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EASTERN KENTUCKY UNIVERSITY

Stronger Together: The Reality of Humanities Curriculum in a STEM Focused
Era

Honors Thesis
Submitted
In Partial Fulfillment
Of The
Requirements of HON 420
Fall 2016

By Morgan Dalton

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Stronger Together: The Reality of Humanities Curriculum in a STEM Focused
Era

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Abstract description: The world of education is constantly changing. However, the way the pendulum is currently swinging has placed the Humanities, what has been seen as the framework since ancient times, under attack. Currently, that pendulum has become predominately focused on STEM education, and many budget cuts are being made to any part of the curriculum that does not fall under that category. This is not only seen in college and the job market, but in K-12 education. Pre-service teachers focusing on a STEM subject are often offered more incentives. Many college bound students are also shying away from the arts, especially when it comes to teaching them, because there is a real lack of support and a portrayed lack of jobs. It is often seen in the K-12 world, especially high school, that it is more important for a student to hone in on their STEM centered skills. I believe English education is still vital because with the focus of becoming a global competitor in the fields of STEM, we must consider the challenges of communication through writing and speaking. Thus the challenge is to embrace English as the foundation of achieving excellence. The art of communication (verbal, written, etc.) is often misplaced in a world that is technology driven. By leveling the playing field and creating equity among career

majors and teaching candidates, we can create an educational system that best prepares our students for a global market and competition.

Keywords and phrases: STEM, humanities, liberal arts, education, incentives, budget cuts, education majors

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Introduction

A liberal arts education is not a new or novel concept. In fact, it can be dated back to the ancient times: “The origin of a liberal arts education dates back to the ancient Greeks, particularly to Socrates and Plato. A liberal education was considered to be a framework for developing free people to be active members of civic life” (Schneider, 108). In today’s educational and economic climate, though, it seems that the framework we hear about is found in the value of STEM education. The world of education is constantly changing. However, the way the pendulum is currently swinging has placed the Humanities, what has been seen as the framework since ancient times, under attack. Currently, that pendulum has become predominately focused on STEM education, and many budget cuts are being made to any part of the curriculum that does not fall under that category. According to the article “What is STEM? A Discussion About Conceptions of STEM in Education and Partnerships”, the acronym STEM stands for science, technology, engineering, and mathematics and is often seen as “the push for graduating more students in the science, technology, engineering, and mathematics fields” (Breiner). The recent push in STEM education started as an effort “so the United States can maintain its competitiveness and not fall behind emerging countries” (Breiner). Dating back to Sputnik and President Kennedy, the government has favored STEM related subjects in schools. While this originated as a way to make up for the embarrassment that was Sputnik, it has now become an attack on liberal arts education, as seen by the ever-present budget cuts. Kentucky Governor Matt Bevin and his proposed budget is a prime

example of these budget cuts. If he were to get his way, these budget cuts would be the end of a liberal arts and humanities education as we know it. In the article “Universities Need Broad Funding, Even for Teaching French Literature”, he was quoted stating that “funding that incentivizes outcomes that are specific to the things people want ... All the people in the world who want to study French literature can do so, they’re just not going to be subsidized by taxpayers like engineers will be” (Peters). His attack on humanities education is interesting, especially considering his bachelor’s degree in Japanese and East Asian Studies. Bevin is not the only one putting a priority on STEM education, though.

As an English teaching major, far too often my subject of study is being put on the back burner for both scholarship opportunities, and at the university level, in a variety of ways. Time and time again, people pursuing English degrees are being asked, “well what are you going to do with that, be poor?” In our current STEM focused world, English and all that encompasses a liberal arts education is not as valued as STEM content. This is not only seen in college and the job market, but in K-12 education. Pre-service teachers focusing on a STEM subject are often offered more incentives. Many college bound students are also shying away from the arts, especially when it comes to teaching them, because there is a real lack of support and a portrayed lack of jobs. It is often seen in the K-12 world, especially high school, that it is more important for a student to hone in on their STEM centered skills. In fact, according to the article “Kentucky’s School Funding Cuts Among the Nation’s Deepest”, author Ashley Spalding explains how Kentucky has become ranked 11th out of 47 in budget cuts. “Kentucky has cut

per-student investment in K-12 schools by 11.4 percent between 2008 and 2015 once inflation is taken into account” (Spalding). While budget cuts are hurting all schools in an overarching way, they are particularly hitting hard in the humanities department. It is much more common for a school to cut a humanities elective over a STEM elective. However, by doing this, we are forgetting an essential component to all professions. My thesis is driven by the desire to explore and explain why the humanities, specifically English, is still vital to K-12 education and how it can be utilized. Students are entering the college level without the basic ability to write a paper. Subsequently, they are now needing remedial English classes at a growing rate. This is a problem. I believe English is still in schools because it is at the core of every profession. Communication, and knowing how to do it properly, is the core of English classes. Proper communication is an issue that affects much more than just humanities majors. It is a growing epidemic among all college educated students that is being plagued by use of technology and the social media era. If you cannot communicate properly, then you cannot share your research, findings, etc. that could change the world.

Students are not only entering college unprepared due to a lack of proper humanities education in high school, but they are also becoming encouraged to stay away from entering a humanities field for their profession. Because they are seeing our government prioritize and make such harsh cuts to a liberal arts education, students get the perception that those studies are not valued or important. Government officials making these budget cuts have also created the

perception that since there is no value in these subjects, there certainly is not any jobs to be had in these respective markets. In the state of Kentucky, current Governor Matt Bevin has left education under attack. In his proposed budget for K-12 education, Brad Hughes, a representative of the Kentucky School Boards Association, was quoted in the article “Kentucky Schools Face Funding Cuts Despite Being Priority in Gov. Bevin’s Budget” as declaring “this is probably the most severe across-the-board proposal for K-12 that I can recall” (Spears). K-12 is not the only area being attacked under proposed budgets. Higher education, specifically within the humanities, is facing serious budget cuts. Eastern Kentucky University is one of many colleges across the state facing the decision of what programs to cut. Unsurprisingly, according to Marjorie Kirk’s article “Seven Programs Face Cuts at ECU”, three of the seven on the chopping block are French, Theatre, and Journalism (Kirk). Despite all of this, there are a variety of important professions and careers that are housed within the humanities such as teachers, lawyers, editors, public relations, counseling, etc. The current perception, however, is there is not a demand in the job market for humanities majors. There is also the perception that humanities major do not make enough money to justify investing so much in a college degree. Part of the reason that a college degree is such an expensive investment for humanities major is the lack of scholarship and grant opportunities, which brings things full circle. There are plenty of findings to debunk this perception, though. There is not only research that shows a liberal arts education helps make the best overall student, but that there is also plenty of demand and value within a humanities degree.

My interest in this topic is designed around supporting the importance of a core foundation of English in a STEM focused educational world, and will specifically focus on how this affects high school upperclassmen and their college and career readiness prep. English is at the core of all professions, and without the ability to communicate effectively, students will not be successful in their future endeavors. Seeing reports of people like Governor Bevin state that he plans on cutting funding for non-STEM related majors because they are not as valuable to our Commonwealth just further proves why my Thesis is relevant. I am not arguing that STEM education is not valuable and important in schools, but rather that schools should be focusing on a holistic educational experience for their students that includes not only English, but History and the arts as well. In his article "In Defense of Equal Tuition for All Majors", author John Villasenor refutes the focus on stem argues it best by stating:

"For starters, in contrast with what occurs in many other countries, in the United States we regard the undergraduate years as a time when many students are still in the process of deciding on a career. Erecting tuition-based barriers would undermine some of the breadth and flexibility that has traditionally defined the American undergraduate experience, and which arguably helps develop the agility of thought that is such a vital ingredient of American innovation. More fundamentally, if we want to bring more college students into STEM fields and other "strategic" disciplines, we shouldn't have to purchase their interest through tuition discounts. Rather, we need to do a better job of conveying to young people why careers in

STEM and related fields can be rewarding in ways that go well beyond first-year salary numbers. That is a process that should occur largely at the elementary- and secondary-school levels, and one at which America could do far better.”

I believe English education is still vital because, with the focus of becoming a global competitor in the fields of STEM, we must consider the challenges of communication through writing and speaking. Thus the challenge is to embrace English as the foundation of achieving excellence. The art of communication (verbal, written, etc.) is often misplaced in a world that is technology driven.

Incentives for STEM vs. non-STEM majors

TEACH Grants are a wonderful opportunity provided by the federal government. The TEACH Grant is a program that provides grants to students who are planning on teaching what the federal government considers a high need subject area and a high need school (TEACH Grant). The federal list, which is the only one that is recognized universally at colleges, only includes STEM content and special education programs. However, there is a state list that colleges can choose whether or not they will recognize, that has a much more expansive list based on a local and its specific needs. English Teaching majors at a state university located in central Kentucky, among other humanities content majors at colleges across the state, are then denied the opportunity to receive a TEACH Grant. When questioned in an email upon Eastern Kentucky University's TEACH Grant decisions, EKU's President, Michael Benson, stated that he deemed it too risky for them to get a job teaching English upon graduation. In the

same email, President Benson was asked why ECU only recognizes the federal list, and not the state list which many humanity courses are on, and Benson stated that “For the protection of our students, ECU uses the Federally-defined shortage areas in order to determine eligibility for the TEACH grants. In teaching fields such as secondary English, jobs can be difficult to secure, and if the TEACH grant service obligation is not met, these grants convert to unsubsidized loans. The result is an enormous additional debt for the student” (Re: TEACH Grant). President Benson and ECU are not alone, though. Many colleges choose not to recognize the state list of their respected location due to the liability. For a program that is designed to help recruit the best of the best to the teaching profession, it is seemingly an injustice that it is only being truly utilized for certain subjects. TEACH Grants are just one example of where STEM majors are favored, though.

There are also a variety of scholarships and programs that favor STEM majors over the humanities major. An excellent example of this is government issued FAFSA loan forgiveness. While STEM related teachers can be granted up to \$17,500 in FAFSA loan forgiveness, humanities related majors are only eligible for \$5,000. There are other programs, such as Teach Kentucky and Teach for America, that recruit primarily STEM majors. While there is small print that states they will consider other teaching majors, the Teach Kentucky website predominantly advertises that they recruit Math and Science teachers. Under the Critical Hiring Needs tab, the subjects listed are Math, Sciences, and Spanish.

While its big brother, Teach for America, technically recruits all majors, they are known to pull out the red carpet for STEM majors.

In fact, Kentucky's neighbor state Indiana recently launched a program that provides 9.7 million in grants for recruiting and training STEM teachers through the STEM Teacher Recruitment Fund. According to an article on Conexus Indiana, "More than 115,000 new STEM jobs are projected for Indiana by 2018, with 40 percent requiring post-secondary education leading to an associate's degree, and 60% requiring a four-year degree." Indiana's governor Mike Pence was even quoted stating that "Our employers tell us that tomorrow's workers will need more STEM skills, and Indiana's goal is to identify and encourage quality teachers to broaden our students' learning experiences. Continuing to recruit top educators and expand our students' options will only enhance the outstanding work of our teachers, but also help our students as they make decisions about future career opportunities" (New Stem Grants Provide 9.7 Million to Support Teacher Recruitment and Training). Where is this support for humanities majors you ask? The unsurprising answer is nowhere to be found. Kentucky governor Matt Bevin has even stated that our commonwealth needs fewer English teachers and more engineers. As if his budget cuts did not make it apparent where his educational priorities clearly lie, comments like these speak for themselves.

Governors, among many other politicians, are not the only elected officials guilty of prioritizing STEM educators. The United States Department of Education and President Obama are at the center of creating and proposing incentives for

STEM teachers. Obama is among the many who believe there is a growing need for STEM, but not enough interest and mastery in teaching it. According to the US Department of Education website, their plan for improving STEM education is for “The Committee on STEM Education (CoSTEM), comprised of 13 agencies—including all of the mission-science agencies and the Department of Education—are facilitating a cohesive national strategy, with new and repurposed funds, to increase the impact of federal investments in five areas: 1.) improving STEM instruction in preschool through 12th grade; 2.) increasing and sustaining public and youth engagement with STEM; 3.) improving the STEM experience for undergraduate students; 4.) better serving groups historically underrepresented in STEM fields; and 5.) designing graduate education for tomorrow's STEM workforce” (Science, Technology, Engineering and Math: Education for Global Leadership). In fact, the website lists that there are dozens of grants available for teachers pursuing a degree to teach a STEM subject.

Our nation’s educational fascination with STEM education did not begin with President Obama. In fact, it can be traced back to the space race and President John F. Kennedy. In his article “Launch Changed U.S. Science, Math Education”, author Steve Rissing explained that “The National Defense Education Act of 1958 funded new science education equipment for primary and secondary schools, as well as loans to college students in science and related fields. The budget of the National Science Foundation, formed in 1955, tripled the year after Sputnik's launch” (Rissing). After the world faced the embarrassment and wakeup call of Sputnik exploding on live television, it did not take long for the

education reform to become a focus effort toward change. While educational reform was needed during its time period, our nation has continues to focus on it. Over fifty years have passed since, and the pendulum is still swayed in the favor of STEM. The educational priorities of our nation have been so focused on how to train and attract competent STEM teachers that they have neglected doing the same for all subjects. Because of this, the United States is lacking behind other nations educationally in many aspects. Our focus in STEM education has been argued as the way to make students globally competitive. However, the Program for International Student Assessment (PISA) “placed the U.S. an unimpressive 35th out of 64 countries in math and 27th in science” (Desilver, U.S. Students Improving—Slowly—in Math and Science, but Still Lagging Internationally). In fact, the United States tied for last among industrialized nations. As shown in the graphic below, students in the United States are falling far behind their peers in all subjects:

U.S. students lag behind international peers

In tests of reading, math and science, U.S. 15-year-olds were outperformed by many of their counterparts in Asia and Europe — in some cases placing below the international average.



NOTE: Scores were on a 1,000-point scale.

SOURCE: Organization for Economic Cooperation and Development

AP

Figure 1. PISA study results that show where U.S. stands globally. Reprinted from Yahoo, k.h., Retrieved 13 November 2016, from <https://www.yahoo.com/news/asian-nations-dominate-international-test-100159386.html?ref=gs>. Copyright 2012 by Organization for Economic Cooperation and Development. Reprinted with permission.

In fact, U.S. students fall below average in every subject except for reading, where they are only two points ahead. STEM focused curriculum is portrayed in the K-12 world, especially high school, as the more important study for a student to hone in on their STEM centered skills. Not only does the PISA statistics show a disappointing U.S. education presence on a global scale, but so does the National Assessment of Educational Progress (NAEP). According to the NAEP results for 2015, we performed lower than we have in previous years in core content areas such as mathematics and reading and our scores in science have did not improve. (Average Mathematics Score Lower and Reading Score Unchanged). Both studies show that despite the heavy STEM focus, our nation's

students are not growing in those academic areas. Data is evidence, so where is this realistically getting our students if we are still ranking so poorly in these areas? Schools are offering more career pathways, AP classes, and college based opportunities for STEM subjects at the same rate that they are cutting music and humanities related programs. However, by doing this, we are forgetting an essential component to almost all professions. Not only is the academic focus on STEM statistically found to not be improving our students competing globally, but they are falling behind in reading scores, too. In his article “U.S. Students Slide in Global Ranking on Math, Reading, Science,” author Bill Chapel also uses the PISA scores in discovering that “In reading, 19 other locales scored higher than U.S. students — a jump from nine in 2009, when the last assessment was performed” (Chapel). With the argument of being globally competitive out the window, there is not a strong foundation for such a focus in STEM. Instead, by providing the holistic educational experience where STEM and Humanities work together, our students might actually see a rise in scores that make them competitive with fellow industrialized nations. Today’s students are tomorrow’s leaders, nationally and globally and we cannot afford to give them the best foundation possible.

Recent Legislation in Kentucky

The shift in educational focus and priority in the state of Kentucky started with the Kentucky Education Reform Act (KERA) in 1990. It started in 1989, with the Kentucky Supreme Court declaring the state’s educational system unconstitutional because there was unequal funding. In Jack D. Foster’s article

“The Role of Accountability in Kentucky’s Education Reform,” he gives the list that the state, by passing KERA, declared that students should be able to do the following specific tasks:

1. use basic communication and mathematics skills for purposes and situations they will encounter throughout their lives.
2. develop their abilities to apply core concepts and principles from mathematics, sciences, arts, humanities, social studies, practical living studies, and vocational studies to what they will encounter throughout their lives.
3. develop their abilities to become self-sufficient individuals.
4. develop their abilities to become responsible members of a family, work group, and community, including demonstrating effectiveness in community service.
5. develop their abilities to think and solve problems in school situations and in a variety of situations they will encounter in life.
6. develop their abilities to connect and integrate experiences and new knowledge from all subject matter fields with what they have previously learned and build on past learning experiences to acquire new information through various media services. (Foster, 35).

This led to a complete overhaul in the state’s curriculum, particularly in the importance of assessment scores and use of technology in the classroom. There was a sudden shift in the stakes tied to state assessment scores, which is what caused the shift that is known as teachers “teaching for the test.” With the introduction of KERA, students were not only wanted, but expected, to at least meet benchmark on all testing. Not only did expectations change, but so did the number of tests and the type of tests. Students who had never truly experienced this level of education were being thrown in head first, and their teachers were

expected to immediately have them perform. KERA also increased the use of technology in the classroom, which could be considered a birth of the STEM focus. Because funds were being allocated to give schools across the state proper technology, teachers were required to use it in their classrooms as a means to present curriculum. When these funds were re-allocated, it was the first time that the state's government really stepped in and made changes in the funding of education and it seemed to open the floodgates to what Kentucky is experiencing in present day.

Here almost thirty years later, since being sworn into office, Kentucky Governor Matt Bevin has waged war on education. In his proposed budget to refund state pensions, which are bankrupt from the government taking money that wasn't theirs in the first place, Governor Bevin proposes extreme cuts to K-12 and higher education. In fact, his proposed cuts were among some of the highest in the country. In his proposed budget, he planned on a massive overhaul that would base funding on performance and outcomes and making a 4.5 percent cut for the 2016 fiscal year and following it up with a 9 percent the next year (Mike Wynn). His proposed cuts were going to total 72 million if passed. Governor Bevin's cuts towards education specifically targeted after school and pre-school programs in the K-12 educational realm. He saved the big hits for higher education, though. Governor Bevin's proposed budget targeted universities, specifically their humanities programs. He argued that his plan was going to improve the commonwealth by funding those programs that were

important to our job market and success. Naturally, anyone with a vested interest in our state's best interests has come out swinging at Governor Bevin.

In fact, the Attorney General filed a lawsuit against Governor Bevin stating that he was overreaching his legal abilities as a governor by enacting an immediate 4.5 percent cut to higher education because his budget had not passed yet. Attorney General Andy Brashear filed the lawsuit stating that the immediate cuts were not within Governor Bevin's power as a governor, and was a much needed attempt to save state universities from the drastic measure. Governor Bevin enacted the immediate 4.5 percent cut when his proposed budget did not pass in the time frame he planned. Governor Bevin's 4.5 percent cut cost universities millions, and left them only a few months to come up with the funding. This resulted in cutting summer classes, degree programs, professors, etc. across the state. Governor Bevin even defended his decision by calling a journalist a "kid" on social media. Attorney General Brashear ended up losing his initial lawsuit, which ultimately left universities with quite the mess to clean up. However, the Kentucky Supreme Court ultimately ruled Governor Bevin's cuts illegal, with Justice Mary C. Noble stating that "The governor's reduction of the allotments of the universities in this case exceeded his statutory authority. Whatever authority he (the governor) might otherwise have to require a budget unit not to spend appropriated funds does not extend to universities, which the legislature has made independent bodies politic with control over their own expenditures" (Loftus, High Court Rules Against Bevin University Cuts). While this was certainly a win for colleges across the state, there is a lack in time

between the court's ruling and reallocating the funds. This has left many universities in the same predicament they were when Governor Bevin initially made the cuts. For many, it was too little too late, as they had already made cuts in classes, programs, and organizations on campus. Although the Supreme Court's ruling will eventually reverse the financial strain to colleges, the case has left a lasting impact on humanities programs across the state.

Governor Bevin's education cuts are not the only radical proposals in our state legislature. Senate Bill one was quite controversial in its first proposal as it suggested getting rid of program reviews for the arts and humanities and eliminating testing for Social Studies. Many educators argued that by making these changes to the curriculum would effectively eliminate Social Studies and Arts and Humanities content from the curriculum. And in our standardized testing focused world, when you take away testing from a subject, it's not an insane argument to make. Current Elizabethtown High School Social Studies teacher Corey Yates argued that "I have been in education long enough to understand when you lessen the significance of content you will have fewer informed, historically literate, and civic minded individuals to embrace the culture of our state. If 1/10 of the funding was put into Kentucky History and Culture, US History, or Civics Education as STEM and Pathway Learning, we would be going in a more appropriate direction than ignoring its worthiness of accountability altogether" (Yates). Elizabethtown High School Assistant Principal, BJ Henry, supported her colleague Yates by stating "A one-size fits all education is not appropriate and the pressure to increase STEM at the expense of social studies

and the arts is not an acceptable direction for a state that wants to keep its best and brightest while attracting others. Providing a well-rounded education enables our students to become productive members of society AND be better prepared to choose the right career path as adults” (Henry). Both of these current long time educators are arguing for the importance of a liberal arts education because they have personal experiences and can see the differences that subjects in the arts and humanities field has made for students. Many politicians have either never been in a school, or are far removed from their school house days. The lack of real educational experience, or being so far removed from it, is what leads to such a gap in the reality of what educators know is right for kids and the illusion of what politicians are passing and making happen in Frankfort and at the government level across the nation. Career politicians, like our current govern, are making decisions about what our schools need without spending a day teaching student’s and seeing what is important to them and their education. When you just look at something from a government perspective, it can be hard to see why programs like music, social studies, English, art, etc. are so important. If you are only looking at the economic value, it is hard to see how these programs can change lives for students, and even many times keep them in school.

Why Liberal Arts Education is of Value

One of the biggest arguments against liberal arts education is based on its value. Many of its opponents’ question if there is any value at the core of a humanities degree. Eastern Kentucky University’s President even stated that he

believed it was too difficult for a secondary English teaching major to get a job, and he's not alone. However, research done by the Association of American Colleges and Universities, as stated in the article "Money is a Terrible Way to Measure the Value of a College Major", confirms differently: "But the Association of American Colleges and Universities would like you to know that getting a degree in English or History, while perhaps not the *most* financially rewarding choice, doesn't require an oath of poverty either. Over a lifetime, they note, typical humanities and social science majors earn similarly to graduates who study practical, pre-professional fields such as education or nursing" (Weissmann). They are not alone in their research findings. Many show that there is a demand for humanities major. In fact, there is a steady incline in pre-professional field's desire for English majors for their critical thinking and writing skills.

In fact, poor writing skills are costing many companies a lot of money, and are costing many students a job. While many assume that writing is only involved in a select few professions, it is a factor in every job, profession, and career. Writing is simply one means of communication, which is all encompassing. Whether it is an email, sales pitch, or report, every employee has used some time of writing as a means of communication. While it may look different depending on the profession, there are a common thread of basics that employees need. This is a skill that is found in a humanities subject: English. Because of the growing shift in priority when it comes to education, many students are graduating not only high school, but college without proper writing skills. While it might not be as important

for all students to know the difference between an article and a gerund, they do need to be able to compose a sentence that properly communicates their thoughts and opinions. We are in a job market where there can be hundreds, if not thousands, of applicants. It takes a strong cover letter and resume to stick out to a potential employer. In fact, many CEO's have stated that if they find major flaws in a cover letter, they will not consider a candidate, no matter how otherwise qualified they might be. Once a person is hired, though, their need for proper writing and communication skills does not stop. As Kaleigh Moore discovered in her article "Study: Poor Writing Skills are Costing Businesses Billions", "Writing seems to be one of the skills requiring the most remedial training. A study from CollegeBoard, a panel established by the National Commission on Writing, indicates that blue chip businesses are spending as much as **\$3.1 billion** on remedial writing training—annually" (Moore). As she goes on to explain, this discrepancy is not due from a lack of education, but a lack of quality education in college when it comes to writing. Think those budget cuts are still such a solid plan, Bevin? Many businesses, and young professionals, are literally paying for the focus in STEM content, instead of having a balance that also provides them with a quality foundation in writing.

All of the research and issues mentioned above, yet again, prove how relevant my thesis is to our current educational community. It is often seen in the K-12 world, especially high school, that it is more important for a student to hone in on their STEM centered skills. The shift this has caused in schools is not one that is benefitting the student or teacher. In fact, by doing this, we are forgetting

an essential component to almost all professions. I am not arguing that STEM education is not valuable and important in schools, but rather that schools should be focusing on a holistic educational experience for their students that includes not only English, but History and the arts as well. My thesis will continue the research on this issue and add to the argument of why the humanities are vital to a responsible republic. When we prioritize one subject over another students will ultimately lose out. Instead, there needs to be a way for subjects to work together. Across the curriculum teaching is not a new concept, but it is a novel one. One of the easiest subjects to teach across the curriculum is writing because it is such a vital way of communication. While writing make look different in science than it does in an English class, it is still important for someone involved in a STEM related field to be able to fill out a lab report or properly relay their research findings. Without these skills, not only could a student lose out professionally, but that academic community could lose out on an important finding. Writing is important as its own entity, as well. How many times do we share articles on social media or gets our news from a print source? We are constantly reading, whether through our phones, through books, through magazines, or through newspapers. There is more to be said for a subject than its economic value. The challenge, therefore, is to embrace STEM without sacrificing all other curriculums to become competitive in a global society. Creating an educational experience that allows students to follow their passions, as well as makes them a well-rounded global citizen, should be the top priority of educators ranging from the kindergarten to graduate level.

Despite the widespread prioritization, though, many professors and advocates across the curriculum are speaking out against a focus on STEM content areas at the expense of the humanities. In his article “What is the Value of an Education in the Humanities”, scientist Adam Frank argues that “In spite of being a scientist, I strongly believe an education that fails to place a heavy emphasis on the humanities is a missed opportunity. Without a base in humanities, both the students — and the democratic society these students must enter as informed citizens — are denied a full view of the heritage and critical habits of mind that make civilization worth the effort” (Frank). He is one amongst many arguing that a holistic educational experience is what produces not only the best students, but the most responsible adults. Many see liberal arts as a frivolous waste of time. However, the standards and key components tied to the teaching of these subject, prove its relevance in today’s educational climate. Frank’s argument based in the idea a base in humanities is not only important for a person on the academic level, but also on a human level. Education is not only about teaching a student a trade or profession, but about making them a well-rounded citizen who will vote, help make policy changes, and shape our nation and world.

English is considered a core component in Common Core and Quality Core standards, which is the rulebook/guidelines of what is being taught in schools around the nation. Current language arts standards for high school English include buzz words like “clear and coherent”, “use technology”, analyze, and critique. All of these buzz words are critical thinking skills that can be used in subjects, and eventually professions, across the board. In fact, skills such as

critical thinking and analyzing are all skills that many STEM related graduate programs look for in prospective students. In a recent interview done of Karen E. Lawrence, President of Sarah Lawrence College for seven years at the time of the interview, she stated that the small liberal arts college “measures six critical abilities we cultivate across disciplines according to the rather unique pedagogy at Sarah Lawrence, which is 90 percent seminars. Those abilities are to think analytically, to communicate effectively in writing, to exchange ideas effectively orally, to bring innovation to your work, to think independently, and to take and act on criticism” (A New Tool to Measure the Value of Liberal-Arts Education). In fact, she goes on to explain that this is preparing students for the job market ahead, as the government and businesses are asking, and that “Part of the value is helping to shift the conversation. Not denying the importance of jobs--we need to recognize we're preparing students to enter the world of work and service--but not monetizing it so that he or she who has the highest salary two years out is somehow the winner or is valued more. That's a piece of social engineering that I think is kind of destructive” (A New Tool). Lawrence eloquently states the argument that all those who see the value of liberal arts are trying to make: there is more than money that determines value. She sees the significance of what the study literature and ancient history can provide students. While someone may not need to know why the theme and major plot points of Shakespeare's *Macbeth*, they do need to know how to read a piece of work and analyze and critique its content. They will need to be able to pick out points of importance in research or a case file to present to their partners.

The argument around liberal arts, and especially the need for English, is just that. It's not that student's will need to know the contents of classical novels, but that they will need the skills acquired by reading those novels. Not only does reading these pieces of classic literature help build marketable skills, but it allows students to understand many modern-day illusions in pop culture. Some of Shakespeare's most iconic work is represented in popular television shows such as *NCIS*, *CSI*, *The Simpsons*, and many Disney movies. Many of us make references to literature on an everyday basis and do not even realize it. Some of the classic phrases such as "a catch 22", "blood on my hands", "it was the best of times, it was the worst of times", and the idea of "big brother", just to name a few, come from various novels and plays. Books such as *1984*, *Catch 22*, *A Tale of Two Cities*, and Shakespeare's *Macbeth* are represented in these daily references we make, often without even realizing it. Reading literature that has been deemed as important by the powers that be gives many students a context for things they are seeing on a daily basis. Even without such references, there is still immense value both reading and writing, among other skills that the humanities teach. Some of the most important skills students will learn are found in their English classes. No matter what field students enter, they will need to know how to properly communicate. It's that liberal arts have viable job opportunities, and overall economic value. The President of Macalester College, Michael S. McPherson, argues that students cannot afford to not have a liberal arts education. In his article "The Economic Value of a Liberal Arts Education", McPherson claims "There is a strong case to be made that liberal education may

in fact be the most practical kind of education of all in the kind of society we are becoming. ... The reason can be seen clearly by reflecting on two of the most important trends affecting our economic system: rapid technological change and globalization” (14). He continues to argue why a liberal arts education best serves students in today’s economy, and wraps up his ideas by stating “That kind of education, I would argue, serves eminently well the practical purpose of equipping folks to make a living. But also, and more deeply, it is the kind of education that serves the equally practical purpose of preparing people to make a difference in the world” (17). McPherson’s argument is strong, and directly on target. As echoed by the previous liberal arts college President, the fundamentals and skills taught by a well-rounded and balanced curriculum that includes the humanities is what best serves students in today’s economic market.

College Presidents are not the only ones arguing the value of a liberal arts education. CEO’s, the persons who make decisions to employ soon to be college graduates, are also speaking out about the importance of a liberal arts education. In her article “The Liberal Arts in Business Education: Perspectives of a Multi-Time CEO”, author Abigail B. Schneider interviewed a former President and CEO out of Colorado to get her take on what employers are truly looking for in today’s job market. When explaining what hiring managers looked for in employees, President and CEO Jane Miller explained “Although business leaders tend to be more inclined to hire graduates with industry-specific skills, these same individuals rate soft skills, those skills central to a liberal arts education, as being far more important than either industry or job-specific skills” (109). Miller is

among the many looking for these soft skills, such as critical thinking, analyzing, and higher level thinking. In fact, these soft skills are what is making liberal arts graduates desirable not only in the job market, but in graduate programs such as pre-law and pre-med, as well. While there arguably needs to be a background in the respective field present, the ability to think deeper on their surroundings and situations is highly valuable to grad schools and employers. Considering grad school is quickly becoming the equivalent to a Bachelor's degree, and often allows its graduates to go into more lucrative fields, the notion that liberal arts degrees are not employable is an outdated myth.

The Playing Field Needs to be Levelled

An area that many educators do not consider is their students that may not be college bound. Schools are now being judged on making sure that students are both college and career ready. Many in the area have even implemented periods in their day called "CCR", which stands for college and career ready. According to the Kentucky Department of Education, the implementation of college and career ready standards was "The vision of the Kentucky Board of Education to ensure that all students reach proficiency and graduate from high school ready for college and careers. The board's vision is informed by a changing economy that requires P-12 schools to prepare students for a more complex and competitive workplace" (College/Career Readiness For All). The CCR standards were implemented in 2011 and were meant to help target those students who may be career, military, or vocational school bound. KDE benchmark for a student to be career ready is "a student who is preparatory in a Career and

Technical Education career major and has reached the benchmarks on WorkKeys or ASVAB and KOSAA or an Industry Certification (College/Career Readiness For All). By adding in career ready standards, many new doors and pathways were created for students who desperately needed them. Whether it is allowing seniors to be dually enrolled in vocational program their senior year, or constructing an entire building dedicated to technical and vocational programs, acknowledging these pathways is vital for students.

What is important to consider, though, is that even for these students who are career bound, a liberal arts education is still an essential component to success. In the article “The New Definition of Standards in American Education”, it is pointed out that “Quite unnoticed, a new definition of education standards has emerged--one that places greater relevance on the world of work. All learning is to take place within the context of a work situation or real-world environment with emphasis on workplace competencies” (Miller). Not only does a well-rounded education, that includes the humanities and STEM working together, create the best global citizen to go out into the work force, but it creates a student that can communicate with the people they encounter. A foundation in English, which is really a foundation in communication, is essential for both college and career bound students. If we do not show students how to be effective communicators, we are setting them up to fail no matter what their life path is. Writing takes many forms, whether it is a lab report, social media post, or five paragraph essay. Each career has their own form of communicating, but at the core of all of them is writing. Because writing can take so many forms, it is essential for English

teachers to work with teachers across the curriculum to find a balance best fit to student's needs. There are a variety of pedagogical approaches that can help teachers in finding this balance. One of the current trends in education is across the curriculum teaching, which lends itself wonderfully to teaching writing to career bound students. Expanding their ideas of what writing is beyond the traditional essay starts with showcasing the different forms that it comes in. By incorporating writing in a variety of subjects, students are exposed to the various modes it can be.

Not only is an equal playing field essential for student success, but for the success of teaching candidates. There is a clear and consistent argument supported by research that there deserves to be equal opportunities for those that pursue humanities majors in and among education and other professions. Beyond the argument that there needs to be equity in and among career majors and K-12 education, there is the reality of how to establish it. So how do we, as an educational and professional community, get there? For starters, the playing field needs to be leveled. In respect to education majors, there needs to be equal scholarship and grant opportunities. In order for our students to get the best education, our schools need to attract the best teachers for each subject. To recruit the best of the best, we must respect each subject and create a climate that attracts prospective teachers.

In fact, school climate and teacher burn out are the issues most effecting teachers and teacher retention in schools. Teachers are already fighting a climate of teaching to a test and being evaluated on how their students perform

on said test. For many teachers, student success on standardized tests can be a job risking or securing number. When you add this with declining appreciation for humanities subjects, it is an uphill battle for the profession to attract teachers who are passionate about their jobs and the children they are teaching. By establishing equity among teachers, and creating a school climate where all teachers feel appreciated, the profession will be able to attract better teaching candidates. But how do we get there?

Establishing Equity in and Among the Career Majors, Including Teaching Candidates

Students get their first dose of “what am I going to do with my life?” in the sixth grade. In an effort to encourage and support to explore careers, the Kentucky Department of Education created and implemented the Individual Learning Plan (ILP) for all Kentucky students. The plan promotes exploration and discovery of an individual’s skill sets and interests beginning with students in the sixth grade (Individual Learning Plan). The ILP is reviewed and revisited every year through the 12th grade allowing progression through their educational journey. The concept of the ILP is to allow students to prepare themselves for their future by designing a tailored plan of personal goals. The ILP is a beginning to allow student choice, however, in order to make critical changes the message needs to be changed. Many students either disregard their ILP results, or are given counterproductive messages from their teachers and educational leaders. If a student is given career options that are not considered desirable, they are often redirected in their career path. While the concept behind the ILP is to encourage students to follow a career path that their interests is tailored for, the

follow up for it does not always match. There are thousands of jobs listed on the ILP, but many students feel boxed in by following a field they know or a job they have seen represented in their life. Establishing equity among careers begins as early as sixth grade by encouraging a wide range of career possibilities for students.

Policymakers also have the responsibility to make the changes necessary to bring equity among all career majors. Instead of targeting state funding for certain majors over others, there needs to be equal funding for all student's pursuing a higher education. By targeting programs with state funding, it leaves universities in a predicament where decisions to meet the challenges of the financial cuts affect the humanities programs at a much higher rate than others. At Eastern Kentucky University alone, the English program has seen rapid changes through class caps, elimination of classes and class choices, and the impending release of lecture professors. Additionally, many of the humanities programs, such as Journalism and French, have consistently been on the "chopping block", whereas STEM related programs have not experienced the same pressures. The argument supporting funding of certain programs versus others is founded in the belief that there is not economic prosperity for graduates with a liberal arts degree. This concept could not be farther from the truth. In his article "11 Reasons to Ignore the Haters and Major in the Humanities" Max Nisen details 11 reasons as to why humanities majors are not only important for our Commonwealth, but why the majors are valuable across the nation. Among some of his best points, Nisen argues that "you actually learn how to think and write",

you'll "be able to do things that machines can't in a service economy", and "you learn to explain and sell an idea, and actually deal with people" (Nisen). While he takes a relaxed and comical tone with his article, the arguments he makes are no laughing matter. The research validates findings that our economy and those responsible for hiring are looking for individuals with the skills that a humanities major teaches on a daily basis.

This is why it is not only important for there to not only be equity among the career majors, but for teaching candidates, as well. If a liberal arts education, especially English, is so important for student success, then why is there no equity among teaching majors? Programs on the national level, such as TEACH Grants and Teach for America, continue to target and prioritize STEM teaching candidates over the humanities. Although English has not been on a federal list in quite some time, it is listed under many state level lists for need. This is similar for other humanities subjects, such as History. However, most universities will only recognize the federal list, leaving thousands of teaching candidates without an extraordinary opportunity. On a state level, programs like Teach Kentucky market under the same principals. Also, as previously mentioned, FAFSA forgiveness for student loans equates to a 12,000+ difference for STEM teaching candidates versus humanities teaching candidates. If we want to give our students the best education possibly, the opportunities that are available for STEM teaching candidates need to be comparable to those of humanities teaching candidates. To recruit and attract not only the best and the brightest to the profession, but the ones who will truly care about students and their success,

we have to start creating a positive school climate as early as those sixth grade ILP tests. Then, we have to continue that climate into their post-secondary careers and give them opportunities to pursue a degree without accumulating a mountain of debt.

The data is present and the research has been collected, observed and analyzed. Academics from all disciplines agree that STEM and humanities curriculum work best when they work together. To deny a student a proper holistic education denies them the chance to be the best and brightest that they can be to compete in a global society. To deny equal support to a student, regardless of career choice major, denies them the ability to properly communicate in academia and in career settings. By leveling the playing field and creating equity among career majors and teaching candidates, we can create an educational system that best prepares our students for a global market and competition.

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Figure 1. PISA study results that show where U.S. stands globally. Reprinted from *Yahoo*, k.h., Retrieved 13 November 2016, from <https://www.yahoo.com/news/asian-nations-dominate-international-test-100159386.html?ref=gs>. Copyright 2012 by Organization for Economic Cooperation and Development. Reprinted with permission.

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