Rising to Success:

A Vertically Integrated Approach to College Readiness

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Students Reinventing Michigan
Rising to Success: A Vertically Integrated Approach to College Readiness

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The Problem

The quality of education students receive at the secondary level greatly impacts their life trajectory as it determines which universities they are qualified to attend, which sector of the job market they can enter, and which socioeconomic class they will inhabit. Michigan’s public education system appears to be failing many of these students. The graduation rate was only 74.3% for the 2010-2011 school year. For the students who do graduate, the majority enroll in higher education.\(^1\) However, upon entering college, many students realize they are not adequately prepared for college level academics. A high school diploma does not equate to college readiness. According to ACT scores, only 17.4% of Michigan students can be considered college ready.\(^1\) Based on this same standard, Governor Snyder’s chief education advisor, Richard

McLellan noted that in 2010, Michigan had “over 230 schools where zero children were college-ready when they got their high school diplomas.”

Students who are not yet qualified to take courses at the collegiate level are required to take remedial, or high school level, courses at their university. An average of 35.6% of students enrolled in Michigan’s public colleges and universities are taking such remedial courses. While many of these courses do not count toward degree requirements, students are still expected to pay for and complete these credits. Remedial courses contribute to higher student debt and delay graduation. Nationally, it takes students an average of 6.2 years to complete a traditional four year degree due to remediation. The longer it takes to complete a degree, the more a college experience will cost and exhaust students, making them more likely to drop out. These students will take longer to enter the workforce and become contributing members to Michigan’s economic system. It is advantageous for Michigan to increase the educational attainments of its youth as an educated society is an efficient and productive society.

In order to ensure success in higher levels of education, Michigan students must be guaranteed a secondary education that equates to college readiness. Michigan political leaders recognize the importance of college readiness. As Governor Snyder stated, “Michigan's future in large part will depend upon the readiness of our students to enter a career or college with the educational foundation needed to succeed and have a strong quality of life.” School officials agree: 82% of Michigan high school counselors note that college readiness should be a priority. While there may be broad, spoken agreement that college readiness must be the central focus of Michigan’s public education system, an analysis of policy leads to other conclusions. Of the aforementioned counselors, only 30% stated that their school’s mission aligned with the ideal of college readiness. School officials want their students to be successful, but the lack of concrete objectives, operational procedures, and communication hinders advancement toward this goal. According to Amber Arellano of Education Trust Midwest:

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In Michigan, unlike in some other states, there is no consistent statewide definition of ‘ready.’ Each institution decides on its own... We have the most decentralized higher ed. governance system in the country. And K-12 and higher ed. are disconnected — there is no systematic way for them to communicate and align work, much less [develop] a vision.\(^7\)

The problem with Michigan’s public education system stems from the absence of communication and common goals among institutions. This is especially disconcerting as students make the transition between high school and college without the necessary support or skills. This proposal seeks to create common goals among educators, school officials, and policy makers that clearly define college readiness and develop operational procedures to achieve these goals. This proposal suggests a structural reform from the traditional, horizontal educational system to a vertically teamed system of integrated instruction aimed specifically at preparing high school students for university academics.

**The Proposal**

**Defining “College Ready”**

Currently, Michigan uses ACT standards for defining college readiness. According to the ACT, a student is considered college ready when they score at or above a certain score on the ACT subject tests. This score correlates with a 50% chance of receiving a grade of B or higher in a corresponding first year college course.\(^8\) While empirical data from ACT testing appears to be an objective measure, research indicates that standardized tests are affected by too many extraneous variables to be considered an accurate measure of student ability or potential. Rather than measuring how well the student understands a concept, standardized tests gauge the student’s test taking ability. Likewise, some schools use an exit exam to determine if a student is ready for college level material, but these exams are similarly affected by nuisance variables such as when the test is administered. College readiness is more than being a good test taker. This is not to say that standardized testing measures should be eliminated but that scores must be interpreted with caution. ACT and exit exams are inadequate measures of a student’s college readiness. Because they are administered between spring of students’ junior year and graduation,

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there is limited potential for early intervention. By junior year, students should be actively pursuing information about collegiate programs. If they wait for the ACT to tell them that they lack proficiency in a certain subject, they will have only one year to advance in that area.

Today’s high school students have grown up in a technological age that has rendered rote memorization an outdated practice. Because students have immediate access to a large amount of information, the educational focus must shift to research skills, data interpretation, and critical thinking. Such skills are valuable and necessary for every subject. Based on this idea, the Center for College Readiness at Rice University has categorized college readiness into four core areas:

- Strong intellectual growth throughout the primary and secondary years fostered by increasingly challenging content in the four core subjects…
- The ability to think critically and problem solve in the context of a continuously changing set of circumstances and realities
- The advancement of reading, writing, and numeric skills that enable success in all college courses
- The capacity to communicate effectively with individuals from a variety of cultural and professional backgrounds

While abstract, the focus on critical thinking and analytics in this model aligns with the skills university professors have deemed necessary for their courses. These professors expressed that “habits of mind” are more important than specific course content:

The habits of mind include critical thinking, analytic thinking and problem solving; an inquisitive nature… the ability to express one’s self in writing and orally in a clear and convincing fashion; to discern the relative importance and credibility of various sources of information; to draw inferences and reach conclusions independently; and to use technology as a tool to assist the learning process rather than as a crutch.

Thinking skills are the foundation for higher education. Few adolescents know what career pathway they would like to pursue, so it is inefficient to push them too deeply into the content of specific subjects. Rather, history class becomes the method of learning research skills and science the method for developing logical thinking. While important, facts and figures can

be easily located online and in publications for the most current findings. The ability to search for these findings, evaluate sources, and synthesize material is learned over time, through experience. Such skills, necessary in all academic pathways including STEM, must be developed early. By providing students with an interdisciplinary skill set, we ensure success in whatever field they choose.

The first step to ensuring that Michigan students are college ready is to create a common definition of “college ready.” This definition should be created by a collaboration of educational scholars, policy makers, and Michigan educators at the secondary and tertiary levels to ensure it is applicable to the Michigan public school system. Refining and expanding upon the standards of Rice University’s Center for College Readiness and “Understanding University Success,” Michigan’s definition of college ready should include the following:

1. Critical, experimental, and logical thinking skills as the basis for solving analytical problems, recognizing interdisciplinary connections, and applying information to real world situations.
2. Research skills including close reading, source evaluation, synthesis, and comparison coupled with the ability to express ideas in academic writing with proper grammar, organization, scientific and non-scientific language, and argumentative rhetoric.
3. Verbal and written communication skills including the ability to connect with individuals of different cultural and professional backgrounds.
4. Basic academic success skills including test taking skills, study skills, time management, and note taking.

It is crucial to have a clear definition of what it means to be college ready, so students and educators understand which skills they should be focusing on in the classroom.

**Measuring College Readiness**

Based on a common definition, a group of academics, policy makers, and educators must set standards and proficiency levels that students must reach in order to be considered college ready. This also requires developing standard methods to test student aptitude of the definition’s components. Thinking, research, communication, and academic success skills are highly qualitative in nature. However, there are effective methods for objectively testing these skills. At the collegiate level, critical thinking and analytics are tested with the Collegiate Learning Assessment (CLA) which requires students to complete three open ended assessments: a
performance task in which students, in the context of a job assignment, must come to a conclusion based on provided documents; and two analytical writing tasks in which students make or break a provided argument. Assessment is based on the student’s ability to address the quality of the evidence, analyze and synthesize sources, come to a conclusion, and consider alternative options in addition to basic written presentation skills such as organization, grammar, and argumentation.11

Similar methodology can be and has already been implemented in the high school context. For example, the written Advanced Placement history exam tests students’ ability to compare, contrast, and evaluate given sources on a “Document Based Question.” A similarly formatted essay, tailored to each grade level, could be used to test student research skills. This new methodology for testing college readiness will be most effective when implemented into a reformed system of college preparatory education.

**Structural Reform: College Preparatory Curriculum**

In 2011, Governor Snyder unveiled a plan to reform Michigan’s educational system from “viewing different levels of education as separate stages to viewing them as part of an integrated system, beginning with early childhood education all the way up through the completion of an advanced degree.”12 While such a highly integrated system with smooth transitions between grade levels is ideal, the current structure of Michigan public schools is disjointed. The disjuncture is amplified due to the lack of communication, common goals, and common standards between levels. Rather than thinking horizontally in terms of grade level, the structure must be thought of as a vertical integration.

The most efficient way to connect all levels of education, from elementary to post-secondary, is through vertical teaming. As originally defined in the late 1990s, a vertical team includes “a small number of people from different levels within an organization who are committed to a common purpose, performance goals, and approach for which they hold themselves mutually accountable.”13 According to an overview of a vertical teaming structure at the University of California, the methodology serves to:

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• Facilitate the exchange of information among individuals who share a common purpose but who operate on different levels and who hold very different organizational perspectives

• Create a culture that connects people and functions so the common purpose of helping students learn and succeed may be accomplished…

• Establish a process through which individuals from different levels in the school organization can relate to each other in a safe and meaningful manner.  

Vertical teaming is highly applicable to Michigan’s public education system as the channel for communication and collaboration between secondary and postsecondary education. If the goal of high school is to help students develop certain skills necessary for higher education, institutions of higher education must be involved in the process of preparing high school students for university level academics. To accomplish this, a team of educators and administrators from Michigan public universities must determine both the skill set of “habits of mind” and fundamental knowledge necessary for introductory level courses (similar to the aforementioned publication, “Understanding University Success”). High school curriculum should then be based on the trends of this required skill set.

To prepare the greatest number of students for college, we must do more than offer tutoring or additional remedial courses in high school. We must focus on an integrated structural reform within the current system of education. This proposal advises implementing vertical teaming at the high school level through a series of classes with the designation “college preparatory” (CP). The CP designation would entail that the class focuses on the critical thinking, communication, and academic success skills necessary for college level studies (subsequently referred to as critical thinking skills). In vertical fashion, each core subject would have four levels of CP (CP1-CP4) semi-correlated with the four grade levels. Each level would have heightened expectations building and expanding upon the previous level’s skill set. Passing level CP3 would denote that the student is college ready. This leaves students with a cushion period; if they need to retake a course at any level, they may do so to ensure mastery of critical


thinking skills. While the precise standard of critical thinking skills necessary to pass each level should be developed by educational scholars, the structure may look similar to this:

- **CP1**: Beginning critical thinking skills, emphasis on academic success skills
- **CP2**: Basic critical thinking skills
- **CP3**: Fundamental critical thinking skills, denotes college ready
- **CP4**: Advanced critical thinking skills, taught at collegiate level

Because CP level and subject competency are measured separately and a student may advance in one but not the other, courses covering the same substantive material must be offered at multiple CP levels. For example, freshmen courses would be offered at the CP1 level for first year students and CP2 for second year students who demonstrated the necessary critical thinking skills to advance CP levels but failed to master the subject competency their freshman year (see student A). Sophomore courses would be offered at the CP2 level for students who displayed the necessary critical thinking skills to advance from CP1 (see Student B). Sophomore courses would also be offered at the CP1 level for students who demonstrated enough subject competency to pass the freshmen course but do not have the necessary critical thinking skills to advance to CP2 (see student C). Sophomore courses must also be offered at CP3 for students who retook freshman courses at the CP2 level. This pattern continues for junior and senior courses. While students would only be required to meet the expectations of CP3, advancing to CP4 would help students gain the experience of taking a collegiate level course giving them added assurance that they can succeed at the college level. The grade level courses taught at different CP levels would cover the same substantive material, but the CP course of the higher level would require more advanced critical thinking skills.

<table>
<thead>
<tr>
<th>Course offered to:</th>
<th>CP levels available:</th>
</tr>
</thead>
<tbody>
<tr>
<td>Freshmen</td>
<td>CP1, CP2</td>
</tr>
<tr>
<td>Sophomore</td>
<td>CP1, CP2, CP3</td>
</tr>
<tr>
<td>Junior</td>
<td>CP1, CP2, CP3, CP4</td>
</tr>
<tr>
<td>Senior</td>
<td>CP2, CP3, CP4</td>
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</tbody>
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**Logistical Q&A**

Before the CP program is implemented into Michigan’s public education system, there are a number of logistical questions that must be considered.

*What about the consequences of tracking?* Essentially, the CP system does track students based on their level of critical thinking, communication, and academic success skills. In
order to ensure that tracking is not based on subjective measures that may unintentionally result in discrimination based on race, social class, or gender, the student’s level will be determined by an objective measure such as the CLA described above. As an additional measure, all students (with the exception of students on the special education track) will begin high school on the college prep track. This limits the potential for discouragement or feelings of inferiority that may occur if some students are chosen for CP courses over others. However, CP tracks would be loose and regularly assessed so students, as they develop at different rates, may be bumped up or down to the level most appropriate for their skill. To accommodate the potential for midyear re-tracking, CP1 remains an option at the junior level and CP2 for seniors so late developers can still graduate at the CP3 level. Importantly, identical courses taught at different CP levels would present and require the same mastery of subject knowledge. The only difference would be the level of critical thinking, research, communication, and academic success skills required of and cultivated in the students.

**What about students who don’t want to go to college?** The reality is that nearly 90% of high school students, no matter their race or ethnicity, aspire to receive a college level degree.\(^{16}\) Therefore, we must prepare all students for college level academics by focusing on college preparation in the core courses. However, students who do not see college in their future would have the option of opting out the CP system and pursuing an alternative track, such as career technical education. Career technical education, while less focused on “habits of mind” should still encourage critical thinking skills as some students may still choose to enter college. The criteria for allowing a student to opt out of the CP program would be determined on a case by case basis. Students should be encouraged to maintain the CP track and gain the foundation for college level academics to ensure that they can enter college later in life, should they change their mind. Employers can be confident that when they hire a Michigan high school graduate, the individual has the capacity to function and think at a collegiate level, giving him or her an advantage in the job market.

**What if a student does not pass CP3?** If a student fails to complete CP3 for a certain subject but passes the school subject requirements (i.e. four years English), he or she should not be denied a high school diploma. However, students who do master the requirements of CP3

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should be rewarded with special certification on their diploma in recognition of their satisfactory preparation for college.

**Why is CP integrated into existing courses rather than offered as a separate course?** While CP skills are interdisciplinary, it is important that CP is offered in every subject class for maximum reinforcement of critical thinking skills. In addition, the basic knowledge required to be ready for college science will be slightly different from that for college English. The CP structure is integrated into existing courses in recognition that many schools may not have the infrastructure to facilitate another course and students already have a full schedule of requirements. For schools that may not offer a particular course in multiple sections, one section can accommodate multiple CP levels by offering courses at split CP levels.

**How do Advanced Placement (AP) courses fit in?** Students approved to take AP courses taught at the college level would bypass the CP structure for the subject of their AP course. Passage of an AP course would denote college readiness for that subject (see student D below).

**What are the main benefits to the CP structure?** The foremost benefit of CP programming is that students are guaranteed that the skills they learn in high school will prepare them for university academics because university educators helped develop the requirements. By increasing communication between institutions, students will feel added support as they transition into university academics.

Because students begin the CP structure as freshmen in high school, even after their first year they will have a clear understanding of what specific skills they need to develop to be college ready. This facilitates early intervention. If a student is not performing to standards early in high school, support staff can assist the student in his or her academic pursuits (early intervention programs are recommended by the ACT\(^\text{17}\)).

High levels of communication lead to high levels of accountability. It will be obvious which schools have the most college ready graduates and which teachers are the most effective. Knowing that their students must be at a certain level for the next class, a level not subjected to grade inflation or subjective measures, will likewise hold teachers to a higher standard. Schools and teachers who prove to be poorly preparing students for college can be assisted with supplementary direction. As every teacher works to get their students college ready, a culture of

collaboration will rise in schools which will lead to added team orientation, commitment, and enthusiasm.¹⁸

According to the labeling theory, people internalize the perception of themselves based on the labels they are given. By calling students “college prep,” they will internalize the message that college is an obtainable goal. Students will rise to meet high expectations and succeed at rigorous course material. By initially putting all students into the CP program and telling them they are capable of college level academics, we build student confidence and change the mindset from “if you go to college” to “when you go to college.” The CP program will lead to a more competent, college bound graduating class with the critical thinking, communication, and academic success skills necessary for success at the university level.

**Sample Student Trajectories**

While every student has a unique educational experience, there are four main pathways students will follow on the CP track: slow subject advancement, average CP advancement, slow CP advancement, and AP track.

**Student A, slow subject advancement, Social Studies (3 credits required):** As a freshman, student A enrolls in U.S. History: CP1 and develops the critical thinking skills necessary to continue his social studies curriculum at CP2 level. However, student A fails the U.S. History subject knowledge requirements. As a sophomore, student A retakes U.S. History at the CP2 level and passes both the CP and subject requirements. Likewise, he passes both components of World History: CP3 as a junior. While qualified for CP4, student A chooses to take civics and economics at the CP3 level, passes, and graduates with the minimum requirement for CP certification in social studies.

**Student B, average CP advancement, math (4 credits required)¹⁹:** As a freshman, student B demonstrates the growth in critical thinking skills necessary to pass Algebra I: CP1 and enter Geometry: CP2 as a sophomore. This average trajectory continues and the student takes Algebra II: CP3 as a junior and a final math elective at the CP4 level as a senior. By choosing to take the elective at CP4 while CP3 would have sufficed, student B is able to test how her critical thinking skills align with collegiate expectations of critical thinking in math.

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Student C, slow CP advancement, English (4 credits required): In English 9: CP1, student C demonstrates the necessary level of critical thinking skills to advance to English 10: CP2. During sophomore year, he masters the subject knowledge of English 10, but does not display the increased level of critical thinking required to pass on to CP3. As a junior, student C advances to English 11 but takes the section offered at CP2. By repeating CP2, student C is able to fully master the critical thinking skills required to take English 12: CP3. The student passes both the material knowledge and CP requirements and graduates with CP credentials in English.

Student D, AP track, Science (3 credits required): Student D takes Biology: CP1 as a freshman and passes to Chemistry: CP2 as a sophomore. While the content of the two courses do not necessarily build on one another, the CP aspects do, creating a sense of continuity between the two courses. As a junior, student D enrolls in AP Biology. AP designates that this course is taught at the college level and for college credit. Therefore, when student D passes the course, she is confidently labeled ready for college level science.

Implementation

Michigan’s new standard for college readiness should be implemented as soon as possible, but not without careful collaboration and research. Steps to implementation include:

1. Collaborate with University educators to determine the “habits of mind” and subject knowledge necessary for collegiate academics.
2. Develop an appropriate method of measuring students’ level of college readiness.
3. Develop a four tiered CP curriculum that helps students develop the critical thinking skills necessary for university introductory standards.
4. Launch the CP vertical teaming system as a pilot program. While this proposal has been carefully researched and developed, the CP structure has little precedence in Michigan and should be applied to a few representative schools to further develop the program and work out the logistical structure before widespread implementation.
5. Based on the success of the pilot program, set realistic statewide goals and standards for when and what percentage of students must graduate high school college ready.
6. Widespread implementation of the CP vertical teaming system.

At the stage in implementation, teachers should receive training in teaching critical thinking, research, communication, and academic success skills at the high school level. This will ensure that everyone at every level is on the same page and working toward the same goal.
for maximum effectiveness. Ideally, each high school would have a curriculum coordinator to facilitate vertical communication and help build the school’s infrastructure to accommodate the CP system. Overall, there must be open communication between universities, high schools, educational scholars, and policy makers to ensure that program expectations are understood and can be met.

Once the program is implemented, it can be expanded beyond high school to the entire educational system. By integrating schools and smoothing transitions from one level of education to another, we ensure students will not fall through the cracks of the traditional, horizontal structure of education. In addition, the vertical structure facilitates tracking students’ educational attainments from elementary to postsecondary. Once the infrastructure is in place, we can longitudinally study how students develop over time and which aspects of their educational experience best prepared them for college and career. Tracking student achievement across institutions provides valuable information and has been highly recommended, but is rarely put into action. One successful example is the Florida Education and Training Placement Information Program which has integrated and standardized data systems for assured accountability and quality of school reporting. Data collected through a similar method in Michigan will lead to a better understanding of how CP classes prepare students for higher education and elevate student performance in college.

Public Support

To gain public support for widespread implementation of the CP structure, those directly affected by the proposal must be on board. Michigan teachers, administrators, and parents should be the target of a public awareness campaign that recognizes the disjointed nature of the current public education system and calls for a vertically integrated structure. Developing and implementing the CP structure is a collaborative effort, and constituents are very likely to support an idea that they helped shape. For individuals who may not see public schools directly affecting them or someone they know, the campaign can be framed as community improvement: an educated community is a prosperous community. To ensure support, the CP program should be endorsed by officials in the Michigan Department of Education, Michigan universities, and

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leading organizations that promote college readiness, such as ACT, INC. or the Michigan College Access Network.

Information about the CP structure can be distributed to school networks via presentations at school events and board meetings and to the wider public via social media, TV, and radio campaigns. Taxpayers will be eager to support the CP program because the vertical structure and data tracking ensure maximum accountability. When Michiganders see the research and understand the facts backing the CP structure, they will support the program, recognizing it will ensure their children graduate from high school, ready for college.

**Conclusion**

When students enter college inadequately prepared for college level academics, they are forced to take remedial courses which are a financial drain on both the student and the state. While this issue is recognized, the majority of Michigan graduates are not ready for college because of a disjointed, horizontal structure that leaves students falling through the cracks. The first step to ensuring students graduate ready for college is to define what it means to be college ready. This proposal suggests focusing on “habits of mind” including critical thinking, research, communication, and academic success skills. Whereas subject material is easily accessible, the deeper intellectual skills necessary for university level academics must be cultivated over time through experience. Based on this definition of college ready, it is crucial for educators and policy makers to set realistic goals and a timeline for obtaining college readiness. These goals will become the basis for a structural reform that opens communication and integrates educational levels from primary to post-secondary education. At the high school level, this proposal advocates for a college preparatory (CP) curriculum that focuses specifically on cultivating critical thinking, research, communication, and academic success skills. As a four tiered vertical team, CP classes build and expand upon previous instruction to produce graduates who feel confident that they can succeed at college level academics. Communication between every level of education ensures that expectations are properly understood and met. The benefits of the CP structure include new channels of communication for a more highly integrated educational system, ease of early intervention, added accountability, and a higher rate of students graduating ready for college.