**Michigan**



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Michigan Adult Education

College and Career Readiness Framework for ESL:

Math Applications Technical Paper

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| **Benchmark(s)**  **Student Competencies** | **Math**  **Applications** | **English Applications** | **Pre Career/Employability**  **Applications** |

“Four out of every 10 new college students, including half of those at two-year institutions, take remedial courses, and many employers comment on the inadequate preparation of high school graduates.” (National Governor's Association)

**Background**

Adult education in Michigan represents a diverse group of individuals- program administrators, instructors and students- with a wide range of experiences. These programs have distinct qualities, needs and resources. Specifically, English as a Second Language (ESL) programs play an integral part in helping to prepare adult learners for postsecondary opportunities, high school diploma or equivalency completion (HSD and HSE), and employment.

According to the Migration Policy Institute, there were 64,000 Limited English Proficient Michiganders in 2013, aged 16 and older. In addition, there were 101,000 low-income and 427,000 low-educated individuals with young children.

Previously, the Michigan ESL Professional Advisory Committee created ESL Competency Standards that were endorsed by the State Adult Education Office and utilized readily by those in the field. These standards were in an easy-to-use format, ready for teacher integration in the classroom. These standards were used for a number of years with great success.

In 2013 the Office of Career and Technical Adult Education (OCTAE, previously OVAE) released the new College and Career Readiness (CCRS) Content Standards with the expectation of curriculum aligned to K-12 standards and a seamless transition to postsecondary and employment opportunities.

Due to the changes in adult education and the Limited English Proficient population, this created the urgency for revamping the state curriculum. These rigorous standards help students prepare for the transition to postsecondary and attainment of unsubsidized employment.

**Rationale and Overview**

The Michigan English as a Second Language Professional Advisory Committee has adapted the College and Career Readiness Standards specific for implementation in ESL programs for use in a variety of educational settings. This tool is for use in adult education ESL, classroom, volunteer tutoring, and large and small group instruction environments. The tool creates a link between K-12, career pathways and postsecondary and employment partners.

Standard-based education is an integral part of the Office of Career, Technical, and Adult Education (OCTAE) program. Clearly identified standards allow educators to understand where to focus their efforts and shape overall instruction. The resulting curriculum includes classroom activities, assignments, and assessments to help students attain the skills and knowledge included in the standards.

The intent of these standards is to support adult learner programs in integrating College and Career Readiness standards and aligning them with NRS (National Reporting System) approved assessments.

The document provided through this project will provide a stronger link between English as a Second Language (ESL) adult education and student success in colleges, technical training, and employment.

The implementation of the CCRS presents key shifts in standards of instruction. The materials and language are more academic based. The CCRS for Mathematics contains two central parts: the Standards for Mathematical Practice and the Standards for Mathematical Content. The Standards for Mathematical Practice (the Practices) describe habits of mind that mathematics educators at all levels of learning should seek to develop in their students. These practices rest on “processes and proficiencies” with established significance in mathematics education, including such skills as complex problem solving, reasoning and proof, modeling, precise communication, and making connections.

**The Standards for Mathematical Content are a balanced combination of procedural fluency and conceptual understanding intended to be connected to the Practices across domains and at each level. The Practices define ways students are to engage with the subject matter as they grow in mathematical maturity and expertise across levels. This is what our ESL Professional Advisory Committee focuses on.**

Content expectations that begin with the word “understand” highlight the relationship between the two parts of the CCSS for Mathematics and connect the practices and content standards. Key shifts are:

1. ***Focus:*** The Standards focus on the major work of each level will allow students to secure the mathematical foundations, conceptual understanding, procedural skill and fluency, and ability to apply the math they have learned to solve all kinds of problems—inside and outside the math classroom.
2. ***Coherence:*** The standards are created to show a coherent progression in the content within and across levels, so that students can build new understanding onto previous foundations.
3. ***Rigor:*** With students having the conceptual understanding of key concepts, procedural skill and fluency, and rigorous application of mathematics in real-world contexts is added to the CCRS.

**The College and Career Readiness Standards for Math**

**What are the Standards in CCRS for ESL?**

* The English as Second Language Standards are divided into the 7 (8) levels below.
* Each math skill is directed by a level-specific set of CCR anchors (or goals) that is identical across all Educational Functioning Levels (EFL).
* These levels, which are skills, have specific expectations or benchmarks.
* The ESL committee has taken it further by adding competencies that students should be able to achieve to show mastery or understanding with each anchor. Included is the idea of what English skill should they learn, what Math skill is covered and how it applies to career and employment.

**Seven Math Strands** Levels are scaffolded from Level A-D

**Math Number and Operations: Base Ten – K-5**

Applications include:

* Understanding Place Value
* Counting
* Reading and Writing Numbers
* Greater than/Less Than
* Order of Operations

**Number and Operations: Fractions & Decimals -3-5**

Students need to understand fractions as it is formed by 1 part from a whole. Applications include:

* How a fraction is represented
* Comparison and equivalency of sizes
* Comparing Decimals to Fractions
* Ability to add, subtract, multiply and divide fractions

**Operations and Algebraic Thinking- K-5**

To become college and career ready & GED ready, students need to be able to solve word problems and to see their value in real life applications. Some of the applications include:

* Solve word problems in simple addition or subtraction
* Complex readings for students to evaluate, analyze and cite arguments

**Expressions and Equations – 6-8**

Students will be able to write, reason and solve equations with variables. Applications include:

* Understand that letters express numbers
* Use properties of operations
* Solve math problems using algebra with multiple steps

**Geometry-K-8**

Students will be able to analyze, compare, create and compose shapes. Some applications include:

* Draw and identify shapes, lines and graphs
* Classify and compare two and three dimensional figures based on their properties
* Solve problems with area and volume and unknown sides

**Measurement and Data-K-8**

Students will be able to measure lengths and interpret data. Some applications include:

* Measure lengths
* Convert measurements into larger or smaller units
* Understand and interpret data and graphs

**Statistics and Probability- 6-8**

Students will be able to understand variables and random samplings. Some applications include:

* Ratio proportions of two quantities
* Understand word problems with the concept of rate
* Understand and read data
* Understand random samplings

**CCR standards abbreviations and Descriptors**

|  |  |
| --- | --- |
| Abbreviations | Descriptors |
| NBT | Number and Operations |
| NS | The Number System |
| NF | Number and Operations |
| RP | Ratios and Proportions |
| OA | Operations and Algebraic Thinking |
| EE | Expressions and Equations |
| G | Geometry |
| MD | Measurement and Data |
| SP | Statistics and Probability |

**Correlation of CCR Standards with National Reporting System and Educational Functioning Levels & CASAS**

The CCR standards while focused on reading, writing, speaking, listening, language and math are compiled into five grade-level groupings that align adult National Reporting System (NRS) benchmarks with Educational Functioning Levels (EFL). Below is a table that correlates CCR standards with the EFL/NRS Levels (Literacy, Intermediate, and Advanced) and the CASAS scores. Standards are placed into the ESL curriculum according to their appropriateness to each EFL.

|  |  |  |
| --- | --- | --- |
| CCR Standards/Grade Level | EFL/NRS Levels | CASAS Scores |
| A (K-1) | Beginning Literacy-High Beginning Literacy | 1-200 |
| B (2-3) | Low Intermediate | 201-210 |
| C (4-5) | High Intermediate | 211-220 |
| D (6-8) | Advanced ESL | 221-235 |
| E (9-12) | Adult Secondary/Proficient Skills | 236+ |

**Delivery of Instruction**

By using the information above, we can take each standard, look at the anchors and further divide it by the levels as in Anchor 1 and then further by benchmarks. In our adaption of the CCRS for Michigan, the ESL committee took each standard and divided the standards by EFL levels. This makes it easier to look at and use. We further delineated the benchmarks by creating competencies. These competencies explain benchmarks in simple SWBAT format. After numerous meetings and feedback, we created columns that support the teacher with academic applications and pre career/employability applications. Notice that both applications are not created as a check list or have time constraints. This allows fluidity between competencies and for instructors to be creative!

Notice the CASAS score. If your class is divided by levels, you can use this as a framework for your lessons.

**Example of Organization**

***Level (EFL): Beginning Literacy Level ESL***

***CASAS: 1-200***

***Writing - Level A***

|  |  |  |  |
| --- | --- | --- | --- |
| **Math Standard Level A NBT**  **CCR NBT: Focuses almost entirely on counting, cardinality, number sense, and base-ten operations.** | | | |
| **Benchmark**  **On exit the student will be able to:** | **Math Applications** | **English Applications** | **Pre Career/Employability Applications** |
| **COMPETENCIES:**   1. **Understand place value** 2. **Compare number values using greater than (>), less than (<), equal to (=)** | * Understand ones and tens * Identify number and placement   Use great than (>), less than (<), equal to (= | * Recall and Write digits 1-10 * Distinguish two digit numbers 1-99 * Count digits 1-100 * Group number values of 10s * Compare number values using the phrases “greater than”, “less than”, “equal to” | * Understand numbers and associate it with address, phone number and social security * Identify numbers on a clock * Compare store fliers for costs of grocer items * Purchasing items * Correlate place values with monetary values |

Benchmarks and added competencies

**Concluding Remarks**

The ESL Professional Advisory Committee has aligned each anchor in a standard with applications and ideas to use in the classroom that incorporates both academic learning as well as employability skills. Educators implement CCR can scaffold each level and develop and use higher level thinking skills. This prepares students for postsecondary education and the work place.

Remember:

* The standards do not specify a national or federal set of mandates but are a framework of standards to help create a cohesive and strong adult education programs that will help students transition to college and career readiness.
* The order of the standards within a level does not represent an order in which they are to be taught also, because of the repetitive nature, it can be scaffolded and spiraled so instruction can always be repeated until they have mastered the concept.
* The ESL Professional Advisory Committee supports the standards and we do not specify how instructors should teach, but define the competencies so that instructors can create their own lessons utilizing the standards.
* The standards are not a curriculum, and programs should complement the standards with high-quality curriculum and contextualized materials
* The standards are not specific for all students especially those with special needs or disabilities.
* The standards are not the end all! Much is purposefully left to the discretion of teachers and programs.
* The CCRS helps prepare students for college and career readiness, however, they do not mean they are totally prepared for college or the workforce. Students depend on a variety of readiness skills and preparation including habits of mind such as stamina, persistence, punctuality and time and workload management skills.

**Resources**

Susan Pimentel, 2013, College and Career Readiness Standards, retrieved from:   
[https:Uwww.vrae.org/images/customer-files/CCRStandardsAdultEd.pdf](http://https:Uwww.vrae.org/images/customer-files/CCRStandardsAdultEd.pdf)

National Governor's Association, 2007, Common Core State Standards Initiative   
[http:Uwww.corestandards.org/ELA-Literacy/CCRA/R/](http://http:Uwww.corestandards.org/ELA-Literacy/CCRA/R/)

Rhode Island Adult Education Content Standards   
http://www.ride.ri.gov/Portals/O/Uploads/Documents/Students-and-Families-Great-Schools/Educational-  
Programming/Adult-Education-Standards/AE-Program-Quality-Content-Stds-2006.pdf

OCTAE   
<http://www2.ed.gov/about/offices/list/ovae/pi/AdultEd/wioa-reauthorization.html>

Avi Yashchin, 2014, Understanding the Workforce Innovation and Opportunity Act <http://www.huffingtonpost.com/avi-yashchin/understanding-the-workforb5595193.html>

LINCs

https://lincs.ed.gov/professional-development/resource-collections/profile-521

Minnesota Adult Basic Education

mnabe.org/

Florida Adult Education-Department of Education

www.fldoe.org/academics/career-adult-edu/adult-edu/

CASAS

[www.casas.org](http://www.casas.org)

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