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**Author**

Gonzales, Matthew J.

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Looking for Patterns of Injustice in the Everyday:
Critical Inquiry as Common Classroom Practice

A Thesis submitted in partial satisfaction of the
requirements for the degree of Master of Arts of Education

Teaching and Learning (Curriculum Design)


by

Matthew J. Gonzales


Committee in charge:

      Luz Chung, Chair
      Cheryl Forbes
      Claire Ramsey


2011

The Thesis of Matthew J. Gonzales is approved and it is acceptable in quality and form

for publication on microfilm and electronically:

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<div align="right">Chair</div>

University of California, San Diego

2011

**DEDICATION**

This thesis is dedicated to my wife, who listened to my ideas, gave me some of her own, and endured the tapping of keys late into the night as she slept. Thank you for putting up with me as I worked my way through this degree. I would also like to dedicate this work to the students who participated in the unit. Without their help and passion to improve their school, this project would have never been possible.

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ABSTRACT OF THE THESIS

Looking for Patterns of Injustice in the Everyday:
Critical Inquiry as Common Classroom Practice


by


Matthew J. Gonzales


Master of Arts in Teaching and Learning (Curriculum Design)

University of California, San Diego, 2011

Luz Chung, Chair

Much of the work that students do in high school classrooms does not call for students to seek a full understanding of what they are learning. This lack of depth often leaves students unprepared for the difficult work they will encounter in college. Research suggests that involving students in topics that interest them, as well as providing them with an authentic audience increases their motivation, and also helps students think more deeply about their work. The *Looking for Patterns of Injustice in the Everyday* (*LPI*) curriculum asks students to decide on and research an inequality in their community, then to share their findings with those who can make change.

*LPI* was implemented in a large Southern California high school classroom with students from mainly Hispanic, and low-income backgrounds. Students who participated in *LPI* completed regular reflections and compiled reports of their findings, as well as a

presentation to share with an adult audience. To evaluate students' growth, the teacher/researcher observed and recorded their conversations, as well as looked closely at the work they were producing.

The data collected showed that students began to use evidence more as well as engage in higher level thinking about their classwork. They also became more motivated as they shared their findings with others. Students became more active in their community as they began to seek ways to correct the injustices they discovered. The results of the implementation indicates that by giving students an authentic audience and topic, teachers have the potential to promote student understanding, as well as increase their engagement on and off campus.

## I. Introduction: (College) Dreams don't always come true

Walk into almost any high school or middle school classroom at the beginning of the school year and ask the students if they are planning to get a college degree. Nine out of ten students will raise their hands high and display their excitement about the prospect of attending college (Conley, 2005). Surveys done of 9$^{th}$ grade students in California have shown that as many as half (51%) of them aspire to attend a University of California campus (Conley, 2005). Dreams for the future are discussed in abundance on high school campuses: dream careers, dream cars, and dream colleges. At many schools teachers try to inspire students further by sharing stories from their college experiences, adopting college t-shirt days, and introducing students to graphs and statistics that show how much more money students can make by graduating from college. All this is done in the hopes that students will apply and attend a college upon graduation.

Unfortunately for most, these efforts are not successful; students' dreams do not always translate into reality. At Hidden Hills High School (HHHS) in Southern California[1], for example, only 32.9% of students complete their A-G requirements, the minimum prerequisites needed to gain acceptance at a four-year university (Escondido Union High School District, 2009). Even fewer, 6.9%, enroll in classes designed to challenge their thinking, like Advanced Placement (AP) and honors (H) classes, though these classes have been proven to help prepare students for the rigor of college classes (Dougherty, Mellor, & Jian, 2005). Interestingly enough, HHHS is better off than the rest

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[1] The names of the high school and of the participants mentioned in this thesis have been changed to protect the anonymity of those involved in this project.

of the state, which has only had an A-G completion rate of around 20% for the past 19 years (California Postsecondary Education Commission). Considering this, it is clear then that high schools are not helping students develop key skills, and obtain the necessary knowledge to get into and succeed in college.

Part of the reason for students' lack of preparation is the fact that high could do more to help students face the challenges that stand between them and their college dreams (Conley, 2005). Throughout the course of their high school and subsequent college careers students will need to: do well in rigorous coursework, negotiate the several college and financial aid applications, critically read and write, perform complex math functions, perform well on standardized placement tests, as well as simultaneously find the intrinsic motivation to allow them to be independently-functioning self-motivated learner (Le, Casillas, Robbins, & Langley, 2005).

To help students meet these challenges, high schools need to put in place structures that ensure students are informed about college requirements and costs. One such program is the Advancement Via Individual Program (AVID). Created in a San Diego high school by Mary Catherine Swanson in 1980, AVID is a class whose purpose is to help underserved students navigate the road to college and become academically prepared for college-level work. Last year 73% of AVID students at HHHS were eligible for free or reduced price lunch (AVID Center, 2010), compared with the school average of 49% (Escondido Union High School District, 2009). Most students enrolled in AVID classes are also likely to be the first in their families to go to college. Despite the fact that students in AVID will be the first in their family to attend college, most graduate being

eligible for college. To do this, AVID classes spend a lot of time teaching students about how to complete college applications, choose the right courses for college and succeed in challenging academic classes once they get to college. However, in the four years I have been teaching AVID juniors and seniors, I have seen that even with these interventions, many AVID graduates still struggle once they get onto a college campus, and many do not earn degrees.

**Dreaming up new ways to help students get to college**

I will focus, then, on showing how transforming classrooms into authentic learning environments that help high school students synthesize their learning, use evidence to back up claims, and apply learning to the real world, skills that will prepare them to succeed in later academic endeavors (Conley, 2010). To create these environments, teachers need to help students confidently engage in activities that require them to develop a full understanding of what they are learning. Currently, the majority of high school teachers try to lead their students towards content mastery by focusing on students' ability to memorize and recall facts. Conley (2005), who has conducted several studies on college success, shows that this teacher-centered instruction and focus on memorization often creates students who are unprepared for the demands of college-level classes. In a 2005 text, he writes of the results of such instruction, saying high school students often "have completed the introduction to the discipline without developing the habits of mind necessary to engage fully in the study and understanding of that discipline" (p.76).

In a perfect world, high school courses would help students develop a desire to seek understanding of what they are learning by creating opportunities for them to interact with, discuss, and apply their learning in real world settings. This paper aims to show how, at least in part, that can become a reality.

**II. The Need For Classrooms That Promote Deep Understanding and Prepare Students for College**

**Introduction**

The majority of students on high school campuses want to go to college in 9th grade (Conley 2005), but they do not always get there. Though this is an issue affecting students from all walks of life, it disproportionally affects those from families of low socioeconomic status (Tinto, 2005). Students whose parents make $75,000 or more annually are four times more like to be qualified for college than a student whose parents make less than $25,000 (Harrell, & Forney, 2003). Similar claims have been made about first-generation college students, and those from minority racial groups (Datnow, Solorzano, Watford, & Park, 2010). Because of this disproportional level of student preparation for college, the Advancement Via Individual Determination (AVID) program focuses on helping underserved students make it to college.

To begin this investigation, I will look more closely at what stands between these students and their post-secondary dreams. A good place to start then may be by trying to understand why students struggle in high school. Many are not challenged to think deeply about the material they are learning, and subsequently find it uninteresting. Though teachers may motivate students by assigning grades to assignments, and offering rewards for outstanding work, most students fail to develop an intrinsic motivation to complete their schoolwork. This lack of intrinsic motivation manifests itself in lower achieving students as complete disengagement, and often as acting out (Rios, 2010). In higher achieving students the results are more difficult to observe, but just as detrimental.

Students in higher-level classes begin to care more about receiving grades than developing an understanding of what they are studying. Students often do little to engage in learning on campus, and instead find their motivation through extrinsic factors. Extrinsically motivated higher achieving students often have a preoccupation with grades, but no desire to really learn what is taught in class (Deci, 1995). A peek into a study session of advanced students in my classroom reveals that they many often do the bare minimum: While going over key terms for an upcoming AP Economics test, students in my senior AVID class were quizzing each other to see how well they had memorized information. When the student being quizzed came to the word *subsidy*, he had a difficult time recalling the definition as it was written on his flash card. Trying to help, a college-aged tutor stepped in to explain the term in a real world context. She explained how subsidies work, and gave an example of a subsidy that affects products the students buy in the supermarket. The student nodded in understanding, but as soon as the tutor walked away, the group went back to reciting the definitions of the difficult terms, instead of trying to think of the words in context. When I asked the student later about the meaning of the term *subsidy,* he used the tutor's explanation rather than the definition from the book. So I went a little further. I asked the student to explain another key term. He quickly rattled off the definition, but when I asked him to give an example of what that might look like in the real world, he was stumped. His understanding of economics seemed to have no connection with the principles his teacher was trying to teach, nor did it help him understand how economics governs the flow of money in the world. It was just a list of terms to memorize and then be quizzed on. Not surprisingly, when I asked

the student whether he enjoyed learning about economics he said he hated it. Talking with his study group later, I asked them why they were not trying to understand the meaning of the terms beyond their textbook definitions. They explained that those types of ideas were not on the test, so there was no need to learn them.

This attitude is rather common among students at HHHS. In fact, the increased pressure on teachers to ensure students perform well on standardized tests has led to many high school classrooms which are less likely to encourage students to seek out understanding. Students often are asked to memorize a fact or term for an upcoming test and often are not asked to use the information again. This kind of teaching, though seeking to prepare students for standardized tests, often decreases the intellectual engagement of students (Bransford, 2000). Also, it often produces students who do not enjoy learning.

**Many classrooms don't inspire motivation to make college dreams a reality**

This lack of inspiration to learn is seen again when investigating students who decided not to finish high school. In 2008, more than 15% of students dropped out of California high schools, and less than 67% received their diplomas (Asimov, 2009). This is an unacceptable number of students that the state's education system is failing to serve. So why is it that almost a third of students entering high schools never receive their diplomas? In a nationwide study, Bridgeland, Dilulio, and Morison (2006) asked dropouts why they stopped coming to school, and the biggest reason they gave was that they were not interested in their classes, and that the material they were studying did not relate to their daily lives. Not surprisingly most students surveyed in that study (70%)

also claimed that they were not motivated to work hard in their classes. At the same time, surprisingly, less than half of the students cited academic difficulties as a reason for dropping out.

Rios (2010) backs this idea up, and takes it further, in his study that shows that many at-risk students who drop out are often disempowered and alienated by their high schools. Rios' case study points out that many underserved youth have more negative than positive interactions with school staff than positive ones. Also, a large portion of those who score low on tests are placed in remedial classes and receive criticism from teachers and other students about their poor performance. Rios points out that these students are also more likely to be targets for punishment from school staff because of the way they dress, or their disinterest in learning. As a result, many of the youth Rios studied gave up on the education system. Ultimately their lack of interest then led students to underperform and, in some cases, drop out. Rios does, however, point out a positive side to this problem. Many of the students who have been turned off by school can be reengaged with a minimal amount of resources if they are put to work trying to benefit their community.

So, while many studies point out the need for more academic support, it is clear that students need to be supported in a way that also leaves them feeling competent and confident in their ability to succeed. While a lot of emphasis is placed on improving students' reading and writing skills, very little of the reform conversation is concerned with how this is to be done. At HHHS, students who receive low scores on standardized tests are made to take several "support" classes where they receive additional instruction

in the areas where they received low scores. Though this practice was devised to help students improve their skills in areas that they struggle, many students are disheartened by having to devote extra time to a class they find difficult. Also, instead of being supported, students are often confused in their "support" class. These classes were created to provide additional assistance to complete work that students were doing in their primary Math and English classes. However, because different teachers teach the primary and "support" classes, and little collaboration or training time has been set aside for these teachers, students are often left completing extra assignments while receiving less support. I have spoken with several students who said that their support teachers have had very different methods of teaching the same concepts, leaving these struggling students utterly confused.

Though reform efforts are quick to mandate that students take more classes in core content subject areas, very little of the talk of reform considers how to engage and motivate students in those classes. This is incredibly important when considering students' academic development. Instead, emphasis is placed on drilling students for standardized tests. Continuing this practice will result in more students being alienated by the school system (Rios, 2010), and may, ironically, further depress test scores.

Teachers also feel the pressure from these policies and often resort to "covering" all the course material using more traditional forms of direct-instruction and multiple choice tests which encourage rote memorization, and which students invariably find less interesting. The resulting Ferris Bueller-esque classrooms dot the landscape of high school campuses throughout the nation, filled with students who sit staring off into space

while a teacher lectures about material that may be on a future test. More attentive students scribble down notes in order to later memorize and regurgitate the information for the teacher's reading pleasure, but most are oblivious. Given this scenario, it is not hard to imagine why many students do decide to drop out of high school. And even if they do make it into college, unless these students develop their own sense of intrinsic motivation to learn, they will be unlikely to persist in college (Kaufman, Agars, Lopez-Wagner, 2008).

**Students find themselves in environments that limit critical thinking**

Though teachers and classroom environment cannot take the all of the blame for secondary students who do not make it into college, creating more engaging intellectually stimulating classrooms can make a substantial difference. Beyond being tediously boring, Dweck (as cited in Bransford, Brown, & Cocking, 2000, p. 61) explains that "performance-oriented" classrooms, ones that are test-heavy and often center learning around memorization, create environments where students become concerned with meeting teachers' expectations rather than seeking to understand material.

In another recent survey of dropouts, researchers found the most commonly listed reason students gave for dropping out of high school was that they saw the material they were learning in high school as not having any meaning in the world outside of high school (Bridgeland, Balfanz, Moore, & Friant, 2010). This highlights the need for students to make connections with what they are studying in order to ensure their later admission into, and persistence through college. In order to help students do this, teachers need to teach the students to make these connections themselves. Building on students'

prior knowledge, and helping them make connections between classroom knowledge and the worlds they occupy, is vital for college success (Conley 2010). Unfortunately many students in high school receive little instruction in how to do this, leaving them unprepared for the thinking the will be required in college.

**Getting into college is only the halfway point**

Despite making it through difficulties along the way, those students who make it into either four-year universities or community colleges often find themselves confronted with further barriers standing between them and their degrees. For one, colleges suffer from high drop out rates. First year freshman in both two-year and four-year colleges are significantly at risk of dropping out. According to a Public Policy Institute of California report, community college students are the most susceptible for dropping out seeing as how only 25% of students who enter the institution with the hope of obtaining a bachelors degree, actually do so (Sengupta, & Jepsen 2006). Over half of the students do not return after their first year. Students who hoped to earn a two-year associates degree from a community college are even less likely to finish, as only 10% of the community college students who seek the degree actually receive it.

Students at four-year universities do not fare much better unfortunately. According to the US Department of Education, 37% percent of students enrolled full-time in four-year colleges do not receive degrees within six years of starting, and many never do. The situation is even worse amongst Hispanic students, seeing as how more than half (51%) do not receive their degrees within 6 years. Students from low-income

backgrounds may fare the worst of all, with only 13% receiving four-year degrees before age 28 (Datnow, Solorzano, Watford, Park, 2010).

This very disturbing set of statistics shows that, despite the widespread desire to attend and graduate from college, most students are not doing so. The National Center for Education Statistics (2004) points out that this may be due, in part, to the substantial need for remediation of incoming freshmen. Just about all post-secondary institutions have a substantial population of students who are required to take remedial classes in every subject in which they are offered. In 2000, the average percentage of students needing remediation at post-secondary degree granting institutions was 28%. Almost a quarter of students (22%) needed remediation in math, 14% in writing, and 11% in reading. The need for remedial classes is highest at public two-year colleges, which have as many as 42% of their students requiring remediation in at least one core subject area. This data clearly shows that despite the best efforts of high school teachers, not all students are leaving high school with the skills college faculty are looking for.

**High school courses are very different from college classes**

In an attempt to gain a better understanding of what skills students will need in college, I reviewed several syllabi from college composition classes at a local university, and talked with college students about what was required of them in their classes. From this brief investigation of syllabi, I observed that all instructors asked that students write papers that that required arguments drawing from several different sources. Many courses required students to read peer-reviewed journals, which would most likely be difficult for a transitioning high school student to comprehend. Add to that the fact that most college

lecturers did not assign specific tasks for students while reading, and I would assume that many students will have a difficult time understanding how to link readings with writing tasks. It would seem then that for many, without experience synthesizing and drawing conclusions from readings, it would be difficult to transition to the less guided advanced assignments given in college. Especially considering the highly-supported performance-oriented instruction students receive in high school.

Beyond that, college classrooms ask students to offer their opinions in the form of complex written arguments. Many of these arguments are on topics with no clear-cut answer. Students are free to argue whatever they want as long as they use sources to prove what they have written. This is something that students are supposed to learn how to do in high school, but for which the majority of students are not prepared (Conley, 2005). The consensus among professors interviewed in a major study conducted to assess why students were not prepared for college was that they needed to have a different approach to their learning (Conley, 2003). In Conley's study, professors from several disciplines highlighted students' need to approach learning with a genuine curiosity and a desire to make connections between the concepts they are learning. According the professors cited in Conley's study, this learning for understanding is something that many students are not able to do when they reach universities.

Another interesting fact about the college courses I investigated was that many had students engaging in discussions and writing about topics that had had real world applications, and in many cases an authentic purpose. Students in one class had to use course readings to analyze the effectiveness of the writing program at the college.

Another course asked that students use course readings and their own values to create a museum exhibit. Other topics varied widely from examining issues of diversity to in-depth reading and writing about organic farming. Considering the vast differences in what a student may learn about, and the depth of the study, it is important that students develop flexible study skills. Without significant preparation for these very different and complex writing tasks, students will have a hard time making the transition between high school and college.

**Support helps students reach their dreams, but it leaves them with a long way to go.**

One of the programs that have been created to help students bridge the high school to college divide is AVID (Advancement Via Individual Determination). According to the program's website, the mission of the AVID program is "to close the achievement gap by preparing all students for college readiness and success in a global society" (AVID Mission). One of the ways that AVID does this is by encouraging these students, who desire to attend college but may not perform at well academically, to take Advanced Placement (AP) and Honors (H) courses. Research suggests that students who enroll in more rigorous classes are more likely to have the skills needed to complete college assignments (Harrell, & Forney, 2003).

Throughout the nation, AVID classrooms have been places where first-generation college students excel by meeting college requirements and going on to four-year universities. At the state level the program is incredibly successful at creating college-going students. In 2010 89% of AVID graduates met the California A-G requirements,

and 80% were admitted into four-year colleges (AVID Center, 2010). Comparing that to the 32% of mainstream HHHS students completing A-G, mentioned earlier in the introduction, it is hard to deny the success of the AVID program, especially in regards to how it can help students get into college. However, a question that I have always wondered is, what happens after students get there? Are they as academically unprepared as those enrolling in remedial classes? More importantly, do they make it to graduation? If not, how can I help them be better prepared? Many AVID students take, and achieve high marks in, advanced placement classes and it is assumed that they will do well in college, but very little data had been gathered to show that this is the case. Evidence does show, however, that the amount of students graduating from college has increased very little despite more students being admitted (Tinto, 2006). Even more disconcerting is the fact that students who are least likely to persist in college are those from low-income backgrounds (Tinto, 2006), like the majority of students in my AVID class. This is corroborated by what I have observed in the lives of those I have kept in contact with. Many former AVID students have struggled as they have progressed through their college courses. Some when faced with the prospect of taking several non-credit-bearing remedial courses, or when confronted with social pressures, decided to drop out.

**Rigor in high school is not translating into readiness for rigor in college**

The in-class AVID "tutorial" session is designed to be a place where students are prepared for rigorous schoolwork. Students can discuss difficult material in order to better understand it, so they may excel in regular and advanced classes. One of the fundamental principles of the AVID tutorial is to increase the intellectual level at which

students discuss and think about their schoolwork. However, I have found that even students who are taking several AP or Honors level classes struggle with doing this. Perhaps the biggest struggle that AVID students face is applying the learning they have gained in other classes to ideas outside their classrooms. Unless prompted by teachers or tutors, students often restrain their conversations to asking basic questions about the subject matter, or quizzing each other for upcoming tests. I rarely observe students applying their learning to situations or concepts beyond the subject they are studying.

With such a strong focus on testing and getting the "right" answer, AVID students often neglect to involve themselves in the kind of critical reasoning and creative thinking that will be needed in a college classroom. They are less likely to truly understand the topics being discussed when they are focused solely on memorizing material for an upcoming test. Often this is the attitude students have in tutorial groups. Many find it difficult to explain information in their own words and rely on textbooks and class notes to be the sole source of wisdom. Students are unable to apply their learning to real world situations, and see such activities as distractions from the task of finding the right answer in the shortest amount of time. I have observed several instance when college-aged tutors have asked students to make a connection between several of the concepts they are learning, in an attempt to help students see the big picture. In response to these additional questions, students get frustrated, responding that they will not need to know such information on the test. Though conversations about these topics could help prepare students for later assignments, and the more independent work in college, students are usually more concerned with surviving their next test.

HHHS AVID students' lack of motivation to seek out deep understanding may affect their performance on comprehensive high stakes tests like the Advanced Placement (AP) tests. Though this seems counter-intuitive, unless students really understand concepts and are able to use a wide range of skills, they will not perform well on these types of tests, which ask students to synthesize and draw conclusions. In fact, AVID students have struggled on several AP tests including: English, history, psychology, and biology. Of the 62 tests HHHS AVID students took in 2010, over two thirds (71%) of tests received scores below 3, the minimum score needed to gain college credit. This high rate of failure is particularly distressing when taking into account studies like the one done by Geiser and Santelices (2004), which points to the fact that students who pass AP exams are more likely to be successful in college than those who did not. Though test scores may be dismissed as predictors of college preparedness, tests like the AP English Language test relate directly to skills students will need in college-level writing. Poor performance on this test indicates difficulty reading and responding to texts, skills students will need in freshman composition classes, as well as several other courses throughout their college careers. So, when considering that only 25% of AVID students who took the AP English Language test scored 3 or higher, compared to a national pass rate of over 60% (The College Board, 2010), the need for further intervention is evident. There has also been a relationship established between poor student scores on these tests and the likelihood of gaining acceptance into universities (Gándara, Orfield, & Horn 2006).

According to similar college readiness tests, it appears that many students are not being prepared for college level work. An analysis of HHHS student achievement over the past seven years on the Early Assessment Program (EAP) test, administered as a part of the California Standards Test (CST) to gauge a student's readiness for college-level English and math, shows that the majority (71%) of students who elected to take the test were not ready for college-level English (California State University: Office of the Chancellor, 2010). Though this is a little better than the state average, 79% not ready for English, these results show that the majority of HHHS students are not ready to do college level work in some form or another. Considering all of the support available for AVID students, including access to tutors and in-class test preparation, HHHS AVID students should do better, but that isn't the case. In fact, they did worse. More 73% of this year's AVID seniors did not score high enough on the 2010 EAP to be considered "ready" for college level English.

This incredibly alarming data is made even more so when considered in light of the recent research conducted at the University of Texas Pan-American (Lozano, Watt, & Huerta, 2009). When studying former AVID students who enrolled in a four year university, the researchers found that the students' performance on state assessments of college readiness are particularly important indicators of their subsequent success transitioning to, and succeeding in four-year colleges (Roberts and Scott, 2009). Considering then that so many AVID students at HHHS perform poorly on these tests, this may indicate that students will have difficulty when they begin attending college.

It seems quite evident, then, that students leaving high school (even those enrolled in AP courses who are consciously trying to challenge themselves) are often not developing the skills needed to complete assignments when they get to college. Considering the importance that students place on receiving a degree, and the vast financial benefits having a degree brings college graduates, this highlights the need for curricular changes to be instated that help students develop the desire and ability to seek out deep understanding in high school classrooms. In the next chapter of this paper I will further explore the research associated with helping students gain a desire for, and, an ability to reach this kind of understanding in high school and beyond.

**Student understanding and authentic intellectual engagement**

One of the barriers standing in the way of students seeking out understanding when engaging in their coursework is the level of engagement they bring to the classroom. As mentioned above, much of the work students do is built around their performance on tests (Bransford, 2000). Students who want to do well often focus on taking in what teachers and textbooks say, and then repeating that information back in the form of essays or tests. I have observed many higher achieving students "cramming" for tests, rather than seeking out a true understanding of the concepts taught. This intense focus on memorization causes students to focus on extrinsic factors like grades, and subsequently decreases their intrinsic motivation (Deci, 1995). It is, ironically, this focus that makes students less prepared for college by decreasing their desire to seek out an understanding of what is being studied. When focusing on this type of learning, as

teachers we lose sight of the need to engage students in work that requires them to investigate issues in the curriculum.

As a part of the national AVID curriculum, students are taught study skills that help them engage in their classrooms in the hopes that they will develop the ability to seek out understanding while learning. That said, few students engage in complex intellectual thinking (Newmann, 1996). When asked what would help them take full advantage of their time in high school, both at-risk and successful students said that they would greatly benefit from hands-on experiences and teaching that made subject matter relevant outside of the classroom (Bridgeland, Diulio, & Wulsin, 2008). In most classrooms, students are rarely asked to engage in the kind of real-world problem solving in which adults participate (Newmann, 2001). These kinds of real-world authentic activities, however, would keep students interested (Yonezawa, & Jones 2009) and aid in students' internalization of the concepts they have learned. They can also increase students' ability to make connections between concepts they are learning and other topics (Newmann, 2001; Bransford et al., 2000). Students need to be exposed to a curriculum that intellectually engages them and requires critical thinking, or they will not be prepared for life after high school.

**Many students have a lack of confidence about their future college success**

Assessments that simply require students to repeat information for a test leave students feeling they are incapable of success without teacher guidance. Many AVID students are anxious about upcoming tests and concerned about their subsequent performance in college classes. Confused about the material they should understand in

their AP classes, several AVID students feel that they will not be able to succeed in what they perceive as even more difficult college classes. Several students in my AVID classroom share these concerns, and many have let that fear influence their college decisions. Last year I heard one student exhibit his lack of confidence by saying "I can't handle a UC or CSU, I'll just go to community college." This is a common phenomenon amongst Latino students statewide, undoubtedly contributing to an overrepresentation of students in community college classes, and an underrepresentation in four-year colleges (Carnoy, 2010).

Though community colleges are a perfectly viable path to getting a bachelor's degree, as I mentioned earlier, most students are not successful there. It follows then, that exhibiting a fear of attending a four-year college may indeed keep students from completing their college education. Studies have also found similar results showing how negative attitudes about college may decrease the likelihood of student persistence through graduation (Le, Cassillas, Robbins, & Langley, 2005). Pajares (2002) also argues that the majority of the academic struggles a student will encounter throughout his or her life would be lessened with a higher level of confidence. Following this train of thought, students who do not believe they can succeed in college, then, may very well prove themselves correct. This highlights the importance of teachers empowering students and helping them to develop confidence. At the same time, there are quite a few students who feel they have what it takes to go to college, regardless of the fact that they struggled in high school. Students are often not able to see themselves as in need of improvement.

Teachers, then, need to make classrooms places where students can develop confidence that finds its origins in the competence they have in their schoolwork.

**Other Factors that Promote Post-Secondary Degree Completion**

Though the academic skills a student enters college with (Conley, 2010), and the level of rigor of students' high school courses (Geiser, & Santelices, 2004) affect their likelihood of persistence in college, other factors have also been shown to have a significant effect on college graduation rates. The receipt of financial aid can positively affect students' persistence. Low-income students who receive financial aid, especially in the third year of college, are in some instances up to 99% less likely to drop out (Muraskin, Lee, 2004). Another factor contributing to degree completion is the ability to identify and express goals for their education. Students who have strong academic direction, those who identify their major early, are far more likely to complete college (Muraskin, Lee, 2004).

Some of these concerns are being addressed by college /career counselors, and college preparation programs like AVID, which help students set career goals, learn to work in study groups, and complete financial aid applications. There are, however, still many factors that have yet to be addressed by high school or college-level interventions. Tinto (2006) pointed out three of the more elusive factors affecting persistence. The first is that students who are more involved on campus are more likely to graduate. Secondly, students who engage and participate in their classrooms have been found to be more likely to make it to graduation. And finally, the third often less addressed factor, is that

students who remain connected to their home communities are more likely to receive their college degrees.

**Summary**

In this needs assessment I have discussed that the majority of students in high schools want to obtain degrees from four-year colleges, but most are unable to do so. If students do graduate from high school, many will be unprepared for college and may face extra years of remedial classes. They will also have to negotiate factors that contribute to low persistence at most two and four-year colleges (Conley, 2005). These concerns highlight the need for high school teachers to help students develop practices that mirror ones they will need in college. This includes being able to engage in academic tasks such as synthesizing information, and applying knowledge from the courses they have taken. Beyond the academic, however, it also requires that students be able to interact with faculty and students, assess their level of comprehension, and manage hours of independent and group study time.

In order to help students develop some of these abilities, I will suggest in the next chapter that teachers infuse their curriculum with authentically engaging and intellectually-stimulating activities, including the real world application of concepts, and the inclusion of authentic audiences for students to present to. Just as important, however is the need for teachers to help students to work together, and gauge their own understanding of a topic, and become involved on campus. These activities will increase student academic preparedness, as well as the self-management skills needed to graduate from both high school and college.

<center>**III. Review of Relevant Research**</center>

**Introduction**

Considering the needs addressed in the previous chapter, my literature review will focus on how to increase students' preparedness for the academic rigors of college, as well as the intrinsic motivation needed to engage in such intellectual work. Then, I will address how research shows how these needs can be addressed through authentic learning and critical pedagogy. Finally, I will address how critical pedagogy may offer practices that contribute to students' intellectual growth and development as learners and citizens.

**Focusing on Students' Deep Understanding Increases College Readiness**

Many students fail to truly understand the material being taught in their core classes, though this does not mean that students are not making an effort to learn new material. In many of my current students' minds learning is synonymous with recalling facts, and is increased by spending time hitting the books and studying flash cards in preparation for upcoming tests. This type of cramming can be useful but often results in a lower-order learning and less retention. Bransford et al. (2000) refer to this as "learning for memorization." They suggest that instead of solely trying to remember important concepts, students should try to understand the often-complex reasons surrounding why things are the way they are. "Learning for understanding," as Bransford refers to it, can help students construct a web of knowledge that connects many difficult concepts together, and can help students develop the ability to synthesize information, a skill essential for higher level thinking (Bloom, 1956) and college assignments (Conley, 2010).

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**Understanding is increased when students bring their knowledge to new contexts.**

Going further, if complex concepts are better understood, students build knowledge and skills that are more flexible and are more easily adapted to new subjects and learning environments. It has also been pointed out that being able to develop this more flexible learning indicates that a student is moving towards mastery (Bransford et al., 2000). Probably the most common form of this learning in classrooms is when teachers help students access prior knowledge in order to build upon it later. By way of example let me explain how accessing prior knowledge helps students in ninth grade English classrooms at HHHS. Before reading *Romeo and Juliet* students engage in teacher-led discussion of students' understanding of love and romance. Making the connection to what students know makes them more likely to engage with, and make connections with the reading of the difficult text. Later, they may even compare themselves to the characters in the story. These are all best practices of good readers (Zemelman, 2005), and should be used regularly in the classroom.

Beyond that, teachers can help students understand how to use the skill or knowledge outside the walls of the classroom and in the real world. Students who are learning to try and understand, versus trying to memorize what is being taught, may make the skill or knowledge more easily applied in other classes and in their daily life. This will, in the long run, increase students' base of prior knowledge that they have to draw from in future classes.

Learning with the purpose of memorizing facts and dates in order to do well on a test, what Dweck (as cited in Bransford, et al., 2000, p. 61) refers to as performance-oriented learning, does not help students develop skills need to seek deeper understanding. Instead, it develops in students the tendency to be overly concerned with having the correct answer for the test instead of engaging in self-directed learning. This type of learning makes it difficult for students to develop flexible learning, which can be used in a new setting. Dweck's idea of learning for understanding happens when students are engaged in critical thinking for no other reason than to better understand it. This creates learners whose knowledge is much more flexible, and is easily transferred to various situations.  According to Conley (2010), promoting this kind of learning, which I also refer to as "deep understanding," especially the ability to make connections and synthesize what they are learning, is a way that teachers can help students be more successful in college.

Unfortunately learning to understand is far less common than performance-oriented learning. Most students view their knowledge as separate, compartmentalized facts useful in just one class. Many students understand what they have been taught in terms of the 50-minute periods they have been taught it in, and are unable to make connections between the concepts they have learned from one day to the next (Conley, 2005). Additionally, students have difficulty making connections between the content learned in separate classes. Many teachers may even unwittingly contribute to this by teaching, what should be a cohesive class, as though each unit is entirely separate; rarely going back to material from a previous unit once the test is given. Students then become

used to learning material shallowly to perform on tests. Rarely do they think about why they are learning concepts and the importance of what is being learned.

### *Understanding is increased with time.*

The most fundamental of the suggestions offered to help students develop deep understanding is to provide students with the time needed to fully grasp difficult concepts (Bransford et al., 2000).  Ericsson asserts that in order to develop expert levels of understanding in any subject area, extensive time and practice are needed (as cited in Bransford et al., 2000, p.57). This is contrary to the way that learning often takes place in many high school classes, even Advanced Placement (AP) and Honors classes, where students are supposed to attain these expert levels of understanding. Instead, in order to do well on multiple-choice tests covering expansive subject matter, students spend their time trying to cram a large base of knowledge into their brains in a very limited amount of time. Instead of doing this teachers need to focus less on testing, and to give time for students to practice and process information before moving on to new topics. Also, and perhaps more importantly, teachers need to help students understand the connections between seemingly incongruous abstract concepts presented in class, providing opportunities for them to make connections to the real world and other subject matter. This often means allowing for more writing to learn activities and class discussion. Rushing through the curriculum may result in students who never fully understand the material, and who may easily forget it later.

### *Increasing metacognition also increases understanding.*

Another important factor that helps students successfully develop deep understanding is the development of metacognitive strategies. Thinking about what they are learning, and their current level of competency with the subject matter, allows students to better focus their learning, and develop a sense of self-direction, thus becoming more autonomous learners. Bransford et al. (2000) suggest that students be involved activities that cause them to think through the work they are doing in order to more completely understand them.

Pittman (2010), co-founder of a national partnership called Ready by 21 created to assess and prepare students for the real world, agrees that teens are not prepared for thinking in college. She suggests that there are many reasons for this. One such reason is that students are unaware of what they need to know. In her article, she quotes several students who she claims, enter classes mindlessly, trying to learn what their teachers put in front of them but never putting much critical thought into why. If students are to be prepared for the level of thinking needed in college, then it is necessary for them to think deeply about everything they do in school, including why they are doing it and how well they understand what they are learning.

Being able to think this way is not an automatic result of having a firm grasp of the subject matter though. Anderson et al., found that showing students how to make connections to other subjects, and helping them make those connections can aid in students' ability to create their own connections when engaging in learning outside of the classroom setting (as cited in Bransford, et al., 2000, p. 60). This is the kind of learning that students need to do at the college level. Spending time teaching high school students

how to do this would then be an effective way of simultaneously helping students to engage in higher-level thinking, and preparing them for college level work.

**Increasing Students' Motivation Helps Ensure They Are Being Prepared for College**

Also important to promoting academic preparedness is boosting a student's level of motivation. Students who are motivated are more likely to seek out the understanding needed to make connections between their courses and the real world. As I mentioned earlier, the de facto motivation at work in a high school classrooms is usually extrinsic, i.e. grades and fear of failing. These motivators are often successful in getting students to comply, but rarely result in students engaging fully in their work (Deci, 1995).

Intrinsic motivation is necessary for learners to put their full effort into what they are studying. This is key if learners are going to succeed once they leave high school. Connections have been made showing that students with higher levels of intrinsic motivation often have higher grades in high school (Geraghty & Roehlkepartain, 2003) and college (Kaufman, Agars, & Lopez-Wagner, 2008). This is most likely because students who are intrinsically motivated are more likely to do their work solely for the sake of learning about a topic. Intrinsically motivated students put time into their studies because they find them genuinely interesting.

This attitude is difficult to find in a high school classroom, but can be found all throughout a high school campus in various clubs, sports, and after school activities. That said, students' lack of motivation is not, as many of my colleagues have suggested, a result of utter apathy or lack of respect for the institution of education. Instead, students' lack of genuine interest in their classes may be due to the way the classroom operates.

Deci (1995) mentions several activities present in our schools that dampen students motivation. Misuse of rewards, overemphasis on test performance, pressure, and even the grading system can cause students to turn their attention away from the learning that should be their central focus.

**Authentic Learning Increases Both Students' Levels of Motivation and Academic Ability**

There is a fair amount of literature addressing how to structure a classroom in order to foster a student's intrinsic motivation (Brophy, 2004; Committee on Increasing High School Students' Engagement and Motivation to Learn, National Research Council, 2003; Sullo, 2009). One of the simplest ways to help students develop intrinsic motivation is by making activities more authentic. Often asked to write essays, and deliver speeches on topics chosen by teachers, with no other purpose than to exhibit learning to that teacher, many students have little desire to put intellectual effort into their schoolwork. Teachers can change this, and make learning more authentic, simply by giving students choice (Zemelman, 2005), and ensuring there is an authentic audience for the products students are creating in class (Bransford et al., 2000, Zemelman 2005).

Not only does authentic learning increase motivation (Newmann 2001), it has also been found to increase students' understanding of material, their intellectual engagement, and their performance in class (Newmann, 1996). The idea behind this concept is that when students are trying to make the connection between classroom learning and real life situations they will need to have a firm grasp of what they are learning in order to understand the inherent complexities of connecting it to the real world. Going a step

further, also providing students with an authentic audience allows for them to develop a firm understanding of what is being learned in order to communicate it with others.

In an age of increasing accountability, many might argue that spending time in class having students engage in authentic learning may take away from time needed for them to learn the skills and knowledge found on standardized tests. However, this kind of engagement has been found not only to increase the level of intellectual effort put in by students, but it has also been shown to improve their performance on standardized tests (Newmann, 1996) and increase basic skills as well (Newmann, 2001).

Thus, students who participate in activities that employ authentic learning pedagogies are able to improve their academic performance and boost their test scores without having to engage in the kinds of mindless test preparation activities that often occupy large tracts of time in high school. Authentic learning activities, in fact, prepare students to perform well not just on standardized tests, but on the types of assignments that develop higher-level thinking skills. For years, innovative teachers at HHHS have been trying to employ activities that meet both of these goals, involving students in investigation of topics they are interested in while helping them develop skills needed for tests. That said, teachers have had a hard time providing audiences for their students to present to, a key component of building the motivation needed to engage in higher-level thinking (Newman, 2001).

Additionally, authentic learning activities have been shown to equitably raise the performance of all students. Authentic learning has the potential to increase student test performance and classroom learning at all levels, regardless of ethnicity, socioeconomic

status, or gender (Newmann, 2001). It appears, then, that infusing authentic learning into the curriculum of our schools can potentially increase student understanding, and college readiness.

**Best Practices: Suggestions for making learning more authentic.**

Newmann (2001) establishes three basic criteria to help educators understand implement an authentic learning pedagogy. In order for an authentic curriculum to be effective, teachers must make sure it helps students construct their own knowledge, be disciplined in their investigation, and be engaged in work that has value beyond school. In order to better understand each concept, I will elaborate on each briefly.

***Authentic learning should allow for students to socially construct knowledge.***

Zemelman (2005) explains that reading is most effective when used as a tool for learning, and for answering complex questions. These kinds of critical tasks help students develop their own understanding of what they are supposed to be learning rather than repeating a teacher's viewpoint. Also, when students participate in group activities, and when they are exposed to other students' ideas through discussion, they are further able to construct their understanding of the curriculum. Being surrounded by texts and the often differing ideas of classmates, causes students to negotiate meaning together, putting the process of learning and understanding out into the open. With some help, students can later use that ability, and the knowledge gained from it, to negotiate meaning in other classes, or in a real world setting (Bransford et al., 2000).

***Authentic learning requires deep investigation.***

Newmann lays out how real, authentic learning requires that students truly

understand the concepts or ideas they are studying in order not to be "literate about a

broad survey of topics but to facilitate complex understanding of discrete problems"

(1996, p.283). Students should be using what they have learned in their classes to help

them understand new ideas, but that is not always the case.

***Authentic learning must matter beyond the classroom.***

Some may point out that this kind of teaching may be too challenging for

students, and will require more effort than they are willing to put in, but if the topics

students are studying really matter to them, and the proper support is given, most students

will invest the required time into completing the assignments (Zemelman, 2005). For this

reason, it is imperative that students have a choice in what they study, and that the topic

of study is relevant to them. That said, it is also necessary that teachers ensure student-

chosen topics demand students to intellectually engage in their learning.

**Summary of "what works"**

This literature review has focused on how school staff can create classrooms and

campuses that foster in students a desire and motivation to seek understanding, and be

able to support claims with evidence. Without places for students to do this, they will be

much more likely to struggle when confronted with difficult concepts, like college

classes. Though ensuring student success is not entirely incumbent upon teachers and

school staff, there is a lot that can be done at school to improve students' level of self-

confidence and academic success. Creating classrooms that take learning beyond their

four walls will help shape students who desire to seek out knowledge and have the skills

to do so. When classrooms encourage students to think and then ask them to share that thinking, then they will develop as critical thinkers without teachers having to enforce strict disciplinary rules. All in all, classrooms should help students find passion for the intellectual side of themselves so they can later negotiate the challenging situations they will face in college and in the real world. Beyond that, it is key that they connect with staff members, and develop relationships that help them develop concrete plans for life after high school.

**Challenging What's Possible: Critical Pedagogy as an Authentic Method for Motivating and Engaging Students**

Several teaching methods have been developed to help students do improve. Many of these pedagogies allow students to see the real world benefit of what they are learning, and ultimately apply their learning in real world contexts, something that Bransford et al. (2000) argue is vital for increasing student understanding. This kind of learning is also increasingly important in the senior year of high school when many students' level of motivation wanes. Dreis & Rehage (2008) argue that seniors be involved in authentic learning projects that require them to take their learning beyond the four walls of the classroom.

Authentic learning can take several forms which have all been proven to increase student understanding, performance, and likelihood of success in college. Specifically, involving students in service learning projects can help motivate and empower them, as well as increase the likelihood they will do well in school (Billig, 2004; Bridgeland, Dilulio & Wulsin, 2008). Another pedagogy that has shown increased student

understanding and has gained a wide base of support amongst researchers and educators is project-based learning (Barron, Schwartz, Vye, Moore, Petrosino, Zech, & Bransford, 1998). Students involved in project-based classrooms are asked to take their learning further than those in traditional classrooms. They are asked to apply it, and in the process learn by doing.

Going beyond just asking students to apply their learning, however, critical pedagogy asks that students look closely at one aspect of the world they inhabit, research it, read difficult texts about it, and discuss the connections between all of their learning. After that, students apply their learning to the real world and create a project to improve their community (Duncan-Andrade & Morrell, 2008).

The central premise behind critical pedagogy is that learners (especially those who have been marginalized by the education system) come to the classroom with valuable knowledge to share, and teachers come into the classroom with plenty to learn (Freire, 1970). Students will be more successful and more confident if they are taught how use their insight to look critically at, and challenge the social, political, and educational systems they see at work around them (including the schools they attend). Going further, critical pedagogy requires that students engage in social action to correct any injustices uncovered in their investigation (Morrell, 2004). Students participating in classrooms using critical pedagogy often must be introduced to complex theoretical and political ideas, but teachers should do so in a way that encourages conversation. Freire (1970), on whose philosophy critical pedagogy practices are grounded, calls this method of teaching "problem-posing education" (p.79), and describes it as a process where

teachers and students are both responsible for learning.  They engage in critique of all of the aspects of culture, politics, and life that surround them in an effort to understand how all of these also form parts of the social structure.

Critical pedagogy, then, requires that students be explicitly taught how to look at the world (Duncan-Andrade, et al., 2008), but it doesn't necessarily mean that teachers will do all the teaching in the class. Of course students need to learn to read and write, but it is important that they also be allowed to develop their voice in the classroom. Freire (1970) claims that a teacher's role is to introduce students to ideas and help them understand how to interact with, and respond to what they discover.  Teachers, then, must create environments that challenge students thinking, but also value them and help add them to the academic discussion.

**Critical pedagogy encourages construction of knowledge and deep understanding.**

Considering the vastly different types of information students will be looking at, critical pedagogy relies on a student's ability to quickly make connections from one context to another, and use skills in a variety of ways. In a classroom employing critical pedagogy, a student may be asked to synthesize and draw conclusions from an article about gender inequality and current music videos showing examples of it. To do this, classes often include many of the activities that promote learning for understanding suggested earlier in this chapter. Ideally students involved in critical pedagogy engage in discussions that are led by other students, allowing the class to negotiate the meaning behind what they are learning. Then they may read about the topic, gender inequality, and

then connect it with other topics they have read, seen, or experienced. When engaging in this type of transfer of learning, it is imperative to allow students to contribute their ideas to the classroom. Students are then taught to use the class readings as prior knowledge, and are asked to think about whether the readings truly represent to experiences they have had outside the class. To do this students often need to go back and forth from the text to the real world several times, having a mental dialogue between the reading and what they know, looking for and trying to explain discrepancies. Classrooms with this much emphasis on the real world connection remove some of the pressure and inauthentic feel surrounding research projects, and instead encourage genuine thought and interest.

Additionally, critical pedagogy is a method of teaching that allows teachers to easily meet all of the National Standards for the English Language Arts created by the National Council of Teachers of English, and the International Reading Association (Greer, Smith, and Erwin, 1996), and it has potential to dramatically increase the critical investigative skills needed to meet the research-focused standard seven within.

**Critical pedagogy prepares students for college.**

Involvement in this type of research is vital for students' success in college. According to the standards for college success created by The College Board, students should be able to engage in the research process without the direct aid of the teacher. The standards also point out that students must also be able to come up with their own research questions and make several decisions about how to go about doing their research, which The College Board claims is important if students are to engage in the authentic research that happens in the real world, and in the college classroom (The

College Board, 2006). The College Board's standards also state that this ability requires an approach to reading and writing that is flexible, and goes beyond just following the steps of completing a task. In order to fully understand the issues in their community, students who are involved in critical pedagogy must be able to look at a problem from several angles and gain an understanding of the topic without the aid of the teacher.

In addition to being prepared for college, programs employing critical pedagogy have made promising advances in helping students gain acceptance into four-year universities.  In a four year project called the Futures Program, involving a group of 30 high school students from underserved backgrounds, professors Duncan-Andrade and Morrell, and high school instructor Collatos were able to help 97% of the students graduate and get 86% accepted into four-year colleges (Duncan-Andrade, & Morrell, 2008). This is more successful than the results produced by the HHHS AVID program during the same time period (2001), which had 99% of its students graduate from high school, but only 68% of its graduates get accepted into four-year colleges (AVID Center, 2001).

**Critical pedagogy creates empowered, confident students**

A major factor in the success of students in the Futures Project was that through the activities centered on the concept of critical pedagogy, students developed a sense of confidence in themselves and a desire share their ideas with others. Students began to see themselves as important members of the community as they posed important questions about classroom and campus structures to faculty and staff. Having been taught to understand complex issues, research them, and share their findings with staff members,

students saw themselves as having a participatory role in the leadership of their campus. Later many of these students went further and became involved in student government, and sought out positions of authority in the postsecondary institutions they attended. For them, education became more than a way to ensure a nice paying job, but it was also a way to earn the credentials needed to have a voice in the world (Duncan-Andrade, & Morrell, 2008).

### *Empowered by developing as an academic*

This idea of gaining power through education is one of critical pedagogy's main goals, as posited by Duncan-Andrade and Morrell (2008). They state that by participating in activities employing critical pedagogy students should "have more power after the pedagogical encounter than they did before" (2008, p.102). One of the ways that critical pedagogy does this is by helping students develop academically. By learning to read and make sense of difficult texts, and by making connections between their learning from one context to another, students become more confident and successful.

### *Empowered by developing as active members of society*

Critical pedagogy also contributes to the development of students' confidence by helping them see themselves as participants in their communities. Whereas on most high school campuses the only encouragement that students regularly receive is in the form of grades, critical pedagogy seeks to encourage and empower students by showing them that they have a voice and can change the world they occupy. An example of this is described by Alejandro Nuno, a graduate of the Futures Project, in an article he later co-wrote with his teachers. The article explains how his class worked to teach Latino parents in their

community about how to advocate for their students. Nuno describes that after the instruction, the parents changed the way they interacted with the school. Nuno writes, "The parents held counselors accountable for schedules, met with teachers, and challenged some of the administrative decisions" (Collatos, Morrell, Nuno, & Lara, 2004, p.174). Nuno, and other Futures Project students went beyond learning about injustices facing Latino families; they got involved and tried to change them.

The parents Nuno helped were not the only ones changed as a result of the project. Students who developed this ability look critically at their community, and work to make them better, are more likely to see themselves as successful members of that community. Yonezawa and Jones (2009) discovered this as they worked with students on several different co-research teams. The researchers took students to nearby universities and gave them training on how to conduct research on their high school campuses. Students then used that training, and worked with the researchers to study practices on their campuses that acted as barriers to their peers' learning. These fledgling high school researchers then conducted surveys and interviews, analyzed data, and discussed their findings with each other. Finally, they presented their conclusions to faculty and other students highlighting the changes needed. Interestingly, these students completed work that is usually reserved for the academically elite despite being from backgrounds that included minority students, English language learners, and a majority of students eligible for free or reduced price lunch.

Yonezawa and Jones' co-research teams found and presented some pretty startling facts to members at their schools, which often led to changes in policies and the actions

of faculty. In addition to these findings, students changed the way they looked at and participated in their schools. Being involved in careful thinking about an authentically interesting topic, and being heard by those in positions of authority, transformed the way students saw themselves. Yonezawa, Jones, and Joselowsky (2009) explain that "[Students] found they could speak with confidence about designing research, protecting subject confidentiality, and forming conclusions based on the research they had designed and conducted, and the data they had analyzed. … their identity had shifted from borderline high school student to promising researcher" ( p. 200).

**Important considerations when implementing critical pedagogy**

Encouraging students to engage in critical pedagogy, and helping them find the confidence to speak boldly to school staff and community members can be incredibly powerful, but if unsuccessful can leave students feeling even more cynical and disempowered than they did at the outset. If students are working to address problems on their campus and do not see themselves as making headway, or are being blatantly ignored or criticized by those in power, they may become frustrated and give up. It is important, then, to ensure that adults genuinely pay attention to students' input if students are to continue to contribute.

Sometimes this adult critique and student frustration is difficult to avoid. In such cases, Duncan-Andrade and Morrell (2008) explain that providing time for students to journal can combat this and allow for discussion. Duncan-Andrade and Morrell also point out that providing examples of success, and bringing in passionate guest speakers who are working towards similar goals, helps students look towards the positive. One of

Duncan-Andrade and Morrell's students sums up (better than I can) how guest speakers and time for reflection helped her to deal with her frustrations: "I discovered that there are people in this world who are really passionate and devoted to making this place better for everyone. Now I leave cynicism behind but not the anger… It is an anger that leads to action" (p.99). This student points out that to develop as a learner in a classroom employing critical pedagogy, it is important be regularly engaged in reflective thinking.

Another consideration when implementing a unit of critical pedagogy is that it is not widely used. Though there has been a significant amount of research done showing the successes of critical pedagogy, it remains a narrowly applied method of teaching. Perhaps this is due to the fact that teachers may be reluctant to allowing students to genuinely challenge the systems around them, the same systems that give teachers their authority. Allowing students to do so without guidance and without a firm control of the class could potentially create behavior issues. Students involved in critical pedagogy, and other student-centered learning strategies, still need to be have structured learning environments. Students cannot be thrown into a class and be expected to have all of the prior knowledge needed to understand and fix social inequalities that surround them, even though they may think they can. To effectively implement critical pedagogy in the classroom, teachers need to create learning environments where students are challenged with difficult reading and writing assignments, as well as action and discussion (Duncan-Andrade, et al., 2008). Teachers must also act as a guide to help students make meaning and constantly strive for a deeper understanding of what they're learning.

Another of the potential downsides of critical pedagogy, and of other authentic learning pedagogies, is brought up in Bransford et al. (2000). The authors claim that teachers should be wary of creating knowledge that is overly contextualized, and point out that delving too deeply in one particular context may result in knowledge that cannot be applied to another context. This requires that teachers engaging in critical pedagogy make sure their curriculum is constantly pointing out potential connections to subjects beyond the one being studied in class. It may even be a good idea to have students engage in "what if" discussions about their project to help them see other ways of looking at the same issues (Bransford et al., 2000, p. 62).

Though not without its challenges, if educators take time to address these issues, critical pedagogy has the potential to change the way that high school students look at themselves, their work, and the world around them. Involving students in classrooms that adopt a critical pedagogical perspective will allow them to be more literate, motivated, and successful in the future.

**Where these theories and research intersect to create college success**

Considering that many students are not being prepared for college, it would seem that much of the curriculum that students encounter throughout high school does not help students develop skills that college classes demand (Conley, 2010). As I have pointed out in previous chapters, research explicitly states that high schools do not provide students with these skills (Conley, 2005; 2010). Whether or not students are ready for college is something talked about often in faculty lounges, but not something most high school teachers know how to do.

In chapter two of this thesis I discussed the importance of students developing a deep understanding of what they are learning. In a 2003 survey of college professors, Conley identified what skills students will need to be able to do to succeed in college. He pointed out that a commonly required skill in college courses is the ability to comprehend deeply so that the knowledge learned while reading one text may be synthesized and connected from one source to another. Going further Conley (2005) identifies strategies needed for students to be successful when approaching this type of complex learning (see Figure 1 below). To be successful in college, he found that students will need to be able to 1) formulate a problem, 2) research that problem, 3) interpret the results of the research, 4) communicate those results to others and 5) check for accuracy and precision along the way.
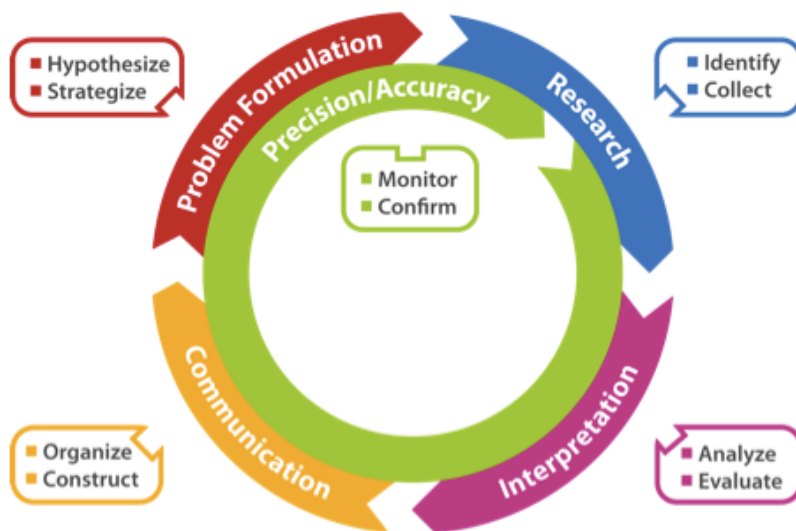


**Figure 1:** Key cognitive strategies needed for college success. Adapted from "Key Cognitive Strategies Model. " by D. Conley, Educational Policy Improvement Center. Retrieved from http://www.epiconline.org/cpas/key_cognitive_strategies_model
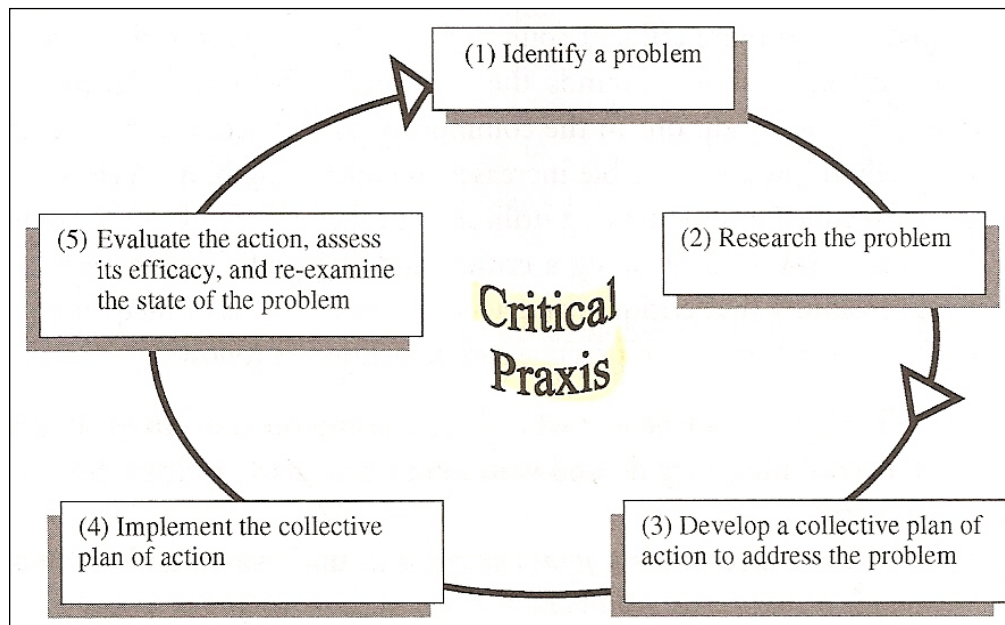
**Figure 2:** Cycle of critical praxis. Adapted from The Art of Critical Pedagogy: Possibilities for Moving from Theory to Practice in Urban Schools, by J. Duncan-Andrade, and E. Morrell, 2008, p.12.

These strategies are in line with what Duncan-Andrade and Morrell (2008) suggest when they discuss the fundamental processes going on in a classroom that employs critical pedagogy (see Figure 2). The major difference between the models mentioned by both Duncan-Andrade and Morrell (below) and Conley (above) is that the prior has students research inequalities within the systems they encounter daily. They are asked (as pictured in Figure 2) to identify, and then seek solutions to, a community problem. Finally students put their learning to practice by engaging in action to try and solve that problem. This application of knowledge makes learning more authentic because students are conducting further research, interpreting the results of that research, and using their new findings to inform a plan of action they are to engage in. Later, in the last step of critical pedagogy, the students evaluate their action and if necessary revise and implement a new

plan of action to address the identified problem. This cycle of critical praxis, then, not only lines up with the cognitive strategies set out by Conley, but also goes beyond. Asking students to understand an issue well enough to apply it in a situation where they will be able to inform and affect people outside of their classroom will help students develop concern for the quality of the work they are producing, and thus work to increase their understanding (Bransford et al., 2000; Duncan-Andrade et al., 2008).

**IV. The Lack of Curriculum Employing Critical Pedagogy and Encouraging Deep Understanding**

Perhaps one of the biggest challenges about reviewing curriculum created to address these cognitive practices, especially critical pedagogy, is that very few of curricula address the final step of the critical praxis (see Figure 2), applying what was learned and engaging in action. This vital step, as discussed in the previous chapter, allows for students to take what they have learned and connect it to other subjects and to the world outside of class. It also helps students engage in the curriculum, and provides them with the engagement on their campus, which is vital to persistence in college (Tinto, 2006).

This is a tall order for any curriculum, and it is no wonder that there are few examples of such projects at work in the traditional high school settings. Effective approaches to teaching critical pedagogy have been tried in non-traditional settings such as summer programs (Collatos, 2009; Morrell, 2004), coaching environments (Duncan-Andrade et al., 2008), and small co-research groups with partnering universities (Jones, & Yonezawa, 2009). Most likely because of the amount of time needed to research, create and implement a plan action, and because of pressure to follow the district mandated curriculum as well as prepare students for standardized tests, few examples of infusing critical pedagogy into the traditional high school classroom have been studied. This is unfortunate considering that most students are in traditional classrooms and do not have opportunities to be a part of special programs. These students could still benefit by being involved in critical pedagogy.

Because critical pedagogy is not often implemented in traditional settings, there are few existing curricular materials employing a critical pedagogical approach. In fact many critical pedagogues believe that to truly infuse students' choice (an important element of critical pedagogy) students must be at the center of creating each unit of study (Duncan-Andrade, & Morrell, 2008). Freire (1970) suggests that the learning process should include students and involve them in co-creating new units with the teacher each year. Freire goes further and claims that the teacher should be learning from the students as they learn. This co-creation is vital but it may also be difficult for teachers in traditional classrooms. Because of emphasis on standards, many teachers may not feel they can venture away from the curriculum and textbooks adopted by their schools. Many novice teachers may also find the idea of critical pedagogy terrifying because it asks them to create whole units from scratch and leave behind all prepackaged curricular materials they may be familiar with. In fact, I observed this in one of the courses required for my master's degree. I was placed amongst several novice teachers working on obtaining their teaching credentials. Those that I talked with were very interested in critical pedagogy, but were more concerned about basic concerns like how to teach writing and how to discipline unruly students. They felt like critical pedagogy was a nice concept, but beyond the scope of their abilities.

**The Existing Curriculum**

The college preparation program Advancement Via Individual Determination (AVID) offers two curriculum guides that address the cognitive strategies set out by Conley, and discussed in early chapters of this thesis. The curriculum guide <u>AVID</u>

college readiness: Working with sources by Ann Johns (2007), a long-time professor of rhetoric at San Diego State University (SDSU), has students embark on an investigation of the nature of leadership. This curriculum requires students to conduct research about a historical or political leader and write a formal paper sharing their findings about the nature of leadership. This guide is meant to be paired with the AVID resource Critical reading: Deep reading strategies for expository texts by Jonathan LeMaster (2009), a former student of Johns'. Both texts offer several specific lesson plans to help students read and respond to difficult texts. These resources are invaluable to educators who are hoping to prepare students for the demanding reading and writing in a college-level class. The type of final writing that students produce using these guides is very similar to that of a college composition class.

A similar curriculum guide was created by the California State University (CSU) 12th Grade Expository Reading and Writing Task Force (2005) to address the issue of students' unpreparedness for the level of work required at each of the 23 CSU campuses. It is named the Expository Reading and Writing Course (ERWC) curriculum, and is used in several high schools throughout the state. This curriculum introduces students to a variety of reading and writing strategies that are useful when reading expository texts, which the task force identifies as the main type of text with which students need remediation upon entering college. After reading the texts, students engage in discussions about the texts and attempt to synthesize ideas within them in order to produce a final written piece.

Looking closely at these two curriculum guides and the kinds of work they engage students in shows that they are powerful resources, but could still go further to create intrinsically motivated students who are prepared for college. I will look specifically at how these curricula promote understanding of difficult topics and how they could be more effective.

**Academic skills built through the existing curriculum**

Considering that research and the subsequent interpretation of that research are essential cognitive skills needed for success in college (Conley, 2005), it is imperative that students know how to break down and understand the arguments made in complex articles. The strategies and suggested activities outlined in the both sets of curriculum help students understand difficult texts and make meaning while reading.

Johns' curriculum provides activities that help students fully comprehend the topic of leadership and the potentially complex readings related to that topic. Johns identifies four "essential skills" that students need to master in order to be prepared for the rigor of college courses (Johns, 2007, p. xi). Briefly these skills are: 1) prompt analysis, 2) careful reading, 3) note-taking, and 4) thoughtfully using sources to support writing. Students are then, throughout the curriculum, engaged in activities that help them improve these skills, most centered on the theme of historical figures as makers of change. When used in conjunction with the LeMasters text, which gives teachers several strategies and associated activities to help students make sense of difficult readings, the Johns text involves students in a supported in-depth investigation of a topic in order to create complex written works.

Both the AVID and the CSU curriculum guides include elements that explicitly focus on teaching students to read for depth. In each unit of the Johns and the ERWC curriculum, students are tasked with reading non-fiction pieces of varying lengths. The EWRC curriculum guide provides texts that are grouped into thematic units and the teacher's guide offers specific activities to be done before, during, and after reading. To help students make meaning from what is read, teachers are given further activities and discussion questions. These activities show students how to engage in a number of good reading practices. For example, before even reading an article in the first unit of the CSU curriculum, students are asked to think about the topic that they are about to read, as well as predict the argument of the author. While reading, students identify vocabulary words that may cause them to stumble, and they are tasked with looking closely at the structure of the text. All of these strategies help students build connections with what they already know, setting them up for success while reading and rereading. Students are regularly asked to reread several times, and are given many different purposes for doing so. As they work through the readings in each unit, students are asked to record their thoughts and summaries in a notebook in order to draw on them later when writing the final paper at the end of the unit.

The importance the guide places on helping students develop understanding while reading is helpful, but the intellectual energy students bring may be forestalled by the topics the ERWC asks high school students to study. Though the curriculum does acknowledge that college students will encounter varied topics and will need to be flexible, at the same time most work done in college courses is centered on one or two

central ideas. The texts and assignments chosen deal with those topics. Students who participate in these college classes are exposed to an array of writing on a topic in the hopes that they will develop a strong understanding and viewpoint of the course topic.

The ERWC, on the other hand, gives students relatively few readings on each topic of study, usually no more than three readings per topic/unit, and moves students quickly from a topic in one unit to an entirely unrelated topic in another. A perfect example of this idea disconnect can be found between the sixth and seventh units, which juxtapose the topics of juvenile sentencing in court cases and the amount of money Americans spend on their pets. Such a chaotic jumble of ideas keeps students from really delving into a deep investigation of a topic. Without the use of supplemental materials to further stimulate student thinking, the ERWC may produce the same shallow thinking as is produced in traditional classrooms when students are rushed through the curriculum in order to "cover" all of the standards.

**Authentically engaging learning and the existing curriculum**

Both sets of curriculum offer students helpful explicit instruction in the skills needed to read and write about difficult texts. This instruction alone, however, is not enough to ensure students develop a firm understanding of how to use these skills in various settings. Because the topics students are tasked to read and write about in these guides will most likely not be authentically interesting to high school students, many may not be willing to put in the intellectual effort needed to engage in the lessons. Considering this, neither of these guides may help teachers elicit the full intellectual ability their students are capable of. Without this authentic interest, students may just be going

through the motions of completing their assignments without putting in the effort needed to really understand complex topics.

One particular area where these curricula may fail to create authentic interest is in the assigned writing tasks. Most writing assignments in each curriculum asked students to engage in tasks without authentic audiences. In the Johns guide students are even asked to do deliberately fake writing. Unit 1 includes an assignment where students are to write a memo to an imaginary school committee suggesting that the leader being studied should be included in future years of study. Though these kinds of tasks seem more authentic, their deliberate falseness often causes students see them as inauthentic busywork. These kinds of tasks will not draw genuine thought from students because, regardless of the stated audience, students know they are given the task by the teacher and have no real audience but the teacher. Instead, these kinds of activities are more likely to produce student work where students write what they think a teacher would want to hear. In fact, most of the writing done as a part of the Johns curriculum leaves little room for students to include their own opinion. Another writing prompt asks students to write a letter to the editor where they are required to imagine they "live in an era when people easily forget the past," (Johns 2007, p.129), in order to, again, show the importance of a particular leader. Both prompts seem artificial and address writing that has only one goal in mind, showing the teacher that the student agrees with the teacher-chosen leader. Though, when written, these prompts might have seemed to be authentic and creative because they create the illusion of an outside audience, this kind of writing encourages students to see schoolwork as separate from the real world. Students can see

through these kinds of thinly-veiled attempts at making school learning seem like real world tasks, and will not be motivated to think critically.

The ERWC curriculum, on the other hand, includes assignments that ask students to summarize difficult texts and respond to them including opinion backed up by evidence. The fact that these texts ask for students' opinions makes them more authentic than prompts mentioned above. The ERWC curriculum, however, includes reading and writing topics that may not be interesting enough for many students to use their full intellectual ability. One unit in the EWRC curriculum guide asks students to read and write about whether Americans spend too much money trying to keep their pets healthy. The writing prompt asks them to include their own experiences when writing the essay which may be mildly interesting, and may create a forum for students to share interesting idiosyncrasies about their pet-obsessed neighbors or relatives, but it will not engage students in the kind of authentic critical thinking and research necessary to succeed in a college class. Instead, of these odd-ball or bland topics, students need to discuss and read about topics they are interested in and that help them develop a perspective of the world that encourages intellectual growth. They need to engage in the kinds of thinking that helps them connect their knowledge between course content and the real world.

The topic of leadership in the Johns text offers a potentially interesting subject for investigation. Asked to truly understand a leader's contribution to a major social or political change, students will really have to investigate the times that leader lives in. For that reason, the Johns curriculum includes three units where students investigate the same theme repeatedly with different leaders. Students then participate in similar investigative

units of three different leaders. Johns suggests that the first and second units be done as a whole class and small group projects, respectively. Despite this helpful scaffolding technique, students may not put as much intellectual energy into understanding the contributions of the leader as needed because the topic has little relation to students' lives outside of the classroom, and may be repetitive by the third incarnation.

When I led students through this curriculum, many struggled delving into the topic. Instead of trying to understand the political and social complexities existing at the time the leader was living, most students were content with an oversimplified understanding. This resulted in writing and class discussions that included students' opinions of the leader, but did not include details from the readings. Many students did not feel they needed to use information from class readings, and instead relied on an understanding of the leader from elementary or middle school lessons, information that was often inaccurate. Despite, the emphasis on reading and understanding the leader in context, students in my class did not show the required level of interest to do so. These are exactly the kinds of practices that college professors say their students should avoid (Conley, 2005).

Similarly the EWRC curriculum does not offer a compelling enough subject matter to engage high school students in deep understanding. The above mentioned unit about how much Americans spend on pets will likely not draw students into class discussions, nor encourage at home research of the topic. Other units in the curriculum also fail to provide compelling fuel for student thought. Many students may also find the unit centered around a 304 page piece of science fiction difficult to get through,

especially considering the topics for discussion presented generally do not relate to the real world that students encounter. This is not to say all topics are uninteresting or inauthentic. Students may be very interested in discussing the topic of childhood abuse and neglect in the unit centered on a text by bell hooks. But, given the many uninteresting topics and the disconnect between the topics, additional editing and supplementing would be needed to make this curriculum guide authentically engaging.

Both of the curriculum guides I examined, though arranged in such a way to promote deep thinking, may not create the necessary buy-in needed for that level of thinking. Students need authentic assignments that require and value their voice in order to completely harness their intellectual energy. If engaged in a topic that requires real investigation, where students were not able to (or did not desire to do so) rely on simplified understandings, they would much more effectively engage in an investigation of what they are studying and would later be able to carry the skills gained from that investigation into college.

**Conclusion**

Often when students are not confronted with genuine problems to investigate, then they will not be engaged in the work they are doing. They will not put enough effort into their study to really build cognitive ability, and will subsequently be less likely to transfer any skills or knowledge learned to new classes. Students need to be prepared for the academic tasks they will experience in the college classroom, and need to be challenged with a curriculum that interests them enough to encourage the development of those skills. Existing curricula for AVID falls short of that goal.

Curriculum needs to encourage students to research topics they can put some thought into, so that they can engage in the type of thinking needed in college. Bransford, et al. (2000) suggests that in order to be motivating, instruction should be useful to others beyond the classroom walls. Motivating and empowering students to be successful in critical thinking and research, then, is vital. If students are taught to do this in high school, if they are able to delve into research and learning solely because they appreciate it, they will be more likely to enjoy learning and thrive in a college environment.

The following chapters describe my attempt to develop that curriculum, and include an investigation into whether it succeeds in encouraging learning for understanding and promoting student engagement. The curricular unit described below draws on critical pedagogy, and attempts to prepare students for the thinking that will be needed in college.

**V. Overview of the *Looking for Patterns of Injustice in the Everyday* Curriculum**

I designed the *Looking for Patterns of Injustice in the Everyday* (*LPI*) curriculum to help students develop the motivation and ability to use and synthesize evidence something they will need to do to succeed in a college-level class, as well as develop the feeling that they change social problems they see around them. Little of the instruction in traditional textbook-driven high school classes allows students to make meaning of issues that are of interest to them or that pertain to students' communities. In these types of classes, students are rarely asked to apply their leaning to the real world. *LPI* seeks to change this by centering learning activities on an authentically interesting topic. Students participating in *LPI* are even further motivated to think deeply by the fact that they present their learning to an authentic audience.

As a class and in small groups, students participating in *LPI* research an issue on their campus they see as being unjust, and attempt to identify the causes of the issue. Then, after they have a better picture of the problem, students critique practices taking place on campus, and devise methods for teachers and administrators to address the problem. Though issues students may choose are often complex, and making significant change may be beyond the scope of students participating in *LPI*, simply encouraging students to think about factors that contribute to the problem, and encouraging students to try and understand the real world issue allows them to become more interested in the work they are doing, and are therefore more likely to think deeply about the investigation they are conducting. Also, because students participating in *LPI* present their learning to

interested groups of adults, they develop a stronger voice and a belief that they are capable of affecting events that take place in the world around them.

**Goal 1: Students participating in *LPI* will hone academic skills and gain an understanding of the world around them.**

Considering the importance that developing intellectual maturity has on future college success (Conley, 2005), it is key that teachers involve students in activities that promote deep thinking. The *LPI* unit does this by involving students in inquiry both inside and outside of the classroom. Students conduct research by reading articles related to their topic, and by collecting data about how the selected issue affects their school. After these steps, the majority of the intellectual work follows. Students must then synthesize the ideas they have gathered through their studies, making connections between useful data, and beginning to develop theories based on the research they have done. To help students develop these theories, they read a number of articles related to their topic, regularly write about their learning, and participate in teacher-facilitated large group and small group conversations with classmates to make sense of their learning as well as the data they have collected. These activities, particularly the discussion with other classmates, help students synthesize data in research they have conducted with class readings and their experiences outside the classroom.

**Goal 2: Students will be motivated to engage in higher-level thinking about an authentically interesting topic**

Though research and deep thinking is a part of many state standards, and a large part of the newly created *Common core state standards for English language arts &*

*literacy in history/social studies, science, and technical subjects* (Common Core State

Standards Initiative, 2010), it is not something that most high school students do well

(Conley, 2005). Conducting and sifting through research is a difficult task for students in

high school. It requires a high level of attention to detail and analysis in order for students

to achieve a solid understanding of what they are researching. *LPI* was designed to help

students overcome some of these barriers. One of the goals of *LPI* is to hone academic

skills, including the use and synthesis of evidence as well as its application to the real

world. Seeing that intrinsic motivation is a predictor of college success (Kaufman, Agars,

Lopez-Wagner, 2008), it is especially important to not only involve students in the

thinking, but also to encourage their full, intrinsically motivated participation in the work

they are doing. In order to help motivate students, the *LPI* unit asks students to think

about a community issue that is authentically interesting to them. To determine the topic,

students discuss what issue is the most pressing and try to reach consensus as to what

they will investigate. The teacher also contributes to the conversation, helping students

see feasibility of investigating each issue and whether all students will have experience or

interest in the issue.

     The issue students investigate should be a topic they encounter regularly, thereby

allowing those who participate in *LPI* to be motivated by the fact that they are already

familiar with the topic. The authenticity of the topic also encourages classroom

conversation and collaboration, furthering student interest and increasing the depth of

thinking taking place in the classroom.

Perhaps the most motivating factor of the *LPI* unit, however, is the fact that students are asked to present, as an end of unit assessment, their findings and recommendations to interested community members. This presentation makes students accountable to an audience beyond their classroom, and contributes largely to their engagement and deeper thinking (Newmann, 2001; Zemelman, 2005). Students are more likely to be motivated when they see the work they are doing as beneficial to their community, and are more likely to engage in conversations about the project and pursue a higher degree of accuracy in their results when they know the work they are doing needs to meet the needs of a real audience.

**Goal 3: Students will voice concerns about, and believe they can change, problems they observe in their community**

In addition to developing a cadre of students who are motivated and engaged in deep thinking about their community, *LPI* seeks to foster in students the belief that they can make a difference in the world around them. The *LPI* unit is built on the idea that, by allowing students to engage in discussions and lessons about facts surrounding their chosen topic, opportunities will emerge for students to develop their voice and realize their potential to make change. *LPI* also facilitates the sharing of recommendations, backed up by the facts that they have researched, to those who may be capable of making larger systemic change. Students participating in the *LPI* unit are given an opportunity to influence those who have power in their community by voicing their concerns in order to begin a discussion about change in their community. Figure 3, below, summarizes the main activities that constitute *LPI*.
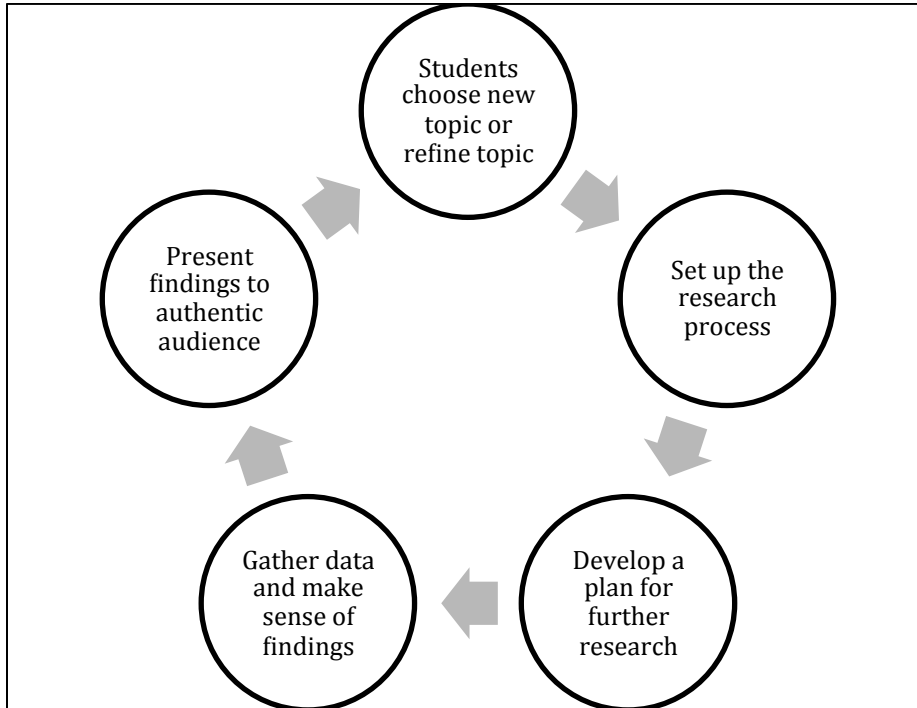
**Figure 3:** Overview of the stages of the Looking for Patterns of Inequality in the Everyday Curriculum.

**Underlying Educational Theory and Research Used in Constructing the *Looking for Patterns of Inequality in the Everyday* Curriculum**

In order to give a more full picture of the *Looking for Patterns of Inequality in the Everyday (LPI)* curriculum, it is important to discuss the educational theory used to construct it. Below are descriptions of theory and a summary of the research used to create the activities present in *LPI*. Table 1, below, summarizes the goals discussed above and how they relate to theory and research.

**Table 1:** Goal and associated educational theory or concept

| Goal | Associated Educational Theory/ Concept |
|---|---|
| Goal 1: Students will develop critical thinking skills by honing their ability to gather, synthesize, infer upon, and communicate evidence. | Critical Pedagogy<br>Learning for Understanding<br>Authentic Learning |
| Goal 2: Students will be motivated to engage in higher-level thinking about an authentically interesting topic. | Authentic Learning |
| Goal 3:  Students will voice concerns about, and believe they can change, problems they observe in their community. | Critical Pedagogy<br>Authentic Learning |

**Authentic learning.**

One of the fundamental educational concepts behind the *Looking for Patterns of Injustice in the Everyday* unit, is the research that has shown a correlation between units containing elements of authentic learning and the amount of intellectual energy students are willing to expend in the classroom. Particularly worthy to note is Newmann's research which posits that lessons that include spaces for students to construct knowledge, draw conclusions from their learning, and connect their learning to the real world allow students make drastic academic and motivational gains (2001). Similarly, students in the *LPI* unit are asked to research a topic that is interesting to them, and relative to the world they live in. This type of learning not only captures students' interest but also has, in other research settings, been shown to increase students' grades and

standardized test scores (Newmann, 1996). However, given the time constraints of my curricular project, studying those academic advances is beyond the scope of *LPI*.

The *LPI* unit goes beyond Newmann's concept of authentic learning, and also asks students to present to an audience beyond that of their teacher and classmates. Sharing their learning with an authentic audience of interested adults also has been shown to increase the amount of intellectual energy that students are putting into their work, and increase their motivation to work (Zemelman, 2005; Bransford et al., 2000).

**Encouraging students to learn for understanding.**

The activities in *LPI* incorporate the suggestions of several researchers for helping students develop as deep thinkers. One of the key concepts useful in facilitating the practice of learning for understanding is mentioned by Bransford (2000). Different from the performance-based learning that happens in many classrooms, where students work to memorize facts for tests, learning for understanding happens when students see beyond the test and actually seek to understand a topic in a wider context. *LPI* centers on this type of learning and offers students more depth than the testing-centered environment that most classrooms have become, and ultimately leads to more students engaging in conversations about what they are learning and how it relates to the world beyond.

Further, activities within the *LPI* lead students through a research process that is designed to promote critical thinking and prepare students for the kind of synthesis and complex writing they will encounter in college. Many university professors agree that one of the most detrimental skill deficits facing freshmen is the ability to engage in analysis and deep thinking when confronted with complex material (Conley, 2005). To

confront this problem, *LPI* seeks to provide high school students with the tools that will help them face challenging material in their first years of college. Designed after the Key Cognitive Strategies Model (Conley, 2008), the *LPI* unit guides students through the skills they will need in college including formulating a problem, researching that problem, interpreting the results of that research, and then sharing those results with others (see Figure 3). This model engages students in a research process that helps students to develop as researchers, but also asks students to apply their learning to the world outside of the classroom.

**Critical Pedagogy.**

One of the overarching goals of *LPI* is to help students feel that they are not only a capable student, but that they are able contribute to, and make change in their community as well. If students are truly able to comprehend a real world injustice and synthesize information in order to understand and address the problem, then it follows that they should literally take their learning beyond the walls of the classroom and attempt to correct the injustice. As I attempted to shape activities in *LPI* to support students with this difficult task, I relied heavily on critical pedagogy. Many of the activities in *LPI* are designed to help students critique the world around them and develop their voice in order to better understand the injustice facing their campus, something Duncan-Andrade & Morrell (2008) have suggested is a good way to get students involved in their community. These types of activities have also been shown to empower students to succeed in their studies and careers later in life by helping them develop both their academic and civic identities (Duncan-Andrade, & Morrell, 2008).

**Conclusion: Better college students, better community members.**

Most high school students desire to go college. Depending on what research you read, as many as 90% want to attend college (Conley, 2005).  The problem is that most of them, especially those in groups underserved by our education system, are not prepared for college. Many are not admitted to college, and even those who are, find themselves unprepared for the work the will do there. *LPI* seeks to build analytical skills by allowing students to research an injustice in their community, thereby motivating them to see learning as a chance to seek out understanding. In addition, this curriculum also helps students to develop the intrinsic motivation that high school students often lack, but that is a predictor of persistence in education after high school (Kaufman, Agars, Lopez-Wagner, 2008). The following chapters outline the implementation of the *LPI* curriculum in a 12th grade California high school classroom. They also describe research conducted to ascertain the effectiveness of the curriculum in meeting the goals described above.

**VI: The Implementation of the *Looking for Patterns of Injustice in the Everyday***

**Curriculum**

The *Looking for Patterns of Injustice in the Everyday (LPI)* curriculum was

implemented in a Southern California high school with a group of 56 students who,

though not all, had not met requirements or benchmarks for college readiness, but almost

all desired to eventually graduate from a four year university. I chose this group of

students because of their desire to attend college, and the fact that many were deemed

unready for college level work by the by California State University's Early Assessment

Program (which is a standardized test meant to assess students' reading and mathematical

competencies). *LPI* was intended to critique and seek out a deep understanding of the

educational systems that surround them, and by doing so, develop the thinking that helps

them perform better on these types of high-stakes tests.

*LPI* was the culminating instructional unit of my students' senior college-

preparation Advancement Via Individual Determination (AVID) class. The

implementation spanned the majority of the 18-week semester, but was not the sole

assignment that students were working on. An overview of the curriculum and associated

research can be found in the previous chapter and is summarized in Figure 3.

**The School**

Hidden Hills High School (HHHS) in San Diego County serves a diverse student

population of just fewer than 3,000 students. According to the school's accountability

report card, (Escondido Union High School District, 2009) the majority of students on

campus are Hispanic/Latino (60%). Another 30% are Caucasian, 3% African American,

3% Asian/ Pacific Islander, 3% Filipino, .5% Native American, and the rest are from other ethnic backgrounds. These statistics show the changing makeup of HHHS. For at least ten years, according to the California Department of Education (n.d.), the Hispanic/ Latino population at HHHS has increased while the Caucasian population has gone down (by almost 20%). In just four years the Hispanic/ Latino population has shown at least a 3% increase every year, while the Caucasian population has dropped by about 1% each year. Many of these Hispanic/Latino students are designated as English Learners (EL). This demographic change has altered the make up of classes on campus. In the last ten years many more English Language Development (ELD) and Structured English Immersion (SEI) classes have been offered to better serve the currently more than 20% of students that are designated EL.

Also, it is important to note that over half (50.5%) of HHHS students qualify for the free or reduced price lunch program. This number has almost tripled in the last few years. In fact, as recently as the 2005-2006 school year, HHHS had only 17.1% of students enrolled in the program.

It is also worthwhile to point out that most HHHS students do not continue to higher education. In the 2008-2009 school year, less than one third of HHHS graduates met the minimum requirements to apply to a University of California (UC) or California State University (CSU) campus as an incoming freshman (California Postsecondary Education Commission, n.d.). In that group, Caucasian students were almost twice as likely as Hispanic/Latino students to be eligible. This is not abnormal for a traditional high school. In fact the state average shows a similar situation.

All of these factors contribute to the likelihood that students from HHHS will be less likely to succeed in college, and further stress the importance for a curriculum like *LPI*. In order for students to be prepared for the work they will need to perform in college, it is important for them to be involved in building the skills they will need. *LPI* builds these skills and scaffolds the difficult thinking needed in order to support students and ensure that all students, including English learners and underperforming students, are not left behind.

**The Students**

The Advancement Via Individual Determination (AVID) program was introduced at HHHS to try to close the college attendance gap and help more students from underserved populations make it to college (*AVID mission*, n.d.). *LPI* sets out to further this aim with a group of HHHS 12th grade students. The senior AVID classroom reflects the diverse makeup of the campus in that it has a majority of students who receive free or reduced lunch and are the first in their family to go to college. Several students are also either currently, or recently reclassified ELs, and are thus may be facing a language barrier to college success. Despite these difficulties, this past school year a large portion of the students in the HHHS senior AVID class met the minimum college eligibility requirements and applied to a variety of local and distant four-year colleges. As with most years, the HHHS senior AVID students participating in *LPI* have been moderately academically successful (with an average GPA of 2.9), but are apprehensive about whether they will be successful in college. In previous years the majority of senior AVID

students expressed concerns about being able to handle the workload at a four year college, and some eventually decided to give up on college altogether.

Students participating in *LPI* were in their final semester of high school. Before being introduced to the unit, many had completed tens of hours of community service (a course requirement), participated in class discussions, and expressed a desire to give back to the high school before leaving. I designed the *LPI* unit to blend students' desire to give back with their need for academic skills and confidence to do academic work.

It is also interesting to note that students who participated in *LPI* had taken or were enrolled in several challenging courses, including several honors or Advanced Placement (AP) level courses. In fact, more than 90% of students had taken at least one AP or honors class by their senior year, with each student averaging about three classes. This is all despite the fact that the majority of these students had a low enough income to qualify for free or reduce price school meal, and many of them were the first in their family to seek out college enrollment, factors that make students less likely to succeed in AP classes. Further, individual conversations with students revealed that a handful of them (16%) are also trying to navigate the legal complications that come from living in the United States without proper documentation. This problem added an additional layer of stress to students who were already worried about succeeding in college. Considering their inability to receive most forms of financial aid, any remedial classes or courses failed in college would result in further economic hardship for already financially burdened families.

**Attempts to foster college readiness with previous year's students**

As the second semester of senior year rolls around each year in my AVID class, I try and prepare students for the kind of work they will be asked to complete in the college-level classes they will be taking next year. Observing students working on homework and studying for tests in AVID tutor groups, I saw a general lack of interest in thinking deeply about the material they study in their other classes. Attempting to remedy this (without much success), and prepare students for college, I have implemented a more traditional unit of study based on the curriculum materials provided by the AVID Center, as discussed in Chapter Four. The unit was focused on leadership and asked students to investigate the cultural and historical setting of a well-known leader from history. The goal of the unit was to prepare students for the higher-level thinking they will be asked to do in college writing and reading, but in my class, it was only minimally successful. Most students did find the topic of leadership interesting, but were not interested in doing the higher-level thinking or research needed to understand the historical setting of the leader that our class was studying. Most students were content with only having a hazy understanding of the leader and did not care to engage in deeper thinking about the topic. After struggling unsuccessfully with trying to motivate them I realized, as Dreis and Rehage (2008) also pointed out, that the seniors in my classroom would benefit from learning that goes beyond the classroom walls, and that puts to practice the knowledge they have acquired over the past 13 years they have been in school.

Keeping the world outside the classroom in mind, I created a second unit for use with another AVID senior class. Students were asked to investigate current crises facing some of the world's poorest countries and then inform others by creating websites about

the problems facing that country. Though more technologically advanced and challenging, this unit was less successful in sparking the desire to think deeply. Part of the reason it did not encourage students to think deeply and engage in the subject matter, I believe, was that students did not have an audience to present their work to. Though they were publishing their work on websites and had the potential to reach others, most did not find much of an audience beyond the classroom. The websites were just another assignment to be graded by the teacher. Also, students expressed that the topic was too large and overwhelming for them to fully comprehend, which pointed out the importance of scaffolding students' learning and led me to surmise that they should investigate a topic with which they already had a solid base of prior knowledge.

I used these failed attempts at shaping deep-thinking motivated students to design *LPI*. In the *LPI* unit, I created several activities to encourage higher-level thinking by asking my students to present their work to an authentic audience of adults in education classes at the college level. The real audience, and student chosen topic encouraged students to put more effort and deeper thinking into their work than they had in years past.

**Looking for Patterns of Injustice in the Everyday: Overview**

I created the *Looking for Patterns of Injustice in the Everyday* (*LPI*) unit so that that my students could seek out and investigate the practices on campus that they viewed as being unjust. Because students in their senior year of AVID classes are intently focused on getting into college and applying for scholarships, college was a topic that came up a lot. Students questioned why, though they were planning on enrolling in

further schooling, their friends in other classes were not. Considering the timeliness and student interest, students decided they wanted to know more about why certain students at HHHS chose not to pursue further education, thus our class research topic was born. I then described the project and that students would be researching as well as presenting their findings to faculty and students at a local university. Next, I placed students into groups to discuss and investigate specific aspects of the problem. They also received instruction in reading articles and began to practice synthesizing what they read with their experiences and the information in the documentary clips we viewed in class. Further discussions ensued, both in small group and large group settings, which led to students developing a plan for further investigation. In their small groups, students received suggestions as to how they should craft a research plan, as well as associated surveys and interviews needed to better understand the topic, and seek out the causes and solutions of the injustice.

After they gathered data and discussed the implications of it, I helped each group craft their information into several findings concerning HHHS students' post-secondary plans. They then thought through the best way to share their findings and presented what they found to students at the university (including many future secondary teachers). Besides promoting deep thinking, the *LPI* unit helped students see themselves as agents of change by contributing to the discussion of how to make high schools better able to help their students make it into higher education.

**Student reflections on the process and progress**

Throughout the unit, students reflected on the process of their research and their understanding of their research topic. Reflecting on the understanding of the topic and their role in the project allowed for students to connect their prior knowledge to what they were learning in class, as well as determine what they still needed to work towards understanding. Providing students with an opportunity to reflect also allowed the teacher to assess students' confusion and help them work through problems in connecting difficult concepts. It was also an effective way to measure students' levels of motivation and thinking.

**Phase 1: Setting up the research process**

As I set out to teach this unit I tried to balance two opposing factors that enable this kind of unit to work. In their research, Duncan-Andrade, and Morrell (2008) describe that in order for a unit built around critical pedagogy to function well, it is important for the instructor to allow for student-led inquiry, and, at the same time, to be willing to intervene and ensure students are thinking deeply and pursuing research in the most effective ways possible. The need for this kind of balance became quite apparent when, early on in the implementation, students participating in *LPI* began to approach the articles they were reading (from education journals, and educational reports) as they were taught to examine poetry and drama in English class. Students needed help seeing that the focus of the reading was not to understand the nuances of the text, but to use portions of the information provided in the articles to gain a better understanding of their research topic (why students do not continue on to higher education). It was necessary, on several occasions, to intervene in student discussions and point students away from ancillary

topics that, although interesting, were not related to their investigation. Students also needed explicit instruction in how to investigate a real world issue, including how to develop an understanding of what they still needed to know, and how to determine the answers to those questions. *LPI* strives to, as Freire (1970) explains, help students use the text of the world in order to find the answers that they are seeking.

Considering the fact that students at HHHS rarely conduct these types of investigations, I was concerned that many students in my class would not know how to approach activities in the *LPI* unit. Though most of the work done in *LPI* was student-led, I found that it was necessary to explicitly discuss how students read texts and approached their work. This need to provide support and structure for student thinking is aligned with what researchers suggest (Bransford, 2000; Zemelman, 1998) and is also in line with teacher-authors employing critical pedagogy in high school classrooms (Duncan-Andrade and Morrell 2008; Shor, 1992).

The need to provide support and structure became even more apparent in the first few days of implementation as I tried to assess what students already knew about the topic: why students from their high school choose not to pursue higher education. I asked students to discuss in groups what their assumptions were about the topic, and had them write their ideas in their reflections. When I walked around to groups and listened in to conversations about the factors they thought influenced college enrollment, most groups' ideas were very general, lacking specificity. A few groups mentioned that a factor influencing students' enrollment was students' "environment," or "background." In order to push the thinking of one group who said they were "done", but only had three words

listed on their paper, I pointed out that terms like background and environment were very broad and made of many smaller factors. I asked group members about what kinds of small things made up a student's environment or background. They looked at me with puzzled expressions, one said, "You know, their *environment*!" I explained that I did not know, and other students in the group pointed out that their environment consists of many elements like family history, the neighborhood they you grew up, the family's income, and their race. Without a teacher, or other classmates to facilitate deeper thinking many students would have, in this case, been content with a more basic understanding of the issue and not sought to delve deeper into the meaning of such complex terms.

After the discussion, one student voiced his frustration about his group's conversation. As he was walking out, he told me that he did not think any of the reasons that his group was talking about were the main reasons affecting college enrollment. Instead, he suggested that "you just have to give kids the info about college and let them choose to go or not. If they're not motivated then oh well!" Though this student's remarks may have been born out of frustration, when considered with the very basic thinking taking place in many of the group discussions that day, it is indicative of the need to help students see the importance of looking very carefully at a problem and finding a way to move beyond basic assumptions and develop well supported arguments.

This first day revelation led to the inclusion of a second more traditional classroom activity whose purpose, at first, was solely to show the danger of relying on unsupported assumptions when making decisions in the real world. While trying to find useful resources for my thesis earlier in the year, I stumbled upon a series of documentary

pieces created by Learning Matters (learningmatters.tv), which focus on the problems

facing schools in the New Orleans Recovery School District. I showed the class two ten-

minute video segments about the troubling state of the schools and the attempts of the

district's superintendent to remedy them. The first clip (Visconti, Robbins, & Wald,

2008) showed the state of the schools and district as the superintendent, Paul Vallas,

started his work, and the second clip (Visconti, & Renauld, 2010) showed the district

three years later. After the first video, I simply gave the students time to write down the

problems they observed, and what should be done better the schools. Students pointed out

the need for materials, and renovated buildings, as well as the need for more experienced

teachers. The best suggestions, however, came from students discussing how to get

students in continuation schools to succeed. Seeing the prison like conditions present at

many of the continuation schools, students in my class suggested that instead of creating

a more "secure" environment, schools should deal with the root of the problem: what

causes students to fail. One student suggested that providing counseling to help determine

why individual students were failing would help many succeed. Another suggested that

struggling students be placed in classes where they could develop the study skills and

confidence they lacked. My students also suggested mentorship programs, college field

trips, and bringing in guest speakers as methods that could be used to help motivate and

support struggling students.

As students watched the second segment of the documentary, it became apparent

that the superintendent failed to take teacher and staff suggestions (many of them similar

to the ones the my students proposed). Instead, he increased the security presence on

campuses with behavior problems, and, as one of my students put it, "he made the schools more like prisons." This failure to take into account the opinions of the teachers and other staff in his district led to disastrous consequences and an escalation of violence. Upon seeing Superintendent Vallas' failures, my students, without prompting, commented on the importance of having multiple opinions and sources of evidence when making decisions. They also began to move towards consensus that sharing their thoughts with those in power is something they need to do in order to make sure leaders are best serving the institutions they work for.

   *Breaking into research groups.* Next the class broke into groups in order to investigate separate aspects of why HHHS students do not pursue post-secondary education. I facilitated this process by giving students an overview of the project and the culminating assignment and allowed them to ask questions about their task. After that, I divided students up into mixed ability groups, trying to intermingle students enrolled in AP classes with those in ELD and regular classes, as well as mixing those who planned to go to four-year colleges with those who planned to attend community college.

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The topic: What keeps HHHS students from pursuing higher education and how does this affect them? What should be done to address these problems?

Aspects of the problem
- How do laws or policies limit the educational advancement of determined youth?
- How does a student's social circle affect the likelihood he/she will pursue further education?
- How is the guidance a student gets from the school likely to affect his/her educational choices?
- How can a family provide support and contribute to a student's desire to seek out higher education?
- How do the classes a student is enrolled in effect the likelihood they will pursue a higher education?
- How do a student's beliefs about his or her ability affect pursuit of higher education?

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**Figure 4** Excerpt from student handout showing the student chosen topic and smaller subtopics that groups chose from and addressed in their research.

Once they were in groups, I presented students with a list of potential reasons, compiled from a discussion they had earlier, why HHHS students do not pursue higher education. Topics dealt with a variety of factors including, how students' likelihood of going to college is affected by internal factors like motivation/laziness, as well as by external factors such as teachers, families, and friends. Figure 4 shows the sub-questions students chose to focus on in order to answer the larger question of why HHHS students do not pursue higher education.

After the groups had chosen their topics, I asked each group to come up with a list of information they would need to know about their part of the investigation. Some groups were more successful than others and came up with a list of data they would need to investigate, or questions they would ask students in interviews or surveys. One ambitious group even jumped ahead to the next step and came up with an action plan including surveys and interviews that they would need to give in order to help them answer the research question. Groups that struggled to think critically about the topic were still having a hard time making their investigations concrete. Many were not able to break down bigger ideas into more measurable concepts, i.e. something they could search for in article databases or ask about on a survey. For example, one group wrote that they would need to investigate the question "What social groups don't motivate their friends?" When I asked them how you determine a person's social group, they told me you could tell by the way they dressed, and music they listened to. When I asked them to tell me what social group they were in, however, they looked dumbfounded. I pointed out that instead of trying to put people into categories maybe they should create a list of activities

that students do that may make them more or less likely to go to college. After our discussion, that group came up with a more concrete and measurable list of factors they could investigate (i.e. drinking, partying, completing homework, using drugs). Seeing the necessity for this kind critique in every group, I had students critique each other's papers and I collected their work to add further comments and suggestions. Both of these practices became key methods of promoting deep thinking and giving feedback throughout the implementation of the *LPI* unit.

  ***Initial student reactions.*** During and after class I overheard students talking about the project. Many were terrified not only to get up in front of a large group, but that they would be responsible for informing faculty and students at a local university about this issue. At the same time, however, some were excited about the prospect and challenge of it.

  I expected both of those reactions to the project, but what caught me off guard was Jodi, a student who questioned why we were doing this activity if it was not going to "benefit" her. After class, Jodi voiced her concern that our project was going to benefit future generations of students but not the senior class. Further she spoke to me about her concern that it would take away time that she needed to work on scholarships, and since she had no computer at home and had no one to support her beside her AVID classmates, she wanted to use the time in class to get ahead. I tried to emphasize that this project works on changing the way that she thinks about learning and prepares her for the difficulty of making connections between different sources. I made a comparison to the Free Response style questions on the Advanced Placement exams she had taken, pointing

out that many college assignments ask students to synthesize information from several different places like that test does. After our conversation, I also looked into the work I was planning for students to do in class and made sure there was enough time for them to work on scholarship applications, and revise the essays they planned to submit with those applications.

**Phase 2: Developing the plan to investigate the issue further**

Part of the *Looking for Patterns of Inequality in the Everyday* project involved students writing a plan about how they were going to approach investigating their topic. I designed the activities described in the previous section to help students think through what they would need to know before attempting to investigate. As their ideas became more concrete, students began to discuss how to gather information. I included time for students to discuss their confusion and work together to determine the focus of their investigation. This allowed students to share ideas with colleagues and socially-construct a deeper understanding of what they needed to understand and the information they would later gather. To ensure they were on the right track students submitted a proposal for their research including:

1. What their group will need to know, how they planned on finding the information, and an account of which group member would take on each responsibility.

2. A tool kit of surveys and questionnaires that they planned on using to collect information needed to answer their research question.

Students then shared their proposals with the class and received written feedback from students in other groups. I also read and commented on students' proposals.

***Introduction to data collection.*** Most students had not read educational journals, where much of the information about this topic is written, nor had they conducted surveys or interviews before starting *LPI*. To help them transition, I decided not to overwhelm them with readings, surveys, and interviews all at once. Instead I introduced them to each method of gathering information separately, and modeled effective strategies for dealing with each.

***Research articles: Accessing and making sense of "the experts."*** I started by teaching students specific strategies to help them approach complex writing. Skimming for relevant information is one of the most important skills to learn when looking for specific information while reading. To highlight the importance of this skill, and to introduce it to those who are unfamiliar with it, I led students through a guided activity where I modeled and allowed students to practice skimming using a report of research about the subject the students were studying.

The report published by the Consortium on Chicago Schools Research (CCSR) titled "From high school to the future: Potholes on the road to college" (Roderick, Coca, & Moeller, 2008) was chosen because it contained information that would pertain to each groups' investigation. The CCSR report was also laid out in a way that helped students better understand the issues. It included sub-sections, and supported findings with graphs and charts. I began the skimming exercise by having the students spend one minute flipping through the article and surveying its layout and predicting what they would find,

as well as determining what would be the most fruitful parts for their group to read. I called on students to share what they found. Then I asked students to quickly read the introductory page and identify terms or phrases that came up repeatedly, especially those terms with which they were not familiar.

After our short discussion, I directed students to choose the section(s) that they thought would be most relevant and then they read it through, circling terms that needed clarifying and writing notes in the margin when they found a fact that would be useful for their group's investigation. After about five minutes, students got into groups and shared their findings. To further students thinking, I asked them to discuss what this new information did to shape how their group was going to approach their investigation.

After groups had time to discuss their findings, I introduced them to Google Scholar and directed students to the computers to seek out and skim articles that may be useful for their investigation. Realizing that it may be difficult for students to begin their search without a strong idea of what keywords and ideas were connected to their topic, I gave students tips I had written before class pointing out words they should use in searches and suggesting more ideas to help them find resources online. While searching I walked around to groups and helped them further determine how to identify which articles would be useful. In the short time they had to search, several student groups were able to find several articles that contained facts they could use when presenting to their audience. Other groups were less successful and required additional assistance, but still gained a basic understanding of how to do similar research in the future.

***Teaching students to develop surveys.*** From the first day, students began discussing their research topic – Why HHHS students do/do not pursue higher education? - They were eager to get a sense of other students' thoughts. A few had experience using surveys and wanted to do so for this project. Most, however, had never created surveys or participated in projects that required them to gather information from a group of peers.

In order to help students better understand the survey creation process, I shared tips gathered during a conversation with an educational researcher who had involved students in a similar type of project (Jones, 2011). After sharing these tips for conducting surveys, I had students look closely at, and try completing, exemplar surveys in order to help them gather ideas for creating their surveys. Groups looked at surveys created by both skilled researchers and other high school students. By looking at the sample surveys students saw the importance of the tips we discussed earlier. Many students remarked that a few of the high school student-created surveys were "unreadable," or "confusing." We discussed what some of the would-be researchers had done wrong. Students pointed out issues ranging from simple problems like spelling, wording, and types of questions, to more complex concerns about content, and even one instance of what seemed like researcher bias. Being able to compare the surveys helped students see several possibilities and pitfalls of the survey creation process.

This activity also served as a good transition to the survey creation process. After looking at and discussing surveys, students used the exemplar surveys to help them formulate their own survey questions that will be used for their research. At the end of a short class period, many groups had already decided on what types of questions they

would ask, how they would word the questions, and what groups they were interested in surveying.

**_Giving students tips for interviews._** Another tool that allows students to collect data is through interviews. Interviews allow students to discuss questions with their peers, school staff, and community members in order to better understand their perspective regarding the injustice. I explained to my students that the interview gives them the ability to get a better grasp of what others think, and, because they can use follow up questions, they can gain more specific answers their research questions.

Unfortunately I had little experience conducting interviews as part of a sociological research project let alone teaching students to conduct interviews. I found the work Jones and Yonezawa did while at the Center for Research on Educational Equity, Assessment & Teaching Excellence (CREATE) at UC San Diego, helpful in designing my classroom unit (Jones, M. & Yonezawa S., 2009; Yonezawa, S., Jones, M., & Joselowsky, F., 2009; Yonezawa, S., & Jones, M., 2009). In several schools across San Diego County, they teamed up with student volunteers and formed club-like organizations to investigate issues that students saw as problems on their campuses. To get a further sense of how they led these groups, I met with Makeba Jones and spoke with her about *LPI*. She suggested having students focus on using interviews as one of the main methods for gathering information. She and Yonezawa gave their students several suggestions for helping them obtain the most useful information from their interviews, including tips about how to ask follow-up questions, and take meticulous notes.

To help acquaint my students with how to conduct interviews I had them look at interview questions created by one of the teams of high school students that Jones and Yonezawa worked with. Students observed that the researchers left questions open-ended and allowed space for interviewers to write responses. They also noticed that all of the questions in the interview looked at the overarching topic CREATE researchers were trying to address from several different angles. Though these are simple suggestions, they were not things my students had considered doing.

***Students' concerns about being able to make change.*** Before moving into the more independent work that would be take place in the proposal creation and data collection phases, I noticed that many of my students had developed apprehension about the work they were doing. From students' comments during a discussion and from reading student reflections about the learning process, I recognized that many of the students in my class were having doubts about their ability to make meaningful lasting change. Though the issue is discussed in further detail in chapter seven, I briefly bring it up here to note the additional lesson and conversations that I created to help students see their potential as change makers.

Considering that students were most apprehensive about their ability to make systemic change, including their ability to change practices and beliefs of those outside their class, I focused most of my attention on this area. I decided to play a National Public Radio (NPR) broadcast created by a student/journalist, Jamita Haskell, who singlehandedly highlighted the need for change at her high school in New York. The

ensuing conversations sparked some powerful discussions amongst my students about what change means and why it is important.

This discussion and podcast activity began by sharing with the students that many of their peers had written, in their reflections the previous week, that it was not possible to make any type of large-scale change. We discussed the reasons that the students felt the way they did, and whether they thought it was possible for students to change the inner workings of their campus. Many said that teachers and administrators would never listen to their suggestions.

After our discussion we listened to the Haskell's audio podcast (Haskell, Patel, & McCune, 2007) in which she tells the story of how she used her frustration with the inequality she experienced at her high school as the impetus for a deeper investigation into how her school places students into their Advanced Placement (AP) classes. Haskell sought to understand why she had been denied a place in the AP classes, and my students identified with Haskell's frustration. Many of the students involved in the *LPI* unit noted similar stories in their own academic backgrounds, and discussed ways to keep it from happening to future generations, regardless of the difficulty.

***Creating the proposal.*** After having given students a full understanding of how to gather information for their project, I discussed procedures for working together in a research team, and gave time for them to establish their own rules for working together. Then I laid out the process of creating a proposal and the importance of thinking through how to gather information. I used the work I was doing in my master's thesis as a model, and explained how, before they turned in their proposal, students were to plan out all the

details of their project as well as hypothesize what kinds of answers they would receive from their questions. After I explained this and answered questions that students had, I dismissed students to their groups and had them begin to formulate their own proposals.

*Struggles.* For some groups, creating a proposal with any level of thoroughness was incredibly difficult. Many groups, when describing their detailed plan for collecting evidence, wrote about how difficult the process was. One group, which contained members that were upset about being placed into groups without their friends, had a very difficult time putting together their proposal. Because several of the group members were frustrated they did not communicate effectively with one another. One student in particular, Valerie, refused to even pay attention to what her group was doing despite my prompting. This unfortunately led to her writing up the proposal by herself, based on the group's notes. When I read over her proposal with her other group members to see if they agreed with the plan, two of her colleagues pointed out that she had misunderstood ideas that were at the core of their proposal and would have to entirely rewrite the proposal. She then rolled her eyes and mumbled under breath "this sucks so much! I hate it!"

At first I was not sure what to make of this student's complete frustration with the project, but then, when I talked with her later, she pointed out that she was lost in the process because her group members refused to talk about anything, and explain things further when she asked. She did not fully understand the topic and they were not willing to help her to understand it so she could write her section of the proposal. I gathered the students in her group together and helped them push past small frustrations and assigned the most proactive student the role of leader, so that their group would have someone

who was making sure all tasks were being completed. This made a substantial difference in the group's functioning, and illustrated the importance of including teambuilding or get-to-know-you activities before beginning an arduous research project like *LPI*.

*Successes.* Other groups, especially those who spent quite a bit of time discussing their topic of investigation, had a lot more success creating their proposals. Several other groups who were more comfortable with discussion were able to get to the heart of the issue very quickly. Though I planned for all groups to have these kinds of discussions, one group in particular, who had chosen to focus specifically on how the advice and interactions counselors had with students affected their college plans, found that discussing the concept in terms of their experiences helped them craft their research proposal. After discussing the things counselors did that they thought helped most, they sought to test their ideas by asking others in interviews if they agreed. When creating their questions these students tried to capture their peers' opinions about the efficacy of the counselors' approach. They also sought to evaluate the effectiveness of the school's ability to deliver information about higher education by checking other students' knowledge about college. They quizzed their peers about the requirements needed to attend college or vocational schools, and if they knew how to access the resources in order to find help. The group said later that, had they not spent so much time discussing and brainstorming their experiences connected to the topic early on, they would have been lost when it came to understanding the topic and writing the proposal.

**Phase 3: Gathering and Making Sense of Findings**

After groups turned in their proposals I read through and commented on ideas that were unclear, or plans that would cause frustration later when collecting data. I also asked groups to turn in typed versions of the surveys or interviews that they were hoping to use. Even though I spent 5-10 minutes talking with each group about their research plans during the week leading up to the proposal's due date, I noticed several problematic elements in both the research gathering tools (surveys, interviews) and the proposals that necessitated revision in some cases. Had I not thoroughly reviewed their work, I imagine many groups would have had problems when collecting data.

***Work time: Time to gather information.*** Students were only allowed to begin collecting data once they had corrected their proposals. Some groups had to rewrite, and often re-think, their planned steps in order begin the data collection process. Others had to add, remove, and change survey or interview questions that did not help build towards the overarching research question.

After students received approval for their proposal and after checking in with their group, students got to work. Some logged onto computers to look for scholarly articles and others started preparing to conduct interviews. Of those students looking for articles I noticed that the majority were not having much success. Many of the students found it difficult to use research databases, and were having a hard time finding useful full text articles on Google scholar. Instead of allowing those groups to continue stumbling, I compiled a list of articles that I thought would be useful and posted them on the class website. Students began looking through those articles and taking notes from the most

helpful sections. As students became more confident, a few even shared articles with me and asked me to upload them to the class website for other groups to use.

Each day as the students collected data, I checked in with groups to evaluate their progress and make suggestions to help them in the process. In these brief check-ins I looked at information the groups collected and talked with students about the possible implications of the information they were collecting. While meeting with groups I began to notice that students went about collecting interview data in very different ways. Some students took detailed notes and asked several follow-up questions to get the best possible understanding of their peers' views. On the other hand, there were several students that had very unclear, often one or two word notes written under each question. I took a few minutes to remind those students about the importance of taking clear detailed notes.

***Challenges of the data collection process.*** In one group the quality disparity seemed to stem from students not being aware of what would be most helpful to answer their research question. When I talked with one group studying parents' influence on college plans, they said that their interviewees had not said much in response to the questions asked. So, together we looked at their research question and discussed whether the information gathered would be useful. I pulled one survey out and asked students to tell me whether the information on it would help their group understand their chosen aspect of the class research question: How do families provide support and contribute to a student's desire to seek out higher education?

One group member, Javier, pointed out an instance where the information they gathered would not be helpful at all. He explained a note the interviewer had written

under the question "Have your parents expressed interest in your school work?" that consisted of two words: "yes" and "homework." Javier explained that since the interviewer could no longer remember the interview, the information would not be useful at all. When I pressed the group for why the notes were insufficient, another member explained that they needed to know what the parent said about homework to know how it might have influenced him or her. At that point a student from another group who had been listening in said, "You guys should have asked another question. You know, so he could explain himself." The group members agreed and decided to make sure they were more careful during future interviews.

To ensure all students were clear about what was expected I used the interview discussed in that group as an example to show the class what they needed to be aware of when collecting data. I asked the whole class if the information gathered would be useful, or whether the interviewer should have done something differently. The class came to the same conclusion as the group, and I heard several students in other groups mention that they would have to begin taking better notes during their interviews.

Not all groups that were collecting unclear or confusing information were doing so because they were unclear about the process. In one group who had decided to only interview ninth and tenth grade students, members of the group came to me and said they had a problem and were worried their group was going to gather incorrect information. One of their members had been interviewing his friends, who were in the 12th grade, and had been claiming that they were in ninth grade. I pulled the student aside and asked him why he would compromise his group's investigation, and he said he did not know where

to find ninth graders, and since he had to go to work right after school he could not stay on campus and find interviewees. Though I told him that his old interviews were not valid and gave him a new stack to complete, I helped him find a list of teachers who taught ninth grade whose students he could interview during our class period. He went to those teachers after class and asked a few of them if he could interview their students throughout the next week. Through this interaction it became clear that, for this implementation to produce student growth and information that would be useful later, I would have to intervene to help students make connections outside the classroom, especially for those students who were shy or less confident.

*Data collection practices of effective groups.* Perhaps one of the most important elements of creating an effectively functioning group is teamwork. Students who communicated well while creating surveys and discussing the initial problem, were much more successful when collecting and analyzing data. Through conversations, one group investigating the college going rates in each of the different levels of English classes realized they were not collecting all of the information they needed in the surveys they created. A member of the group, Karen, considered adding another question to their survey, or at least polling a few more people to get a better sense of the issue.

Another important aspect of group work is involving students in the discussion of how best to approach a task, and encouraging multiple approaches. One group of students used both the techniques I shared in the earlier stages of implementation, as well as those learned in English and history classes. While reading difficult articles, group members discussed with each other the best way to go through the articles and take notes in order

to better understand the articles they were reading, and get through them more quickly. The students found a few relevant articles by searching through Google scholar and began skimming through the introduction and abstract sections. When they found what they considered to be useful, they began to look more closely at the text. These two students, Lourdes and Sally, worked together to develop a system of highlighting that helped them better understand the text (see Figure 5 below). They marked everything in yellow that they did not understand (considering the difficult reading level of this article, I am surprised there is not more yellow). Using a pink highlighter they marked up text that contained useful information. Their notes contained comments about why the sections were highlighted are written in the margins.
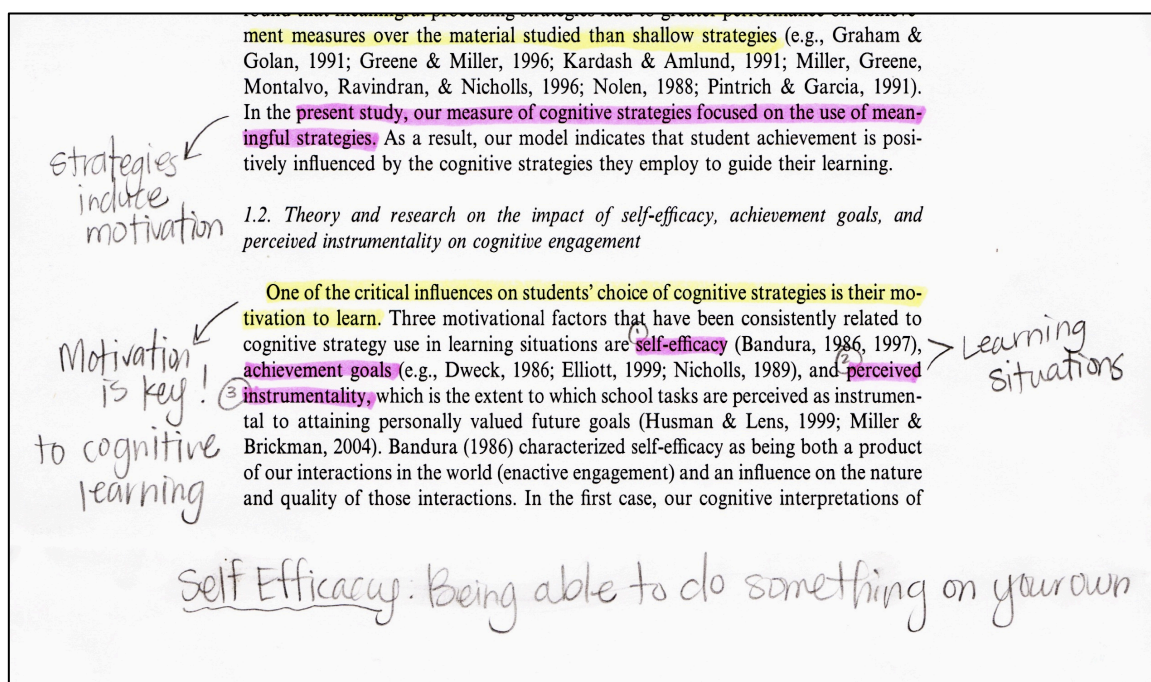
**Figure 5:** Student text markup of educational psychology article. Note taking strategies were discussed and agreed upon in order to get the most information from the article.

Though this article was not an easy read for these two students, one of whom had not taken any advanced-level courses in high school, they were willing to discuss the article and ask questions about unfamiliar words in order to get a better understanding of the article. When I asked them to explain the concepts present in the article, they were able to explain the main purpose of the article, but still needed help connecting the research in the article to the work they were doing in *LPI*. This shows, then, that discussion and heterogeneous grouping can take students a long way towards building a better understanding of difficult concepts, but at some point most students will need help from a teacher to make the difficult connections between concept and reality, or between two seemingly unrelated topics. This may be a good place for teachers to spend the majority of their time aiding students.

***Helping students make sense of data.*** As the interviews and surveys began to pile up, I heard many students asking their group members how they were going to be able to make sense of their data. Though they were concerned with the amount of data they were collecting, at the same time, groups were beginning to make observations based on that data. At the end of each day I tried to help students organize these smaller observations using focused group discussion time. These discussions began to help students develop a systematic understanding of the data they were collecting.

In those group conversations, many groups had mini-epiphanies and began to better understand the reasons why students at HHHS are not going to college. Up until this point most students thought that their peers were not going to college because they were lazy or because they chose not to go. During many conversations about what they

heard in interviews or read in surveys, many group members commented to one another that the problem was much more complex. In order to make sure that these revelations made it into their final write up, group members took notes and recorded ideas from these discussions for later. These conversations were also useful for helping groups determine what still had to be done in the investigation. In some instances, students who realized that their task was easier than expected agreed to help those with more work to do.

On the day that students were supposed to have finished their research, I allowed them 20 minutes to discuss with their group members how they might interpret their data. After that, I chose a few surveys from one group that was struggling to make sense of their data, and counted up the results of the survey. After converting the numbers to percentages, I asked the whole class to comment on what the data might indicate, and I took notes on the whiteboard. Then I asked the students about whether there might be a relationship between any of the pieces of data that were collected by all of the groups. One interesting example was the conversation that stemmed from a group that saw a connection between their survey questions about the percentage of students who are enrolled in AP classes going on to college versus those in English Language Development (ELD) classes. The group was quick to assume that since EL students were not attending college, that meant they were "lazy," or that they were underachievers, but when another group chimed in and mentioned how the majority of the EL students they polled were very interested in going to college, it required the first group to look back at the data and consider other possible conclusions. Students discussed the other factors that may be keeping students in ELD from attending college, such as financial difficulties,

lack of room in EL students' schedule for college-preparation class, and the expectations of the parents of EL students. After going through this example with students, I encouraged them to look back at their data and reexamine their conclusions for any assumptions they made.

Since some of the students struggled with keeping track of data, and the math required to turn them into percentages, I devoted a few minutes to helping students learn to count results from interviews by going through a few of the responses one group had collected, and reminding them of the basic math using a document camera. After giving the students an overview of the process of sifting through their data I set students loose to see what they could find. By the time I walked around to help groups with the process, most were already well underway and had made a few interesting observations. This allowed me to focus my attention on groups who were having a tough time making sense of their results.

At this stage, one group was struggling with how to categorize and count their interview responses because the answers that students gave were so diverse. I sat with the group and helped them develop categories that fit many of their results. After a few minutes they were able to group the diverse responses and I was able to move on to another group.

A problem I was not expecting, considering that I built in so much time for discussion, was the difficulty one group had communicating with each other. Students in Jodi's group were not talking to each other about the results they had found, despite repeated attempts to get them started. In order to get this group to work together I had to

make group members face each other (in some cases by physically turning their chairs for them) and ask them to talk about what they found in their investigation. I appointed Jodi the facilitator and asked her to tell me if anyone had not completed his or her work by the end of the period. By the end of the third day their group cohesiveness had improved slightly, but they were still not as interactive as any of the other groups were. This challenge is important to note because teachers who employ *LPI* must be aware of the how students are progressing, and interacting with one another. Considering the importance of discussion to understanding the material, students who are not discussing their work may have more difficulties. Simply assigning the work and sitting back while students complete it will not be effective for all groups. Failing to check in and help struggling groups may result in students falling far behind and possibly not completing their research. With Jodi's group if I had not stepped into aid them at this stage, it would have been impossible for them to move on to Phase 4 where each individual student would have had to combine the work they did together and make conclusions from their data.

**Phase 4: Bringing it All Together and Sharing Findings**

*Making conclusions.* In the later stages of the project, group members began to discuss the best way to share their findings and began to create a method of delivery for the information they had found. The students who were going to present at the university thought that the most convincing evidence would be to share the statistics and the stories associated with their research in a PowerPoint and spoken presentation. Because not all of the students could attend the presentation at the university due to end of the year

testing conflicts, I wanted the rest of the students to be involved in sharing their findings with the community. It seemed important, then, to create a way for all students to find an authentic audience. To do this, I had groups create two formats for sharing their final findings: PowerPoint slides, and a group letter addressed to a those who could make change in their community. Those students who were not attending the presentation at the college were tasked with delivering their group's letter and explaining their research project with a member of their community with the power to make a change in the issue. They were also asked to record the reactions and thoughts of their small audience and bring them back to the class. Those who attended the university presentation, on the other hand, presented their slides to the college students and discussed the implications of their research, taking note of the college students' suggestions.

***Reactions to the culminating presentations.*** Discussed in more depth in the following chapter, the culminating presentations that students delivered to university students took place in two separate classrooms. One was an undergraduate foundations of education course that, according to the syllabus, was designed to prepare college students to understand the political, cultural, psychological, and sociological issues going on in public and charter secondary school classrooms. The course also provided students the opportunity to tutor at underserved high schools. Several, though not all, of the students enrolled were interested in pursuing careers in the field of education.

The other class *LPI* students presented to, was a required course for all graduate students enrolled in the university's single subject teaching credential program. This course was centered on helping aspiring teachers grasp the fundamental issues of equity

and access in secondary schools. Students enrolled in this college course studied theory and research surrounding the disparities that exist within schools. Beyond that, these students investigated and presented on organizations in the county that work to aid students and families.

For both of the presentations to college classrooms, an *LPI* participant or two volunteered to present from each of the different research groups. These presenters helped to compile evidence and build connections from the findings of all six groups. They, then, determined what was the most important information to share with students at the university. Throughout the presentations *LPI* students answered questions from the audience, drawing on research they had done and from their personal experiences. Overall the audiences responded very positively, suggesting that they seek a larger audience to present to, which further encouraged my students to continue their research. In addition, the students in the graduate-level credential course took copious notes and seemed to value the perspectives and opinions of the high school students. Many even cited *LPI* as sources in their end-of-term paper.

After the first presentation several students expressed interest in sharing to other audiences. Many signed up to present again to the graduate students, and in a third presentation to staff at their high school, though at the time of writing the principal of the high school had yet to set a date for the third presentation.

***Summary of approach.*** Most students were not familiar with the type of reading, research, and stringing together of evidence required in the college classroom. *LPI* seeks to provide students with several activities and lessons designed to help shape their

thinking. In order not to overwhelm students with the research and thinking process, *LPI* breaks this deep thinking into smaller manageable pieces to ensure that neither the new type of thinking nor the enormity of the project overwhelms students. It also helps guide students through the steps of the research and allows them to discuss their work with groups of peers to help them make sense of the rather complex topic. Specific gains in motivation and deep thinking, as well as increased student voice, are outlined in detail in the following chapter.

**VII. Evaluation of the *Looking for Patterns of Injustice* Curriculum**

The overall goals of the *Looking for Patterns of Injustice in the Everyday* (*LPI*) unit were that: 1) students participating in *LPI* will develop critical thinking skills by honing their ability to gather, synthesize, infer upon, and communicate evidence. 2) Students will be motivated to engage in high level thinking about an authentically interesting topic, and 3) students will voice concerns about, and believe they can make change in, problems they have observed in their community. During the implementation of *LPI*, students progressed towards these goals by pursuing a class research project, developing hypotheses and collecting evidence to further investigate their assumptions about the research question: "Why do students at HHHS fail to pursue education after high school?"

Based on the research about authentic learning analyzed in Chapter Two, I expected to find that engaging students in such a relevant and applicable question would motivate them to think seek a more full understanding of the topic. To briefly recap here, Newman (2001) asserts that providing students with more authentic learning experiences (ones that relate to students' lives and value the work they produce) increases the intellectual energy they are willing to put into their work. Further, Bransford et al., (2000), and Zemelman (2005) point out that that by requiring students to share learning with an authentic audience, students will be more likely to exhibit a higher concern for the quality of work they are producing and will strive to better understand material in order to better explain it to others.

The kind of learning supported by the *LPI* unit has also been shown to increase students' belief that they can make change in the issue. Yonezawa, Jones, and Joselowsky (2009) led students in their research groups through similar activities as those presented in *LPI*, and many of student participants developed more academic confidence as well as a desire to challenge unfair practices existing on their campuses. Duncan-Andrade and Morrell (2008) provide evidence that experiences like those created in the *LPI* unit can even bolster students' beliefs that they can make change beyond the classroom and increase their confidence as well. I expected, then, that offering my students a forum for presenting their findings to undergraduate students, future teachers enrolled in a graduate secondary credential program, and university faculty would help them to feel they could make change as well. By developing their voices and engaging in discussions with those who will soon be in positions of authority in the education system, students would be able to see themselves as changing the way their audience interacts with high school students in the future. Considering that this is a difficult task and would require students to be knowledgeable about, as well as be able to relate difficult concepts to their audience. It was important that students were considering all of the possible connections to related material found by group members or other classmates, and were able to consider the implications of this information to their understanding of the topic. *LPI* was designed to support students through this challenging process.

**Methodology**

I set out to evaluate the goal of this research by employing a number of both qualitative and quantitative evaluation strategies. To gauge the change in students'

motivation and agency, I surveyed students before and after the implementation of the *LPI* unit concerning the work they did at school and their beliefs about being able to make a change in their community. Before beginning the unit I also checked students' writing for evidence of well-honed arguments. This included students' ability to support assertions with evidence, and make conclusions as to the importance of the evidence. While implementing *LPI*, through the use of field notes, recorded conversations, student surveys, and interviews, I continued to evaluate students' speaking, writing, and behavior for instances of well constructed arguments and higher levels of thinking. I also looked for increased motivation and beliefs about whether they felt they could make change in their community. Finally, as the unit was drawing to a close, I conducted interviews and collected surveys that sought to gauge students' growth in terms of the three overarching curricular goals.

**Student reflections and follow-up interviews**

In order to gauge students' motivation towards their work and their beliefs about whether they could make a change in their school, I developed reflection questions for students to complete that focused on the beliefs they had about actions associated with each goal. I had students answer the questions from these surveys at the beginning and end of the unit in order to gauge growth, or a change of opinions due to the work that we did in the unit.

Many of the questions pertaining to motivation were developed from ideas brought up in Bransford (2000) and Deci (1995). Considering the link between students' beliefs about their competence and the development of intrinsic motivation (Deci 1995),

each survey attempted to gauge students' competence by asking them about whether they understood the topic, and whether they felt they could explain it to others. Bransford (2000) also points out that students are more motivated when they see the value of their work in relation to the amount in which it impacts others. In light of this, students were often asked whether they felt the work they were doing would benefit others. Additionally, to gauge motivation, students were asked to comment on the amount of time and the level of effort they put into the project.

Through the use of surveys and interviews, I also attempted to measure students' beliefs about their ability make change in their surroundings. Concepts that surfaced in Duncan-Andrade and Morrell (2008) as well as Yonezawa, Jones, and Joselowsky (2009) were helpful in crafting questions that allowed me to assess student progress in these areas. Both of these texts discussed the power of using students to help reform communities, and the potential that including activities that bolster student voice have for helping students see themselves as more capable and confident. In view of this, I attempted to determine whether *LPI* students felt they made an impact on their audience at the end of the unit. I also asked them about whether they felt they could make change on their campus and in their community after having participated in *LPI*.

**Whole-class and small group audio recordings**

With the consent and knowledge of students, I recorded whole class and small group conversations throughout the implementation of the *LPI* unit in order to test the development of students' thinking, and also to gauge their motivation. In the early stages of *LPI,* as students were discussing topics for research as well as the research process, I

recorded whole-class discussions. Later, as the implementation progressed and as whole class conversations became less frequent, I randomly selected student groups to record during each class period. I recorded several groups in order to get a sense of the progress of the class.

After recording a handful of conversations, it became apparent that I would not be able to analyze all students' growth, so I chose to focus my analysis on students at various ability and motivational levels and record only those groups. I chose to look closely at the progress of two students who lacked motivation in earlier class projects and who had not completed the requirements for admission to a four-year college. I chose two students who had narrowly completed the requirements for four-year college admission, and were moderately motivated in previous assignments. Finally, I chose two students who had been admitted to several prestigious universities and were usually very motivated to discuss and complete their schoolwork.

I then closely analyzed these students' comments for signs of motivation as well as for the use of strong reasoning, i.e. using evidence to support assertions. Students' motivation was measured by the amount of time they spent on task discussing their work versus engaging in off topic conversations. When trying to gauge the strength of reasoning and level of thinking in these recordings, I turned to researchers for a little help. I eventually decided to focus on students' ability to analyze and evaluate the data they were collecting, being that those are two types of thinking that Bloom (1956) and Conley (2010) pointed out as being at the higher of level of cognitive processes. In particular I looked at how students analyzed the data they were collecting and how they

discussed its place in their research, as well as how well students were evaluating the reliability of data. Because Conley (2010) also pointed out that the cognitive development needed for college requires students to be able to design the approach to research and communicate their learning to others, I looked for evidence of students doing this in their research groups.

To get a better sense of how to operationalize these types of thinking I also turned to the speaking and listening standards developed by the Common Core State Standards Initiative (2010). I paid close attention to student comments that showed whether the focus students were working to promote understanding amongst their group members, and whether they were able to communicate their ideas to one another.

### Informal comments and teacher journal

A lot of information about students' level of motivation can be gathered from listening to their comments during, and after each activity, when students think no one is listening. In order to get an adequate understanding of students' motivation and their understanding of the topic, I listened to student conversations and pulled students aside to question them about what they knew about their topic. I recorded summaries and quotes from these conversations in a field journal I kept throughout the implementation.

### Analyzing the data

The first indications of whether the unit met the goals I had laid out came from observations of my students' behavior during the unit, and from their conversations with one another. Throughout the analysis of the unit several trends emerged that caused me to

reshape my teaching of the unit and affected the way I approached difficult subject matter in the future. These findings have been incorporated into the following section.

As students began to complete the initial activities with their groups, a more thorough evaluation of the evidence was done. All work completed by group members was placed in a folder and reviewed to check for progress towards the goals. Students also completed the reflections, mentioned above, and I analyzed them throughout the unit in order to track students' development.

Though two classes participated in this unit, because of the large amount of data collected throughout the long implementation process, I chose to focus on only one class more intently. I chose my afternoon class both because there were more students in it who were on free or reduced price lunch, and also because there were students in the class who would be the first in their families to go to college. These are important in the decision process because in order to evaluate efficacy of *LPI,* it was necessary to see how the curriculum would affect students in groups of students who are traditionally viewed as less likely to be prepared for, and persist in, college. Tinto (2006) points out that students from these kinds of economically disadvantaged backgrounds are significantly less likely to graduate from college than their more affluent counterparts, even when receiving the same degree of preparation and enrolled in the same schools. In fact, students from high-income families are as much as two to three times as likely to persist in college and receive a bachelor's degree than their less economically advantaged counterparts (Tinto, 2006). It, therefore, seemed to be much more beneficial to closely study the effect of this curriculum on students with less financial resources.

**Goal 1: Students participating in *LPI* will develop critical thinking skills by honing their ability to gather, synthesize, infer upon, and communicate evidence.**

Bransford (2000) points out that one of the more effective ways to helps students gain a complex understanding of a difficult topic is by helping them focus on learning to build understanding as opposed to learning to perform on a test. Throughout the implementation of the *LPI* curriculum I assessed students' development of understanding by gauging their ability to express ideas to others in writing and aloud.

Another important facet of developing a full understanding of a topic is how closely students investigated material they are studying. Wiggins and Mc Tighe (2005) describe understanding as something that goes beyond the cursory learning that happens in high school classes. In fact, they assert that developing true understanding means that students may need to take something that they think they know well and investigate it further, challenging their assumptions about it. To assess whether students were progressing in this facet of understanding, I assessed their ability to question their assumptions from earlier in the project, and whether they were using the evidence they had gathered to help them form a more full understanding of the material.

I was also interested in seeing how successful students were in synthesizing the material they were learning from various sources, and whether they were making connections with their learning and life outside of the classroom. Conley (2010) and The College Board (2006) describe the ability to make connections and synthesize learning as a vital predictor of college success. To determine whether students met this goal I looked for evidence of synthesis in students' written reflections and in their written explanations

of the problem, as well as the solutions they proposed. I also analyzed their informal conversations with group members throughout the unit, and their formal end of unit presentations, to see whether they had made connections in their thinking.

**Goal 2: Students will be motivated to engage in higher level thinking about an authentically interesting topic**

Newmann (1996; 2001) discusses the power of using authentic learning to produce students who are both more interested in the their work, and more capable of complex thinking. Students engaged in this type of learning should then be motivated to go above and beyond the work they normally do to make schoolwork happen. Considering that the research topic of the *LPI* unit was chosen by students and dealt with a real world issue that students were very familiar with, those participating in *LPI* should have had an authentic interest in the material. This authentic interest should then result in more motivation to participate in the work in the classroom.

In order to determine if this was happening in *LPI*, I observed students working together in groups and recorded their conversations. I also used information that students supplied via short interviews and written reflections. In addition, to get a more candid picture of students' motivation, I observed students' actions within the classroom, paying close attention to their time on task, as well as for comments about interest in their work.

**Goal 3: Students will voice concerns about, and believe they can change, problems they observe in their community**

Determining whether students had met this goal was achieved primarily by observing student conversations and behavior. Throughout the unit I observed and

recorded conversations where students talked with one another about the problems they observed, regarding students in their community pursuing higher education. Students also discussed their ability to change the problem. In my field notes I recorded instances where participants in *LPI* exhibited behavior that expressed their confidence about whether they could change the issue they were researching. For example, as a result of their research many students came into contact with peers that knew little about how to attend college. Those students participating in *LPI* afterwards made attempts to inform HHHS students about college and higher education options. These behaviors and the comments made by students during class discussions are explained in further detail in the findings below. All findings below are explained in light of these three goals concurrently. A discussion of the progress made towards each goal follows the individual findings.

***Finding 1- Students were more likely to use evidence to back up their claims as they progressed through the unit, and incorporated this evidence into their understanding of the topic.*** Many students' reflections early on in my implementation showed that that they were failing to support their assertions with evidence. The first reflections I collected from students showed that students did not rely on evidence to support their assertions. When asked about the causes and reasoning behind their perceptions of why others at HHHS did not plan to pursue higher education, most expressed an opinion, but only 45% of students used any evidence to support up their claims.

As students worked through their investigations, the likelihood of their statements being supported by some type of evidence increased. By the end of the unit I observed the vast majority of students using evidence to support their thinking. In both their conversations with each other and in written explanations of their understanding, students increasingly included evidence to explain their thinking. Also, throughout the unit the quality of evidence that students used, namely the connections they made to other pieces of evidence, increased.

Using a rubric for determining the quality of the evidence students used to back up their ideas, I tracked students' progress at the beginning, middle, and end of the unit. The rubric valued students' use of empirical evidence over opinion, and gave higher scores for students whose statements showed reliance upon this evidence when making statements about the project. Student work was scored three times throughout the project and the class average can be seen in Figure 6 below. Overall the data shows that, in the early stages of the unit, despite having some exposure to articles and short video clips, students relied heavily on their assumptions or preconceived perceptions of the problem without offering evidence or examples (indicated in Figure 6 below). These students said things that could potentially be true, but had few concrete examples to back their ideas up. Students tended to make broad generalizations. For example, when asked about the cause of students' not continuing on to higher education, one student said, "there is a difference about going to school with high motivation, than one who is careless [sic]." Another said, "Students are not motivated. Laziness takes over them [sic]." Others at least tried to justify their understanding with some anecdotal evidence or partially

remembered fact (indicated by a two on Figure 6, below). By the end of the investigation, however, most students put aside their assumptions and moved towards supporting their assertions with statistical evidence they gathered in their groups, or by using paraphrased quotes from scholarly research (indicated by the three, the highest level on Figure 6, below).
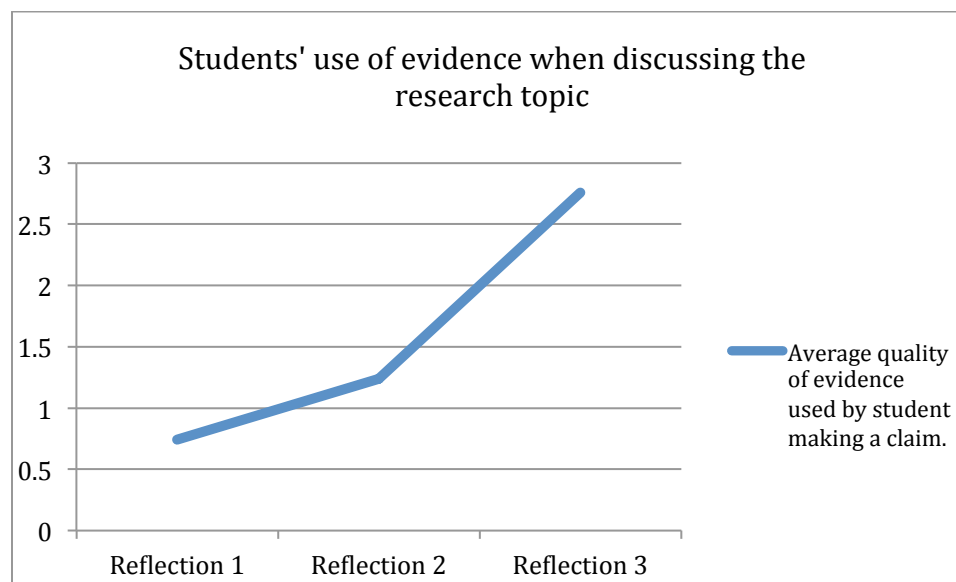


**Figure 6**: The figure above shows the average quality of evidence used by students to support their assertions about why their peers at HHHS chose to pursue higher education.

Beyond just mentioning a piece of evidence in their work, as students participated in *LPI*, they began to use evidence to shape their understanding of the topic. In a review of students' final reflections and group products I saw that 92% of the students formed a large basis of their understanding of problem from the evidence gathered throughout the unit. This was the case even amongst students who relied heavily on their assumptions in the beginning of the unit. One student who was quick to make assumptions early on in

the implementation, Kristen, expressed that her peers who choose not to go to college do so because they do not care about it. A few weeks later, however, she had become much more proficient at using evidence, and the evidence had begun to influence her understanding of the topic. This quote shows a little of the transformation: "From the articles I've read I discovered that Latinos are less likely to go to a four year college than African-Americans and whites. [The article's authors] also said that Latinos rely heavily on their teachers for help." Kristen went on to explain to others in her group that this was something she had not thought of before, and that something should be done about it. Students from other groups chimed in with similar trends they observed in their from their surveys, including one student who said that many ELD students he surveyed claimed that their teachers were greatly influential in their decisions to pursue higher education. After the discussion, Kristen's notes showed that her group decided to propose to go a step further and ensure no students were left behind, and suggested a system be created to help those students who do not get help from their teachers. They recommended "that their be special counseling at local high schools so that students can go and get help with their college priorities [sic]."

*Finding 2: Students synthesized their learning into larger ideas and real world happenings, including making inferences as to the implications of their work.* In most group conversations it became clear that students were drawing together information from various sources (including their own research) and then working together to make conclusions about the meaning of it he information. An example of this can be seen in the work of a group researching how students' class placement affects their college

aspirations. In conversations with each other, the group members decided to use several pieces of survey data in order to help form their opinion and then make recommendations for teachers.

This group of students began with a fairly basic knowledge of how class placement affects student plans after high school. In short they felt that students in AP classes desired to go to college more than students in ELD or Regular classes, and therefore they ended up attending college. One student in this group wrote in an early reflection, "those students [not enrolled in AP courses] just don't care, otherwise they'd be doing more." Several of the students, despite having taken regular classes at one time or another, expressed their belief that most of the students enrolled in less rigorous classes did not care about college.

As they progressed through the unit, after tallying the results of surveys asked of over 100 seniors in various English classes, students from this group had come to see the problem as being more complex. One of the things they noticed, and chose to include in their letter to teachers, was that "students who say they will be attending college respectively, are 95% AP; 78% Sheltered [Structured English Immersion, SEI]; 92% Regular, and 95% [English Language Development, ELD]." Many in the group did not know what to make of this finding. Some were surprised that so many students from SEI and ELD classes planned to attend college. So, with their group they poured back over their notes and tried to find some other information that could help them make sense of the data.

Though there was not enough time during the unit to introduce students to the statistics needed to do a proper analysis, the group was able to infer some very interesting connections. A reserved student named Daria made one of the most intriguing connections during a group discussion. Looking through the completed surveys, she noticed that most of the students from the less rigorous ELD or Regular classes who did not plan to go to college, also indicated that their teachers "did not bring up college often."  This caused her to ask her colleagues about whether they thought there may be a connection between the two pieces of data. Another student in the group then pointed out how he had observed some related evidence. He noticed that many of the students in ELD and Regular classes said their teachers were influential in post-secondary decisions whereas AP students did not. The students eventually created a way to express and make conclusions on the two pieces of data. Their findings were later displayed in slide (Figure 7) created for an audience of college students, some of whom hoped to pursue careers in education. This slide shows students' attempt to subtly suggest that teachers of Regular and ELD classes should be discussing college more in their classes.
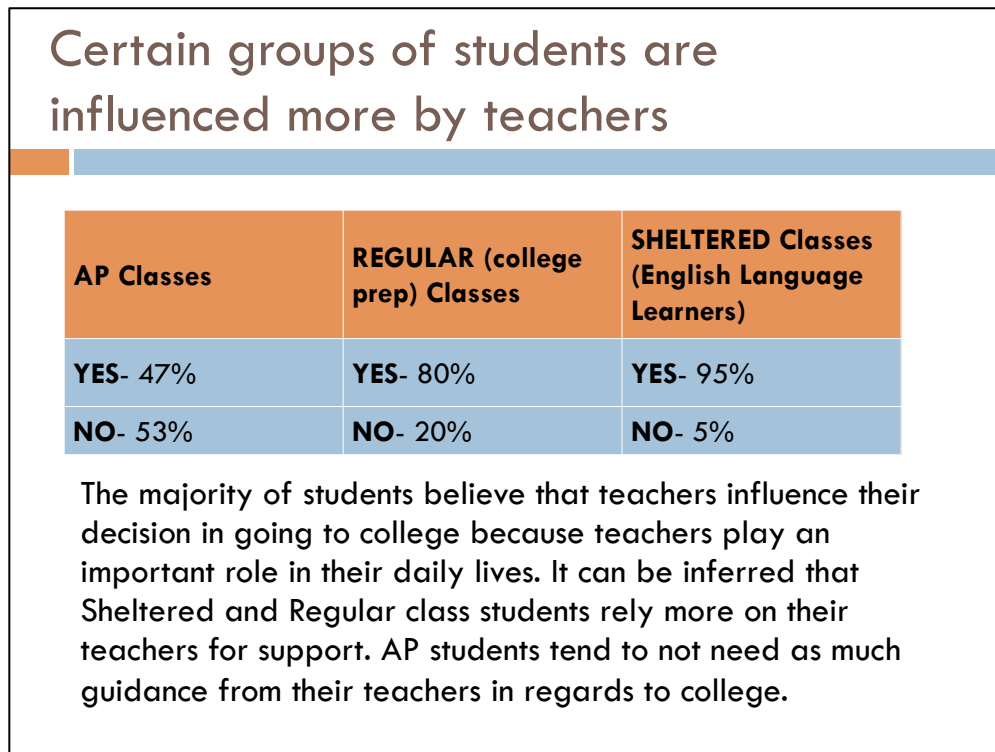
**Figure 7:** Slide created by students studying how class placement affects college enrollment.

Later, the group of students compiling the slideshow towards the end of the implementation, including Daria, developed some further connections as to the importance class placement has on plans after high school. After listening to Daria's statistics another student, Edgar, chimed in about how he had interviewed several students from various classes (AP and Regular) to determine how well they had been informed about topics related to college, including their general knowledge of college admission and financial aid application procedures. For the most part they found that students knew very little, with the exception of AP students. Regular students were far less knowledgeable about college application procedures, placement tests, scholarships, and upcoming deadlines.

Though there was not enough time to investigate a definitive reason for why these students were less knowledgeable, Edgar and a few other students posed the question to the entire AVID classroom. Though this discussion was more informal, it allowed students to hear several stories from fellow students enrolled in each class. One student in an AP class told of how his AP Literature teacher gave regular updates about upcoming test dates and deadlines, in addition to creating a wall showcasing students' college plans. On the other hand, many students in regular classes said their teachers brought up community college every now and again, but said their teachers had not ever discussed college.

The group concluded, then, that teachers of some less rigorous courses must have made the same types of assumptions about students' post-secondary plans that they had made in the beginning of the unit. This was a little upsetting for Daria and her group, as evidenced by her group's impassioned letter addressed to teachers:

> AP students are thought of as prepared, and more likely to attend college. Regular students, ELD students and [Structured English Immersion – SEI] students are less likely than AP students to attend college… We believe that all people with a set mind to go to college still need some reminding, motivation and support, but those who are struggling deserve just as good an opportunity to succeed. Teachers should have a respectful attitude toward all students. We believe that even though not all students are placed in the same level of class, everyone has something to offer. Every student makes an effort to give what they can, but a good attitude reinforces their confidence. Students look to teachers to help them out of their shell. They should be faced with a teacher who helps strengthen their education foundation.

Going beyond that, her group also created a list of practices that would help teachers discuss college in their classrooms. These suggested activities were then included in a

slideshow (Figure 8) presented to both undergraduate and graduate students education courses at a local university.



**Figure 8:** Slide created by students describing recommendations for teachers to promote a college-going culture in their classroom.

The activities mentioned on this slide came from a class discussion that took place before the implementation of the *LPI* unit. This points to the fact that students were able to pull in ideas that were not directly linked of the unit, in order to gain a more full understanding of the injustice. This ability to make connections between different sources especially those beyond the scope of the class is a skill that Conley (2004) asserts is necessary and often lacking in many first-year college students.

Beyond that, though, these students desired to make a firm connection to evidence, and draw conclusions from that evidence, in order to better understand the injustice. These practices required students to be engaged in a very high level of thinking, processes that Bloom (1956) placed on the higher end of his taxonomy for cognitive development.

***Finding 3: Students were able to express their understanding of the topic fluently to others both verbally and in writing, and were able to adapt their presentation to their audience.*** Students participating in *LPI* were able to think deeply enough about a topic to make connections to other topics as well as infer possible solutions to the HHHS to college transition. The example of Jesus and his group's synthesis, mentioned in the previous section begins to show this kind of fluent explanation of complex ideas, but it is important to point out that students were not content to present merely static interpretations of their ideas. Instead, they were driven to make sure that their audience had a full picture of the problem at HHHS during their final presentation. Students went beyond the requirements of the project in order to ensure their research was taken seriously. Presenters and research groups adapted their presentations and included personal examples in order to better engage, and meet the needs of their audience.

One of the presenters, Valerie, who has referred to herself on several occasions as an "average student" (she described this as someone who took no honors or AP classes in high school), fluently explained the findings that her group had discovered and tailored them to her audience. Through interviews of students on campus, her group found that

teachers were instrumental in persuading students in lower-level classes to go to college. Before her presentation she mentioned to me that she was worried that people would be too bored by so many numbers being presented to them. So, with a few of the other presenters, we discussed some possible ways to recapture the audience's interest, if it seemed to wane. During her presentation to the undergraduates, when it appeared that students were losing interest in the statistics that she was presenting, Valerie added some of her personal story and beliefs about less encouraging teachers to further elaborate on the point she was presenting:

> In my class the only time that my teachers mention college is when they say things like 'if you don't turn this in on time in college they're not going to accept it.' They never really mentioned college outside of, like, threats. I think that students don't really know what they want to do [after high school], so that is just the perfect time for teachers to do it, especially if teachers seem to play an influential role. [sic]

These brief remarks, though not based on the evidence her group collected, show how she connected with and internalized the results of her research and how she was motivated to ensure her audience also understood.

After she explained her story, her presenter partner, Jesus, added more information about how having a teacher (in his case an ELD teacher) who promoted college made a big difference in his post high school choices. He described how he came into high school taking several ELD classes that kept him from meeting college requirements. His ELD teacher, however, constantly encouraged him to make it to college and told him about how to make it there. He said "I ended up spending a lot of time with my ELD teachers." He later went on to connect this back to the research, saying, "The reason that we have 95% [of students saying that their teachers' influenced

their college decisions] is that every ELD or sheltered student will tell you that their teachers really talk about college a lot."

Though both of these students' additional remarks caused the presentation to go over the allotted time limit, they had the effect of recapturing many audience members interest. When I interviewed these students later they said that they added in and practiced their stories that afternoon so that their part of the presentation would be more interesting. It seemingly worked because as a result of their portion of the presentation several of the college students asked questions and their attention perked up.

Being able to anticipate and address audience concerns is another important skill linked to better performance in university classrooms (Common Core Standards Initiative, 2010). Additionally, considering it was not something that I required students to do, Valerie and the other presenters' concern for their audience's interest, indicates that having an authentic audience impacted students' level of motivation.

The increased motivation of the speakers was also evident in their eagerness to provide facts or suppositions about the data they found when they were asked questions by the audience. Despite expressing anxiety about audience questions before the presentation began, students felt afterwards that they were able to competently express their understanding to others. Even those not confident enough to participate in the presentation were able to address many difficult questions posed by the college student audience. For example, before their presentation the high school students discussed several quotes written by Paulo Freire with the undergraduates. Though most of the quotes dealt with very abstract aspects of unfamiliar concept of critical pedagogy,

students were able to connect the concepts with the more concrete activities they were involved in while participating in *LPI.*

It seems that these interactions boosted student confidence as well as their motivation. One student who took few advanced classes told me in an interview that while participating in the undergraduate college classroom she was rather surprised with how much she had to say about the quotes and ideas about social justice. In her final reflection she also remarked that, "The complexity of the quotes were very interesting, and I was able to understand them! … I was able to speak to college students and have an intelligent conversation about what we did. I really did have a good discussion!"

***Finding 4: Students became more careful with their work and showed increased attention to detail.*** As I mentioned earlier, many students in the beginning stages of implementation were not particularly concerned with backing up their assertions with evidence. I assumed that they would also struggle with paying close attention to the evidence they were collecting, but most did not. Though there were a few students that had a less organized approach to collecting data, their group members made sure that they completed their work accurately. One student, Mandy, who was content to rely on unsupported feelings early on in the implementation, became a firm advocate for the importance of accurate data. This became most apparent in the later stages of the implementation when one of her group members was contemplating falsifying interviews. When Mandy found out about this, I overheard her ask for advice from another student in her group: "Johnny is just planning on having his friends fill out his interview sheets. We were supposed to interview ninth graders and he is interviewing his

senior friends. I asked him if he knew that he was supposed to be interviewing ninth graders and he just said, 'whatever, I'll just change the information before I turn it in.'"

After consulting with her group members. Mandy and the other student decided they should say something to him about it. When I discussed the incident with Mandy after class she said that she told Johnny how important the project was and that his group members were all working hard. Johnny had then agreed, though reluctantly, that he needed to pull his weight and do the interviews.

Beyond this one example, in their final reflections several students remarked about how careful they were when collecting, reducing, and deciding how to present data. One student wrote, "I made sure that those taking the surveys clearly understood the questions, and also counted the information carefully [sic]." Another reflected that he spent the majority of his time "on the most important points of the project in order to understand them and be able to explain them to other students so that something could be done about this." In a final survey, students participating in *LPI* claimed that they felt that they had put more effort into that class project than they had put into the most of their other schoolwork that year. It would seem that because they were now responsible for educating others, they had a real audience, students needed to take ownership of their learning and had to ensure the accuracy of their results so their audience was not misled.

***Finding 5: Students claimed they were being asked to think more deeply than in their other high school classes.*** Reading through the final reflections and responses of students' surveys it became clear that students felt they were thinking at a higher level. In fact, 93% of students who participated in the unit agreed that the *LPI* curriculum required

a level of thinking higher than other high school projects. In interviews of students before and after class, they remarked that, though the project was hard work, it helped many go beyond the simplistic thinking happening in the classroom. Simply put, one student said in a final conversation about the project: "I actually had to think with this project." In their final reflections, many students elaborated on this a bit more. One student wrote about how in other classes she often devised the arguments for her essays off the cuff, without much concern for accuracy. In this project, however, she "had to think outside the box and actually do research then just something thrown together. [sic]" Similarly another student who had taken several advanced placement (AP) classes wrote that "we got the chance to analyze things and not just provide facts." In later conversations this student explained that most work she had done in her high school classes involved just recalling information. Rarely did she get to try and figure out the implications of the information.

A few students even began to rethink their reasoning for participating in education and their desire to go to college. One student remarked to a few of her peers near the end of the unit, that the project had caused her to rethink the purpose of her education. She explained that she appreciated the work we did particularly the fact that the purpose was simply to learn deeply about a topic. In a later conversation she pointed out that her main goal in coming to high school was to make it to graduation. She then waxed philosophical about the project saying, "Imagine what it would be like if we came to school just to learn, like this project. I mean what would it like if we all thought that way. School would be much more interesting to come to."

Involving students in this kind of authentic investigation helped students developed a strong desire to seek understanding while doing their schoolwork. Deci (1995) points out that moving towards this more intrinsic motivation can lead to increased overall motivation. It may also better educational performance when the extrinsic motivators are no longer present. Students who are involved in several years of this type of curriculum, as those enrolled in the Futures Project (Duncan-Andrade, & Morrell, 2008) have also been shown to make dramatic gains in the level of intellectual work they are capable of. In many of these students these gains are then carried over to work in other classrooms.

*Finding 6: Students were able to make the transition from big picture ideas to specific evidence.* One of the most common problems that college professors see in the thinking of high school students is that they are unable to move beyond making generalizations and begin making statements that are supported by evidence. A viewpoint many university faculty have is that, "Young students are often quick to make broad generalizations. What they tend not to deal with are the specifics. They don't know that you're supposed to support positions with references. They can say the world is screwed up, but think they can leave it at that without being more specific" (Conley, 2004)*.* Most students have difficulty making nuanced claims and connecting their statements to an overarching idea. Many are content with just making the claim based on their assumptions without making an effort to see if it is valid.

Students participating in *LPI* began in much the same way, making claims without specific evidence to back it up. However, by the end of *LPI,* most students were

able to make connections between things they had learned and the unfamiliar theories they were exposed to in the undergraduate college class they presented to. When asked during the undergraduate course to discuss their understanding of Freire's concept of problem–posing education, the majority of students were able to make connections to specific activities they had participated in, despite never having talked about Freire or his pedagogy. The majority of students who participated in this college discussion were able to even make connections to the research they collected and the theoretical concepts of social justice and critical pedagogy being discussed in the college class. Six of the seven students I interviewed said that they were able to explain how the work they did as a part of the *LPI* curriculum connected to the theoretical concepts being discussed in the college class. One student wrote in her final reflection that "the quote, from Paulo Freire I believe, he would talk about how education is not supposed to be an oppression of ideas; instead is should be a sort of liberation for students. Education is NOT a piggy bank where you drop in what you want (as a teacher). [sic]" She later explained how these concepts related directly to experiences she had in high school. She explained that she had teachers that did not encourage discussion or debate about the subject matter being discussed in their classes or the procedures for solving problems, some she explained even penalized her for doing so.

Another student summarized the connection between theory and her research succinctly by writing, "I feel social justice has to do with the equal opportunity for people to succeed in society. In our school many students do not have the same opportunity thus there isn't social justice." Her group researched the amount of time and attention that

teachers spend discussing and encouraging students to go to college. Throughout the unit she came to me with several questions about why our school does things the way it does. Concerned with why so many of students from certain groups were not being told about college she asked regularly about what could be done, and pointed out that her government teacher said education is supposed to be a right, but that our school seems to favor certain students. Her concern about this problem then led her to think about how it could be remedied and expressed an interest in helping promote programs like the AVID program she was enrolled in. She felt that if students should be encouraged to get into a class that helps them think about college, then they would be more likely to succeed.

*Finding 7: Students were interested in choosing the topic and in shaping their investigation in the early stages of the implementation.* When I posed the initial discussion question asking students to think about how or why so few of the students in their school chose not to pursue higher education, many were fascinated. The initial discussion lasted over 45 minutes (with little prompting from me). Students had wildly varying understandings of what caused the problem, and engaged in debates with others they disagreed with. After that discussion students expressed that they were eager to learn more about the topic. One student remarked, "I love learning about this!" The next day another student asked "Are we gonna do the college thing today? [sic]" and when I replied that we were, she smiled and said, "Cool!" then gave someone a high five.

That said, not all students were as excited. Many were skeptical about the topic and felt that their peers were simply lazy and that no further investigation of their post-

high school plans was needed. The majority of the class, however was curious to seek out an understanding that went beyond their assumptions of the issue.

On another day, after watching an episode of the PBS New Hour series created by Learning Matters (Visconti, Robbins, & Wald, 2006) documenting the work done by New Orleans Recovery School District Superintendent Paul Vallas, my students discussed the problems facing that particular district. In the discussion one of the *LPI* students remarked that she thought it was fascinating to investigate problems without clear answers. Students were also excited at the prospect of presenting to an audience. When I first mentioned it, students remarked to each other that sharing with an audience gave their work a purpose. Three students immediately volunteered to participate in the presentation even though I was not yet asking for volunteers.

Not all students were as excited however. A few students were not initially convinced that access to higher education was a problem at HHHS, despite hearing students share examples of peers who had problems accessing information about college deadlines. Also, many students needed to be prompted to stay on task while working in groups. Placing students in groups, however, partially helped this because students were more willing to work due to the fact that other group members were counting on them to complete their work.

It would appear that a large part of students' motivation to participate in the *LPI* curriculum came from their participation in choosing the topic. The curriculum focused on a topic that students chose and were interested in, factors that Zemelman (1998) shows

can not only increase students' interest, but also help students to take ownership of their learning.

***Finding 8: Interest waned as students began to collect and tally results of surveys and interviews, but increased when they began seeing the results of their work.*** Considering the high initial level of motivation I was hopeful students would be as interested throughout the unit, but doubtful that would be the case. So, as they were given more responsibility and work, I was not surprised when students became less eager. The activities that garnered the most criticism were the ones that required completing and analyzing the surveys or interviews. Students were still rather interested, and expressed excitement about watching documentary clips and having whole class discussions.

This lack of motivation was not something that continued until the end of the unit, as is the case with many high school projects and writing assignments. Most students became much more interested as the end of the unit neared. One student wrote in her reflection that "Once we got into it I never really saw the point in completing this project; however, at the end when I saw how powerful the results were, I put more effort in." In fact, 93% of students who participated in the *LPI* curriculum said that their interest increased as the unit progressed. Another student, who was so motivated he later decided to volunteer to present in front of the college class, described his interest after collecting data by saying "there were many things happening out there that we didn't know of. This got my attention more and more and motivated me to want find out more about these issues in high school and do something about it."

Another student wrote "After actually finding the results and actually sharing the information with college students, I felt way more motivated. Especially when the college students told of how our research was really interesting and that we should be the change." Though some complained about it being tedious, students were driven when they saw the potential their work had to help others gain a better understanding of a serious problem occurring on their campus.

*Finding 9: Students devoted time outside of class to complete research and to work towards addressing the problems that they found.*

When creating the *LPI* unit I tried to make sure students had enough time to complete assignments during class. Given that, many chose to work outside of class time on their project. In fact, 85% of the students participating in the *LPI* curriculum chose to do some of their work outside work outside the allotted class time. Most students explained that the reason for this was because they could gather a wider sampling of students and more accurate results if they interviewed students during lunch, or during their free periods. Students also found that they could not conduct interviews and analyze their findings fully during class time; many needed extra time and so had to work overtime. On the other side, however, there were also a handful of students who did not utilize their time during class efficiently and had to take work home. Either way, all of the groups completed the work assigned to them.

Though the reasons that students gave for their desire to work outside of class were varied, each gives an indication that students were concerned about the results and were genuinely concerned about the projects' outcome. One group, working on research

concerning how parents affect students' college decisions, decided that the original

survey that they created was flawed in that it left out vital information that was needed to

understand the issue. The group redesigned their survey to include questions that

attempted to also gauge which practices were most effective in motivating seniors to go

to college. After redesigning their surveys, the students went back out and surveyed more

seniors, wherever possible interviewing the same students they as before. When I asked

why they did this, they said that they did not want to give the college students false

information.

Other students were concerned about accurately sharing their findings as well. In

fact, after the success and reception that the students had after presenting to the college

students, several stated that they were excited to present their findings to other groups.

After discussing what that would entail, including working more on the project after they

had graduated, driving to the university, and fielding difficult questions from potentially

less receptive audiences, 14 students still committed to present without any prompting.

***Finding 10: Students' motivation and deeper understanding led them to seek***

***out ways to make change on their campus.*** As I have pointed out in some of the previous

findings, many of the students participating in *LPI* developed a deep understanding of

their research topic and were very motivated as a result of the unit. This motivation often

went beyond just putting effort into their studies. Students participating in *LPI* often

sought to apply their learning outside of the classroom as well. In fact, in a survey given

to all students at the end of the unit, 95% believed that they could make substantial

change in the issue they had been researching.

Students, motivated by class conversations early in the unit highlighting the importance of informing students about college, started thinking about ways to make change. One of their first ideas about how to do this was by "spreading the word" about the Advancement Via Individual Determination (AVID) elective class that helped them get a firm understanding of the requirements for college. When I asked if there was anything they could do, the majority agreed that telling others about AVID, and recruiting them into the program, would be a good place to start. Referring to this idea, one student said, "we should do that here, like for incoming freshmen, so that they know, because even here people really don't know what AVID is about, and how it can help. [sic]"

Out of this desire to help more students get into the AVID program, and into college, more than 20 students volunteered to visit the local middle school to tell them about how AVID would help them make it to college. They prepared stories from their time in high school and chose pieces of advice to share with the middle school students to help them survive high school and become college-bound. The students also passed out applications to the AVID program and shared how it helped them. From these students' efforts recruiting middle school students, HHHS has the largest future freshman class in 6 years.

Seeing the success in the middle school classes several students also suggested that they try and inform students already at HHHS. With their help I arranged for several hundred students to come and listen to presentations about AVID. Students devoted time after school to help finish this presentation and direct students to our classroom. They

also created a competition with one another to see who could recruit more students to join the AVID program. Again, from their efforts more students were directed to AVID than in years past. By way of example, next years' senior AVID class increased significantly after the recruitment presentations. In fact, next year's senior AVID class will be 60% larger than the previous year's class.

*Finding 11: Students' began to see the issue they were researching from a perspective other than their own.* Despite their lack of evidence and brief experience with the topic early on in the implementation, most students stated that they were confident that their assumptions about why students didn't go to college were correct. In a class discussion about the topic, one student, Jennifer exemplified this unsupported thinking: "[Students] are lacking motivation, that's probably why they don't want to go to college, not just because they don't have money. That's just an excuse. When we come to high school, we obviously know that we want to go to college, and we obviously know that there are scholarships that we can do. You can go on the computer and look up stuff" (classroom recording, January 19, 2011). This student's comments show a strong opinion, but little concern for developing an understanding of why her statement is true (or not). When asked later by another student about why she thought that, Jennifer explained that her opinions were based on what she observed other students doing. She said that many of students in her classes did not know about college requirements and had not applied for financial aid or for college. She then explained that she assumed those students must not be interested in college. This faulty logic and reliance on assumptions led Jennifer to assume that the students' failure to apply meant they were uninterested in

attending college. She had not considered that there might be other factors at work. Later she realized and expressed the fact that her perspective was rather narrow and based largely on her own experience. Jennifer was not alone in making sweeping generalizations and assumptions. In fact, many students participating in *LPI* made similar statements. As I noted earlier, this reliance on assumptions is one of the flawed ways of thinking that university professors see in freshmen students (Conley, 2004). Considering the focus that LPI made on deeper thinking and supporting claims with evidence, it was expected that students would begin rely less on assumptions. What was less expected was how doing so led many students to see things from another perspective.

One indication of this was when students, in a final reflection, noted that their perceptions of the world had changed during their participation in the *LPI* unit. Of the 26 students surveyed, 78% responded that their understanding of the world had changed. When explaining further, one student wrote, "You really get to know whats going on at school as a unit not as individuals…You really need to see the different perspectives of various people in order to understand the damage of the situation or the advantages [sic]" This student's statement shows a little of the change he underwent as a result of meeting and talking with other students on campus. In fact, statements like these were common in the conversations of research groups that I recorded and overheard.  As students came into contact with those on campus from other walks of life, and at different levels within the education system, they began to realize the advantage they had received by being enrolled in the AVID program, and the disadvantage of being in classes where college was not emphasized.

Several students took this problem very seriously and became very upset about the inequalities they observed. One student expressed her frustration in her final reflection: "Our society is seriously demented and this problem is omnipresent in different aspects of our society, yet we're totally oblivious to it." Though her comment may be extreme, and may be on the verge of being a generalization in the other direction, her passion indicates that she is very interested.

**Discussion of Goal 1**

Bloom (1956) places synthesis and evaluation at the upper levels of the cognitive developmental objectives that students should seek to attain in high school. Students participating in the *Looking for Patterns of Inequality in the Everyday* (*LPI*) curriculum engaged in both of these types of thinking regularly. Looking over the data they collected allowed students to make connections between what they knew and what the various statistics and articles were looking through. Once they had done this, students began to evaluate the current practices regarding college advising at HHHS. They critiqued the thinking of faculty and staff, and attempted to assert their own opinions to the educational conversation. In addition to this, when given new facts or confronted with related ideas, as they were when they entered the college classroom, they were able to absorb or reject those ideas based on the facts they had already internalized. It seems, then, that students were functioning at the higher end of Bloom's Taxonomy.

Students participating in the *LPI* curriculum were making academic moves that I rarely see in the high school classroom. It seems that the depth of the investigation and the act of synthesizing several different pieces of created the need for students to think

and rethink their understandings of the issue. While this was frustrating at times for students, it helped many students construct a nuanced perspective on a complex issue, many for the first time ever.

From the findings related to this

it also appears that students benefitted from being able to move from concrete to abstract. The strong background knowledge of the research setting (their high school) made it easy for students to grasp the theoretical concepts that otherwise would have been complex. Though this was not the case in every instance. The background knowledge that some students had made it even more difficult for them to understand the issue, and often students needed to be exposed to several pieces of evidence in order to reformulate their understanding of their school and their peers. Since abstract thinking is a vital component of college classes, it is important to allow students time to connect and compare new ideas to their own understanding and should be built into the curriculum.

**Discussion of Goal 2**

It appears that Newmann (1996) and Zemelman's (1998) claim that finding an authentically interesting topic, and an authentic audience for students to present to, does motivate students and foster in them a willingness to engage in deep thinking in the classroom. Students participating in *LPI* completed difficult research tasks that, for many, were unlike any type of work they had done before. Because of the separate tasks that each group was researching, groups were left to govern their own progress and were, in some stages, acting completely on their own. Despite this lack of guidance, groups completed assignments on time and many exceeded the expectations set for them.

Students also checked in on their colleagues to ensure they were completing their work, and that the work produced was of sufficient quality. Also pleasantly surprising was the level to which students were motivated to complete difficult research tasks. Students who had done mediocre work throughout the year were, during the *LPI* unit, reading and marking up articles from research journals and devoting time outside of class to survey and interview students on campus.

Most interesting, however, is the extent to which students took their learning beyond the classroom. Once students had a firm grasp of the problem, a natural extension of their thinking was to try and right the wrongs that they observed. All students who participated in the unit devoted time trying to inform their peers about college, and some devoted tens of hours of their time inside and outside of the class trying to correct the injustices they saw.

It seems that students participating in *LPI* exhibited a high degree of motivation to seek out an understanding of their research topic. It would also seem that this motivation is, in large part, due to the fact that the topic they were learning about was something that piqued most students' interest, and students presented their learning to an audience of interested adults. The combination of the connection students had with the topic, and the pressure of having to present their learning to an authentic audience, spurred most students to do high quality work and devote time outside of class to the project. Additionally because this unit took place during the end of students' senior year, a time that I have observed and research has supported, is one of the most difficult times to

motivate students to do schoolwork (Dreis & Rehage, 2008), the fact that students remained so motivated speaks to the success of the curriculum.

**Discussion of Goal 3**

Perhaps a natural benefit of having students research something they see as a problem in their community is that they will be more likely to get involved in discussions about how those issues effect they community. Even in the early stages of the unit students involved in *LPI* were very vocal about their concerns about their peers' lack of post-secondary education plans. As students developed a more complete understanding of the issue by conducting research on their campus they became more aware of the nature of the problem. Meeting and talking with peers in different situations often changed the perspective that students had regarding why others at HHHS did not pursue higher education. What many wrote off as laziness, became a much more complex issue.

Seeing the different facets of the problem allowed students to then devise more manageable solutions to the issue and many began advocating that, as a class, they should try and help their peers on the road to higher education. Through further conversations with each other and through their research, many began to become more confident about their ability to speak out about the issue. Lila, who had been quiet for much of the year, stated how she felt more confident and capable because in our class she was able to have her "voice heard and state how big of a deal this is and it that it needs to be changed by putting effort into it [sic]." She was not alone in her desire to voice concern. Each time I asked for volunteers to speak to others about the issue, students' hands shot up.

As mentioned above, students were also eager to make change outside the classroom as well, organizing meetings to inform their peers and underclassmen about college deadlines and college preparation programs. After the unit was over several students even expressed interest in continuing this kind of social justice work in their college education both, in class and in organizations on their college campus.

**Summary of Findings**

Students participating in the *Looking for Patterns of Injustice in the Everyday (LPI)* unit developed not only as skilled researchers, but also as fluent speakers and writers. Their learning was aided by discussions and self-directed investigation of a problem facing their community. Through conversations with their peers, with the instructor, and their audiences, students were able to develop a more full understanding of the complex issue. At the beginning of the *LPI* unit , students often relied on their own experiences and cared little for the evidence when making their claims. As the unit progressed and students engaged in discussions and crafted their own research, the majority of students participating in *LPI* developed a strong sense of what was required to truly understand the topic. They also began using evidence they gathered as a way to support that understanding. As the class moved towards the end of the unit, after collecting information from other students at their school and reading articles about schools in other parts of the nation, they began to see beyond their individual experiences, and consider which practices were most beneficial for students from a variety of backgrounds. They moved beyond simple personal anecdotal evidence, and

began to discuss the problem in detail, eventually sharing the results of their investigation with an authentically interested audience.

Also, considering most of this deep thinking was happening in the midst of a very distracting time in the students' senior year of high school (prom, AP exams, and approaching finals), students were still very interested in the work they were doing. Many devoted time out of class to work on the project, and others were proud of, and interested in sharing the results of their research. Additionally, students were more careful, and more engaged in the unit because they saw the importance of collecting accurate information so as to help future teachers and administrators solve the problem. They were genuinely concerned with the quality of information that they were presenting to others.

Though these are very exciting findings, many units endeavoring to create thoughtful learners may show similar results regarding student motivation and thinking. *LPI* has, however also, created opportunities for students to develop the ability to see the world around them better, and participate in changing that world. As they conducted their investigations and began to discuss results with each other, students uncovered several structural inequalities that exist within HHHS. Particularly, they made connections between the privileges afforded to several students who are enrolled in more rigorous programs. As they learned more about others in their school, they saw that many students at HHHS do not go on to higher education. Out of that awareness, many students sought to help their peers, and engaged in actions (both as a part of the *LPI* unit and in their own) to try and increase the number of students hoping to go on to higher education one day.

## VIII. Conclusion

When I began teaching five years ago, like so many new teachers I was given the most "difficult" students. I was told by veteran teachers at my site that my students would not be capable of doing homework, that they would not do any independent reading, that to get any respect I would have to ask little more of my students than to complete small worksheets. This never really struck me as the best method to help students become writers and critical thinkers, and it was surely not the way to inspire them to become intrinsically motivated learners. It never really worked either. Sure, students were refraining from hurling things at me, or hitting each other with textbooks (though I did have an iPod mysteriously disappear in those first few years), but they also were not fully applying themselves.

As I got involved in designing new curriculum and working with AVID (Advancement Via Individual Determination) college-preparation classes, I learned more about how to help students ask questions about their world, and engage in learning for understanding. These ideas shaped my creation of the *Looking for Patterns of Inequality in the Everyday* (*LPI*) unit. Creating this unit has allowed me to come to the conclusion that, instead of "dumbing down" curriculum for students, as I did in those early days, teachers should involve students instead in scaffolded authentic learning activities. Students will then rise to meet the challenges that teachers set before them. This is not as easy as it sounds however. One way to do this, as Newmann has shown, is by brining authentic learning into the classroom in order to increase the intellectual energy students bring to the classroom (1996), and that this increased depth of thinking may lead

subsequently to better performance on standardized tests (2001). This kind of intellectual engagement is exactly what Conley (2005) calls for to help students prepare themselves for college and the workplace, and it is what students participating in *LPI* achieved by investigating an inequality in their community.

Later in my teaching career I noticed that many of my students, despite developing the ability to think deeply, still rarely put that skill to use. In creating *LPI,* I used the theory of Freire (1970) and the practical approach of Duncan-Andrade and Morrell's (2008) Futures Project to find a topic that fully engaged students and sought to develop students who not only succeeded in class, but saw themselves as change-makers in their school as well.

**Successes of *LPI***

Overall, *LPI* shows successes in line with what was found in the research and theory on which the unit was built. Students participating in the unit became motivated by the topic they chose, and thus participated enthusiastically in both the research project and presentation that was assigned to them. The fact that they were presenting to an authentic audience, and wanted to relay accurate information, motivated participants in the unit to devote a high level of intellectual energy and effort into their research. Students also committed themselves to efforts beyond the scope of the project due to their increased interest. They went as far as speaking with teachers to cause them to change their practices, and educating underclassmen about how to navigate the road to college.

After the unit, many participants stated that they were changed as a result of participating in *LPI,* and indicated that they were more likely to look for opportunities to

make an impact on the world around them. Students were also grateful for the opportunity to participate in an in-depth research project, and felt it was good preparation for the work they would do later in college, and they are probably right. The thinking that students were asked to do in during the *LPI* unit (synthesizing, and drawing conclusions from evidence) may indeed make them more prepared for the work they will do in the their first few years of college.

Beyond that, and perhaps the most long-lasting impact that *LPI* will have on students is the experience that it gave them the opportunity to be movers and shakers in their community. Again considering the reactions of the students' audiences, it appears *LPI* students made a powerful impression. Those who heard students present shared students' concern and their desire to right the injustice that students presented about. They even encouraged students to go further and present their findings to school board members and staff in the Hidden Hills School District.

**Limitations to *LPI***

Though the implementation of *LPI* helped develop students who were more involved in their school and more careful with their thinking, it is important to point out the limitations of this approach. The students participating in the *LPI* unit were seniors in high school, many of whom had taken higher-level Advanced Placement (AP) and honors classes. These students had more experience thinking deeply, so it was necessary to carefully craft heterogeneous student research groups in order to place advanced as well as developing students in each group. Teachers, depending on the ability level of their

students, may need to add additional scaffolding to ensure students are successful as they

in the research process.

Perhaps one of the most difficult challenges I faced as I led students through this

research project, and that will most likely affect teachers implementing *LPI* in the future,

is the time and upfront planning needed to make the unit successful. It is important to

create a schedule that allows for extra time if students need it, and is not encumbered by

other schedule conflicts (like standardized testing or school holidays) that may interrupt

students' thought development. Also, finding an authentic audience and then arranging

the logistics of the presentation will likely also cause teachers some difficulties.

Considering the potential results, however, the effort is well worth it.

**Further considerations and need for further research**

Considering the fact that this research was only conducted over the period of one

semester, it would be interesting to conduct further investigation as to the long-term

impacts of the *Looking for Patterns of Inequality in the Everyday* unit. Some of the most

pressing questions that beg for follow-up research are whether or not students receive

high grades and persist in college as a result of being involved in units like *LPI*. Also of

interest is whether being involved in units employing authentic learning and critical

pedagogy throughout high school affect the ways students view their schoolwork. I

would imagine that units like *LPI* would be greatly beneficial to bolstering the

engagement and intellectual effort that often wanes throughout high school and college,

but further research would be needed to see whether that is the case.

Another area for further study is whether or not the investigation of, and in some cases efforts to correct, issues of inequality in students' communities will affect students' decisions later in life. Though many of the students who participated in *LPI* said that they would be more likely to be aware of, and work to combat inequalities in the future, it would be interesting to follow up with them in a few years and see whether this is indeed the case. I would imagine that this kind of thinking will greatly affect students' actions and thought processes throughout college and beyond, and I would be interested in seeing the veracity of this hypothesis tested.

Also, perhaps worthy of investigation are methods to help teachers develop critical research questions that are not overwhelmingly complex or intractable. Considering students may be interested in researching a topic that is beyond the scope of the brief classroom investigation, students may be discouraged when their research points towards the fact that there are no feasible solutions. To illustrate the importance of this need let me share an early dilemma faced by *LPI* students. Before settling on investigating their peers' post-secondary plans, students considered researching how immigration status affects future education and earnings potential of their peers at HHHS. Though this may have been an interesting topic to research, much of the work would have been far beyond the scope of a school-wide investigation, and would have required an understanding of state and national politics, economics, as well as a brief history of immigration reform. More importantly, investigating this topic would have inevitably led to the conclusion that any major changes would require major legislative change, something students may not feel they can do much to affect. Because of the unfeasibility

of future change, engaging in an investigation of this type may have discouraged students from seeking out a more full understanding of the topic.

Finally, another question raised while conducting this research was whether or not students would use the skills developed during *LPI* to work on other subject matter. Because much of the work that students participated in through *LPI* involved less traditional activities, it would be interesting to investigate how well the skills that students gained while participating in the unit translated to more traditional classroom settings. Unfortunately this question, as well as the others above, is beyond the scope of this paper.

**Looking towards the future**

Many argue that the idea of a free education in our country is so appealing because it can help people establish a better understanding of how to vote and participate in a society that offers so many freedoms. Many projects by educators and researchers in the field have attempted to bridge the gap between the lofty principles taught inside the classroom and the real world struggles many students face outside it. Duncan-Andrade and Morell (2008) have shown that teachers can involve students in changing their school and influencing media coverage of important political events such as the Democratic National Convention. Yonezawa and Jones (2009) have brought students to the table in the school reform debate and have helped them alter the practices of staff and students at several comprehensive high schools in California. Researchers and educators, such as Jeannie Oakes and John Rogers, at the University of California Los Angeles' Institute of Democracy, Education, and Access are blurring the boundaries between activism and

education in an attempt to involve students in the efforts to improve their schools and communities. All of these are examples of how educators are helping to not only change the way students are taught, but also the people who they become after they leave the education system.

Teachers need to be engaging students in more than just the content and skills needed to perform on standardized tests. Though discussion around efforts such as the Common Core Standards Initiative help to ensure that students are meeting the basic academic skills they will need once they leave high school, they may not necessarily be helping students develop an interest in using those skills. Teachers should be helping students write about their dreams, read about how to ensure they will be able to meet them, and speak about injustices they face along the way. Tying academic skills to student interests and authentic topics will not only help them stay awake in class, it will help students increase their level of intellectual investment in the classroom (Newmann, 1996). To the delight of principals and superintendents everywhere, these types of learning activities will also help students perform better on standardized tests (Newmann, 2001).

Martin Luther King Jr. (1948) said, "The function of education, therefore, is to teach one to think intensively and to think critically." It is this critical thinking, and the desire to use it, that I hope this curriculum will provide. Students need to both understand their world better, and, like King, have the voice to express their critique. Being able to do this will not only help them to exist in the world and pass the tests it throws at them, but it will allow them to be a part of shaping what that existence looks like.

# Looking for Patterns of Inequality in the Everyday:

## Investigating Issues in students' communities in order to affect change



Image: Banksy

## Curriculum Guide and supporting materials

APPENDIX TABLE OF CONTENTS

# Letter to Educators and Introduction to this Curriculum Guide

Dear educator,

First of all, thank you for considering using this curriculum guide in your classroom. The Looking for Patterns of Inequality in the Everyday curriculum guide, besides having a long name, is a great way to introduce your students to some of the higher-level thinking that they will need to do in more advance high school classes and later in college. More than that, however, this curriculum has the potential to provide your students with the motivation they will need to engage in these types of thinking, and it can help open the door for many to see and participate in the systems of power that surround them.

It is my hope that this guide offers several useful tips as well as provides you with the basic framework for setting up a classroom research project that involves students in investigating inequalities they see in the world around them. Because so much of this curriculum is based off of the student-chosen inequality as a unit of study, this curriculum guide will often need to be adapted, or used as a model with which you can formulate your own lessons and activities. I have tried to lay out, in the pages that follow, a more generalized cache of activities and handouts that you can use to help your students develop and begin conducting their own research project. Part of the power of this curriculum, however, comes from your students choosing their own topic and directing the flow of the classroom discussions. It is my hope that this guide may be used when confronting a number of issues that students see on their campuses. My students chose to investigate the factors keeping so many of their peers from choosing to pursue higher education, but your students may see several other potential research topics. Some potential topics that you may want to bring up when discussing this project with students include:

- The tracking of students into ability groups and the effect that this has on their decisions to pursue higher education
- The achievement gap that exists between students in different ethnic or socio-economic groups
- The consistency of teachers' systems of grading
- Students who drop out and the reasons students choose to do so
- The attention and funding given to different campus activities or organizations

The Looking for Patterns of Injustice in the Everyday curriculum offers your students a chance to interact with these difficult issues, and can even involve them in righting some of the wrongs that students have uncovered. To ensure that students are successful in this endeavor it is vital that you help them to work effectively in their research groups. Students will most likely be

unaccustomed to engaging in classwork that connects directly to the real world. They may be unfamiliar with trying to understand such nuanced and complicated issues and may jump to conclusions, make unsupported assumptions, or make sweeping generalizations in the course of your study. One of the most important tasks that you have is to help students overcome these shortfalls in their thinking in order to better understand the issue. It is also vital to help students see the value in working together and discussing the issue, often more than they may like, in order to be able to make the types of conclusions that will benefit their community. Students that are unaccustomed to working together may benefit from participating in team building exercises before embarking on such a challenging task with one another.

All in all, this curriculum guide can help introduce students into the intellectual conversations they will be having later in college, and can also serve as an eye-opening experience into using the academic skills they've developed throughout high school to make change in their community. I wish you luck as you embark upon this adventure, and hope that your students and you are the better for it.

Sincerely,

Matthew Gonzales
High school educator and graduate student

Directions:

**Introduce topic and establish prior knowledge**
0) Before beginning the implementation, involve students in discussions about the things they see around their campus that are unfair (some suggestions are listed in the letter to educators above, if they have no ideas.) Let them know that this will be the topic they will be investigating in future weeks. My students chose to research why students at their high school do not go on to higher education.
1) Frame students as experts in this topic. I like to explain this project with the understanding that students are often not consulted in the decisions made on their campus, and that if they were the school would be more effective in helping students.
2) Have students write independently about a writing prompt having to do with one or more of the injustices they observed in step 0:

   I had students write about:
   a) Why do some students go on to college and others go on to technical schools and community colleges?
   b) Why do some students at HHHS and around the nation pursue no forms of higher education? (What keeps them from going to college/ tech school?)

**Discuss the topic**
3) Give students a minute or two to swap papers or share their ideas aloud with a neighbor
4) Socratic Discussion:
   a) Have students arrange their chairs in a circle with all students facing inward (there are several ways to set up Socratic Seminars. I like to have all my students participate with one student leading the discussion).
   b) Allow students to share their ideas and encourage other students to ask questions of each other and seek out clarification of their thinking.
   c) During the discussion students should write the key ideas brought up by others, and ask questions when they are unclear.

**Reflect and debrief**
5) After the discussion is over have students write a paragraph reflection summarizing their revised understanding of the original topic and, if their understanding had changed, write about what caused it to change.
6) If there is time ask for students to share their reflections.

**Activity 2** From student to expert

Goals
- Students will understand the importance of having facts to back up arguments.
- Students will begin to see the need to go beyond assumptions when looking at complex issues.
- Students will see that the opinions they have can be valuable.

Discussion:

In order to help students understand the research process a little better it is helpful to have them think beyond their school and look closely at something they do not have a confident understanding of. I chose to have my students look at a school district in New Orleans that was trying to help more students become literate. We watched a film about the teacher's and the superintendent's ideas of what needed to change and students identified the lack of evidence backing up the superintendent's viewpoint. You may want to choose a video or article more relevant to your class' investigation (though this one will work for pointing out the folly of relying on assumptions). For the purposes of this lesson I will describe what I did in my unit and how I linked this to my students' topic: Why certain students fail to pursue higher education.

Duration:
- **5 minutes:** Introduce topic
- **30 minutes:** Example of relying too heavily on assumptions (documentary)
- **15 minutes**: Discuss the video and how it relates to their investigation
  Total:  50 minutes

Materials:
- Projector and computer with access to the internet (for showing clips of documentary)

Student Work Generated:
- Students notes from the film and conversation

Directions:

0)  Have students go over the reasons discussed in the previous class for the chosen problem. (My students listed the reasons why they believed HHHS students did not pursue higher education).

**Introduce topic**
1)  Ask the class where the evidence for these reasons came from. (They will most likely share stories from friends, their own personal experience, but not any empirical evidence). Discuss the danger of relying on just one person's perception of a problem, when making decisions for large groups of people.

**Example of relying too heavily on assumptions**
2)  In order to highlight the danger of only having 1 person's perspective when making a decision (and relying on unproven assumptions) show two short documentary clips about how this can backfire. Both clips are from a documentary on Paul Vallas, superintendent of the Recovery School District in New Orleans, and were made by the Learning Matters Group. You can access them at http://learningmatters.tv.
    a)  During the first clip (episode 3) have students focus on the problems that they see in in the school district (specifically the schools for struggling students). After the documentary, have students quickly share with a neighbor, and then ask the whole class about what they noticed.
    b)  Now ask them to propose solutions for the identified problems, just from what they think might work. (Write these on the board because students may see their ideas enacted by the district and they may fuel discussion about having evidence to back up your ideas in later conversations).
    c)  During the second clip have students focus on what the employees (specifically the superintendent) did to fix the district's problems. Ask them to identify what did and didn't work. (Students will most likely point out the flaws in the authoritarian approach of Vallas and that had he listened to students and teachers the district may have had more successful results).

**Discuss the video**
3)  After the film discuss the flaws in the superintendent's results. Ask the students' why his approach failed (i.e. he generalized that an approach used in Pennsylvania would work in Louisiana; he did not consult teachers; etc.).
4)  Point out suggestions that students made and discuss:
    a)  How their ability to determine a successful course of action shows they (as well as teachers, and other students) have some expertise in this area.
    b)  How assumptions can be a good place to begin understanding an issue. Later, however, it is necessary to follow up those assumptions with a careful investigation in order to establish a firm understanding of the topic.

5) Ask the students how this relates to their investigation and the opinions they established on the first day.

**Activity 3** Introduce project and Proposal- Group Brainstorm

Goals:
- Students will begin thinking through the causes underlying the issue they chose to investigate.
- Students will make meaning of the complex topic through conversations with their peers.
- Students will begin to establish working relationships with peers they will be working with throughout the unit.

Discussion:

Now that students have an understanding of the type of thinking that they will be doing, and the importance of moving beyond assumptions, it is time to introduce them to the project. I have attached, below, the project overview that I used to introduce students to their assignment. The ideas on the handout, including the sub-questions that would later become group research prompts, came from students' discussions in activities 1 and 2. After students have a grasp of the work they will be doing, you may want to introduce them to the groups they will be working with for the next few weeks. To ensure students' success I would recommend forming groups of students, mixing high and low achieving students to increase the effectiveness of their research, and minimize the time you spend assisting each group.

Duration:

- **5 minutes**: recap the work students did in the previous two activities
- **10 minutes:** hand out project overview sheet and discuss the work they will be doing over the next few weeks.
- **10 minutes**: assign research subtopics for groups to research
- **30 minutes:** allow for discussion of the issues that make up the complicated topic they need to research, and what they will have to understand to do so
  Total:  55 minutes

Materials
- Sample Student Handout: Project overview and timeline

Student Work Generated:
- Notes from group discussion
- A list of topics students will need to better understand before embarking on their research

Directions:

**Recap the work from the previous two activities**

**Handout project overview sheet and discuss the work they will be doing over the next few weeks**
1) As students begin to read the things they will be responsible for doing they may be overwhelmed. Remind them that they will be working with their classmates to complete the assignment, and that they will have several weeks.

**Assign research subtopics for groups to research**
2) Break students into pre-selected groups (mixed ability groups work better), and have them introduce themselves to each other.
3) Ask students to explain their academic strengths and weaknesses, as well as their hobbies and passions outside of class.
4) Once students are more familiar with one another, ask students to discuss which aspects of the research they are most interested in pursuing (I usually only let one group research a sub-topic so as to avoid having students do the same work twice.

**Allow for discussion of the issues that make up the complicated topic they need to research, and what they will have to understand to do so**
5) Once the sub-topic is chosen, have students break down the things they will need to know to better understand the sub-topic. Considering this can be difficult, I usually take one group's sub-topic and model the process.
6) Allow time for students to work on assignment and have them take notes on it. Walk around the class helping and pushing students to delve deeper into the issue. Do not allow students to be content with looking very shallowly at the topic.
7) After groups have compiled a substantial list, have students share out the things they have though about with the whole class. Alternatively, you can have groups pass their notes to the group next to them and see if that group can add any other factors the original group overlooked.

# **Sample student handout:** Project overview & timeline

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## LOOKING FOR PATTERNS - OVERVIEW

You've spent the last 4 years of your life at our high school and are finally on your way out. You've spent hours upon hours serving your community, and years completing assignments designed to make you a better student. Now it is finally your chance to speak up and change what happens here.



The topic: What keeps HHHS students from pursuing higher education and how does this affect them? What should be done to address these problems?

    Aspects of the problem
- How do laws or policies limit the educational advancement of determined youth?
- How does a student's social circle affect the likelihood he/she will pursue further education?
- How is the guidance a student gets from the school likely to affect his/her educational choices?
- How can a family provide support and contribute to a student's desire to seek out higher education?
- How do the classes a student is enrolled in effect the likelihood they will pursue a higher education?
- How do a student's beliefs about his or her ability affect pursuit of higher education?
- How do finances affect a student's chances to pursue a higher education?
- How does a student's level of motivation or maturity affect whether he/she will seek out higher education?

**Phase I- Setting up the Process-** As a class we will spend time discussing the big problem and looking at the assumptions some of us may have developed about it. We will also, as a class, practice close reading skills and look at methods for gathering evidence.

**Phase II- Writing the Proposal-** Once our class has an idea of the process for investigation, you will form a small group with classmates so you can deeply investigate one aspect of the big question (see list above). Your group will create a plan for studying your aspect of the problem.
        That plan/proposal will include:
- **What's known:** What your group already knows (and can prove) about the problem
- **Sub-Questions:** What you will need to find out (the sub-questions that make up your big question)
- **Possible Evidence:** What evidence you will gather to try and answer the question
- **Responsibilities:** What each group member will be responsible for, what he/she will do, and when they will do it
- **Hypothesis:** What you think you will find

**Phase III- Gather Research-** Once you've received approval for your proposal you will have to set out to gather the evidence. This could include creating and giving surveys, conducting interviews, and/or reading articles written by experts. When your group has gathered all of your information you will need to make sense of it (and possibly look for more).

**Phase IV- Share Findings-** The final step will involve our whole class presenting what we've learned in order to influence those with power on our campus and beyond. This may look like a PowerPoint presentation, a video, brochures, or any other acceptable method of sharing your work. You will decide what is most important to share and how you will share it.

## Sample Timeline

| Date | Classwork | Assignments due |
|------|-----------|-----------------|
| 1/31 | Introductory Socratic discussion | Initial quick write & discussion notes |
| 2/5 | Becoming an expert | |
| 2/7 | Breaking down the BIG question into bite-sized pieces | |
| 2/18 | Separate into research groups<br>Introduce proposal paper assignment<br>Creating sub-questions-<br>• What will your group need to know to be able to investigate your aspect of the big problem? | Group list of sub-questions |
| 2/25 | Research method # 1- Articles from experts<br>• Critical reading practice- skimming for relevant information; charting to help them see layout of article<br>• Practice with a useful article<br>• Finding new articles (Google scholar search)<br>• Revise your sub-questions | Weekly progress report |
| 2/28 | Research method # 2- Surveys<br>• Evaluating good and bad surveys<br><br>Attempt creating surveys to answer your group's big questions and sub-questions | |
| 3/2 | Research method # 3- Interviews<br>• Making people feel comfortable in an interview<br>• Create interviews to answer your group's big<br><br>questions and sub-questions | Weekly progress report |
| 3/7 | Proposal work time | |
| 3/9 | Share proposals with the class for feedback and help | Proposal and tools (surveys/ interviews) |
| 3/11 | Research work time | Weekly progress report |

| 3/14 | Research work time + Share out | |
| --- | --- | --- |
| 3/16 | Research work time | |

| 3/18 | Informal presentations of findings to class | Weekly progress report |
| --- | --- | --- |
| 3/21 | Socratic discussion about what to include in the presentation to college students | |
| 3/23 | How to present with panache + work time | |
| 3/25 | Prepare for presentations | Weekly progress report |
| 3/28 | Prepare for presentations | |
| 3/30 | Prepare for presentations | Your group's section of the presentation 3/30 |
| 4/1 | Presentation dry run | Dress professionally Bring materials |
| 4/10 | Presentations | Dress professionally Bring materials |
| Finals Week | In class writing- Reflection on growth | Reflection |
| Summer | 2nd Presentation to Future Teachers | |

**Activity 4**: Seeing the possibility for change

Goals
- Students will begin to see the importance of being an agent of change in their community
- By hearing another student's story of making change on campus, students in the *LPI* classroom see how they are to be change agents in their community

Discussion
Though the previous lesson may help students see how leaders make mistakes sometimes, it may not be enough to encourage students to believe that they can make any type of systemic change. In order to encourage students that the work they will be doing in the Looking for Patterns of Injustice in the Everyday (LPI) unit can be beneficial to their community I found that it was necessary to include examples of another student who helped change her campus. The podcast mentioned below describes a teen journalist's (Haskell's) desire to change her campus, and how she does so by using interviews. This clip and the resulting discussion has the potential to encourage the students to make change.

Duration
- **7-10 minutes** - Pre-writing- change agent
- **2 minutes** - Explain the podcast
- **10 minutes -**Play podcast
- **15-20 minutes -** Discussion about podcast
- **10 minutes** Written reflections
- **5 minutes** Activity Debrief
total ≈ 50-60 minutes

Materials
- Podcast
- Computer with access to internet and speakers loud enough fro students to hear the podcast

Student Work Generated
- Students' initial prewriting
- Students' written reflections
- Notes from discussion (if you choose to have them take notes)

Directions

**Prewriting**
1. Have students define what it means to make change on their campus or in their community. What kind of change needs to happen?

**Explain the podcast:**
2. Give students background on the podcast before playing (you may want to introduce discussion questions)

   Synopsis: A high school student shares her story in this short exposé on tracking in a New York high school. Jamita Haskell discusses problems others face getting into advanced classes, and how her big mouth allowed her to find a place. Her stated purpose of the piece is to help others who do not have the same ingrained self-advocacy.

**Play Podcast:**
3. Podcast location http://youthcast.org/audio/youthcast_2007_04_04.mp3

**Discussion about podcast:**
4. Ask students for initial reactions and if needed use questions below to fuel the conversation.
5. Have students write about the application to the problem that the class is investigating:

   a. Inequality
      i. What kept Ms. Haskell from being successful?
      ii. What systemic problems faced Curtis High and the students transferring from the middle school (how would you get into the SIS classes from middle school?
      iii. What inequalities existed in the school (recommendations from all teachers, is that fair)?
   b. Change
      i. How did Ms. Haskell use experts to help make her case for change, what did?
      ii. Who helped Ms. Haskell succeed?
      iii. How can you have big mouths for those who do not here at our school?
      iv. What is the
   c. The application to the problem that the class is investigating:
      1. What does it even mean to change our problem?
      2. What does it change look like?

3.  What are the systemic issues that need to be addressed? How can that be done? (use Haskell as an example)

**Activity Debrief**

6.  Have students share out any ideas that came up while writing or rating themselves on the rubric.

**Additional materials:** If further discussion of agency and power are needed, print and have the students read the follow up interview with Jamita Haskell = http://youthcast.livejournal.com/30805.html#cutid1.

**Activity 5**  - Research method # 1- Making Sense of Experts

Goals
- Students will understand how to find relevant reliable information on their topic
- Students will understand how skim and scan scholarly articles to glean relevant information
- Students will continue learning about how working with classmates can increase understanding of a desired topic

Discussion:
Students who are unfamiliar with what constitutes a reliable source may struggle when asked to do research at a college level where random Google searches and Wikipedia are not seen as credible. It is helpful if students are given some understanding of how to search through scholarly articles for ones that are useful. Perhaps even more important, it is necessary that students learn how to read these articles for a particular purpose. This very different type of reading requires students to be able to scan articles for useful information so they can focus their reading on the most useful sections and focus their attention there.

Duration
- **10 minutes:** Introduce the need for experts and how to find sources
- **15 minutes:** Allow students to search Google scholar
- **5 minutes:** Debrief- Successes and struggles
- **15 Minutes:** Share strategies for seeking out useful information
- **10 minutes**: Share useful information with group and take notes
Total:  55 minutes

Materials
- Computers with internet access
- Group notes from previous class (with teacher comments)
- Article for whole class practice- (make sure to choose and article that is useful for all groups

Student Work Generated
- Conversation notes
- Printed copies of relevant articles
- Notes of relevant information on whole class practice article

Directions:

**Pre-lesson**
0) Recap- You may want to begin by having students share with some of the topics discussed in the previous class (it is a good idea to have group member sit next to each other for the duration of the unit).

**Introduce**
1) Ask students to share their experience with doing research, and where they get their information from when doing research papers/ projects. Begin with pair-share and then share out to the whole class. Depending on students' answers you may need to discuss the reliability of those sources (i.e. just searching on Google may lead to very unreliable and even malicious websites).
2) Introduce students to scholarly research and peer-reviewed articles. Discuss that this is what will be expected in most college classes when it comes to research.
3) Suggest that when students do a Google Scholar search they pay close attention to the terms that they are using. It would be incredibly useful to comment on and pass back notes from the previous class in order to help direct groups' thinking.

**Allow students to search Google Scholar**
4) Dismiss groups to computers and have 2 or 3 students from the group begin searching for articles that may help them in their investigation. Encourage them to use search terms that you highlighted when reading their notes. Monitor and offer assistance.

**Debrief**
5) Have students share their successes and struggles. If the class is reluctant, ask students about the level of vocabulary in the articles, and which terms helped them find useful articles.

**Share reading strategies**
6) Now that students understand the difficulty of sorting through and reading some of these articles it is the perfect time to share strategies to help them do so. Start by distributing an article that will be useful to all groups' investigation (I chose an executive summary of a report titled "From High School to the Future: Potholes on the Road to College.").
7) Have students first page through the article examining its features. Have them pay attention for how the information is laid out (headings), graphs, citations, pictures.
8) Now have them use those headings to help them skim for sections that may be particularly useful for their group.
9) Once they've found a few, have the students read those sections in detail, as well as any introductory or concluding sections that are relevant. Require that the students take notes on the article and underline useful sentences or facts.

**Share findings with group**

10) Once finished, have the students meet with their groups to discuss what they found and how it relates to their groups' investigation.

11) Have one member of the group keep notes of what each member found.
If there is time, have the groups skim other articles they found in their Google Scholar search.

**Activity 6** - Research method # 2-Creating and using surveys

Goals
- Students will learn how surveys can be used to gather information about their community.
- Students will understand what makes a survey effective, and what may cause problems.
- Students will get experience creating survey questions.

Discussion:
Finding information about how an issue affects a small community or school is difficult. Reading research articles and clicking through the web won't yield much data. Students need to learn to gather data through surveying their peers and community members. Though this is a difficult process it can yield very convincing information about the causes of the issue that students are studying. Additionally it allows for students to experience a side of the social science classroom they might see in college.

Duration
- **10 minutes:** Introduce the need for surveys
- **10 minutes:** Look at a survey made by social scientists
- **10 minutes:** Look through poorly-written example surveys
- **5 minutes:** Discuss- compare student surveys to professional ones
- **5 minutes:** Tips for surveys
- **15 minutes:** Allow groups to practice creating survey questions
Total:  55 minutes

Materials
- Problematic sample surveys (or ones from a previous class- names omitted)
- Handout: Exemplar Survey from Carnegie Mellon University (attached below lesson plan)

Student Work Generated
- Completed survey (if you choose to have them do one- see step 4)
- Notes of relevant information on whole class practice article
- Sample question created by the group

Directions

**Introduce the need for surveys**
1) Review the successes or failures your class had the day before.
2) Ask the class if anyone found any local information about the problem they are researching. Discuss where they might go to find it. Students may mention local newspapers or the school's website.
3) You will need to explain the concept of surveys (i.e. much of the information out there may relate, but there is only one surefire way to get information about your school).

**Look at a survey made by social scientists**
4) Have students take a short survey made by professionals. I had my students complete a survey written by researchers at a prestigious university that was related to their topic. Search for one that relates to your topic and ask students to complete it.
5) Ask them if they were confused, if they could tell the intention of the survey, who was gathering the information, and if there was an evident bias.

**Look through poorly written example surveys**
6) Pass out an example or two of poorly written surveys, and have students note the problems they see as they read them. You can use examples from previous classes, ones found on the Internet, or create your own. Students should consider the following questions:
   a) How easily can you answer the questions on the survey (are they confusingly written)?
   b) Can you tell what the point of the survey is? (Would you get useful information?)
   c) How easy would it be to count up the results/ make sense of the information in the survey?

**Discuss- compare student surveys to professional ones**
7) Ask students to share what they noticed about the poorly written surveys. Take their suggestions for what needs to be done differently, and write their ideas on the board.

**Tips for surveys**
8) Give students tips for creating surveys, and have students write down the suggestions they had earlier, and add them to the list.

**Allow groups to practice creating survey questions**
9) With the allotted time allow students to work with group members to create questions that could be used in a survey. Walk around and help point out ideas for groups to consider, and correct any questions that are flawed
10) Collect groups' questions for further comments

**Activity 7** - Research method #3- Interviewing Participants

Goals
- Students will learn how interviews can be used to gather information about their community.
- Students will see the potential for using interviews to find the root of the problem as well as suggestions for solving the problem.
- Students will understand what makes an interview effective.
- Students will get experience creating interview questions.

Discussion:
Interviews, though not always producing a high amount of quantitative data, often yield the best connection between students and their material. The conversations between students and those they are interviewing allow students to connect more with the topic they are investigating and also, because they are talking directly with those they are researching, develop a stronger sense of themselves as participants in the academic world.

Duration
- **5 minutes:** Introduce the need for interviews and potential to get the best information from participants
- **10 minutes:** Look at interview questions made by social scientists
- **5 minutes:** Tips for creating interviews
- **25 minutes:** Allow groups to practice creating interview questions
- **5 minutes:** Explain potential of follow-up questions
- **5 minutes:** Create follow-up questions
Total:  55 minutes

Materials
- Handout: Tips for crafting interview questions (attached below)
- Handout: Sample interview scripts (attached below)
- Sample interview questions (one is attached)

Student Work Generated
- Groups should develop some interview questions.
- Notes of relevant information on whole class practice article

Directions

**Introduce the need for interviews**
1) You will need to explain the concept of interviews. Whereas surveys have the potential to be misunderstood, and not entirely thought through by those completing them, interviews offer the potential for both interviewer and interviewee to ask clarifying questions. The interview, unlike the survey can be changed as it progresses. Finally, the interview allows a researcher to ask direct questions and establish a relationship with the interviewee.

**Look at an interview made by social scientist/ student team**
2) Have students read the teacher interview questions created by professionals and students (these can be found in research articles or by performing a simple Google search about your topic of study.) Discuss what students noticed, and what question the researchers were trying to answer.
3) Have students practice asking each other these questions (one student playing the role of teacher and the other the role of student).
4) Ask them if they understood the material and if they saw any benefits to this method of collecting data versus any other methods.
5) Ask: How would a researcher collect the information from this survey? If your group uses interviews how will you assess your findings?

**Tips for creating interviews**
6) Pass out the handout (attached below) and go over tips for creating interview questions.
7) Have students write down additional suggestions that came up during the earlier discussions.

**Allow groups to practice creating interview questions**
8) Allow students to work with group members to create questions that could be used in interviews. Walk around and help point out ideas for groups to consider, and point out confusing/ unclear questions

**Explain potential of follow-up questions**
9) Explain that one of the benefits of interviews is the potential to get a better understanding of participants' thoughts through the use of clarifying and follow-up questions.
10) Choose one of the questions from the interview students investigated and have a student ask you the question. Give a vague unclear answer, and then ask the class to come up with possible follow-up questions in the event that interviewees give less detailed answers

**Create follow-up questions**
11) Allow a few minutes for groups to create their own follow-up questions for a few of their more difficult questions.

**Collect groups' questions and follow-up questions for further comments**

Student Handout

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# PRINCIPLES OF GOOD INTERVIEW QUESTIONS

1. Avoid yes or no questions (close-ended).
2. Avoid leading questions.
   Ex. Don't you think our principal is really mean?
3. Have follow-up questions ready –
   for example:
   1. How so?
   2. Why is that?
   3. Can you give me an example?
4. Include warm-up questions. Questions to get people feeling comfortable with you and the interview situation.
5. Use language your interviewees can easily understand.

(Adapted from materials created by Makeba Jones and Susan Yonezawa)

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Student Handout

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# SAMPLE INTERVIEW SCRIPT

READ TO EACH STUDENT BEFORE STARTING THE INTERVIEW:
Hello, my name is _____ and I am here to interview you for our school's student researcher team's study. We are examining teachers' and students' perspectives on various topics related to _____. I am a part of a team of students who are doing this study. You have been selected to be interviewed. We are trying to interview over ___ students for this study.

No one, not any of your teachers, or the principal will know what you have told me today. Your words will only be used as a part of a larger report that shows how students at our high school feel about different topics.

Given all that I've said do you agree to participate in the survey?

IF THEY AGREE READ:
Now I am going to ask you about ten questions. Please be:
1. as honest as possible
2. as detailed as you can – try not to give me really short answers. If you do, I may ask you to give me examples of what you mean.

(Adapted from materials created by Makeba Jones and Susan Yonezawa)

## Phase 2 – Planning the investigation and Writing up the proposal

**Activity 8** – Guided work time: create proposal and evidence gathering plan

Goals
- Students will work together to create plan for researching their groups' question.
- Students will consider the best means to gather information about their topic.
- Students will design interviews and surveys to use for gathering information
- Students will collaborate to create an action plan for completing their investigation.

Discussion:
After introducing students to the research process students must be given time to discuss the research process. To fully understand the task they should be given time to negotiate the best way of going about the investigation. Students will need prompting to ensure they are thinking through all the steps of the process, but once they understand the process most students will begin creating and justifying their approach. The purpose for creating their proposal is to record and logically display students' approach to the investigation. This will also give students something to go back to if there are problems while collecting data. As an aside, for most students this will be the moment when the project becomes real: when they begin taking ownership of their work. Because of this the teacher's role is more of a helper and guide, and will not be the focus of instruction.

Duration
Anywhere between 2 – 6 hours may be needed for the group to discuss and write up the proposal and survey/ interview questions.

Materials
- Handout: Creating the proposal for your Group's Investigation  (page 177
- Sample survey and interviews handouts from activities 6 and 7
- Sample survey and interview questions created in activities 6 and 7

Student Work Generated
- Groups should develop some interview questions.
- Notes of relevant information on whole class practice article

Directions

**Explain the proposal elements**
1) Pass out handout, "Creating the proposal for your Group's Investigation." Go over each element of the proposal and answer questions that students have.
2) Dismiss students to groups so that they can begin working through the handout and planning out their research process.
    Make sure to mention:
        • Students should not begin looking up articles or conducting surveys or interviews until you have checked over their work.
        • Remind students to include a written justification for the research methods they choose as well as for their questions.

**Group work time - Check in with each group and address issues and misunderstandings**
3) The bulk of time for this activity will be spent on allowing students to discuss their investigation and write their surveys or interviews. Groups will negotiate the best ways to complete the process, but will most likely need help throughout the process. They will likely need prompting to fully think through the process, divide labor, and write interview/ survey questions

**Collect group progress each day**
4) When the time allotted for that day's work ends, have each group write a brief summary of the work their group accomplished that day and include a draft of the proposal or interview/survey questions they created.
5) After each class, read over drafts and progress reports. Respond to students' work and offer suggestions to help aid their investigation.

    (Repeat steps 3, 4, and 5 as many times as your schedule allows or for as much time as students need).

**Collect final drafts**
6) Set a deadline for the projects and have students turn in final copies of their proposal and evidence gathering tools (surveys/ interviews). This is the last chance you will be able to offer advice to groups before they begin to conduct their investigation, make sure to offer as many suggestions as possible.
7) When groups interview or survey sheets are finalized and necessary revisions are made, make copies of their interviews and give them back to the groups

Student Handout

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**<u>Creating the proposal for your Group's Investigation</u>**

<u>Why do I have to do this?</u> When planning out the investigation you are going to do on (and maybe off) campus it is important to think through each element for what you will do and who will do it. Anything that is poorly thought through now will only make things more difficult once you begin conducting surveys or interviews. Poorly created questions may make it necessary to start over with new surveys. Poorly set out responsibilities will doubtless create problems later.

<u>What to include:</u>
**What's known:**
    Before beginning our investigation our group already knows _____ and has    found proof …
- What does your group already know (and can prove) about the problem?
- Where did you find this information? Are the sources reliable?
- Where do you think you will need to look to find the most accurate information?

**Sub-Questions:**
- What will you need to know in order to answer your research questions?
- What other concepts are related to your investigation?

**Possible Evidence:** (must choose at least 2 sources)
    Our group chose to do _____ and _____ because …
- What evidence will you gather to try and answer the question? (surveys, interviews, facts from articles written by experts, observations of student or teacher behavior, etc.)
- How many people will you interview/ survey?
- Where will you find the people?
- How can you ensure that those people are not representing just a certain population of the campus?
- Which questions will give your group the most fruitful information?

**Responsibilities:**
    _____ will do _____ by this date : _____.
- What will each group member will be responsible for?
- What will he/she do, and when they will do it by?
- Is the division of work fair for all members of the group?

**Hypothesis:**
    Considering _____, our group thinks that through our investigation we will find …
- What do you think you will find in your investigation?
- What information do you think you will find by creating the questions for your survey or interview?

Phase 3: Gathering Data

**Activity 9** Gathering data guided work time and tips along the way

Goals
- Students will carry out their plan for researching their groups' question.
- Students will consider the effectiveness of their data collection tools
- Students will present themselves as professionals & carry out interviews/ surveys

Discussion:
To ensure quality work, I allowed groups to get together each day and discuss their progress. If they had planned ahead and asked other teachers on campus, members from groups could interview students during class time, eliminating the outside of class strain a project like this could create. This time to collaborate and work allowed for other group members to help struggling students while they informally talked about the process. Many groups gave each other tips, and critiqued each other's surveys. I took many of their reflections (things that I noticed groups were doing well, or forgetting to do) and gave mini lessons throughout the process.

Duration
  Anywhere between 6 – 10 hours may be needed for the group to discuss their work and conduct gather data.

Materials
- Copies of the surveys and interviews that each group created.
- A list of resources that students can find expert opinions on their topic.

Student Work Generated
- Completed interviews
- Daily updates of group progress
- Regular written updates of individual progress or frustration (optional)

Directions

**Group check-in time**
1) Progress check- After any announcements, reminders, mini-lessons are completed, begin by having students come together with their group members and discuss their progress/ plan for the day/ week.
2) Check up-  Direct group members to check it their fellow classmates had completed the surveys/ interviews/ reading they had intended.
3) Check out results- After groups have collected data, devote part of your beginning of class check-in to critiquing work gathered by other members (see mini-lesson below)
* while groups are checking in, wander around to each group offering suggestions

**Group work time** - Check in with each group and address issues and misunderstandings
4) The bulk of time for this activity will be spent on allowing students to conduct interviews and surveys in pre-arranged classrooms, or discuss ways to complete the process. During this time it is important that the teacher checks in with groups to ensure they are completing quality work. Even though the topic is more authentic, students may still get off task.

**Collect group progress report for each day**
5) When the time allotted for that day's work ends, have each group write a brief summary of the work their group accomplished that day and include the surveys/ interviews they completed as well.
6) Set a deadline for students turn in all surveys, interviews, and gathered articles.

*After each class, read over completed surveys and interview notes as well as progress reports. Comment on each group's, making suggestions for improving the process and giving praise

(Repeat steps 1-5 as many times as your schedule allows or for as much time as students need).

## Optional Mini-Lessons

> ❖ During check-in have students compare the quality of notes and the process that each student used when conducting interviews/ surveys, or gathering articles.
>    ➢ Ask them to discuss which notes, method of interviewing produced would best help them answer their research question.
>    ➢ Have each group share what worked best
>
> ❖ If the process is getting bogged down, or students aren't taking the work seriously take a few minutes in the beginning of the class and ask them why they chose the question they did. Remind them who this will benefit, and how their suggestions means more when there are facts behind them.
>    ➢ You may also want to show examples of what students will be expected to do with the information you are collecting by showing findings reports (below as a handout) and examples of graphs and statistics.
>
> ❖ If people are getting confused by their questions, or the information being gathered doesn't really seem useful, you may want to take the groups survey/ interview and display it for others to see so that they can make suggestions and help the struggling group revise their work

## Phase 4 – Prepare and Present Findings

**Activity 10** Making Sense of Data

Goals
- Students will look at collected information closely and identify themes that may exist in the data they've collected.
- Students will try to synthesize information found in various texts in order to make sense of a real world problem.
- Students will work together and communicate information between group members

Discussion:
Looking through their data will most likely be an incredibly arduous task for students to embark upon. Students may need remediation in basic math (percentages) and may struggle organizing and counting results from interviews that they conducted. Also, students will most likely need help making connections between some of the data that they've collected. Though it is beyond the scope of this unit to involve students in *t* tests and establishing correlations, students should be encouraged to investigate linkages between the facts that they have collected.

Duration
Anywhere from one class period to several weeks. This stage of the project will require you to monitor students' progress as you may need to lead students through the steps below several times.

Materials
- Surveys and interviews that each group collected
- Articles group members read with markups of what is useful
- Student handout: Organizing data (page 183)
  .

Student Work Generated
- Group's notes including students' findings (in basic form) and the connections they have begun making between the data they collected.
- Filled in handout with notes about potential conclusions from the data collected

Directions

0)  Before beginning this stage of the unit, ask students to tally up the results of their surveys and interviews.

**Model the math**
1)  Take the results that one group has gathered and lead the class through an explanation of the simple math needed to convert tally marks to percentages. (Groups who performed interviews may struggle at this point because their information is not easily categorized in yes/ no or rubric scale answers. It may be necessary for you to aid students in creating categories to use when compiling data. Also point out that quotes that their interviewees said may be just as valuable as the statistics they have gathered.)
2)  Allow students to convert their own data into percentages
3)  Stop students after a few minutes and ask the class to share any interesting observations they've found so far.
4)  Once done with converting to percentages, have students write out, or better yet, type up the things they have learned.

**Making meaning of the math and peer comments**
5)  Though they may think that they are finished, students have just begun the data analysis. Next pass out the "organizing data" handout (below)
6)  Ask students to look through their data and answer the questions on the handout (from left to right). Help students understand that they need to now try and determine the implications of the data they have collected as well as begin brainstorming possible remedies.
7)  After doing this (most likely on a subsequent day), ask students to see if there are any linkages between the separate questions they asked students (or the articles they read). Have students type up an explanation of the connections and the possible implications
8)  Finally, have students share their findings with the class, and see if students in the other groups noticed similar/different things, or have information that may be relative.

Student Handout- Organizing Data

| Data you've collected:<br>- Results from one survey Q<br>- Responses to an interview Q<br>- Information from articles | Observations<br>Why does it stand out to you? | Theories / Inferences from data<br>What do you think it means?<br>How does it relate to other data? |
|---|---|---|
|  |  |  |

Adapted from: Falk, B., & Blumenreich, M. (2005). *The Power of Questions: A Guide to Teacher and Student Research.*

**Activity 11:** Creating and delivering the presentations

Goals
- Students will consider the most important information to share with their specific audience
- Students will use technology (PowerPoint, Keynote, or Open Office) to create presentations that will be delivered to an audience of interested adults
- Students will develop organized speeches to deliver to their audience and rehearse, as well as revise them before presenting

Discussion:

As students begin seeing the overall picture of the data they've collected, they will become more engaged and interested in sharing what they have found. Though they are almost there, students will need guidance to make sure the information they share is accurate and intelligible to the outside world. It is also a good idea for students to practice their presentation before delivering it to their audience.

Duration
   Anywhere from one class period to several weeks. This stage of the project will require you to monitor students' progress as you may need to lead students through the steps below several times.

Materials
- Notes from previous class sessions
- The completed handout from the previous activity

Student Work Generated
- Slides for final presentations
- Completed individual written reflections

Directions:

**Determining what to share**

1) After groups have sifted through and attempted to make sense of all the data they collected, it is time to determine which statistics, or quotes will be the most impactful on their audience. First involve students in a discussion of what these are in their groups.
2) Next have them pass their notes to another group and ask that group to comment on which they think are the most important facts to share.
3) If there are discrepancies, have students share with the whole class and ask what they think.

**Creating the presentation**

4) Once the content of the groups' presentation has been described it is time to create a visual representation as well as a written explanation. In my implementation, I asked students to create slides for a group PowerPoint presentation and also a written explanation (letters) to their audience in Microsoft Word. If you elect to do this, you may want to encourage and instruct students how to create graphs so they can better illustrate their statistics to their audience. Samples of student slides and letters can be found in the following section.
5) Because all of the groups will be creating their slides apart from one another, it is imperative that you ask for students from each group to get together and discuss the format and final information in the presentation that will be delivered to the audience. It will also be important to choose students to deliver the presentation. Offering incentives may be a good idea to encourage students to engage in the additional work.
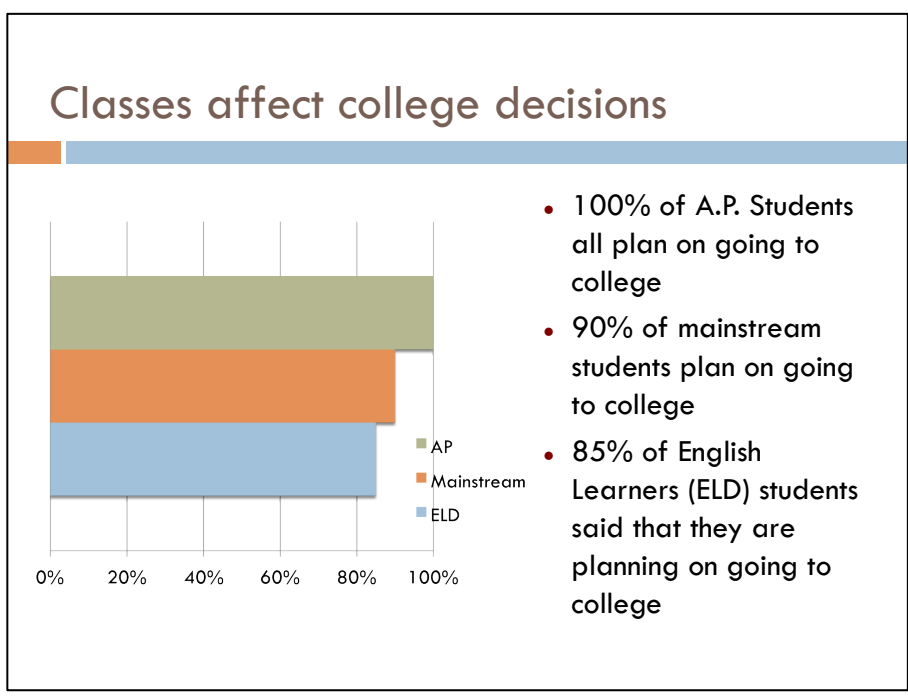
**Rehearsing and delivering the presentation**

6) Once the final presentation has been put together, show it to, and discuss it with the class to get their input and make final changes. Then involve students in as many rehearsals as necessary to ensure they are prepared.

**Reflecting on the outcome**

7) After the presentation, the final activity I ask students to engage in is a reflection on their participation in the project and the things they learned by participating in it.
8) Finally, based on those student reflections you may want to have students revise their research, or begin a new project where they present to a new audience.

Student Sample work

Slides created by a group studying course placement on college decisions

## Classes affect college decisions



- 100% of A.P. Students all plan on going to college
- 90% of mainstream students plan on going to college
- 85% of English Learners (ELD) students said that they are planning on going to college

## Certain groups of students are influenced more by teachers

| AP Classes | REGULAR (college prep) Classes | SHELTERED Classes (English Language Learners) |
|---|---|---|
| **YES**- 47% | **YES**- 80% | **YES**- 95% |
| **NO**- 53% | **NO**- 20% | **NO**- 5% |

The majority of students believe that teachers influence their decision in going to college because teachers play an important role in their daily lives. It can be inferred that Sheltered and Regular class students rely more on their teachers for support. AP students tend to not need as much guidance from their teachers in regards to college.

# College related topics are not brought up often enough

• 60% of freshmen have college related topics brought up in class.

• 62% of sophomores have college related topics brought up in class.

• 50% of juniors have college related topics brought up in class.

•56% of have college related topics brought up in class.

**Have teachers who are likely to bring up college-related topics in class**
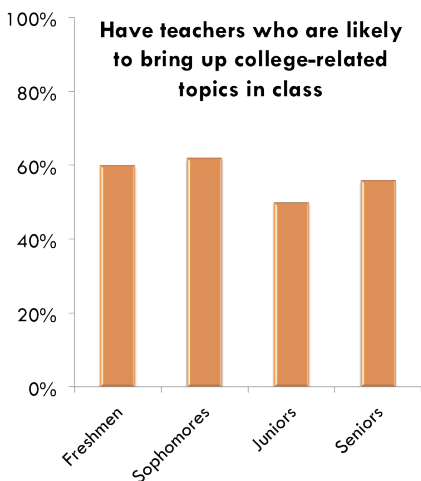


# Recommendations for change

Teachers should take advantage of the motivation students already have to attend college. They could do this by taking time to talk to students about college and why it is important. Some ideas include:

- bringing in guest speakers from a variety of colleges.
- pointing out unique jobs that require college.
- talking about their experiences in college (fun stuff).
- teaching fun lessons about college stuff.
- sharing updated information on college.

We also recommend that college related topics should be brought up in all classes; especially those of seniors. Not all students are taking AP classes, which is a place where college topics are mainly brought up.

## Letter to Teachers Explaining Findings and Their Implications
(written by the same group as the above slides)

13 May 2011

Dear Staff and others concerned about education:

Our AVID senior class recently embarked on a project to find out the reasons why students are kept from obtaining a higher education. We created a survey for AP, ELD, College Prep, and Sheltered- Class students to take. For each of the classes we surveyed more than twenty students, except for the ELD Class. The reason for that is that the English Language Development program's goal is to have all students transferred into a regular English class as soon as possible. We tried surveying only seniors, but the ELD class had only one senior, because all other seniors were already in another English class. We were hoping to discover that classes students take, affect their ideology on college. We found that there exists a very strong correlation between the two. Please take a few minutes and consider our findings.

**What We Learned and why it is important:**

1. **Many seniors wish to attend college**. This is true for AP, College Prep, ELD and Sheltered Students. 91% of ELD, Sheltered, and AP Classes wish to attend college. 100% of the students in regular classes would like a higher education.

2. Even though these students would like to receive a college education, not all students meet the requirements to be accepted, or they choose not to attend college. AP students are thought of as prepared, and more likely to attend college. College Prep students, ELD students and Sheltered students are less likely than AP Students to attend college. Although, this is not true all of the time. Students who will be attending college respectively, are 95% AP; 78% Sheltered; 92% Regular, and 95% ELD. We still have to consider the fact that not all ELD students are seniors, and there are many other factors in combination to their placement in classes which will eventually lead to their final decision on college.

**What we recommend changing:**

We know you are doing all you can to help us succeed, but we believe that the students who are struggling the most should receive more attention. We believe that people with a set mind to go to college still need some reminding, motivation and support, but those who are struggling deserve just as good an opportunity to succeed.

**Recommendation 1:** Teachers should have a respectful attitude toward all students. We believe that even though not all students are placed in the same level of class, everyone has something to offer. Every student makes an effort to give what they can, but a good attitude reinforces their confidence. Students look to teachers to help them out of their shell. They should be faced with a teacher who helps strengthen their education foundation.

**Recommendation 2**: Counselors should be more sufficient in meeting one on one with every student they mentor. In order for students to have a better opportunity of attending a 4-year university counselors need to compare test scores, teacher recommendations, and grades of the students thus placing them in the proper classes. Challenging students is essential for the completion for at least the A-G requirements and only recommending them to classes for graduation requirements is not enough.

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