, “The skills gap is real, but it’s not a problem — it’s a symptom of what we value” (para. 5). The values that are instilled in students at a young age differ greatly from those of their parents or grandparents. Instead of valuing hard work and work ethic, students now value the idea of “following their dreams” and “making a lot of money.” Generally, they believe that pursuing a blue-collar position will not allow them to achieve these: “Because We the People have convinced an entire generation that a whole category of critical vocations are simply not worth pursuing” (Rowe, 2016, para. 2). Not only is there a job deficit in the United States, but there also is a problem with the values that are held.

As the skills gap becomes more prevalent in American society, educators need to instill values in their students that return to the values of our ancestors. However, this

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shift must be not just in word, but also in deed. Without this pedagogical switch, “[we] will continue to take good ideas and squander them, dumb them down, trivialize them, for the beliefs about intelligence and the social order that underlie a curriculum are as important as the content of the curriculum itself” (Rose, 2004, p. 194). One cannot just suggest that technical or trade school is a viable option; one must prove it through a modification of the current curriculum. Students need to see that the ideals of the culture are changing not just for the moment, but for the better of the community in the long run.

Focus on the Liberal Arts and the Caste System of Schools

In the current school system, priorities have evolved to now have a liberal arts focus. Students are placed in core classes that do not allow them much choice. All students read Shakespeare, study physics, even struggle through Probability and Statistics. Mike Rose, an expert in educational success and literacy, discusses the liberal ideal: “Related to the academic/vocational divide in higher education is the ‘liberal ideal,’ which enshrines the study of liberal arts for their own sake, separate from any connection to the world of work, crafts and trades, and commerce” (Rose, 2016, p. 100). This more liberal arts focus alienates those students who are drawn to hands-on work. The educational priority establishes the idea that all students need to have the same education, which has a liberal focus, instead of allowing them to explore other options for their future.

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Remedial Classes and the Damage They Can Do

The vast majority of students who do not fit this liberal arts ideal, whose passions and joy come in a different realm of thought, are often mistaken for less intelligent and placed in remedial classes. Rose (2016) describes,

[There is a] the long-standing divide in the American school curriculum between the “academic” and “vocational” courses of study, a distinction institutionalized in the early-twentieth-century high school. The vocational curriculum prepared students for the world of work, usually blue- or pink-collar work, while the academic curriculum emphasized the arts and science and the cultivation of intellectual life. The separation contributed to the formation of a caste system within the school—“social predestination,” in the words of John Dewey.

(p.99-100).

This “caste system,” as Rose calls it, is a plague upon schools. We eliminate student’s ability to find joy in school when we treat them as one entity and define their value by their ability to learn in one mandated way. However, when the focus of students’ lives isn’t what society deems productive, it is assumed that they are unintelligent, thus put in a lower “caste.” They are often labeled with terms such as “handicapped,” “disabled,” or “defective,” as if the issues that they face with academic learning can be “targeted and treated...diagnosed and surgically removed” (Rose, 2012, p. 123). With these labels students believe they are not able to perform the tasks set before them (Darvin, 2006, p. 399). Students are no longer respected as an individual with many talents and a “wide base of knowledge and complex mechanisms for learning” (Martin, 2012, p. 369).

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Because this perception is widely accepted, students often allow themselves to sink into apathy. They begin to believe the lies that they are unable to do the work. The liberal arts focus washes over them, and they allow themselves to be dragged along. They do not fight to stay afloat but accept the way they sink.. Freire (1993), who was a leading advocate for critical pedagogy (a politically based theory of education denying the neutrality of knowledge), claims that these students feel as though they do not truly know anything, that they are incapable of learning: “Almost never do they realize that they, too, ‘know things’ they have learned in their relations with the world and with other women and men. Given the circumstances which have produced their duality, it is only natural that they distrust themselves” (p. 63). The distrust that results manifests itself in defiant aggression and/or apathetic passivity. Educators often see these issues as behavioral, when the true culprit is the student’s lack of confidence in his/her own learning (Freire, 1993, p. 64).

Constructing remedial courses intended to simplify learning actually wrenches the learning away from the process of embodied learning that these students require. Students with hands-on tendencies cannot have courses that are separated from the kinesthetic. Often vocational students learn a task that might seem to be automatic, but the learning (math or literacy) cannot be separated out from the physical task at hand: “It’s hard to know where to mark the Cartesian separation between body and mind. Touch and concept blend in activity” (Rose, 2012, p. 132). Students of remedial courses are at a loss when they are placed into courses that truly separate out the learning from the practical application. Crawford (2009) writes, “The current educational regime is based on a

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certain view about what kind of knowledge is important: ‘knowing that,’ as opposed to ‘knowing how’” (p. 161). By allowing students to have practical knowledge instead of theoretical knowledge, educators can enable them to “know how” to do apply their knowledge. Students need to be given the tools to use and the space to use them to truly embody and fulfill the learning that needs to happen.

Additionally, remedial classes usually diminish the rigor of reading needed for vocational education. Students, though they are being “remediated,” therefore remain woefully unprepared for the reading tasks that will be set before them:

If, however, reading programs within vocational education are established, Thornton identifies five categories into which they might fall...student referral to a reading specialist for remediation; English courses offered in prevocational programs or in conjunction with vocational programs; modified vocational curricula with reduced reading requirements; reading instruction provided by vocational educators; and reading as an activity only marginally related to the vocational program. (O’Donnell, 1982, p. 476)

This continuum of reading practices is able to provide reading instruction in variety of ways. However, the courses with embedded reading requirements will be most beneficial to students. When the curriculum uses only minimal amounts of reading, the comprehension skills that are supposedly being bolstered are actually waning. Students are suffering more due to the lack of instruction on these difficult tasks. In this case, remedial education is more detrimental than beneficial.

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Why Change Needs to Happen

Vocational education has the ability to change all of this for students. Because the perception can too often be that “anything short of a four-year degree will lead to some sort of vocational consolation prize” (Rowe, 2016, para. 3), educators need to start changing the values of education. The focus needs to be on creating a stronger, more authentic curriculum, one that is truly about meeting the needs of students who do not fit into the four-year-university bubble. Vocational education or skill classes help support students in their goal of graduation by providing the structure students need: “A study done by James Kulik noted that high-risk students are eight to 10 times less likely to drop out in the 11th and 12th grades if they enroll in a career/technical program rather than a general program” (Howlett, 2008, para. 12). This massively important statistic shows the true benefits of vocational education in creating successful students, and not only does this help students, but also it allows the educational system to be more successful as a whole.

As the drawbacks of remedial education and a liberal arts focus become more apparent, society needs to realize that real, lived experience is much more important for many of our students. Crawford (2009) writes, “Heidegger famously noted that the way we come to know a hammer is not by *staring* at it, but by grabbing hold of it and using it” (p.164). Theoretical education does have its merits, but not all students are passionate about theory in literature, calculus, or politics. Education rooted in lived experience can allow students to be more open to the greater world: “Pedagogical strategy should ensure that students relate to a subject with lived experience and learn something that is clearly

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situated in their larger understanding of the world” (Martin, 2012, p. 370). The goal of education is not to give students all the same experience; each student approaches life in a different way, and by giving each of them the ability to concretely connect their learning to the world at large, educators can provide students with the tools to live life successfully.

However, there are some problems when vocational practice eliminates *all* theory from its pedagogy and only focus on concrete skills. When the focus is so hands-on, students risk getting an education that stunts intellectual development (Rose, 2016, p. 100). Though the concrete experiences of vocational work are essential for these students, educators need to be intentional about cultivating a student’s critical thinking skills as well. By creating vocational education that uses true authentic readings and materials, one can create an education that is rigorous and challenging. These courses are not meant to be “easy” in nature; they are meant to be rigorous in a way that inspires students to keep working hard. When vocational education starts to fall into the stereotype that society has created for it (the idea that it is remedial), the battle for this type of education will be lost.

Theoretical education and vocational education both have their merits, and when the best ideas of vocational education and traditional, theoretical education can be married, true learning will flourish. Tom Martin (2012), the organizer of Youth Mechanics in London, writes:

Great learning opportunities exist in parallel learning: alternately learning through motor cognition and learning through language, both of which are avenues to a

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more primary process of analysis. The workshop environment allows for learning in both ways, and excitingly, translation between the two, its own generative learning enterprise. (p. 371)

To really be able to achieve this sort of education, the United States needs to start to see the benefits of vocational education or a hybrid such as STEM (Science, Technology, Engineering, and Mathematics) or STEAM which adds the arts component.

If vocational education can begin to root in our current educational system, the benefits could be astronomical. Not only would it create a more motivated graduating class, but it would also create new pedagogy:

A new model of education should engage the student as both a participant and a leader; it should acknowledge the manifold, complicated ways in which people learn; and it should ignore outdated and disrespectful pedagogical methods that stem from institutions metric for fitting students into simple, manipulable forms, some of which require remediation from their damaged state. (Martin, 2012, p. 370)

By looking at the various ways that students learn, and by encouraging their differences, education could rise above the defective state in which it finds itself.

New ideas are always intimidating, but when there is tried and true evidence that substantiates the construction, one can feel reassured. Looking at STEM, CEMS, STEAM, and CTE programs currently in schools will help educators glean ideas for new vocationally-based curricula. Rose (2016) writes, “These reconsiderations will require a philosophy of education that has at its core a bountiful definition of intelligence and that

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honors multiple kinds of knowledge and advances the humanistic, aesthetic, and ethical dimensions of an occupational as well as more traditional academic course of study” (p. 102). Through the blending of traditional academics of literacy, politics, and sociology, with hands-on education, educators can create a well-rounded education that will meet the needs of many, if not all, students (Rose, 2016, p. 102).

While “platitudes of uniqueness” are often espoused (you are unique; you are special; you are one in a million; no one is like you), education has been deluded to standardizing students’ experience. White and Siegel (1984) state:

“A school, like a train, is a social convenience that allows a number of people to move from different points of origin to unique destinations. One does not ordinarily think of people on a train as going through a standardized travel experience. It is a mistake to think of children as going through a standardized sequence of cognitive development.” (as cited in Darwin, 2006, p. 399)

All students grow and mature at a different rate. It is to their detriment that education forces them into a grade level and expects them all to act the same. The standardization of education goes against the messages that they have been getting since they were little. The conflicting messages being sent to students forces them to see the world in as a dichotomy in many ways.

Learning Styles

To be able to provide the best education possible to the most students, educators must look at the learning styles of the students in front of them. A person’s learning style is the way in which they interpret and retain information the most efficiently. There are

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several different learning styles that students adhere to including (but not limited to) auditory, literary, kinesthetic (physical), and visual.

Both educators and students have biases to their teaching or learning style (respectively). When an educator is able to recognize which the learning style dominates his or her students gravitate toward, he or she can do a much better job of teaching those students. Bastable (2008) states that when information is relayed in a way that takes into account students' learning styles, understanding is elevated thus increasing the retention of that information at an abstract level (as cited in Katsioloudis & Fantz, 2012, para. 2). Addressing learning styles not only allows students to learn new concepts better, but it also provides them with the ability to retain the information for later application. By providing different activities that enable students to learn in their own way, a teacher can construct a more successful class.

If this is true, then educators need to allow students who are interested in vocational education to use their preferred learning styles as well. A research study done by Katsioloudis and Fantz (2012) discovered that students involved in Industrial Technology and Technology Education were more likely to prefer the kinesthetic or visual learning styles: "This study showed that while there was some variation within majors, the overall dominant learning style in the materials process course was the kinesthetic style" (para. 15). Though this is not surprising, it is beneficial to know that students in this position tend to relate best to visual and hands-on stimuli. This means that even within core academic classes, teachers should make an effort to use these learning styles to help more of their students.

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When developing a new curriculum, this information is crucial to reworking delivery modes. By designing new CTE courses that blend traditional academics with occupational skills, educators should work to construct a learning environment that encourages and uses more of these learning styles. However, one cannot use only a kinesthetic approach to teaching: "...the researchers conclude that, while the faculty's percentage of time is close to aligning with the students' preferred learning style make-up, less emphasis on the kinesthetic style and more emphasis on the visual style would lead to an optimal match" (Katsioloudis & Fantz, 2012, para. 14). Teachers need to be willing to blend their teaching styles. Though it would be tempting for an industrial technology teacher or a vocational education teacher to focus solely on the physical, students also need to have visual stimuli to comprehend and learn.

Through this research, Katsioloudis and Fantz (2012) also discovered that industrial technology students seldom prefer the literary ("read/write") learning style (para. 11). This realization points out the need for literacy education within the vocational education circle. By building it in and allowing students to have choice, by redefining what literacy means for students, educators can create a more literate workforce, people who can comprehend and learn in a variety of different ways.

By considering and building upon students' learning styles and strengths, educators can find ways to make education more meaningful. However, this does not mean that the construction of a curriculum that embodies these ideals will be easy. Most likely it will be messy and difficult, but "...only in the messy process of examining how we know things can we design situations that respect the learner" (Martin, 2012, p. 373).

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By respecting students and learning about them, educators are able to make school more relevant to students who are slipping through the cracks.

Vocational students have the opportunity to see the real-world application of their learning: “Job satisfaction is important, but ultimately, vocational happiness has less to do with what you do, than with who you are. In other words, character--like opportunity--won’t be found on the list” (Rowe, n.d., para. 7). Building character through hard work is important to the development of students as human beings. For vocationally-inclined students, hands-on learning through kinesthetic lessons will be beneficial to their overall learning experience. Kinesthetic learning will be hard to apply to a literacy course, but if it can be done, the education that will result will matter much more to the students involved.

Situated Literacy and Technical Reading

Having now considered the job market, the state of education in the United States, and the value of kinesthetic learning, one can see that something needs to change in the mentality of the educator and in how education prioritizes its work. Students who are vocationally inclined need to hear the message that educators support their passions, and to do that, educators need to make a change in the truths they espouse.

Creating courses or embedding projects that allow for vocationally-inclined students to flourish in traditional subjects will benefit education as a whole. Literacy, the ability to read and write, is a skill that all students need to master before leaving school and joining the workforce, whether that be at 18 or at 24. However, the students who like to work in more hands-on environments fail to see their need for reading and writing.

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Because they are not gifted at the literary-analysis that is so often the focus of English classrooms, students feel “nervous and stupid” when trying to perform a writing task (Darvin, 2006, p. 406). This anxiety can produce defiance from the students and frustration for the teachers. However, there is a way to allow students who feel this way to discover success in literacy: situated literacy.

Reading Across Content Areas

Before diving into situated literacy, one needs to understand the movement of reading across content areas. Reading looks different in different content areas, and many districts have implemented programs to encourage it in all curriculums. Laura Robb (2003), the author of *Teaching Reading in Social Studies, Science, and Math*, discusses the idea of teaching across content areas; however, her focus is in the name: core curriculums of social studies, science, and math. She writes, “The process of weaving comprehension strategies into content area teaching takes time, especially if you are a new teacher. It’s not a three-month ‘fix’” (p. 13). Robb emphasizes the fact that even in a content area classroom, reading comprehension will not be something implemented quickly. It takes work. She continues on to add suggestions for each of the content areas to create more active and engaging activities for students in these content areas.

Doug Buehl (2011) in his book *Developing Readers in the Academic Disciplines* discusses the ideas that in each discipline there are a variety of complex texts; however, students start to view the reading as a way to get the answers (p. 32). Instead of reading for understanding, students are skimming or pseudoreading and not really gaining and understanding of what the text is saying (p. 32-33). He continues on to outline what true

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comprehension looks like within the disciplines: making connections, generating questions, creating sensory mental images, making inferences, determining importance, synthesizing, and monitoring reading and applying “fix-up strategies” (p. 35). These strategies are spelled out in detail throughout the chapters; however, the focus is mostly on core content areas (English, math, science, and social studies).

Buehl does briefly address some elective areas in his book as well. The section entitled “Teaching to the Match in Technical Disciplines” (p. 110-113) highlights the fact that technical reading tends to be different than reading in core content areas. This elective needs to be in contextualized environment and not separated from the tools or tasks that are being outlined (p. 111). This sort of literacy practice is called situated literacy.

Situated Literacy

When one thinks about literacy, one might place it in the context of reading and writing classes; however, once one exits the school building, all literacy becomes situated: “All uses of written language can be seen as located in particular times and places” (Barton, Hamilton, & Ivanic, 2000, p. 1). Literacy is given a specific context within the greater world. When one enters an auto shop, one expects to find different literacy practices than in a veterinary clinic. Additionally, one would suppose that the literature used in an English classroom would be significantly different than in vocational education. Therefore, educators should establish for students ways to use their literacy skills in context.

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Literacy within the workplace is common and extremely specific. Students who join the workforce soon after graduation need to have experiences with this sort of situated literacy:

Jay Thornton explains, ‘In all the skilled trades, there is a language peculiar to each trade and language acquisition level of persons within the trade related to performance expectations...The literature is of a wide range of degree of difficulty according to the task, the amount of technical language, the amount of trades language, the amount of lay description, the complexity of sentence structure, the use of diagram/illustration, and the attendant language to diagram ratio.’ (as cited in O’Donnell, 1982, p. 475)

Almost every article written on vocational education and literacy emphasizes this point (O’Donnell, 1982; Spretnak, 1987; Garton, 2012; Schneider & Foote, 2013). The literature of the skilled trades is one of complexity, and students are sorely underprepared for the type of literacy that will be required of them. No matter what job they do, students need to know how to read within the context of that occupation: “In other words, reading comprehension is a vitally important skill today for all people regardless of their profession” (Schneider & Foote, 2013, p. 32). Though reading comprehension is often put at the top of the priority list for school districts, it needs to be redefined within the context of vocational education. Situated literacy is a way to ensure that students get the skills they need for their workplace goals: “It seems commonsensical that kids who are not academically oriented (not a crime, by the way) could be motivated to learn if they see and understand the relationship of that learning to their real world aspirations”

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(Garton, 2012, para. 4). Real world reading can be a motivator for students, showing them the relationship between their academic education and the careers and goals they want to achieve.

Darvin's Research

Jacqueline Darvin, a professor at Queens College in New York, has written multiple articles discussing the use of situated literacy and vocational education (2000; 2001; 2006). In each, Darvin gives examples of how situated literacy has been used in classrooms to enhance students' motivation and literacy skills. Darvin (2006) writes: "The more that teachers and researchers of all disciplines learn about situated literacy... the better prepared they will be to meet the literacy needs of adolescents and adults in school and workplace settings" (p. 17). Darvin conjectures that through the study of situated literacy educators will better be able to meet the needs of their students. The practice of this in the classroom allows students to "interact with texts in authentic, interesting ways that make use of the tools of multiple disciplines..." (Darvin, 2006, p. 17). By creating this sort of literary environment, students are being prepared for more than just the exams that will come in their school years; they are learning practical reading and writing skills that will "deepen student engagement with written materials through a spiraling process that combines literacy activities with hands-on work" (Darvin, 2006, p. 17).

Darvin (2006) discovered that, contrary to popular opinion, vocational classrooms contain a wide variety of texts and literature. In one classroom, she found "complex technical manuals, trade publications, schematics, diagrams, graphic representations,

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special interest magazines, newspapers, legal documents, safety codes, and Internet resources...” (p. 12). Though many people believe vocational education to be devoid of literature, Darwin discovered quickly how wrong this assumption was. Buehl (2011) corroborated this point, writing that all of these seemingly non-literary texts require specific skills in technical reading (p. 110). Darwin found in a culinary arts classroom that there were many different books that the teacher referred to and kept for students to explore. However, in contrast to the English classroom, students here do not read the books from beginning to end:

“...tradespeople don’t usually read texts in a linear, sequential fashion. They use texts in bits and pieces to solve problems, research and enhance particular stages of the projects in which they are engaged. They typically read not for the sake of gaining general knowledge but to accomplish particular goals and to gain specific information.” (Darvin, 2006, p. 12)

For people engaged in specific trades, books are treated as a resource or a reference instead of as a general source of information (Buehl, 2011, p. 111). Their books are similar to an encyclopedia or dictionary that one might reference from time to time.

One example of literature such as this would be the *Machinery’s Handbook*. Now in its thirtieth edition (Oberg, 2016), the *Machinery’s Handbook* is a staple for all toolmakers. This book is comprised of almost three thousand pages separated by tabs. The tabs are labeled with specific topics such as “Mechanics” or “Trig Tables.” If this book was housed on a shelf in a classroom, the educator could not just hand it to a student and expect them to understand its uses. The educator would need to show

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students how to use such a text as a reference book. Through this practice, students would see the connection from their classroom to real world skills. Students will gain pragmatic knowledge of real and true workplace literacy. This is an incredible example of situated literacy (Darvin, 2006, p. 17).

Traditionally, students who are vocationally inclined are placed in classes that are “workplace writing” courses. These courses, however, are packed with information that makes students into “good” employees, compliant and unquestioning. This is not the goal educators should have for their students. These activities tend to make students resistant to literacy (Darvin, 2001, p. 36).

However, when literacy becomes authentic and powerful, students are more likely to engage fully in the activity or the text. Students often engage with nonfiction and informational texts with vigor: “They connect with these texts in ways that are creative and emotionally-charged, rather than simply using them as transmitters or factual information” (Darvin, 2001, p. 37). By using texts that students find practical to their own passions, educators can create a more “powerful vocational/English curriculum” (Darvin, 2001, p. 39). Having students pair their creative writing tasks with these informational texts grounds their literacy education. Through this understanding, Darvin (2001) demands that English teachers who work with vocational education students take on the mantle of responsibility entrusted to them: “help them acquire literacy that will enable them to do more than fill out forms” (p. 40). Through these practices, students will have skills to write literature to help advance them in their careers and be able to communicate effectively with those with whom they work.

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True Learning with Situated Literacy

When an educator steps into the world of teaching, teachers should encourage students to leave the classroom with an awareness that literacy occurs in contexts across many areas of their lives (Darvin, 2006, p. 399). This means that education in the classroom needs to be authentic and pragmatic for students:

“It means developing classroom activities that authentically represent the intellectual demands of the workplace and, conversely, bringing academic content to life through occupational tasks and simulations.... It means seeking out the many literate possibilities running through young people’s lives—on the street, in church, in romance—and connecting them to the language of the stage, the poem, but the contract, too, and the list of procedures, and the Bill of Rights.” (Rose, 2004, p. 192)

Education then becomes about placing learning in realistic context so that students can consider “its purpose, [pushing] toward meaning beyond rote performance” (Rose, 2004, p. 192). Through this type of instruction, students will be able to see the application of what they are learning to the real world in a tangible way.

Creating an environment that makes reading practical enables students to feel more successful. They can understand and establish connections with the literature that might have eluded them previously. By using situated literacy within a vocational education program, students are more inclined to be motivated toward reading (Garton, 2012, para. 3).

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The sparkling jewel of literacy in vocational education is that it begins to engage students who are usually disengaged from reading and writing. Students are more likely to join in when they can see the pragmatic realities of what they are being taught in class. Vocational educators need to see their students not only as the future of their industry, but also as readers. This will help the teachers understand how to help students read and interact with writing in their personal and professional lives (Schneider & Foote, 2013, p. 33). When students and educators are both able to see themselves as readers who are engaging with a text, they are able to see the connections to the real world. Situated literacy, that literacy which uses texts from real life contexts, is the best way to engage students who are vocationally minded.

Summary

This chapter has addressed the topics of the job market, the state of education, kinesthetic learning, and situated literacy. Each of these plays a big part in the emphasis of vocational education and literacy. The United States' educational system needs to make a dramatic shift from the college-for-all mentality because the country is nearing a skills gap that cannot currently be closed. Because students feel that vocational education is not an acceptable use of their time, there are millions of jobs that are open or will be open as baby boomers near their retirement. Companies are struggling to draw workers because the mentality is that blue-collar work is dirty and those who participate in it are less intelligent (DePass, 2016, para. 10). However, this is not the case because students who are more vocationally inclined tend to be more kinesthetically stimulated. The traditional classroom is less effective for them and is not a reflection of their intelligence.

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Therefore, not only does education need to make a switch from certain forms of teaching, but it also needs to look into the idea of situated literacy. Situated literacy, a literacy that is focused on the realities of workplace literature, can easily be paired with kinesthetic learning. Students will quickly learn how to read the literature and apply it to the hands-on tasks that they are so passionate about, whether it be baking, carpentry, auto mechanics, metalworking, or tool making. By teaching students how to read literature in the context of specific fields, educators can ensure that the skills gap that is looming on the horizon will be less significant.

This information on the state of education and what is best for our students will inform the curriculum written using situated literacy. Chapter three discusses again the theories that ground my information and my knowledge about situated literacy. It describes the setting for which and the participants for whom the curriculum will be intended. Additionally, the chapter describes how the curriculum was built using situated literacy in reading and writing.

CHAPTER THREE

Methods

Looking at the state of education in relation to the United States' job market and economy, one must wonder how the workforce will continue to flourish. Over the next few years, baby boomers will retire leaving a surplus of millions of jobs (Newman & Winston, 2016, p. 3). Because of this, the United States educational system must pursue vocational education modeled after schools of choice and apprenticeship programs in Europe. However, this change will be down the road, so for now, the question remains *through projects founded in situated literacy, how can high schools give vocationally-inclined students the literacy skills they need in their chosen field?*

In this chapter, I will explain one avenue high schools might explore in response to this complex question. I discuss the theories of situated literacy, the setting in which the curriculum I plan to create will be implemented, the participants who will be able to take advantage of this curriculum, the methods of my curriculum development, and the self-assessment by students which will serve as a conclusive measurement of the program's success.

Theories for Grounding

Throughout my research, I have discovered multiple sources that encourage similar strategies for reading within the context vocational education (Darvin, 2001;

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2006; Garton, 2012; O'Donnell, 1982; Schneider & Foot, 2013; Spretnak, 1987). Each of these studies looked at current vocational education classrooms to make their conjectures and establish their research.

Each article outlined the idea that literacy in the vocational education classroom looks significantly different than in a traditional English classroom (Spretnak, 1987). Literacy, as Darvin (2006) puts it, becomes situated literacy. This type of literacy is defined as literacy that is placed within the context of the work at hand. Each core class, English, Social Studies, math, and science have their own literacies. One might read the same text in an English and Social Studies classroom, but the goal in each classroom is dramatically different: English may look at the figurative language (metaphor, parallelism, etc.) used, whereas Social Studies might look at the historical significance of the document.

Situated literacy is pertinent within a vocational education classroom as well, possibly even more so. Within a culinary classroom, situated literacy would focus on the ability to read and write recipes. In an automotive course, literacy could extend from reading manuals to diagnosing the issues of an engine. Each is still considered literacy, but it is specific to the course and the particular skills a student needs within that course.

This situated literacy is important for educators to understand as they look at vocational education. Though vocational education does not often require students to read full texts, the literacy of cross-referencing and finding the information one needs for a particular task is essential. Teachers of vocational classes are not downplaying literacy when they teach students the value of reference books and their articles; they are teaching

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students the literacy of their occupational field. These literacy skills are not ones specifically found in the English classroom where the reading of a text in its entirety is valued. Within a vocational course, students need to learn how to interact with the seminal texts of the occupation. Darvin (2006) discusses the use of texts in vocational classrooms at length. Though research skills are taught in these classrooms, little time can be devoted to the procurement of technical reading skills as are needed in a more technical profession. This reality makes vocational literacy education substantially important to those who have chosen a technical vocation. Literacy is based on the context of the job, and to best benefit students, situated literacy needs to be practiced within the traditional United States high school.

Setting and Participants

The setting in which this curriculum will be implemented is one of five high schools in the largest school district in Minnesota. As the “college-for-all” movement has progressively taken over the traditional high school setting, vocational education has been reduced significantly in this district due to lack of enrollment. Though there is a Career and Technical Education (CTE) equivalent site students can attend, the use of literacy in these vocational classrooms is seemingly minimal. Though vocational educators have begun to incorporate literacy in their classrooms, the implementation is still in its beginning stages. There is an English course for students who choose to be full-time at this site, but it continues to follow the more “liberal arts” education focus of this district, rather than looking to a more situated literacy curriculum.

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At one time, students at an Anoka-Hennepin traditional setting high school had the option of a technical writing course. It was one of four options for English that students had during their junior year (technical writing, regular, honors, and Advanced Placement). However, due to certain budget cuts, these options were limited to regular English and Advanced Placement, initiating significant differentiation issues within the regular classroom and decidedly not meeting the needs of students involved.

At these high school settings, students now have limited options of core classes they can take (regular, Honors, Advanced Placement, or College-in-Schools). All of these courses are focused on providing students with the skills they need for a four-year university education. Though the majority of students in this district go to a four-year institution (or a two-year intending to later attend a four-year), there is a percentage of students who head to a technical or trade school. From the model school, about 28% of graduating seniors applied apply to a technical school in the 2016-2017 school year (K. Nelson, personal communication, June 27, 2017). Some who go to a four-year should be attending a technical school, but because of the prominence of the college-for-all message, many go to a school that will not serve their needs and lands them in significant debt.

If a new technical literacy course could be established at this school, it would be best to allow students the choice of taking it during their junior and senior year. Students would not be tracked into a course, as this has proven to establish institutionalized segregation of classes within schools (Epperson, 2012, p. 1869); in contrast, they would

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be given the choice along with the other options presented. Giving students choice allows them to take more responsibility for their own learning.

This course would be open to juniors and seniors only as the first two years of high school English are foundational in the skills they provide. The skills tend to be more universal and can be applied to an infinite number of settings and occupations. However, the curriculum for eleventh grade English becomes very focused (American Literature). If students are more inclined to a technical field, they would be better suited to an English course that still hit the standards of the original course but focused more on the situated literacy Darwin (2006) proposes. In this way, the English course would embed a technical project or technical reading skills not presented before but would not be changed in its entirety.

Methods for Curriculum Development

To ensure this new curriculum is meeting state standards currently in eleventh and twelfth grade English curriculum, I plan to look at the Minnesota state standards as well as the learning targets set down by the specific district. The Anoka-Hennepin School District uses the Understanding by Design (UbD) framework for curriculum development (Wiggins & McTighe, 2005). By using the same framework to plan the curriculum, one can backmap the skills for the course to purposefully guide the students toward the literacy skills that will benefit them most within the vocational context they may someday undertake. In this manner, students will find that their skills will increase in similar ways to their peers, but they will be experiencing a curriculum based on situated literacy and pragmatic literacy skills. For example, though students involved in this

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project might not learn specifically about Kate Chopin's writing, they would gain the skill of inferencing. The goal becomes for students to have the same skills across the school, though they might be learning those skills through different content.

Overall, many of the texts used in the traditional curriculum could be carried over; however, other texts may be more relatable for vocational education students. Instead of handing them a text which is extremely metaphorical (e.g. *The Great Gatsby* by F. Scott Fitzgerald), instructors should find literature that is steeped in science and mathematics (e.g. *The Martian* by Andy Weir). Texts such as "The Black Cat" by Edgar Allan Poe and *Of Mice and Men* by John Steinbeck could be kept as they tend to be engaging and relatable for all students. It would also be possible to have students read books such as *Working* by Studs Terkel or *Why We Make Things and Why It Matters: The Education of a Craftsman* by Peter Korn.

For my purposes, I examined the integration of situated literacy into an English course. Through a project that enables student independence and choice, I will incorporate skills students need in their chosen field (collaboration, technical reading, technical writing and drafting, etc.). Because situated literacy allows students choice in what they read, this project will permit them to use tools (references) that are best for their particular field.

Summary

Chapter three provides information about how the curriculum was created and for what students it will be most beneficial. District UbD documents and learning targets as well as state standards gave a structure for this curriculum. The concept of situated

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literacy helped to create a project that will touch on multiple skills: technical writing and document development, technical reading and interpretation, and collaboration with peers and experts. Each of these skills is absolutely necessary in all vocations especially those with creation possibilities (carpentry, autos, tool making, culinary arts, engineering, etc.). This project will only be open to eleventh and twelfth graders who know they will be going into a technical field.

Chapter four uses a needs assessment to discuss why this project and curriculum are needed in schools and how literacy tools are lacking in vocational education. It establishes examples of the project development and the curriculum tools used in the project's creation. Additionally, it discusses the pitfalls and successes of the curriculum development, as well as how the curriculum morphed and changed throughout the process. Finally, the chapter substantiates the benefits of this curriculum for students whose passions are more technical than arts focused.

CHAPTER FOUR

Curriculum

Within schools, most students are given a general education, tying literacy to only English or reading courses. Literacy, however, has a broad definition and needs to be incorporated in every area. Vocational education is an area that needs more time to incorporate literacy tools. Through a needs assessment of one Minnesota high school, one can see the need for the following proposed curriculum. To be able to make this a reality, educational stakeholders need to answer the question: *through projects founded in situated literacy, how can high schools give vocationally-inclined students the literacy skills they need in their chosen field?*

In this chapter, I look at the demographics of a typical suburban American high school. This school will serve as a model for the needs of American education in this area. Additionally, I have built a curriculum which infuses situated literacy into more pragmatic activity. By determining what state or national standards that this project fulfills, I give educators the tools to establish a project-based curriculum to support vocationally-minded students.

Overview of Course Context

In all schools, students tend to have their favorite classes among the courses they take. Some students are more inclined toward math and science, whereas others are more passionate about the humanities. However, there is one group of students that is often

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overlooked: students who are passionate about technical courses. These students often dislike the core courses required by most high schools and spend the vast majority of their time in auto, metal, or woodworking labs. Because their passions lie elsewhere, these students often leave high school without a working mastery of many graduation requirements. Therefore, when they acquire a job, they tend to be lacking in certain skills, especially skills related to literacy.

The content being taught in the proposed course will be engaging and have authentic connections to the world of work that these students will experience on a day-to-day basis. The activities and learning will seek to “involve realistic situations, where the context of the task is as faithful as possible to real-world opportunities and difficulties” (Wiggins & McTighe, 2005, p. 78). Students would be more engaged in the workings of a course guided by these principles; because they can see the application to real life, students will be more likely to engage and attempt the tasks at hand. The vast majority of this course will be made up of performance-based tasks. Though some of these tasks will be informal and formative, most will be designed to provide summative or cumulative evidence of understanding. All of these tasks will be authentic; without authenticity, this course will not be successful. Wiggins and McTighe (2005) state

Understanding is revealed in performance. Understanding is revealed as transferability of core ideas, knowledge, and skill, on challenging tasks in a variety of contexts. Thus, assessment for understanding must be grounded in authentic performance-based tasks. (p. 153)

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True assessment of situated literacy must be bound to this idea. Students need to see the very real application of their work in this course to their workplace experiences. Within this course, the reading materials and writing prompts will be taken from real-world situations in order to emphasize the skills truly needed. Therefore, the choices of assignments and assessments are going to be unique and unusual for the traditional classroom. The assignments and assessments will be based around readings that are unique to the groups of students working together.

Literacy can be defined as the ability to read and write; however, in hands-on professions, one also needs to consider the collaborative nature of speaking and the ability to “read” or diagnose the materials one is working with. For example, if a student is working on a car, they not only need to have the ability to read the manual, but they also need to know how to “read” the car to understand the issue. Therefore, this course would specifically focus on situated literacy, or literacy that is situated in a certain time, place, or social construct (Barton, Hamilton, & Ivanic, 2000).

Because the focus of this course is situated literacy, the instructor will need to group students into cohorts determined by their desired professions. With a variety of students intending to pursue different professions enrolled in the same course, the instructor will need to form job-based subgroups for the course to work effectively. Each cohort will be based on the careers that the student intends to pursue: automotive mechanics, nursing, machine operation, etc. The differentiation within the course will be based on these cohorts, creating projects and readings based around the specific literacy skills each cohort need to do their potential jobs.

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Ideally, this course would be housed in a school with Industrial Technology labs, a Makerspace, or a Fabrication lab. The ideal would be to have all three, as well as Family and Consumer Science rooms supporting culinary activities; however, since that isn't possible for all schools, one or two of these resources would allow students to accomplish these projects well. Instructors will have to modify the curriculum to fit the equipment they have available. These resources would enable this course to fulfill its true potential, instead of limiting the projects the students can dream up.

This course is one that provides much needed literacy to those who plan to work in technical professions. Students will learn to use reading strategies, to read more proficiently, to write with clarity, to collaborate with peers and management, and to present information in a professional manner. Organized into a system of cohorts of related professions, students will dedicate time to write projects through collaboration. Once written, they will be paired with partner group from a different cohort who will take their written materials and read it with efficiency, creating a project showcasing their comprehension.

Needs Assessment of Typical American Suburban High School

Summary of Survey Results

A Needs Assessment was conducted through surveying teachers from varying departments at a large Minnesota high school. This school is being used as a model for what can be done in suburban American high schools to increase vocational literacy skills. Each teacher was asked a variety of questions relating to literacy in their content

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area. These questions discussed the ideas of time, resources, importance, support, etc.

The results are included in Appendix A and following is a summary of the report.

Initially, most of the teachers surveyed agreed that they understand how to integrate literacy into their curriculum and that there are resources available to them. However, as the questions progressed to be more specific about literacy, teachers were less confident in their abilities or their resources.

For the most part, the results are not surprising; because of lack of time in the classroom, I expected students to have fewer opportunities for independent reading and writing across curriculums. Additionally, I expected to see that there is not enough time for teachers to plan their lessons, let alone add in literacy-based components. Through these results, four out of the eight questions had “strongly disagree” responses from the technology teacher surveyed, an outlier in the results. These results seem to show a gap in the priority of literacy instruction in this content area.

Written comments came from only two teachers. One math teacher emphasized the fact that there is so much curriculum to get through in a day, that it is hard to use the time for anything else (Durant, personal communication, November 24, 2015). She is currently teaching Probability and Statistics, as well as both parts of Calculus offered. The other written comments were from the Social Studies teacher. He explained that Social Studies is working hard at integrating literacy standards into their teaching. All grades have implemented some sort of reading standards, whether it be the textbook, primary and secondary sources, in-depth independent reading, or a combination of the three (Tatkenhorst, personal communication, November 23, 2015).

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Future Recommendations

My biggest concern after analyzing these survey results is the disparity between the confidence of literacy application in the classrooms of the core curriculum and the electives. My first recommendation would be to shore up the core curriculum, making sure that the classes that every student needs to take are solid in their literacy instruction. However, I would then quickly move on to better supporting the elective courses, such as technology. The technology teacher surveyed teaches such courses as Small Gas Engines, Digital Photography, Graphics Design, and Metal Tech. Within each of these courses, literacy could be integrated rather smoothly through working with construction/ instructional manuals, blueprints, etc. Though these courses might already be using these materials, direct instruction on reading strategies for these materials will be necessary. Therefore, the specific course proposed will benefit vocational education courses.

Based on these results, it is necessary to have a course that incorporates technical reading and writing skills to enhance the learning in a vocational education course. Because of the lack of time within a vocational education course itself, a separate course that includes vocational components would be beneficial for students.

Additionally, schools should look at establishing professional development for teaching literacy across curriculum. Though many school districts also do this, by using situated literacy, teachers (and students) could discover the benefit of using literacy in their classroom. It does not come down to reading books in phy. ed. but instead teaching students how to read rule books. By encouraging teachers in professional development to

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use the literature that best fits their content area, the likelihood that they will use the method in their classroom increases.

As these methods are integrated into schools, districts should make sure to examine the data pertaining to the increase in literacy and the application of it in the workplace. By looking at scores on standardized tests, schools can determine if using situated literacy has helped increase students' abilities or not. However, the best determiner of success for this sort of program would be how it has helped students as they graduate and enter the workforce. By surveying alumni, schools can examine what is the most beneficial about the program and what changes need to be made to continue to be helpful.

Getting Started with Blue Collar Literacy

To be able to determine where the students are at educationally when they walk in the door, one would need to have short interviews with or a survey for students to share their information. Additionally, taking a writing sample during the first week of class would be extremely beneficial to the workings of the course. This sample would help the teacher's ability to determine what the level of writing instruction that would need to be addressed in this portion of the course. One could add a reading diagnostic to determine reading comprehension ability using a variety of texts (technical, fiction, poetry, etc.).

These initial reviews would better define the student population entering the classroom and their career intentions (manufacturing, metalworking, plumbing, nursing, culinary, etc.). With this information, the instructor can group students based on their

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commonalities. One could also learn about educational background, learning preferences, attitudes toward the traditional content, and goals/expectations for the course.

The skills students will need to develop during the course have common threads regardless of their differing career plans: reading, writing, collaboration, and speaking. However, how each student gains these skills will be different, thus the teacher must employ situated literacies to achieve the best learning environment.

Students who are more non-academic or technically-inclined might fall through the cracks in a regular high school classroom. This tends to create issues, particularly with communication, when they enter the working world. Because of this lapse in knowledge, students need to regain some of those missed opportunities for growth. A classroom that offers opportunities for improving communication skills will be invaluable for the success of a person's working life. This course will embed the potentially missing skills into a project that will pragmatically combine them all, ensuring that students have an opportunity to learn the skills.

Guidelines Undergirding Blue Collar Literacy Projects

This course will be primarily project-based, engaging students who are more tactile and kinesthetic by nature. Because it is focused on the learning-styles of the students, the course will be more physically engaging than a traditional course. By giving the learners more autonomy in how they choose to prove their proficiency, the teacher can create a course that enables the students to make real-world decisions and connections. The skills students gain can be applied to their future positions.

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All of the standards that are met in this course can be assessed through this project-based format (Appendix B). For each of these standards, students will be finding ways to most effectively communicate their learning. Students will find appropriate ways to draw on class content in order to speak and write clearly in real-world contexts.

This course and project is aligned with Minnesota State English Language Arts Standards as well as specific course understandings from the model district. Though the standards listed seem significant in number, the skills addressed to achieve these standards will overlap, making the process more manageable than it seems at first glance (Appendix B).

WHERE TO Elements as a Framework for Blue Collar Literacy

To truly establish a framework for this project, one needs to analyze the material objectively. In *Understanding by Design* (2005), authors Wiggins and McTighe provide a strategy called WHERE TO. This acronym “serves as an analytical tool for checking the elements of the design rather than a recipe or sequence for how to construct the design” (p.198). Each letter stands for a different concept to analyze: where and why; hook and hold; explore and experience, enable and equip; reflect, rethink, revise; evaluate work and progress; tailor and personalize the work; organize for optimal effectiveness (Wiggins & McTighe, 2005, p. 199-222). These elements are used for the creation of a curriculum and are not to be used as a blueprint for teaching.

The “where” component of the WHERE TO element, the idea of where the course is going and why it is going there, would be clearly spelled out during the first unit to achieve maximum authenticity and applicability. Each unit would seek to give students

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tools for effective communication in the workplace (writing, reading, collaboration, speaking). Within these larger goals in mind, students will be provided with learning targets, smaller goals that will be more manageable. This set of goals also meets the “o” of “organized”: students will be given a scaffolded plan of their learning. The opening units would focus on giving them skills and strategies, while the later units would be designed to hone those skills through independent work and coaching.

The “hook” is the consistent emphasis on the idea that these skills will ensure their job potential and possibly advance the students in their chosen careers. The teacher could ask students about their experience with the traditional English classroom and discuss the idea that communication, which the traditional English classroom strives to teach, radiates through all of culture, even in a technical position. Examples of literacy in the workplace, through guest speakers or field trips, will be used to engage students, illustrating how the skills truly do transfer.

“Equipping” students with the tools and skills needed for this course (and communication in the workplace) begins early in the course. They will be working with class texts to establish reading and writing strategies (annotations, note-taking, peer review, proofreading, etc.). The literature will be gathered from relevant employers, experts, and technical instructors. Because there are specific skills needed in every profession, there will be a variety of texts that address a variety of skills. These skills will be assessed within the students’ final cohort projects (described later) that they will use the GRASPS method to outline (Appendix F).

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Throughout the course, students will have the opportunity to “reflect” on and “revise” their work. Particularly in their final cohort project, they will need to do a self-assessment while collaborating with their partnering group. Their focus will be on how effective their initial writing and drafting is for an audience with less skill in their field and then on how to rethink and revise to make it logical and coherent for that audience. Through this opportunity of collaboration, students will also “evaluate” their project and their learning, asking questions of themselves in regards to the standards they are looking to meet (Appendix B).

This course is, overall, “tailored” to the students who walk in the door. Because it is project-based, students have the opportunity to make the project embody whatever they are passionate about. Students will have a significant amount of autonomy within the creation of their project. If they are future mechanics, they can create a project that would guide someone in rebuilding an engine. If they are interested in a culinary field, they could generate literature to guide a first-time caterer. If they are looking into nursing, they could create literature about assisting in the emergency room or in surgery. This course, by its very nature, makes the students and their needs the focus (Wiggins & McTighe, 2005, p. 197-198).

Teaching Methods for Blue Collar Literacy

Throughout the progression of this class, the teaching role will change and adapt. During the first unit, which will establish reading and writing strategies, the teacher will primarily use didactic or direct instruction (Wiggins & McTighe, 2005, p. 241). This will

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involve much demonstration of the strategies and modeling with class texts and writing assignments.

As this course moves into the cohort group project, the teacher's role will become that of a coach. The teacher will be doing more facilitating and providing feedback, being available for guidance but minimizing full-class direct instruction (Wiggins & McTighe, 2005, p. 241). Instruction will occur on a more group-to-group basis throughout this project. The teacher will conference with each group, and when not conferencing, float around the classroom and help where needed.

Assessments for Communication and Literacy Skills for Blue Collar Literacy

The evidence of student learning that needs to be collected for this specific course ties back to the Desired Results identified in Stage 1 (Appendix B) of the UbD process. Through the use of the six facets of assessment (Wiggins & McTighe, 2005, p. 161-167), one can discover a student's true understanding of the essential skills. The six facets are explanation, interpretation, application, perspective, empathy, and self-knowledge. The skills fall under the literacy category of communication: collaboration; clear, concise writing; reading comprehension; and application.

These skills would initially be assessed with standard readings and writings assigned to the full class (Appendix G). Students would be given materials to read such as a manual or a recipe. They would then be taught reading strategies to help them navigate challenging materials. Annotations or comprehension questions would serve as a more informal check to their understanding. These informal checks would encompass the first few facets of assessment, namely explanation and interpretation.

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To address the next few facets (application and perspective), students would be broken up into their cohorts. Their more formal assessment would begin at this stage, after they have gained an understanding of the literacy tasks ahead of them. However, formative assessments will be mixed into their timeline to help them correct misunderstandings and hone the skills being taught. They would then use the GRASPS Task Design Prompt (Appendix F) (Wiggins & McTighe, 2005, p. 159) to create a specific project for which they would need to create literature. By using this method, the teacher can see the application of their learning, and it will force students, in teams, to start looking at the perspective of others. This perspective-taking would particularly come through in the clarity of their writing (what do they define and when; do they add footnotes; do they give measuring charts; do they add in diagrams). This writing technique prompts students to focus on audience, making them ask and hopefully answer the question: who do they expect to pick up their materials and who needs to be able to comprehend them?

Finally, students will employ empathy and self-knowledge. After the literature for the projects have been created, teams will be paired up with another group from a different cohort. They will need to work together to make the information in their literature more clear, thus emphasizing the skill of empathy, the ability to understand the experiences of another person. If a group of machinists is paired with a group of culinary experts, it will be necessary for them to practice empathy for their intended audience, to “better understand the diversity of thought and feeling in the world; that is to develop their capacity to walk in someone else’s shoes” (Wiggins & McTighe, 2005, p. 166).

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Patience with peers who have different gifts will be a transferable and, therefore, an authentic skill. When collaborating across departments throughout their schooling and eventual jobs, the skill of empathy and the communication that goes with it will be undeniably important.

Additionally, students will then use self-assessment. They will address the skills that they have learned (comprehension, reading strategies, clarity in writing, etc.). They will look at how they feel they were able to achieve the tasks set before them and how they performed based on the goals with which they began. This self-assessment can be achieved in a variety of ways such as surveys, review of the rubric, or reflective journals.

Because this project will be differentiated and student-driven, the ambiguity of the evidence might be present. A good test will be in the collaboration and communication when the groups are paired together. This task will hopefully eliminate some of the ambiguity. However, for this to be a performance-based, truly authentic course, ambiguity will be apparent throughout as real-life situations are more ambiguous than not.

Assessment for Blue Collar Literacy Projects

Students will be assessed through a rubric-based system. Though their final assignment will be based on an holistic rubric, they will be given analytic rubrics throughout the course for each step of the process. The students who take this course tend to be more black and white in nature. Ambiguity will cause frustration, and students may lose motivation for the task. The clearer the task is for students, the more likely they are to buy into the task. With access to this means of assessment, students will be able to

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track their progress easily throughout the course and self-assess repeatedly to make sure they are on the right track.

During the first unit of study for this course, students will be asked to learn reading and writing strategies, as well as utilize collaboration within the context of various formative assessments. The first unit of study focuses on specific reading strategies. Students will learn about taking notes from a source while avoiding plagiarism, annotating texts to enhance understanding, cross-referencing materials to allow for greater credibility, in addition to other strategies based on the clientele and teacher's discretion. In order for those skills to be assessed, students will provide the teacher with notes (possibly Cornell format) as well as annotations. The teacher will then provide feedback to the students regarding their use of the various reading strategies they have employed. This assessment will be formative, as reading strategies will be summatively assessed later in the final cohort project.

Additionally, students will be taught writing strategies specific to conciseness and clarity. Through various formative assessments (exit tickets, in-class writings, etc.), students will be assessed for their grasp of various skills and their use of materials such as dictionaries and thesauruses. In correlation with learning these skills, students will be provided with online resources such as the "Hemingway Editor," which eliminates wordy phrases and unneeded words (Long & Long, 2015). Students will be more formally assessed in these skills through a longer writing assignment which will include research components. This assignment will be assessed with an analytic rubric (Appendix G), using four criteria: use of word choice for clarity and engagement, evidence/APA

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citations, explanation and support of evidence, and writing conventions. All of these formatively-assessed skills will be summatively assessed in students' cohort project.

Once the initial learning has taken place and students have the tools they will need, the cohort project will begin. Cohorts will consist of students who share an expertise (mechanics, culinary experts, machinists, etc.). Within those cohorts, students will be broken up into pairs (if possible). The goal for each cohort group is to create a project for which they can create all the literature (blueprints, designs, recipes, manuals, etc.) using the writing skills developed in the first unit. This writing project will have a specific audience: another pair from a different cohort. For example, a group of automotive mechanics might be paired with a group of culinary experts. Each group will utilize collaboration to accomplish their goals as they will discuss their writings weekly to evaluate and improve clarity. Additionally, students will be using expert materials, such as the *Machinist Handbook* (Oberg et al., 2016), to give credibility to their ideas and writing. This skill will incorporate the research components that students have acquired. The writing portion of this assessment will be assessed via an analytic rubric (Appendix H). Students' writing will be assessed when this portion of the course is complete to ensure that their writing does not affect the grades of the group reading their materials. Students will have an opportunity to revise their materials based on feedback before handing them off to the next group for the reading assessment.

Once the written portion of the cohort project is complete, students will give their literature to the other cohort group with which they have been paired. This is when the reading aspect of this project begins. Because this project will be outside of the group's

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expertise, they will need to rely heavily on the reading strategies taught to them in the first unit as well as on collaboration with the group who wrote the text. Students will show proficiency in these skills through note-taking, annotations, summaries, etc.

Additionally, they will need to cross-reference the information from the group project with scholarly materials on that topic (cookbooks, published manuals, etc.). The final assessment of these reading skills will be the creation of the project. Students will be asked to build, bake, or repair whatever item is described in the literature they are given. Due to the fact that the cohort creating the product will not be experts in that given area, students will not be assessed in their creation skills; however, they will be assessed in their ability to follow the directions laid out before them. Their reading skills will be assessed on their use of reading strategies; the writing of their partner group, which has already been assessed, will be taken into consideration when assessing their final creation. Working in conjunction with technical instructors in a Makerspace or a Fabrication Lab, students will have lab time incorporated for the creation of these final products. These reading skills will be assessed with an analytic rubric (Appendix J).

Overall, students will be assessed with a holistic rubric for a final score (Appendix K). This method allows the teacher to look at the whole project, from collaboration to completion, and assess whether students acquired the given skills necessary to make them effective in the workplace.

Summary

Overall, the evidence of student learning to be found throughout this course will be established mostly through performance-based tasks. Students will have some

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instruction on reading strategies and writing, and then they will be asked to apply their learning. Working in cohorts and teams helps students meet standards in collaboration and communication as well as the reading and writing goals set before them. Through the use of GRASPS (Appendix F) and analytic rubrics (Appendices G-J), students gain knowledge of expectations as well as have a way to self-assess and invest in their work.

Though it is a literacy class, the focus of this project is less on the traditional view of literacy and more about the practical literacy that the students will eventually encounter everyday. Situated literacy, or literacy that comes out of specific situations or occupations, allows students to apply their understandings directly to their professions, and hopefully, help them to become more efficient communicators in life.

Chapter four has discussed the needs of a traditional suburban American high school, looked at the overview of the course, shared the desired results, analyzed the curriculum using the WHERE TO elements, explained the teaching roles, examined the specific evidence that will prove proficiency in this course, and defined the formative and summative assessments of the course. Chapter five will now discuss what was learned through the creation of this curriculum, revisit the literature review, discuss implications for the curriculum, show real world applications, and consider future analysis and application of this curriculum.

CHAPTER FIVE

Conclusion

Throughout this process, the curriculum created has been guided by the question *through projects founded in situated literacy, how can high schools give vocationally-inclined students the literacy skills they need in their chosen field?* The curriculum proposed is an attempt to assemble ideas in a feasible way for the typical American high school. This course would help prepare students for a future career in a vocational or technical field without limiting their education.

Chapter five examines what was learned throughout this process, including the benefits and challenges of attempting something counter-cultural. It looks back at the literature review and reemphasize the importance and real world implications of an education such as this. Through this discussion, the chapter make connections that reveal how this sort of curriculum will be used and why it is so important as well as discusses the STEAM program, which the model high school will be implementing within the next few years, and how the curriculum proposed could be a cornerstone for the program. Finally, chapter five analyzes what still needs to happen in the curriculum and its implementation.

What I've Learned

Curriculum writing is a science of theories, and more of an art at that; not everything that you can dream up is practical. Construction of a curriculum needs to be

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done within the the classroom, in fits and starts. Attempting to create a project such as this which incorporates so much autonomy is a real challenge. Within such a project, many independent cogs are turning. Students are able to create their own dreams here, and because of that, every time the project is implemented it will be different. One can only put together the underlying structure of the project and prepare for all the contingencies that might occur.

Throughout the curriculum writing process, I have been surprised at the tedious nature of the tasks. I wanted not merely to create the general idea for the project, but also to make all the theories and the dreams into a tangible curriculum. As I was writing, I found that I not only had to be thinking about the writing process, but I also needed to put together materials. Understanding by Design documents needed to be created; sample calendars and assignment sheets were cobbled together. The rubrics were written and analyzed. Additionally, I wanted to pull together resources for the instructors who might potentially take on this course. Each step of the process needed to be slotted together like the pieces of a puzzle; each one needed to fit, and nothing could be left out. I wanted to make sure that I didn't leave anything up to chance but gave the project every opportunity for success.

Curriculum writing is more of an art than a science. It's putting dreams and ideas and epiphanies on paper and hoping that the readers will be able to see the plan in the same way you do.

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Revisiting the Lit Review

The concepts of the job market, the state of education, kinesthetic learning, and situated literacy significantly play into the creation of this curriculum. The first two inform the need for a more hands-on literacy course and how it will impact not only education, but also the workforce and the American economy. The second two show the need for a specific type of learning for vocationally-minded students. In moving toward a more kinesthetic curriculum, students will be more engaged and more likely to be motivated in their learning. Situated literacy also helps with engagement by creating real-world experience and allowing students to see the practical application of their education. Both of these concepts in learning can be easily paired to create a course of maximum engagement.

Not only does a course that combines kinesthetic learning and situated literacy create engagement for students, but it also introduces them into the world of work.

Hoffman writes,

...vocational education exists not for career exploration purposes or to keep young people in school...but rather to support the development of teenagers as they transition from school into the world of work that will occupy and define their adult lives. (p. 24)

This transition allows students to be more prepared when entering a workforce that is dying for more workers. With the baby-boomer generation retiring, there is a surplus of jobs available. However, with the current emphasis on liberal arts education, those jobs are likely to be unfilled.

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A course such as this and reading across content (Buehl, 2011, p. 110-113) will enable students to gain literacy skills needed for their desired jobs. The courses will continue to be rigorous in nature to challenge students, pushing students to truly understand what a workplace environment is. They will need skills such as reading and writing strategies, collaboration, and communication. By using this idea of thinking and doing together, students start to see their education as not relegated to a building, but as a wide open field, where they can explore and discover new things. Crawford (2009) writes, "For thinking is inherently bound up with doing, and it is in rational activity together with others that we find our peculiar satisfaction" (p. 208). By learning how to work with others, students will find a specific type of satisfaction in their learning.

STEAM

At the school I used as a model of the typical suburban American high school, a new program is being instituted which will help more students achieve this satisfaction. STEAM, which stands for Science, Technology, Engineering, Arts, and Mathematics, will be put into effect during the fall of 2017. Students will be encouraged to try a variety of STEAM-related courses ranging from arts (such as dance) to technology (such as computer programming). Though this program will start as a school-within-a-school, the goal is to ultimately make STEAM integrated into all curriculum across all subjects. Because of this, more project-based learning will be encouraged, providing a way for the curriculum examined in this paper to become a reality.

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Makerspace and Design and Fabrication Labs

STEAM will open doors for all classes, whether they are included in the STEAM acronym or not. The school district is planning to build a Makerspace and a Design and Fabrication Lab within the school. After a significant amount of research, the committee has decided that the Design and Fabrication Lab will deal with more technical skills such as using a CNC router or a drill press or a laser engraver. The use of these tools will require more direction and guidance.

A Makerspace will be more of an open lab functional space. It will have equipment ranging from low-tech tools such as drawing materials to high-tech tools such as coding computers. The committee has also discussed building a music studio and adding in sewing machines. This space would truly be a place where students could use any tools at their fingertips to create whatever they wish.

These two lab spaces would be ideal for the implementation of the course presented here. With these spaces available, students will be able to truly create a project using any of the tools found there or to request tools if they are not already there. This would allow students not only to create basic projects, but also to put together more complex creations using a lathe or a computer or a kitchen.

Meeting the needs of those identified in the Needs Assessment

Unfortunately, literacy is not seen as a high priority in this program. Though the plan for starting STEAM did not include English and literacy, the course was slotted to be within students' junior year of school. However, the battle to incorporate literacy and technical skills rages on.

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Future Analysis and Research

The most obvious research and analysis that still needs to be done with this curriculum is the actual implementation of this course. Without the ability to fulfill the dreams at this moment, I am trying to make it as practical as possible, but I know that it will need to be tweaked and changed. Having the course put to the test with high school students is daring and rather brave, but if the course is considered an elective, there is the opportunity for experimentation. Each time this course is implemented, the curriculum will become stronger, but right now, only the ideas are there.

Implications for Curriculum

This course and this project have become a passionate attempt to serve those students who fall through the cracks. So often we focus on the students who are academically gifted, those who are “intelligent” by the standards laid down in society. All the while, the students who are intelligent in a different way are stumbling around in the darkness of academia that we have created, not knowing the way out. Through this course, students who are lost in the dark may see a light of hope: there is a place for them in schools; there is a place for them in the greater world.

My project is not a cry to forget about the students who are gifted in academia. These students need to be nurtured and helped on their way as they will be doctors, politicians, scientists, and anything else they can imagine. However, I believe that they are not the only students we should see as they walk in the doors of our schools. Students who are gifted in alternative ways need to be valued as well.

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The values of the educational system in America have devolved to standardization: if we ensure that every student gets the “same” education, then we can ensure that we are doing something right. And yet, that education is not the same for our students. Students have different learning styles which make a standardized education incredibly hard to achieve. Teachers and instructors must attempt a new way of teaching which might be slightly uncomfortable. Giving students more choice in how they learn, if scaffolded correctly, could afford them a greater ability to stand on their own feet and be productive in society. As we are facing a skills gap, a massive influx of jobs that no one can fill, America must reexamine its education and the values it instills.

This project is not just about incorporating a more hands-on, kinesthetic way to interact with literacy, though it does attempt to achieve that. This project is also an attempt to begin a culture shift. Education needs to change. The definitions of success and intelligence need to be reexamined. We must embrace the truth that the hand and the mind are not separate entities; they are designed to work together to create good.

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Appendix A

Needs Assessment

Synthesis of Demographic Information

Anoka High School is made up of mostly Caucasian, non-Hispanic students (85.1%) with a mostly Caucasian faculty and staff. Being located in the northwest suburbs of Minneapolis, this does not come as a surprise; however, though the diversity is somewhat limited, the numbers in Special Education (11.6%) and Free/Reduced Lunch (27.4%) are increasing. Additionally, the school currently houses 52 English Language Learners. When looking at scores for the school, since the implementation of the MCA-III Reading Assessment, student scores have dropped to 60.2% proficiency. In 2012 when the measure was the GRAD Reading Test, proficiency levels were at 83.4%. This dip in scores can mostly be attributed to the formatting change that occurred, but it is a statistic that educators need to be cognizant of. Of the faculty, the vast majority (71.2%) have been educators for over 10 years, and most have completed their Masters degree (76.1%). Based on the demographic profile of Anoka High School, one can see that though the demographics of the school are changing, the faculty are well equipped to help students overcome the disparities in the testing format to reach higher level achievement on high stakes testing.

School or District Vision, Mission or Goals

District Mission Statement:

It is the primary mission of the Anoka-Hennepin School District to effectively educate each of our students for success.

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Vision Statement:

To fulfill this mission, the school district is accountable for:

- Providing a caring, highly trained and effective staff who use research-based best practices.
- Providing learning opportunities that meet the individual learning needs of each student.
- Monitoring student achievement to maximize each student's learning.
- Promoting high achievement for all students.
- Acknowledging parents' roles as their children's primary educators and partnering with them to increase student success.
- Improving connections with the community to foster public involvement with and understanding of our educational programs.
- Providing a safe and respectful learning environment.
- Using all resources efficiently and effectively.

Literacy Team Members or Instructional Leaders

Currently, the Literacy Team is made up of a reading teacher and an administrator in charge of the reading department. These professionals are on the RtI team to help students with reading intervention; however, the position of the Reading Intervention Specialist was cut in the 2015-2016 school year.

Description of School Literacy Program

Currently in our reading courses, students are using a program called Achieve3000 in the lower level courses. Additionally, we have had a Reading

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Intervention Specialist in the past as well as a Writing Center to help students. However, both of these programs were cut for the 2015-2016 school year.

Survey Findings

Out of six teachers surveyed, multiple departments were covered:

Math (1)	Science (2)	Social Studies (1)	Technology (1)	EL (1)
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Strongly Disagree 1	2	Unsure 3	4	Strongly Agree 5
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1. I understand how literacy can be integrated into my curriculum.

1 = 0% 2 = 0% 3 = 17% 4 = 50% 5 = 33%

2. Appropriate texts, technology resources, and support materials are available to me.

1 = 0% 2 = 0% 3 = 17% 4 = 66% 5 = 17%

3. I have an adequate number of books and nonprint resources in my classroom library or resource center (Language Arts Resource Center, Social Studies Resource Center, Math/Science Resource Center, etc.).

1 = 0% 2 = 33% 3 = 0% 4 = 66% 5 = 0%

4. I feel confident about how to align my instruction with district literacy standards.

1 = 17% 2 = 33% 3 = 33% 4 = 17% 5 = 0%

5. I feel confident in managing differentiated literacy instruction.

1 = 0% 2 = 33% 3 = 17% 4 = 50% 5 = 0%

6. My students have adequate opportunities to read independently.

1 = 17% 2 = 33% 3 = 17% 4 = 33% 5 = 0%

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7. My students have adequate opportunities to write independently.

1 = 17% 2 = 50% 3 = 17% 4 = 17% 5 = 0%

8. My CT has adequate planning time to implement strategic instruction that includes literacy.

1 = 17% 2 = 33% 3 = 17% 4 = 33% 5 = 0%

Professional Development Interest:

Differentiating instruction (33%)

Comprehension skills and strategies (17%)

Curriculum and standards alignment (33%)

Improving reading in my specific content area (finding resources that apply to types of reading done in my content area) (33%)

Writing rubrics and norming (33%)

Working with English learners (EL) (33%)

Incorporating multiliteracies and instructional technology (33%)

Appendix B

Desired Results

STAGE 1 – DESIRED RESULTS

Course Title: Blue Collar Literacy

Minnesota State Standards:**Reading Benchmarks**

11.5.1.1 Cite strong and thorough textual evidence to support analysis of what the text says explicitly as well as inferences drawn from the text, including determining where the text leaves matters uncertain.

11.5.4.4 Determine the meaning of words and phrases as they are used in a text, including figurative, connotative, and technical meanings; analyze how an author uses and refines the meaning of a key term or terms over the course of a text (e.g., how Madison defines *faction* in *Federalist* No. 10).

11.5.7.7 Integrate and evaluate multiple sources of information presented in different media or formats (e.g., visually, quantitatively) as well as in words in order to address a question or solve a problem.

Writing Benchmarks

11.7.2.2 Write informative/explanatory texts to examine and convey complex ideas, concepts, and information clearly and accurately through the effective selection, organization, and analysis of content.

- A. Introduce a topic; organize complex ideas, concepts, and information so that each new element builds on that which precedes it to create a unified whole; include formatting (e.g., headings), graphics (e.g., figures, tables), and multimedia when useful to aiding comprehension.
- B. Develop the topic thoroughly by selecting the most significant and relevant facts, extended definitions, concrete details, quotations, or other information and examples appropriate to the audience's knowledge of the topic.
- C. Use appropriate and varied transitions and syntax to link the major sections of the text, create cohesion, and clarify the relationships among complex ideas and concepts.
- D. Use precise language, domain-specific vocabulary, and techniques such as metaphor, simile, and analogy to manage the complexity of the topic.
- E. Establish and maintain a formal style and objective tone while attending to the norms and conventions of the discipline in which they are writing.
- F. Provide a concluding statement or section that follows from and supports the information or explanation presented (e.g., articulating implications or the significance of the topic).

11.7.4.4 Produce clear and coherent writing in which the development, organization, and style are appropriate to task, purpose, and audience.

11.7.5.5 Use a writing process to develop and strengthen writing as needed by planning, drafting, revising, editing, rewriting, or trying a new approach, focusing on addressing what is most significant for a specific purpose and audience.

11.7.6.6 Use technology, including the Internet, to produce, publish, and update individual or shared writing products in response to ongoing feedback, including new arguments or information.

11.7.7.7 Conduct short as well as more sustained research projects to answer a question (including a self-generated question) or solve a problem; narrow or broaden the inquiry when appropriate; synthesize multiple sources on the subject, demonstrating understanding of the subject under investigation.

11.7.8.8 Gather relevant information from multiple authoritative print and digital sources, using advanced searches effectively; assess the strengths and limitations of each source in terms of the task, purpose, and audience; integrate information into the text selectively to maintain the flow of ideas, avoiding plagiarism and overreliance on any one source and following a standard format for citation.

Speaking, Viewing, Listening and Media Literacy Benchmarks

11.9.1.1 Initiate and participate effectively in a range of collaborative discussions (one-on-one, in groups, and teacher-led) with diverse partners on *grades 11–12 topics, texts, and issues*, including those by and about Minnesota American Indians, building on others' ideas and expressing their own clearly and persuasively.

- A. Come to discussions prepared, having read and researched material under study; explicitly draw on that preparation by referring to evidence from texts and other research on the topic or issue to stimulate a thoughtful, well-reasoned exchange of ideas.
- B. Work with peers to promote civil, democratic discussions and decision-making, set clear goals and deadlines, and establish individual roles as needed.
- C. Propel conversations by posing and responding to questions that probe reasoning and evidence; ensure a hearing for a full range of positions on a topic or issue; clarify, verify, or challenge ideas and conclusions; and promote divergent and creative perspectives.
- D. Respond thoughtfully to diverse perspectives; synthesize comments, claims, and evidence made on all sides of an issue; resolve contradictions when possible; and determine what additional information or research is required to deepen the investigation or complete the task.

11.9.2.2 Integrate multiple sources of information presented in diverse formats and media (e.g., visually, quantitatively, orally) in order to make informed decisions and solve problems, evaluating the credibility and accuracy of each source and noting any discrepancies among the data.

11.9.4.4 While respecting intellectual property, present information, findings, and supporting evidence, conveying a clear and distinct perspective, such that listeners can follow the line of reasoning, alternative or opposing perspectives are addressed, and the organization, development, substance, and style are appropriate to purpose, audience, and a range of formal and informal tasks (e.g., persuasion, argumentation, debate).

11.9.6.6 Adapt speech to a variety of contexts, audiences, tasks, and feedback from self and others, demonstrating a command of formal English when indicated or appropriate.

- A. Apply assessment criteria to evaluate oral presentations by self and others.

Language Benchmarks

11.11.1.1 Demonstrate command of the conventions of standard English grammar and usage when writing or speaking.

- A. Apply the understanding that usage is a matter of convention, can change over time, and is sometimes contested.
- B. Resolve issues of complex or contested usage, consulting references (e.g., *Merriam-Webster's Dictionary of English Usage*, *Garner's Modern American Usage*) as needed.

11.11.2.2 Demonstrate command of the conventions of standard English capitalization, punctuation, and spelling when writing.

- A. Observe hyphenation conventions.
- B. Spell correctly.

11.11.3.3 Apply knowledge of language to understand how language functions in different contexts, to make effective choices for meaning or style, and to comprehend more fully when reading or listening.

- A. Vary syntax for effect, consulting references (e.g., Tufte's *Artful Sentences*) for guidance as needed; apply an understanding of syntax to the study of complex texts when reading.

11.11.4.4 Determine or clarify the meaning of unknown and multiple-meaning words and phrases based on *grades 11–12 reading and content*, choosing flexibly from a range of strategies.

- Use context (e.g., the overall meaning of a sentence, paragraph, or text; a word's position or function in a sentence) as a clue to the meaning of a word or phrase.
- Identify and correctly use patterns of word changes that indicate different meanings or parts of speech (e.g., *conceive, conception, conceivable*).
- Consult general and specialized reference materials (e.g., dictionaries, glossaries, thesauruses), both print and digital, to find the pronunciation of a word or determine or clarify its precise meaning, its part of speech, its etymology, or its standard usage.

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- Verify the preliminary determination of the meaning of a word or phrase (e.g., by checking the inferred meaning in context or in a dictionary).

11.11.6.6 Acquire and use accurately general academic and domain-specific words and phrases, sufficient for reading, writing, speaking, and listening at the college and career readiness level; demonstrate independence in gathering vocabulary knowledge when considering a word or phrase important to comprehension or expression.

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Program Understandings for English 11:

The student will understand that:

1. effective readers use specific strategies to help them better understand the text (e.g. using context clues, questioning the author, predicting what will come next, rereading, summarizing, logical inference, central ideas, or themes and analysis).
2. effective readers use nonfiction text features from print and non-print text to help them acquire knowledge and understanding.
3. effective readers analyze evaluate, and synthesize information from multiple sources in order to answer questions, solve problems, justify a claim, and evaluate multiple perspectives.
4. effective readers read complex texts independently, proficiently, and fluently, sustaining concentration and monitoring comprehension to: meet personal, workplace, and social needs as critical and creative thinkers...
5. effective writers use a variety of strategies to create print and non-print texts for different audiences and purposes; write effectively using the writing process: prewriting, drafting, revising, editing, publishing.
6. effective communication with a variety of audiences for different purposes requires adapting their oral and written expression and visual images to their specific purpose...; listening and viewing reflectively and critically...
7. effective research and use of technology includes: asking questions, examining problems and considering ideas that focus on issues and interests; seeking information from print and non-print resources, online databases, and appropriate Internet sites; finding, evaluating, summarizing, and synthesizing information from a variety of sources and perspectives; sharing the findings in presentations appropriate to the purpose and audience; documenting sources and respecting intellectual property.

Understandings: *Students will understand that...*

- Effective communication is essential.
- Writing with clarity, whether in blueprint format or in essay format, is important in the workplace.
- Reading and using reading strategies will help one be more effective in the workplace.
- Collaboration helps all levels of management in a workplace.

Essential Questions:

- How does one collaborate across departments or jobs to create an effective product?
- How does one acquire skills needed to read effectively in a technical context?
- How does one present information in an effective and engaging way?
- How can one write with clarity for engaging a specific audience?

Students will know:

- How to read for the information they need from text.
- How to present their information in a formal and engaging way.
- How to write with clarity and purpose.
- How to collaborate with others in communication.

Students will be able to:

- Collaborate effectively with coworkers/management
- Read technical manuals with efficiency
 - Use reading strategies when reading becomes difficult
- Write with formality and clarity
- Present information in a formal and effective way

Appendix C

Sample Curriculum Pacing
(Based on a 12-week Trimester Schedule)

		# of Days		Course Description
Unit	Title	Min.	Max	
1	Intro to Real World Reading and Writing	5	10	<p>Workplace Literacy Intended Audience: Grades 11 and 12 Credit: One trimester = 0.5 credit Major Outcomes:</p> <ul style="list-style-type: none"> • Establish a variety of workplace reading and writing strategies • Use situated literacy to ground real world skills • Apply skills such as writing, reading, and collaboration in practical ways <p>Projects, Activities, etc.: Students will learn a variety of reading and writing strategies, participating in small activities to gain knowledge. As an application of knowledge, students will be able to create their own manuals, blueprints, recipes, etc. and create a product.</p> <p>Instructional Focus: Application of literacy skills in real world situations</p>
2	Reading Strategies	5	10	
3	Writing Strategies	5	10	
4	Project-based Writing	10	15	
5	Project-based Reading	10	15	
6	Follow-up and Presentation of Materials Created	5	10	

12-Week Trimester Schedule
(Optional Timing; Feel Free to Make this Your Own)

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Monday	Tuesday	Wednesday	Thursday	Friday
Intro to Real World Reading and Writing	Writing Assessment	Reading Assessment		
Reading Strategies				
Writing Strategies				
Project-based Writing				
Collaboration Day	Collaboration Day	Collaboration Day	Collaboration Day	Collaboration Day
Project-based Reading				
		Building Days	Building Days	Building Days
Presentation of Material	Presentation of Material	Presentation of Material	Presentation of Material	Presentation of Material
		Final Self-Assessment		Final

Appendix D

Sample Assignment Sheet

To begin:

- For this assignment, students will be broken up into cohorts based on their area of interest. These groups will serve as your collaborators as you create your project. From those groups, you will select a partner to work with closely.
- This is the person you will be writing and reading and creating with for the duration of the project. Choose wisely!

After choosing a partner:

- You and your partner will decide what you want to create for this project. Do you want to bake a wedding cake? Do you want to change the oil in your car? Do you want to build a model house? It's up to you!

Once you decide:

- You will then determine what written materials need to be created (not limited to this list).
 - For Example:
 - Blueprints
 - Manuals
 - Recipes
 - Designs
- You need to choose at least two written materials to create!
- While writing these materials, you will be assigned a collaborating group from a different expertise. You will be working with your partner group to ensure clarity of your writing materials.

After the writing materials are created:

- You will be assessed on the proficiency of your writing based on the rubric attached (Appendix H).
- Once assessed, you will be given the opportunity to reflect on and revise your written materials.

Here's where it gets interesting:

- You will now trade written materials with your collaborating group from a different expertise. You will be using their written materials to create whatever their instructions tell you.
- You will have opportunities to check in with and ask questions of your collaborating group.

While reading the materials:

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- You will be using reading strategies (taking notes, making annotations, consulting expert writings, etc.) to accomplish the task set before you.
- You will build, bake, repair whatever your group has given you instructions for. You will be assessed on your reading strategies and not on your creation of the project (it's okay if you can't bake or build).

Finally:

- You will be assessed on your ability to use reading strategies, the accuracy of following the steps, the collaboration with your peers, and your communication.
- Your reading assessment will be based on the attached rubric (Appendix J).

Overall:

- Your overall grade will be based on a holistic rubric (Appendix K).

Appendix E

Sample Lesson Plan for Project

This lesson plan takes place in the middle of the project. Students will be writing their supporting materials and are now working with their collaborating group to ensure clarity and readability. This lesson will take place before the written materials are assessed as peer review.

LEARNING OBJECTIVES What will your students know and what will they be able to do? Be specific. Use action verbs. Need to be measurable.	ASSESSMENT Measure the objectives. Informal /formative (during the lesson) formal/summative (after)
I can understand how to collaborate effectively with coworkers/management. I can understand how to present information in a formal and effective way I can read technical manuals with efficiency and use reading strategies when reading becomes difficult.	Students will use a self-assessment to reflect on their communication and collaboration. After the project concludes, students will be formally assessed on their communication and collaboration via a holistic rubric.

LESSON COMPONENTS	SEQUENCE OF LEARNING TASKS/ ACTIVITIES <i>Differentiation</i> <i>Bold student engagement</i>
Opening / Motivation/Connection	Because this is the first time students will be doing this, they will need some guided instruction on how to give feedback effectively. Use model materials for this instruction (a manual, blueprint) that are not complete. Break students into pairs to have them read through the information. When coming back together, have students explain what is missing. Using an interactive whiteboard, write the answers in the form of feedback on the materials.
Presentation/Practice/Application/ Practice/Assess (formative assessment throughout lesson) (modeling, visuals, demos, hands-on, interaction, think alouds, questions with discussion)	The collaborating groups will work together today; therefore, they should move desks/tables to have a space to conference. Initially they will trade written materials. Taking their collaborating group's materials, each student and their partner will read and analyze the materials. They will provide feedback: asking questions and for clarification; addressing confusing bits of writing; requesting diagrams or pictures.
	After the initial analysis is done, students will gather together and relay their feedback. Through respectful communication, students will help each other create meaningful materials that are clear and helpful to the task at hand.
Closure (Involving students to measure if objectives met)	Students will have an instructor-created self-assessment to reflect on the discussion of the day. They will branch off with their partner, and together they will analyze the feedback they received from their peers. Using this feedback, they will make changes to their written materials in the following days.

Appendix F

GRASPS

Goal:

- Your task is:
- The goal is to:
- The problem or challenge is:
- The obstacles to overcome:

Role:

- You are:
- You have been asked to:
- Your job is:

Audience:

- Your clients are:
- The target audience is:

Situation:

- The context you find yourself in is:
- The challenge involves dealing with:

Product, Performance, and Purpose:

- You will create a:
in order to:
- You need to develop:
so that:

Standards and Criteria for Success:

- Your performance needs to:
- Your work will be judged by:
- Your product must meet the following standards:

Modified from Wiggins, G., & McTighe, J. (Ed.). (2005). *Understanding by design* (Expanded 2nd ed.). Alexandria, VA: Association for Supervision and Curriculum Development.

Appendix G

Rubric for Formative Writing Assignments

	4: Sophisticated	3: Skilled	2: Sufficient	1: Insufficient
Use of Word Choice for Clarity and Engagement	Sophisticated use of word choice to make message clear consistently throughout the text.	Skilled use of word choice to make message clear within most of the text.	Sufficient use of word choice to make message clear within parts of the text.	Insufficient use of word choice to make message clear. Writing is unclear throughout.
Evidence/APA citations	Evidence shows sophisticated understanding of the concepts presented in the text. APA citation has no errors.	Evidence shows skilled understanding of the concepts presented in the text but does not explain thoroughly. APA citation has few errors.	Evidence shows sufficient understanding of a few concepts presented in the text. APA citation has multiple errors.	Evidence is insufficient to prove understanding of concepts presented in the text. APA citation is missing.
Explanation/Support of Evidence	Sophisticated and detailed analysis of how textual evidence enhances instruction or message of the text.	Thorough analysis of how textual evidence strengthens instruction or message of the text.	Brief and/or incomplete analysis of how textual evidence assists instruction or message of the text.	Little to no analysis of how textual evidence assists instruction or message of the text.
Writing Conventions	Includes few or no mechanical errors that do not distract from meaning.	Includes a few mechanical errors that distract a little from meaning.	Includes several mechanical errors that distract significantly from meaning.	Includes numerous mechanical errors that make meaning difficult to decipher.

Appendix H

Rubric for Written Aspect of Cohort Project

	4: Sophisticated	3: Skilled	2: Sufficient	1: Insufficient
Evidence of Word Choice for Clarity and Engagement	Sophisticated use of word choice to make message clear consistently throughout the text.	Skilled use of word choice to make message clear within most of the text.	Sufficient use of word choice to make message clear within parts of the text.	Insufficient use of word choice to make message clear. Writing is unclear throughout.
Collaboration	Sophisticated collaborative conversations that are professional in nature. Students address their “colleagues” with respect throughout the process, taking into account the needs of the other group.	Skilled collaborative conversations that are professional in nature. Students address their “colleagues” with respect throughout the process, taking into account most of the the needs of the other group.	Sufficient collaborative conversations that are mostly professional in nature. Students attempt to address their “colleagues” with respect throughout the process, taking into account some of the needs of the other group.	Insufficient collaborative conversations that are NOT professional in nature. Students do not address their “colleagues” with respect throughout the process, failing to taking into account the needs of the other group.
Evidence from Scholarly Materials and Explanation	Evidence shows sophisticated integration of the concepts presented in the text to enhance clarity. Explanation increases understanding for the intended audience. APA citation has no errors.	Evidence shows skilled understanding of the concepts presented in the text to enhance clarity but does not explain thoroughly. Explanation boosts understanding for the intended audience. APA citation has few errors.	Evidence shows sufficient understanding of a few concepts presented in the text but does not consistently provide clarity. Explanation somewhat boosts understanding for the intended audience. APA citation has multiple errors.	Evidence is insufficient to prove understanding of concepts presented in the text. Explanation is lacking or missing. APA citation is missing.
Writing Conventions	Includes few or no mechanical errors that do not distract from meaning.	Includes a few mechanical errors that distract a little from meaning.	Includes several mechanical errors that distract significantly from meaning.	Includes numerous mechanical errors that make meaning difficult to decipher.

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Appendix J

Rubric for Reading Aspect of Cohort Project

	4: Sophisticated	3: Skilled	2: Sufficient	1: Insufficient
Evidence of Reading Strategies / Comprehension	Sophisticated use of reading strategies (annotation, note-taking, summarizing, etc.) for enhanced comprehension.	Skilled use of reading strategies (annotation, note-taking, summarizing, etc.) for comprehension.	Sufficient use of reading strategies (annotation, note-taking, summarizing, etc.) for comprehension. Some misunderstandings occur.	Insufficient use of reading strategies (annotation, note-taking, summarizing, etc.) for comprehension. Many misunderstandings occur.
Collaboration	Sophisticated collaborative conversations that are professional in nature. Students address their “colleagues” with respect throughout the process, asking relevant and essential questions when needed.	Skilled collaborative conversations that are professional in nature. Students address their “colleagues” with respect throughout the process, asking mostly relevant and essential questions when needed.	Sufficient collaborative conversations that are mostly professional in nature. Students attempt to address their “colleagues” with respect throughout the process, asking somewhat relevant questions when needed.	Insufficient collaborative conversations that are NOT professional in nature. Students do not address their “colleagues” with respect throughout the process, failing to ask relevant and essential questions when needed.
Cross- referencing materials	Sophisticated use of cross-referencing materials; using all texts created by cohort partners as well as scholarly materials to increase understanding and credibility.	Skilled use of cross-referencing materials; using all texts created by cohort partners as well as scholarly materials to increase understanding.	Sufficient use of cross-referencing materials; using all texts created by cohort partners as well as some scholarly materials to increase understanding and credibility.	Insufficient use of cross-referencing materials; using all texts created by cohort partners but no scholarly materials to increase understanding and credibility.
Production	Sophisticated use of materials to create the intended project.	Skilled use of materials to create the intended project.	Sufficient use of materials to create the intended project.	Insufficient use of materials to create the intended project.

Appendix K

Holistic Rubric for Cohort Project

Score	Description
4	Cohort project is completed with sophistication and proficiency. Collaboration between the two groups is obvious and professional. Writing is clear and concise, and reading strategies enhance understanding in production phase.
3	Cohort project is completed with skill and proficiency. Collaboration between the two groups is professional. Writing is clear, and reading strategies enhance understanding in production phase.
2	Cohort project is sufficiently completed. Collaboration between the two groups is mostly professional. Writing is mostly clear, and reading strategies somewhat enhance understanding in production phase.
1	Cohort project is not completed satisfactorily. Collaboration between the two groups is not professional. Writing is confused, and reading strategies are not used for understanding in production phase. Project may not be completed.