Michigan's K-12 Virtual Learning Effectiveness Report 2013-14

Written By:

Joseph R. Freidhoff, Michigan Virtual University

Michigan Virtual Learning Research INSTITUTE™

a division of MVU • mvlri.org

About Michigan Virtual Learning Research Institute

In 2012, the Governor and Michigan Legislature passed legislation requiring *Michigan Virtual University*® (*MVU*®) to establish a center for online learning research and innovation, and through this center, directed *MVU* to work on a variety of projects. The center, known formally as *Michigan Virtual Learning Research Institute*™ (*MVLRI*™), is a natural extension of the work of *MVU*. Established in 1998, *MVU*'s mission is to advance K-12 education through digital learning, research, innovation, policy and partnerships. Toward that end, the core strategies of *MVLRI* are:

- Research — Expand the K-12 online and blended learning knowledge base through high-quality, high-impact research;
- Policy — Inform local, state, and national public education policy strategies that reinforce and support online and blended learning opportunities for the K-12 community;
- Innovation — Experiment with new technologies and online learning models to foster expanded learning opportunities for K-12 students; and
- Networks — Develop human and web-based applications and infrastructures for sharing information and implementing K-12 online and blended learning best practices.

MVU dedicates a small number of staff members to *MVLRI* projects as well as augments its capacity through a Fellows program drawing from state and national experts in K-12 online learning from K-12 schooling, higher education, and private industry. These experts work alongside *MVU* staff to provide research, evaluation, and development expertise and support.

Suggested Citation: Freidhoff, J. R. (2015). *Michigan's K-12 virtual learning effectiveness report 2013-14*. Lansing, MI: Michigan Virtual University. Retrieved from http://media.mivu.org/institute/pdf/er_2014.pdf

Abstract and Table of Contents

ABSTRACT

Based on pupil completion and performance data reported by school entities to the Michigan Department of Education (MDE) or the Center for Educational Performance and Information (CEPI), this report highlights 2013-14 enrollment totals, completion rates, and the overall impact of virtual courses on K-12 pupils. Over 76,000 K-12 students took virtual courses in 2013-14, accounting for over 319,000 virtual course enrollments. Roughly seven out of 10 virtual enrollments were from non-cyber public schools through a provider other than the *Michigan Virtual School*. Enrollments were heaviest in the high school grades, but elementary and middle school showed large percentage increases. The percentage of virtual enrollments with a completion status of "Completed/Passed" fell from 60% to 57% compared to the prior year. Only about 2% of all K-12 enrollments in the state were delivered virtually. About 30% of Michigan schools had one or more students take a virtual course in 2013-14.

ACKNOWLEDGEMENTS

The author would like to thank CEPI and MDE for their time, effort, and support for this project. Thanks also goes out to Brett Emery and Justin Meese for technology support; Jamey Fitzpatrick, Dan Keedy, Rebecca Stimson, Kathryn Kennedy and Justin Bruno who assisted with final proofing; and Victoria Odson and Brandon Bautista who helped with design and layout.

DISCLOSURE

Please note that *Michigan Virtual University* is the parent organization of both the *Michigan Virtual School* and the *Michigan Virtual Learning Research Institute*.

TABLE OF CONTENTS

Executive Summary

EXECUTIVE SUMMARY

Findings are based on data reported to the state by Michigan public schools. This self-reported data is known to contain reporting errors, but represents the most comprehensive data collected on virtual learning in Michigan. Due to the report's deadline, not all data for the 2013-14 school year may have been reported by schools to the state.

Information on two distinct populations of Michigan K-12 learners are included in this report:

- ***Virtual Learners*** – students who took at least one virtual course in 2013-14; and
- ***Non-Virtual Learners*** – students who did not take any virtual courses in 2013-14.

Virtual Learners were categorized into three subsets:

- ***Cyber*** – enrollments from full-time, cyber schools.
- ***MVS*** – virtual enrollments from students who were identified as taking at least one online course with *Michigan Virtual School* (*MVS*).
- ***Local*** – virtual enrollments reported by non-cyber schools for courses other than those delivered by *MVS*.

Data provided by the state included information on both the virtual and non-virtual enrollments from Virtual Learners. *MVLRI* was also supplied with summary tables that included information about enrollments from Non-Virtual Learners.

Key Findings

- Over 76,000 Michigan K-12 students took one or more virtual courses during the 2013-14 school year. This number is up almost 21,000 over the number reported last year (increase of 38%). Roughly four out of five students taking virtual courses came from the Local virtual learner subset. It is important to note that some of this growth is due to different techniques used this year for identifying virtual enrollments. In addition to the virtual delivery field, the 2013-14 data set also included enrollments identified through keyword searches on the local course title field that the research team believed were likely delivered virtually, but were not marked as such by the school.

- Michigan K-12 students accounted for an estimated 319,630 virtual course enrollments in 2013-14, surpassing the 2012-13 figure by 134,577 enrollments. High school grade levels continued to account for the largest number of enrollments, though the elementary grade levels showed the largest year over year percentage increases. The Local virtual learner subset had 68% of the virtual enrollments; Cyber had 27%; and *MVS* had 5%.

- Like the previous year, virtual enrollments were heaviest in the core subject areas. This year's report includes a breakdown of the top 10 virtual courses with the most enrollments in the areas of English Language & Literature, Mathematics, Life & Physical Sciences, Social Sciences & History, and Miscellaneous. It also includes counts by course titles for the 1,683 AP® courses taken virtually by Michigan public school students.

- There does not appear to be any differences in the percentages of males and females enrolling in virtual courses by subject matter. For instance, 21% of virtual enrollments for both males and females occurred in English Language and Literature courses; 14% of both genders for Life and Physical Sciences, and 19% and 18% for males and females, respectively, for Mathematics.

- Schools with virtual enrollments were most likely to have 100 or more virtual enrollments in a year (49%), though the second most likely scenario was that they had less than 10 (17%). This "all" or "very few" phenomenon has been fairly stable over the past several years, despite the number of schools with virtual enrollments growing from 654 in 2010-11 to over 1,000 in 2013-14.

Executive Summary

- The percentage of virtual enrollments that ended in a "Completed/Passed" completion status was 57% – down 3% from the previous year. As points of comparison, Virtual Learners in their non-virtual courses had "Completed/Passed" rates of 71% (down 1% over 2012-13), whereas Non-Virtual Learners had an 89% "Completed/Passed" rate. Unlike Virtual Learners taking non-virtual courses and Non-Virtual Learners, Virtual Learners taking virtual courses had a larger percentage of enrollments with "Incomplete" statuses. Given that the 2013-14 data can still be reported to the state and given the popularity of virtual learning as a summer school option, the drop off difference in the "Completed/Passed" rates between these three groups may narrow if the "Incompletes" change to "Completed/Passed", however not so much as to account for all of the difference.

- There were considerable differences in the "Completed/Passed" rates for Virtual Learners based on virtual subsets. Cyber enrollments had a "Completed/Passed" rate of 54%, *MVS* had a 72% rate, and Locals had a 57% rate. These rates, however, may be better judged not in comparison with each other, but rather in comparison to how the same set of students did in their non-virtual coursework. For instance, *MVS* Virtual Learners had an 86% "Completed/Passed" rate in their non-virtual courses whereas Locals yielded a 69% "Completed/Passed" rate. It seems likely that the kinds of students being directed to these different types of virtual learning may differ in important ways.

- Students from rural settings tended to do better in their virtual courses compared to their counterparts in other locales. Sixty-five percent of rural enrollments reached "Completed/Passed" status compared to 57% in Towns, 56% in Suburbs, and 53% in Cities. Rather than concluding that rural students are better suited for virtual learning, it is expected that other factors such as the reason students are taking virtual courses, the kinds of students encouraged to take virtual courses, and the local supports available to students are more likely to be key factors in the observed differences.

- Fifty-one percent of schools with virtual enrollments in 2013-14 had school-wide "Completed/Passed" rates of 70% or better. Clearly some schools are implementing models that work better than others do. It is not clear what specifically differs between successful and unsuccessful schools, but likely factors include the quality of course content, the skill of the online instructor (if there even is one within the course), the readiness of students selected for virtual learning, and the wrap-around supports schools use to nurture their virtual learners.

- Schools with lower virtual courses-to-virtual student ratios tended to be associated with higher school-wide "Completed/Passed" rates for their virtual enrollments. Thirty-seven percent of schools that averaged one to two virtual courses per virtual learner (Low), had "Completed/Passed" rates of 90%-100%, 14% had rates of 80% to 90% and 13% had rates of 70% to 80%. In comparison, only 21% percent of schools that averaged five or more virtual courses per virtual learner (High), had "Completed/Passed" rates of 90%-100%, 6% had rates of 80% to 90% and 9% had rates of 70% to 80%. This trend was consistent with findings from 2012-13.

- Virtual Learners from the *MVS* and Local virtual subsets – learners who typically took some of their courses virtually and some non-virtually – showed patterns of students always passing or always failing their virtual courses. About 65% of these virtual learners passed their course when they took only one virtual course and 57% passed both their courses when they took two virtual courses. This declining trend flattened out at around 30% of virtual learners in these two subsets passing all of their virtual courses regardless of whether they took five to 12 virtual courses in the year. On the other hand, about 30% of virtual students in these two subsets failed all of their virtual courses when they took between one and five virtual courses and of those who took eight or more courses, about 10% to 20% failed all of their virtual courses.

- Virtual Learners who took virtual courses as supplements to their non-virtual curriculum (excludes Cyber) tended to do worse the more virtual courses they took in a year. On average, students had the highest "Completed/Passed" rates (65%) in their virtual courses when they took one to two virtual courses in a year (categorized as "Low" use). Students who took five or more virtual courses in a year (categorized as "High" use) tended to have lower "Completed/Passed" rates (56%).

Executive Summary

- The 57% "Completed/Passed" rate from virtual enrollments fluctuated by grade level. Elementary and middle school grade levels tended to have "Completed/Passed" rates that hovered in the high 60s or low 70s. Virtual enrollments from students in ninth grade had the poorest performance with a 44% "Completed/Passed" rate. Sophomores and juniors had rates of 51% and 55%, respectively, with 12th graders having the highest performance of the high school grades with 61%.
- Males (51%) and females (49%) enrolled in virtual courses at about the same rate. Males and females also had similar "Completed/Passed" rates in their virtual courses – 57% and 58%, respectively.
- Sixty-four percent of virtual enrollments for the 2013-14 school year came from students living in poverty. This was 16% higher than the 48% statewide average for all enrollments (virtual and non-virtual) during the same time period.
- Virtual Learners who were flagged as living in poverty had an 11% lower "Completed/Passed" rate for their virtual courses than those who were flagged as not living in poverty. This discrepancy suggests that more must be done to realize the potential of virtual learning in helping reduce poverty effects on learning outcomes. That said, the gap for Virtual Learners in their non-virtual courses was even larger. Virtual Learners in poverty had a 16% lower "Completed/Passed" rate in their non-virtual courses than Virtual Learners who were not in poverty did.
- Unlike the 2012-13 data that showed a 17% lower "Completed/Passed" rate for virtual enrollments from seat time waiver students, the 2013-14 data suggest that seat time waiver students had a 55% "Completed/Passed" rate compared to 58% for non-seat time waiver students. In 2013-14, 23% of the virtual enrollments came from seat time waiver students.
- Lower percentages of Virtual Learners reached levels of proficiency on the spring 2014 administration of the Michigan Merit Exam (MME). For each MME subject, the percentage of virtual learners testing proficient was below the state average by 10% or more. Writing had the largest difference with virtual learners 16.8% below the state average, and Science had the smallest difference at 10.3%.
- The percentages of virtual learners who met or exceeded the ACT college readiness benchmarks on the various subjects of the ACT were consistently lower than the state average. English had the largest difference with virtual learners 16.6% below the state average and Science had the smallest difference at 3.5%. ACT performance for virtual learners showed variations based on seat time waiver status, poverty status, and virtual subset.
- Virtual enrollments only represented about 2% of all K-12 enrollments in Michigan during the 2013-14 school year. Of the core subject areas, Mathematics had the highest percentage of virtual enrollments with 2.56%, followed by Social Sciences and History (2.49%), English Language and Literature (2.22%) and Life and Physical Sciences (2.13%). Subject areas with the highest rate of virtual enrollments were Public, Protective, and Government Service (6.93%) and Health Care Sciences (6.40%).
- About 30% of Michigan K-12 entities had virtual enrollments in the 2013-14 school year.

Overview

OVERVIEW

MVU was asked by the Legislature through Public Act 60 of 2013 to use data reported to the Michigan Department of Education (MDE) or Center for Educational Performance and Information (CEPI) to analyze the effectiveness of online delivery models. Specifically, Public Act 60 states:

> *Based on pupil completion and performance data reported to the department [MDE] or the Center for Educational Performance and Information [CEPI] from cyber schools and other online course providers operating in this state, analyze the effectiveness of online learning delivery models in preparing pupils to be college- and career-ready and publish a report that highlights enrollment totals, completion rates and the overall impact on pupils.*

The data for this report came from the following sources:

- Michigan Student Data System – School Year 2013-2014;
- Educational Entity Master (EEM);
- Michigan Student Data System Teacher Student Data Link (TSDL) – Collection Year 2013-2014. The TSDL collection period was based on July 1, 2013 – June 30, 2014; therefore, late summer school courses may be reported in the subsequent collection period);
- *Michigan Virtual School* Student Enrollment List – School Year 2013-2014 (Supplied by *MVU*); and
- *Michigan's K-12 Virtual Learning Effectiveness Report* (2013) – Used for comparing this year's data with the 2012-13 school year. That report is available as a free download from http://media.mivu.org/institute/pdf/effectiveness_report_2013.pdf.

It is important to be aware that reporting errors exist due to the self-reported nature of some of the data contained within these sources; however, the data still represent the most comprehensive collection of information on K-12 virtual learning in Michigan.

Information on two distinct populations of Michigan K-12 learners are included in this report:

- ***Virtual Learners*** – students who took at least one virtual course in 2013-14; and
- ***Non-Virtual Learners*** – students who did not take any virtual courses in 2013-14.

Virtual Learners were categorized into three virtual subsets:

- ***Cyber*** – enrollments from cyber schools. Cyber schools provide full-time instruction through online learning. Cyber schools were first created through Public Act 205 of 2009. Public Act 129 of 2012 expanded the number of cyber school contracts that could be issued in the state;
- ***MVS*** – virtual enrollments from students who were identified as taking at least one online course with *Michigan Virtual School* (*MVS*). *MVS* is a state-supported supplementary virtual school program that was created by Public Act 230 of 2000; and
- ***Local*** – virtual enrollments reported by non-cyber schools for courses other than those delivered by *MVS*.

Table 1. Student Population, Virtual Subsets, and Types of Courses

Student Population	Type of Courses	
	Virtual Courses	Non-Virtual Courses
Virtual Learners	Y	Y/N
Cyber	Y	Y/N
MVS	Y	Y
Local	Y	Y
Non-Virtual Learners	N	Y

Overview

The majority of enrollments classified as virtual in this report were treated as such due to the TSDL virtual delivery field being set to "yes." However, this field was known to contain inaccuracies. For the purposes of this report, additional methods were used to identify enrollments with a high liklihood of having been delivered virtually. Each of the methods used, along with the percentage of enrollments it contributed to the total, are outlined below.

1. ***TSDL Virtual Delivery Flag = Yes.*** Enrollments where the TSDL virtual delivery field was set to "yes" were treated as virtual. According to the TSDL Data Collection Manual, the virtual delivery field "indicates whether the student is receiving instruction via a virtual delivery method. This could be virtual learning, online learning or computer courses; distance learning; or self-scheduled virtual learning" (see page 48 of the manual available from http://www.michigan.gov/documents/cepi/2013-14_TSDL_coll_details_addendum_426879_7.pdf). This strategy yielded 90% (287,608) of the virtual enrollments.

2. ***TSDL Local Course Title Field References MVS.*** The strategy of searching the local course title field for common references to *MVS* yielded less than 1% (2,421) of the enrollments that were not flagged based on the virtual delivery setting. See Appendix A for a list of search criteria.

3. ***TSDL Local Course Title Field References Common Third Party Providers.*** Searching the local course title field for common references to known third-party providers of virtual courses yielded about 6% (19,072) of the enrollments that were not flagged based on the virtual delivery setting. See Appendix A for a list of search criteria.

4. ***TSDL Local Course Title Field References Common Generic Labels for Online or Virtual Learning.*** Searching the local course title field for common references to online, distance, or virtual learning yielded 3% (9,695) of the enrollments that were not flagged based on the virtual delivery setting. See Appendix A for a list of search criteria.

5. ***Enrollments from Cyber Schools***. An additional 834 enrollments from cyber schools that were not marked as virtually delivered were also classified as virtual enrollments.

To determine student population, virtual subset, and type of course, the following process was used:

1. All students reported by schools labeled as "cyber school" under the "School of Excellence" field in the EEM were labeled as Virtual Learners (Cyber), and all the enrollments reported by those schools were marked as virtual. In some cases, these same students had enrollments reported by non-cyber schools. When those enrollments were marked as being delivered virtually, they were counted as virtual enrollments for the Virtual Learners (Local) group. In an attempt to create a non-virtual comparison group for cybers, the non-virtual enrollments reported for these students by non-cyber schools were counted as non-virtual enrollments for the Virtual Learners (Cyber) group.
2. Any student whose information matched that supplied by *MVU* in the *Michigan Virtual School* Student Enrollment List or whose reported records contained at least one local course title that was flagged based on common conventions for referring to *MVS* were labeled as Virtual Learners (*MVS*). Enrollments that had the virtual delivery flag set to "yes" for these students as well as enrollments where the local course title was flagged were marked as being delivered virtually. All other enrollments from these students were marked as non-virtual. It is worth noting that not all of the virtual enrollments from these students were delivered by *MVS*, but there was no clear way to determine which of the virtual enrollments were not from *MVS*. Therefore, this report attributes all virtual enrollments from these students to *MVS*.
3. Finally, all other virtual enrollments that were reported by non-cyber schools from students who were not labeled as being served by *MVS* were classified under Virtual (Local).

Make no mistake: it is almost certain that some enrollments are counted as virtual in this report that should not be – either because they were mistakenly marked as virtual by the school and/or because the local course title searches implemented by the research team yielded false positives. On the other hand, it is also safe to assume that some enrollments that should have been marked as virtual were not, both because they were not correctly flagged by the school and because the local course title did not give an indication of its virtual nature that aligned with the conventions used in the strategies outlined above. Consequently, the figures in this report should be taken as estimated best guesses that may be off a bit in one direction or the other, but, generally speaking, convey the trends observed for the school year.

Overview

One final caveat for interpreting the results published in this report: There is clear variability in what schools report to the state as a "course." Some records align well with reporting conventions outlined by the U.S. Department of Education under their School Codes for the Exchange of Data (SCED). See for instance http://nces.ed.gov/pubs2007/2007341.pdf. However, a review of the data suggest that many schools submit course records that may be better described as course units or lessons. Hence, while one district may report a single course for a child, for instance Algebra I, another school might submit five such records, all with the same subject area and course identifier codes, but with different local course IDs. Table 2 provides a glimpse into such reporting variability. Consider the Local virtual subset. For that group, 42% of the students had 11 to 15 courses (counts both virtual and non-virtual enrollments), but many students had more than that. In fact, multiple students (<10) had over 60 virtual course records.

Table 2. Student Virtual and Non-Virtual Course Record Counts by Virtual Subset

Course Count by Student	School Year 2013-14			
	Cyber	MVS	Local	All
1 to 5	1%	3%	7%	5%
6 to 10	28%	16%	21%	23%
11 to 15	53%	54%	36%	42%
16 to 20	12%	17%	19%	17%
21+	6%	9%	17%	14%
Total	**100%**	**100%**	**100%**	**100%**

Overall, however, such "over-reporting" seems to have more of an impact on enrollment counts than on the "Completed/Passed" reported. Negligible or no differences were seen in overall "Completed/Passed" rates for Virtual Learners in their virtual courses when students who had more than 20 virtual enrollments were removed from calculations. This held true even when investigating the "Completed/Passed" rates by virtual subset.

REPORT SECTIONS

For this report, findings are included that address each of the three categories requested by the legislature: pupil and enrollment totals, completion rates, and overall impact. Please note that in some tables and figures, the percentage data may not sum to 100% due to rounding.

Pupil and Enrollment Totals

PUPIL AND ENROLLMENT TOTALS

Based on data reported to the state for the 2013-14 school year, the number of Michigan K-12 students who took at least one virtual course was 76,122. This figure is up 20,851 students (38%) compared to the previous school year.

Table 3. Count of Michigan K-12 Students Taking a Virtual Course by Grade Level and School Year

Grade Level	School Year		Year over Year	
	2012-13	2013-14	# of Students	% of Students
K	175	725	+550	+314%
1	199	472	+273	+137%
2	273	521	+248	+91%
3	206	582	+376	+183%
4	213	656	+443	+208%
5	291	816	+525	+180%
6	744	1,844	+1,100	+148%
7	1,155	2,412	+1,257	+109%
8	2,259	3,531	+1,272	+56%
9	7,661	10,044	+2,383	+31%
10	12,101	15,597	+3,496	+29%
11	12,061	15,536	+3,475	+29%
12	18,286	23,953	+5,667	+31%
Total	**55,271**	**76,122**	**+20,851**	**+38%**

Note: Because some students took courses across multiple grade levels for a single year, an individual student may be counted toward more than one grade level for a given school year. The total row, however, reflects the number of unique students for the year, and therefore may differ from the number one would get by summing the rows.

Like the 2012-13 school year, virtual students were most prevalent at the high school level and, to a lesser extent, the middle school level. However, elementary grade levels saw the largest year over year percentage increases with all but second grade showing growth in excess of 100%. Also like the 2013-14 school year, the Local virtual subset continued to account for a majority of students, though the percentage of Cyber students increased.

Table 4. Count and Percentage of Michigan K-12 Students Taking a Virtual Course by Virtual Subset

Virtual Subset	School Year 2013-14	
	# of Students	% of Students
Cyber	9,382	12%
MVS	7,489	10%
Local	59,603	78%
Total	**76,122**	**100%**

Pupil and Enrollment Totals

An estimated 319,630 K-12 course enrollments were delivered virtually in 2013-14. This 2013-14 count is 134,577 enrollments more than the number reported for the 2012-13 school year. It is important to note that some of this growth is due to different techniques used this year for identifying virtual enrollments. In addition to the virtual delivery field, the 2013-14 data set also included enrollments identified through keyword searches on the local course title field that were likely delivered virtually but were not marked as such by the school (see Appendix A for keywords).

Table 5. Count of Michigan K-12 Virtual Course Enrollments by Grade Level and School Year

Grade Level	School Year		Year over Year	
	2012-13	2013-14	# of Enrolls	% of Enrolls
K	541	5,070	+4,529	837%
1	682	4,003	+3,321	487%
2	1,037	4,579	+3,542	342%
3	1,193	4,928	+3,735	313%
4	1,176	6,588	+5,412	460%
5	1,511	6,545	+5,034	333%
6	3,170	8,731	+5,561	175%
7	4,868	12,174	+7,306	150%
8	7,267	16,001	+8,734	120%
9	23,262	42,029	+18,767	81%
10	40,604	59,759	+19,155	47%
11	38,111	58,493	+20,382	53%
12	61,631	90,730	+29,099	47%
Total	**185,053**	**319,630**	**+134,577**	**+73%**

Percentage-wise, virtually delivered enrollments in kindergarten grew by over 800%, and first and fourth grades saw growth of over 400% compared to the 2012-13 school year. Still, the high school grades continued to have the largest increases in the number of enrollments. Ninth graders had the smallest addition with 18,767 more virtual enrollments than the previous year, and 12th grade had the largest addition with 29,099 more enrollments over the 2012-13 school year. The gradual shift of virtually delivered enrollments into elementary and middle school grades witnessed last year has continued, though at a faster rate than seen previously. In the 2010-11 school year, 93% of virtual enrollments came from students in grades 9th-12th. This percentage dropped to 91% in 2011-12, 88% in 2012-13, and 79% in the 2013-14 school year.

The number of enrollments by virtual subset follows the same pattern as unique students – the majority of enrollments came from Local, followed by Cyber, and finally *MVS*. However, as would be expected, Cyber accounted for more than a quarter of all virtual enrollments despite being only 12% of the student population.

Table 6. Count and Percentage of Michigan K-12 Virtual Course Enrollments by Virtual Subset and School Year

Virtual Subset	School Year 2013-14	
	# of Enrolls	% of Enrolls
Cyber	85,009	27%
MVS	17,269	5%
Local	217,352	68%
Total	**319,630**	**100%**

Pupil and Enrollment Totals

As evidenced by Table 7, the percentage of virtual enrollments by subject area remained fairly consistent from the 2012-13 to 2013-14 school years. Mathematics, English Language and Literature, and Social Sciences and History remain the most popular subject areas with Life and Physical Sciences as well as Miscellaneous being subject areas that equaled or exceeded 10% of the virtual enrollments for the 2013-14 school year.

Table 7. Count and Percentage of Michigan K-12 Virtual Course Enrollments by Subject Area and School Year

	School Year				Year over Year	
	2012-13		2013-14			
Subject Area	# of Enrolls	% of Enrolls	# of Enrolls	% of Enrolls	# of Enrolls	% of Enrolls
Agriculture, Food, and Natural Resources	45	0%	39	0%	-6	0%
Architecture and Construction	147	0%	53	0%	-94	0%
Business and Marketing	2,030	1%	3,142	1%	+1,112	0%
Communication and Audio/Visual Technology	1,151	1%	1,433	0%	+282	-1%
Computer and Information Sciences	5,851	3%	10,037	3%	+4,186	0%
Engineering and Technology	940	1%	477	0%	-463	-1%
English Language and Literature	33,697	18%	66,730	21%	+33,033	+3%
Fine and Performing Arts	5,819	3%	14,782	5%	+8,963	+2%
Foreign Language and Literature	7,023	4%	11,677	4%	+4,654	0%
Health Care Sciences	1,545	1%	1,250	0%	-295	-1%
Hospitality and Tourism	236	0%	215	0%	-21	0%
Human Services	109	0%	231	0%	+122	0%
Life and Physical Sciences	27,001	15%	44,643	14%	+17,642	-1%
Manufacturing	<10	0%	11	0%	*	0%
Mathematics	36,259	20%	58,501	18%	+22,242	-2%
Military Science	-	-	10	0%	10	*
Miscellaneous	18,948	10%	32,827	10%	+13,879	0%
Nonsubject Specific	1,327	1%	2,090	1%	763	0%
Physical, Health, and Safety Education	10,063	5%	17,442	5%	7,379	0%
Public, Protective, and Government Services	423	0%	457	0%	34	0%
Religious Education and Theology	<10	0%	26	0%	*	0%
Social Sciences and History	31,438	17%	53,514	17%	+22,076	0%
State Approved CTE Course	619	0%	-	-	*	0%
Transportation, Distribution and Logistics	366	0%	43	0%	-323	0%
Total	**185,053**	**100%**	**319,630**	**100%**	**+134,577**	**0%**

Note: Enrollment counts for subject areas include both secondary (9-12) and prior-to-secondary (K-8) enrollments. Cells with low enrollment counts are displayed as <10 to address student confidentiality concerns. Because of this, some calculations were not possible. These cells are indicated with an asterisk. Percentages may not add to 100% due to rounding.

Pupil and Enrollment Totals

New for this year's report, Tables 8 through 12 include the top 10 most popular course titles for each subject area with 10% or more of the total virtual enrollments for the year for Virtual Learners in the *MVS* or Local virtual subsets.

Table 8. Count and Percentage of the Top 10 Michigan Supplemental (Non-Cyber) Secondary Virtual Course Enrollments in English Language & Literature

English Language & Literature Course Titles	School Year 2013-14 # of Enrolls	% of Enrolls
English/Language Arts I (9th grade)	9,426	24%
English/Language Arts II (10th grade)	8,220	21%
English/Language Arts III (11th grade)	7,985	20%
English/Language Arts IV (12th grade)	7,510	19%
English Language and Literature—Other	1,197	3%
Literature	501	1%
English/Literature (freshmen and sophomores)	452	1%
Communications	418	1%
British Literature	345	1%
American Literature	345	1%

Table 9. Count and Percentage of the Top 10 Michigan Supplemental (Non-Cyber) Secondary Virtual Course Enrollments in Mathematics

Mathematic Course Titles	School Year 2013-14 # of Enrolls	% of Enrolls
Geometry	8,795	21%
Algebra II	8,789	21%
Algebra I	7,805	19%
Pre-Algebra	3,334	8%
Consumer Math	2,706	7%
General Math	1,607	4%
Algebra I—Part 1	1,398	3%
Algebra I—Part 2	1,224	3%
Mathematics—Other	1,184	3%
Business Math	687	2%

Note: Algebra I (ranked 3rd), Algebra I—Part 1 (ranked 7th), and Algebra I—Part 2 (ranked 8th) all cover related course content.

Table 10. Count and Percentage of the Top 10 Michigan Supplemental (Non-Cyber) Secondary Virtual Course Enrollments in Life and Physical Sciences

Life & Physical Sciences Course Titles	School Year 2013-14 # of Enrolls	% of Enrolls
Biology	8,905	28%
Chemistry	7,006	22%
Earth Science	4,758	15%
Physical Science	2,856	9%
Physics	1,651	5%
Environmental Science	1,216	4%
Life and Physical Sciences—Other	1,162	4%
Conceptual Physics	428	1%
Integrated Science	394	1%
Earth and Space Science	342	1%

Pupil and Enrollment Totals

Table 11. Count and Percentage of the Top 10 Michigan Supplemental (Non-Cyber) Secondary Virtual Course Enrollments in Social Sciences and History

Social Sciences & History Course Titles	School Year 2013-14 # of Enrolls	% of Enrolls
U.S. History—Comprehensive	6,001	16%
Economics	5,127	14%
World History and Geography	5,083	13%
U.S. Government—Comprehensive	3,277	9%
World History—Overview	3,264	9%
Psychology	2,264	6%
Civics	2,214	6%
Modern U.S. History	1,750	5%
Sociology	1,661	4%
Early U.S. History	753	2%

Table 12. Count and Percentage of the Top 10 Michigan Supplemental (Non-Cyber) Secondary Virtual Course Enrollments in Miscellaneous

Miscellaneous Course Titles	School Year 2013-14 # of Enrolls	% of Enrolls
Miscellaneous—Other	7,056	24%
Miscellaneous—Independent Study	5,135	17%
Career Exploration	3,336	11%
Study Skills	2,974	10%
Dropout Prevention Program	2,248	8%
Life Skills	1,463	5%
Employability Skills	1,244	4%
Tutorial	1,211	4%
State Test Preparation	805	3%
Consumer Economics/Personal Finance	684	2%

Pupil and Enrollment Totals

Also new for this year's report, Table 13 features virtual enrollment counts for AP® courses. The 1,683 virtual enrollments in AP courses represent a very small fraction of virtual learning in the state. These small numbers may be particularly surprising given that many, if not most, AP titles are not offered face-to-face in high schools across Michigan.

Table 13. Count and Percentage of Virtual Course Enrollments in AP® Courses

	School Year	
	2013-14	
AP Course Titles	# of Enrolls	% of Enrolls
AP Psychology	203	12%
AP English Literature and Composition	150	9%
AP Computer Science A	126	7%
AP Macroeconomics	118	7%
AP English Language and Composition	114	7%
AP Statistics	114	7%
AP Biology	96	6%
AP Microeconomics	96	6%
AP U.S. History	80	5%
AP Calculus BC	72	4%
AP U.S. Government and Politics	64	4%
AP Calculus AB	60	4%
AP Chemistry	60	4%
AP Physics B	60	4%
AP Spanish Language	53	3%
AP Art—History of Art	45	3%
AP Environmental Science	44	3%
AP Physics C	31	2%
AP French Language	26	2%
AP Government	21	1%
AP World History	18	1%
AP European History	<10	0%
AP German Language	<10	0%
AP Human Geography	<10	0%
AP Computer Science AB	<10	0%
AP Music Theory	<10	0%
AP Studio Art—General Portfolio	<10	0%
AP Economics	<10	0%
Total	**1,683**	**100%**

Pupil and Enrollment Totals

Table 14 includes subject area data on the count and percentage of males and females enrolling in virtual courses each year. As was the case in 2012-13, there remained little difference in the percentage of males and females enrolling in virtual courses within a particular subject area for the 2013-14 school year.

Table 14. Count and Percentage of Michigan K-12 Virtual Course Enrollments by Subject Area, School Year, and Gender

Subject Area	School Year							
	2012-13				2013-14			
	#M	#F	%M	%F	#M	#F	%M	%F
Agriculture, Food, and Natural Resources	17	28	0%	0%	18	21	0%	0%
Architecture and Construction	<147	<147	0%	0%	33	20	0%	0%
Business and Marketing	949	1,081	1%	1%	1,529	1,613	1%	1%
Communication and Audio/Visual Technology	549	602	1%	1%	648	785	0%	0%
Computer and Information Sciences	3,299	2,552	3%	3%	5,509	4,528	3%	3%
Engineering and Technology	692	248	1%	0%	332	145	0%	0%
English Language and Literature	18,134	15,563	19%	18%	34,311	32,419	21%	21%
Fine and Performing Arts	2,720	3,099	3%	3%	7,171	7,611	4%	5%
Foreign Language and Literature	3,046	3,977	3%	4%	4,965	6,712	3%	4%
Health Care Sciences	393	1,152	0%	1%	429	821	0%	1%
Hospitality and Tourism	110	126	0%	0%	85	130	0%	0%
Human Services	27	82	0%	0%	40	191	0%	0%
Life and Physical Sciences	14,302	12,699	15%	14%	22,915	21,728	14%	14%
Manufacturing	<10	<10	0%	0%	<10	<10	0%	0%
Mathematics	19,313	16,946	20%	19%	30,184	28,317	19%	18%
Military Science	0	0	0%	0%	<10	<10	0%	0%
Miscellaneous	9,774	9,174	10%	10%	16,939	15,888	10%	10%
Nonsubject Specific	711	616	1%	1%	1,059	1,031	1%	1%
Physical, Health, and Safety Education	5,097	4,966	5%	6%	8,495	8,947	5%	6%
Public, Protective, and Government Services	208	215	0%	0%	174	283	0%	0%
Religious Education and Theology	<10	<10	0%	0%	13	13	0%	0%
Social Sciences and History	16,082	15,356	17%	17%	26,602	26,912	16%	17%
State Approved CTE Course	299	320	0%	0%		-	-	-
Transportation, Distribution and Logistics	<366	<366	0%	0%	<43	<43	0%	0%
Total	**96,237**	**88,816**	**100%**	**100%**	**161,510**	**158,120**	**100%**	**100%**

Note: a) Enrollment counts for subject areas included both secondary and prior-to-secondary enrollments. Cells with low enrollment counts are displayed as <[#] to address student confidentiality concerns. Suppressed cells with larger values (e.g., <147, <366) correspond to the data presented in Table 7 above. b) M = Males. F = Females. c) CTE courses for 2013-14 school year were excluded because these data are not yet approved for reporting purposes.

Pupil and Enrollment Totals

Similarly, Table 15 presents data on the percentages of enrollments in each subject area according to the locale (Rural, Town, Suburb, or City) in which the school was located. The 2013-14 data continued the trend that percentages were fairly consistent across locales. The largest variations observed in the 2013-14 school year existed in English Language and Literature (13% difference between City and Town locales) and Miscellaneous (11% difference between Towns and City).

Table 15. Percentage of Michigan K-12 Virtual Course Enrollments by Subject Area, School Year, and Locale

Subject Area	School Year							
	2012-13				2013-14			
	Rural	Town	Sub	City	Rural	Town	Sub	City
Agriculture, Food, and Natural Resources	0%	0%	0%	0%	0%	0%	0%	0%
Architecture and Construction	0%	0%	0%	0%	0%	0%	0%	0%
Business and Marketing	1%	2%	1%	1%	1%	2%	1%	1%
Communication and Audio/Visual Technology	0%	1%	0%	0%	0%	1%	0%	1%
Computer and Information Sciences	4%	4%	2%	2%	5%	6%	2%	2%
Engineering and Technology	0%	0%	0%	1%	0%	0%	0%	0%
English Language and Literature	16%	17%	19%	18%	16%	15%	18%	28%
Fine and Performing Arts	3%	3%	2%	2%	3%	2%	3%	8%
Foreign Language and Literature	5%	5%	4%	3%	5%	5%	3%	2%
Health Care Sciences	0%	0%	0%	1%	0%	0%	1%	0%
Hospitality and Tourism	0%	0%	0%	0%	0%	0%	0%	0%
Human Services	0%	0%	0%	0%	0%	0%	0%	0%
Life and Physical Sciences	15%	14%	14%	14%	14%	12%	14%	13%
Manufacturing	0%	0%	0%	0%	0%	0%	0%	0%
Mathematics	19%	18%	24%	19%	17%	16%	20%	18%
Military Science	0%	0%	0%	0%	0%	0%	0%	0%
Miscellaneous	10%	15%	11%	12%	13%	18%	14%	7%
Nonsubject Specific	0%	0%	0%	4%	1%	0%	1%	0%
Physical, Health, and Safety Education	6%	4%	5%	5%	7%	4%	5%	5%
Public, Protective, and Government Services	0%	1%	0%	0%	0%	1%	0%	0%
Religious Education and Theology	0%	0%	0%	0%	0%	0%	0%	0%
Social Sciences and History	18%	18%	17%	17%	17%	17%	17%	16%
State Approved CTE Course	0%	0%	0%	0%	-	-	-	-
Transportation, Distribution and Logistics	0%	0%	0%	0%	0%	0%	0%	0%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Note: Enrollment counts for subject areas included both secondary and prior-to-secondary enrollments. Enrollments that did not include locale information (46,852 for 2012-13 and 73,527 for 2013-14) were not included in the table.

Pupil and Enrollment Totals

Again in 2013-14, schools that had virtual enrollments were mostly likely to have 100 or more for the year. Almost half of schools with virtual enrollments had 100 or more enrollments, a 9% increase over the previous year. The second most likely grouping, however, was that the school had less than 10 virtual enrollments for the year – something reported by 17% of the entities, down 8% over the 2012-13 school year.

Table 16. Count and Percentage of Michigan K-12 Virtual Course Enrollments by School Total and School Year

# of Virtual Enrollments per School	School Year				Year over Year	
	2012-13		2013-14			
	# of Entities	% of Entities	# of Entities	% of Entities	# of Entities	% of Entities
1 to 9	228	25%	168	17%	-60	-8%
10 to 19	70	8%	79	8%	+9	0%
20 to 29	60	7%	68	7%	+8	0%
30 to 39	32	4%	35	3%	+3	-1%
40 to 49	30	3%	40	4%	10	+1%
50 to 59	36	4%	36	4%	0	0%
60 to 69	22	2%	30	3%	+8	+1%
70 to 79	22	2%	26	3%	+4	+1%
80 to 89	25	3%	13	1%	-12	-2%
90 to 99	17	2%	20	2%	+3	0%
100+	364	40%	492	49%	+128	+9%
Total	**906**	**100%**	**1,007**	**100%**	**+101**	**0%**

The trend observed in last year's report of little year-to-year fluctuation of the percentage of schools in each enrollment count group continued even though the number of schools with virtual enrollments has increased from 625 in the 2010-11 school year to over 1,000 in the 2013-14 school year.

The idea of schools tending to report either light (one to 24 virtual enrollments) or heavy (100+ virtual enrollments) amounts of virtual enrollments held true when looking at locale. Over 40% of Rural, Town, and City schools with virtual enrollments had 100+ virtual enrollments. For suburban schools with virtual enrollments, over half had 100 or more virtual enrollments. Thirty percent or more of Rural, Town, and City schools with virtual enrollments had one to 24 virtual enrollments while about a quarter of suburban schools with virtual enrollments had one to 24 virtual enrollments.

Table 17. Percentage of Michigan K-12 Virtual Course Enrollments by Entity Total, School Year, and Locale

# of Virtual Enrollments per School	School Year								Year over Year			
	2012-13				2013-14							
	Rural	Town	Sub	City	Rural	Town	Sub	City	Rural	Town	Sub	City
1 to 24	37%	40%	34%	31%	31%	31%	26%	36%	-6%	-9%	-8%	+5%
25 to 49	13%	8%	8%	13%	12%	8%	11%	13%	-1%	0%	+3%	0%
50 to 74	10%	6%	8%	7%	10%	6%	8%	5%	0%	0%	0%	-2%
75 to 99	6%	6%	5%	5%	5%	9%	2%	2%	-1%	+3%	-3%	-3%
100+	34%	40%	45%	45%	43%	46%	53%	44%	+9%	+6%	+8%	-1%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Note: Enrollments that did not include locale information (46,852 for 2012-13, 73,527 for 2013-14) were not included in the table.

Completed/Passed Rates

COMPLETED/PASSED RATES

While enrollment counts provide an important glimpse into virtual learning in the state of Michigan, of even greater interest to many is information on the performance of virtual learners. One measure of how students perform in their virtual courses is the completion status for an enrollment. When schools report enrollment information to the state, one of the data components submitted is for a completion status field. A few examples of completion statuses schools can report for an enrollment include: Audited, Completed/Passed, Completed/Failed, and Withdrawn/Exited. For a list of all available completion statuses for the 2013-14 reporting cycle, see page 44 of the Michigan Student Data System (MSDS) Collection Details Manual Addendum Version 1.1 available from https://www.michigan.gov/documents/cepi/2013-14_TSDL_coll_details_addendum_426879_7.pdf.

When reading through this section, please keep in mind the following points:

- A course "completion" is not synonymous with "passing" a course. As noted, schools currently differentiate when reporting to the state those enrollments that were completed but failed (Completed/Failed) from those that were completed and passed (Completed/Passed). Thus, "completion" as it is traditionally used by schools when reporting data to the state conveys the meaning of "finished" or "remained enrolled" throughout the course timeframe and does not signify whether the student earned a passing grade in the course for which credit was granted.
- Enrollments with a completion status of "Audited" existed where the student enrolled in the course without expecting or receiving credit. Because there was no performance expectation for such instances, it may be prudent not to include the impact of Audits on performance calculations; however, for transparency purposes and to allow readers to make their own determination, "Audited" enrollments have been included in calculations – the effect of which is to lower the percentage of enrollments that were "Completed/Passed."
- Guidelines for marking an enrollment as "Incomplete" specify this is to be used for students who do not have a final grade in a course by August 27th, 2014. As the data show, virtual learners had higher rates of enrollments with completion statuses of "Incomplete." Likely many of these enrollments reflect students who took summer school courses virtually. Like the inclusion of "Audited" enrollments, "Incomplete" enrollments have been included in calculations and have the same effect of lowering the percentage of enrollments that were "Completed/Passed."
- It is unclear how to best treat enrollments with a Withdrawn status. For instance, 3% of the virtual enrollments in 2013-14 were marked as "Withdrawn/Passing," meaning that the student was passing the course at the time the student was withdrawn. Should these enrollments be counted as failures and included in the completion rate formula? What about students whose enrollments were marked as "Withdrawn/Exited"? There is no way to determine whether that exit occurred in the first few weeks of class or the final weeks of class. The data do not provide insight into whether the student was reenrolled in a different course or whether it was too late for reenrollment in a credit-bearing opportunity for the student. Like "Audited" and "Incomplete", "Withdrawns" have been included in performance calculations and have the same effect of lowering the percentage of enrollments that were "Completed/Passed."
- As a proxy for a passing rate, the tables contained in this section emphasize the percentage of enrollments that ended with a completion status of "Completed/Passed." There are no reporting guidelines as to what counts as "passing." It is likely best to assume that passing requirements differ among schools.

Tables 18-20 on page 17 show how completion status differed in 2013-14 for Virtual Learners in their virtual courses (Table 18), Virtual Learners in their non-virtual courses (Table 19), and Non-Virtual Learners (Table 20). The "Completed/Passed" rates ranged from 57% for Virtual Learners in their virtual courses to 71% for Virtual Learners in their non-virtual courses to 89% for Non-Virtual Learners.

Completed/Passed Rates

Table 18. Completion Statuses for Virtual Learners in Their Virtual Courses

Completion Status	School Year 2012-13 # of Enrolls	School Year 2012-13 % of Enrolls	School Year 2013-14 # of Enrolls	School Year 2013-14 % of Enrolls	Year over Year # of Enrolls	Year over Year % of Enrolls
Audited (No Credit Issued)	8,756	5%	7,622	2%	-1,134	-3%
Completed/Failed	23,644	13%	50,126	16%	+26,482	+3%
Completed/Passed	111,811	60%	183,010	57%	+71,199	-3%
Incomplete	15,471	8%	24,623	8%	+9,152	0%
Ongoing Enrolled/Special Ed	0	0%	26	0%	+26	0%
Testing Out	93	0%	121	0%	+28	0%
Withdrawn/Exited	16,075	9%	25,391	8%	+9,316	-1%
Withdrawn/Failing	3,047	2%	17,814	6%	+14,767	+4%
Withdrawn/Passing	6,156	3%	10,897	3%	+4,741	0%
Total	**185,053**	**100%**	**319,630**	**100%**	**+134,577**	**0%**

Table 19. Completion Statuses for Virtual Learners in Their Non-Virtual Courses

Completion Status	School Year 2012-13 # of Enrolls	School Year 2012-13 % of Enrolls	School Year 2013-14 # of Enrolls	School Year 2013-14 % of Enrolls	Year over Year # of Enrolls	Year over Year % of Enrolls
Audited (No Credit Issued)	16,010	3%	19,462	3%	+3,452	0%
Completed/Failed	69,609	14%	84,449	12%	+14,840	-2%
Completed/Passed	367,405	72%	493,048	71%	+125,643	-1%
Completed/Special Ed Only	226	0%	0	0%	-226	0%
Incomplete	6,144	1%	10,522	2%	+4,378	+1%
Ongoing Enrolled/Special Ed	11	0%	69	0%	+58	0%
Testing Out	415	0%	242	0%	-173	0%
Withdrawn/Exited	32,104	6%	59,482	9%	+27,378	+3%
Withdrawn/Failing	5,714	1%	6,860	1%	+1,146	0%
Withdrawn/Passing	12,133	2%	18,832	3%	+6,699	+1%
Total	**509,771**	**100%**	**692,966**	**100%**	**183,195**	0%

Table 20. Completion Statuses for Non-Virtual Learners

Completion Status	School Year 2013-14 # of Enrolls	School Year 2013-14 % of Enrolls
Audited (No Credit Issued)	280,984	2%
Completed/Failed	632,644	4%
Completed/Passed	13,888,728	89%
Incomplete	59,107	0%
Ongoing Enrolled/Special Ed	4,640	0%
Testing Out	1,396	0%
Withdrawn/Exited	481,083	3%
Withdrawn/Failing	23,492	0%
Withdrawn/Passing	147,394	1%
Total	**15,519,468**	**100%**

Completed/Passed Rates

Upon closer inspection of the data, there were considerable differences in the "Completed/Passed" rates for Virtual Learners based on virtual subsets. *MVS* had a "Completed/Passed" rate of 72%, Locals had a 57% rate, and Cybers had a 54% rate. These rates, however, may be better judged not in comparison with each other, but rather in comparison to how the same set of students did in their non-virtual coursework.

In an attempt to create comparison groups for Virtual Learners in their non-virtual learning, the research team used the following rules:

- Some Cyber students had enrollments during the 2013-14 school year that were not with a cyber school. The Cyber/Non-Virt column in Table 21 represents the 26,177 non-virtual enrollments these students had that were reported by non-cyber school entities.
- The non-virtual enrollments from students who were identified as taking at least one virtual course with *MVS* were used as the Non-Virt comparison group for *MVS* in Table 21. This represents 125,043 non-virtual enrollments.
- Finally, non-virtual enrollments reported by schools other than cybers and from students who did not take a virtual course with *MVS* during the year were allocated to the Local/Non-Virt column of Table 21. This includes 541,746 non-virtual enrollments.

MVS Virtual Learners had an 86% "Completed/Passed" rate in their non-virtual courses whereas Locals yielded a 69% "Completed/Passed" rate. The 51% "Completed/Passed" rate for Cyber/Non-Virtual must be interpreted cautiously. Withdrawns have considerable impact on that rate. One might hypothesize that this reflects students transferring out of the traditional school and into the cyber school. In general though, it seems likely that the kinds of students being directed to these different types of virtual learning may differ in important ways.

Table 21. Count and Percentage of Michigan K-12 Course Enrollments by Completion Status, Virtual Subset and Delivery Type

	2013-14 School Year					
	Cyber		MVS		Local	
Completion Status	Virt	Non-Virt	Virt	Non-Virt	Virt	Non-Virt
Audited (No Credit Issued)	0%	2%	3%	5%	3%	2%
Completed/Failed	21%	14%	14%	4%	14%	14%
Completed/Passed	54%	51%	72%	86%	57%	69%
Incomplete	1%	1%	4%	1%	11%	2%
Ongoing Enrolled/Special Ed	0%	0%	0%	0%	0%	0%
Testing Out	0%	0%	0%	0%	0%	0%
Withdrawn/Exited	0%	27%	6%	3%	11%	9%
Withdrawn/Failing	17%	2%	0%	0%	2%	1%
Withdrawn/Passing	6%	3%	1%	1%	3%	3%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Completed/Passed Rates

The five subject areas marked with an asterisk in Table 22 reflect those subject areas that were identified in Table 7 on page 9 as accounting for 10% or more of the virtual enrollments for that year. Compared to the 2012-13 school year, "Completed/Passed" rates declined for all four core subject areas with the biggest drops in Social Sciences and History (-6%) and Life and Physical Sciences (-5%). Other lower enrollment subject areas yielded high "Completed/Passed" rates such as Hospitality and Tourism (91%), Manufacturing (91%), Military Science (91%), and Health Care Sciences (85%) to name a few.

Table 22. Percentage of "Completed/Passed" by Subject Area for Virtual Learners in Their Virtual Courses

Subject Area	School Year		Year over Year % of Comp/Passed
	2012-13	2013-14	
Agriculture, Food, and Natural Resources	69%	72%	+3%
Architecture and Construction	50%	64%	+14%
Business and Marketing	74%	74%	0%
Communication and Audio/Visual Technology	63%	60%	-3%
Computer and Information Sciences	62%	70%	+8%
Engineering and Technology	68%	78%	+10%
*English Language and Literature	58%	56%	-2%
Fine and Performing Arts	64%	56%	-8%
Foreign Language and Literature	73%	65%	-8%
Health Care Sciences	51%	85%	+34%
Hospitality and Tourism	56%	91%	+35%
Human Services	83%	80%	-3%
*Life and Physical Sciences	60%	55%	-5%
Manufacturing	86%	91%	+5%
*Mathematics	56%	53%	-3%
Military Science	-	90%	NA
*Miscellaneous	57%	57%	0%
Nonsubject Specific	86%	92%	+6%
Physical, Health, and Safety Education	65%	61%	+4%
Public, Protective, and Government Services	65%	76%	+11%
Religious Education and Theology	67%	50%	-17%
*Social Sciences and History	63%	57%	-6%
State Approved CTE Course	74%	-	NA
Transportation, Distribution and Logistics	46%	65%	+19%
Total	**60%**	**57%**	**-3%**

Tables 23 and 24 on page 20 allow for comparing the subject area "Completed/Passed" rates for Virtual Learners in their virtual courses (Table 22) with Virtual Learners in their non-virtual courses (Table 23) and Non-Virtual Learners (Table 24). Using English Language and Literature as an example, the "Completed/Passed" rates ranged from 56% for Virtual Learners in their virtual courses to 71% for Virtual Learners in their non-virtual courses to 89% for Non-Virtual Learners.

Completed/Passed Rates

Table 23. Percentage of "Completed/Passed" by Subject Area for Virtual Learners in Their Non-Virtual Courses

Subject Area	School Year 2013-14
Agriculture, Food, and Natural Resources	76%
Architecture and Construction	79%
Business and Marketing	81%
Communication and Audio/Visual Technology	82%
Computer and Information Sciences	72%
Engineering and Technology	83%
*English Language and Literature	71%
Fine and Performing Arts	82%
Foreign Language and Literature	75%
Health Care Sciences	73%
Hospitality and Tourism	70%
Human Services	70%
*Life and Physical Sciences	69%
Manufacturing	82%
*Mathematics	65%
Military Science	64%
*Miscellaneous	69%
Nonsubject Specific	79%
Physical, Health, and Safety Education	77%
Public, Protective, and Government Services	74%
Religious Education and Theology	84%
*Social Sciences and History	70%
Transportation, Distribution and Logistics	79%
Total	**71%**

Table 24. Percentage of "Completed/Passed" by Subject Area for Non-Virtual Learners

Subject Area	School Year 2013-14
Agriculture, Food, and Natural Resources	90%
Architecture and Construction	87%
Business and Marketing	88%
Communication and Audio/Visual Technology	89%
Computer and Information Sciences	91%
Engineering and Technology	92%
*English Language and Literature	89%
Fine and Performing Arts	93%
Foreign Language and Literature	89%
Health Care Sciences	83%
Hospitality and Tourism	79%
Human Services	86%
*Life and Physical Sciences	89%
Manufacturing	91%
*Mathematics	86%
Military Science	71%
*Miscellaneous	86%
Nonsubject Specific	93%
Physical, Health, and Safety Education	92%
Public, Protective, and Government Services	82%
Religious Education and Theology	92%
*Social Sciences and History	88%
Transportation, Distribution and Logistics	85%
Total	**89%**

Completed/Passed Rates

Tables 25 through 29 include "Completed/Passed" rates for the top 10 most popular course titles for subject areas with 10% or more of the total virtual enrollments for the year from Virtual Learners in the *MVS* or Local virtual subsets. In English Language and Literature (Table 25), "Completed/Passed" rates were quite a bit lower in 9th (47%) and 10th grade (50%) English Language Arts than in 11th (56%) and 12th grade (60%) English Language Arts. Similarly, Pre-Algebra and Algebra I show "Completed/Passed" rates well below the subject area "Completed/Passed" rate of 53%. Pre-Algebra had a 32% "Completed/Passed" rate. Algebra I had a 45% "Completed/Passed" rate while Algebra I—Part 1 and Algebra I—Part 2 had rates of 41% and 42%, respectively.

Table 25. Completion Statuses for the Top 10 Michigan Supplemental (Non-Cyber) Secondary Virtual Course Enrollments in English Language & Literature

English Language & Literature Course Titles	2013-14 School Year										
	Enroll Count	Completion Status									Total
		AU	CF	CP	I	OE	TO	WE	WF	WP	
English/Language Arts I (9th grade)	9,426	5%	19%	47%	13%	0%	0%	12%	2%	2%	100%
English/Language Arts II (10th grade)	8,220	5%	16%	50%	12%	0%	0%	11%	2%	2%	100%
English/Language Arts III (11th grade)	7,985	5%	12%	56%	11%	0%	0%	11%	2%	3%	100%
English/Language Arts IV (12th grade)	7,510	5%	9%	60%	8%	0%	0%	10%	3%	6%	100%
English Language and Literature—Other	1,197	5%	5%	66%	1%	0%	0%	23%	0%	1%	100%
Literature	501	0%	2%	37%	33%	0%	0%	27%	0%	1%	100%
English/Literature (freshmen and sophomores)	452	1%	35%	43%	12%	0%	0%	8%	1%	0%	100%
Communications	418	26%	6%	30%	33%	0%	0%	5%	1%	0%	100%
British Literature	345	3%	12%	52%	16%	0%	0%	15%	2%	1%	100%
American Literature	345	0%	10%	69%	10%	0%	0%	10%	0%	1%	100%
Total	**36,399**	**5%**	**14%**	**53%**	**11%**	**0%**	**0%**	**12%**	**2%**	**3%**	**100%**

Note: AU = Audited (No Credit Issued), CF = Completed/Failed, CP = Completed/Passed, I = Incomplete, OE = Ongoing Enrolled/Special Ed, TO = Testing Out, WE = Withdrawn/Exited, WF = Withdrawn/Failed, WP = Withdrawn/Passing

Table 26. Completion Statuses for the Top 10 Michigan Supplemental (Non-Cyber) Secondary Virtual Course Enrollments in Mathematics

Mathematics Course Titles	2013-14 School Year										
	Enroll Count	Completion Status									Total
		AU	CF	CP	I	OE	TO	WE	WF	WP	
Geometry	8,795	3%	19%	50%	13%	0%	0%	10%	2%	2%	100%
Algebra II	8,789	2%	17%	53%	10%	0%	0%	12%	2%	4%	100%
Algebra I	7,805	5%	25%	45%	13%	0%	0%	8%	2%	2%	100%
Pre-Algebra	3,334	11%	9%	32%	18%	0%	0%	20%	9%	2%	100%
Consumer Math	2,706	1%	10%	61%	13%	0%	0%	11%	1%	3%	100%
General Math	1,607	1%	4%	71%	10%	0%	0%	9%	0%	4%	100%
Algebra I—Part 1	1,398	0%	23%	41%	10%	0%	0%	22%	2%	1%	100%
Algebra I—Part 2	1,224	0%	21%	42%	13%	0%	0%	19%	2%	2%	100%
Mathematics—Other	1,184	7%	13%	54%	7%	0%	0%	16%	1%	2%	100%
Business Math	687	1%	12%	73%	5%	0%	0%	6%	1%	3%	100%
Total	**37,529**	**4%**	**18%**	**50%**	**12%**	**0%**	**0%**	**12%**	**2%**	**3%**	**100%**

Note: AU = Audited (No Credit Issued), CF = Completed/Failed, CP = Completed/Passed, I = Incomplete, OE = Ongoing Enrolled/Special Ed, TO = Testing Out, WE = Withdrawn/Exited, WF = Withdrawn/Failed, WP = Withdrawn/Passing

Completed/Passed Rates

Table 27. Completion Statuses for the Top 10 Michigan Supplemental (Non-Cyber) Secondary Virtual Course Enrollments in Life and Physical Sciences

Life & Physical Sciences Course Titles	2013-14 School Year										
	Enroll Count	Completion Status									Total
		AU	CF	CP	I	OE	TO	WE	WF	WP	
Biology	8,905	3%	17%	50%	15%	0%	0%	10%	2%	3%	100%
Chemistry	7,006	4%	13%	57%	11%	0%	0%	10%	1%	4%	100%
Earth Science	4,758	4%	11%	51%	14%	0%	0%	15%	1%	4%	100%
Physical Science	2,856	2%	21%	54%	12%	0%	0%	8%	1%	1%	100%
Physics	1,651	2%	10%	57%	10%	0%	0%	14%	2%	5%	100%
Environmental Science	1,216	7%	11%	54%	6%	0%	0%	8%	12%	3%	100%
Life and Physical Sciences—Other	1,162	1%	7%	59%	12%	0%	0%	19%	0%	2%	100%
Conceptual Physics	428	3%	16%	52%	9%	0%	0%	18%	2%	0%	100%
Integrated Science	394	7%	13%	64%	3%	0%	0%	11%	0%	1%	100%
Earth and Space Science	342	3%	17%	52%	12%	0%	0%	10%	1%	5%	100%
Total	**28,718**	**3%**	**14%**	**53%**	**12%**	**0%**	**0%**	**11%**	**2%**	**3%**	**100%**

Note: AU = Audited (No Credit Issued), CF = Completed/Failed, CP = Completed/Passed, I = Incomplete, OE = Ongoing Enrolled/Special Ed, TO = Testing Out, WE = Withdrawn/Exited, WF = Withdrawn/Failed, WP = Withdrawn/Passing

Table 28. Completion Statuses for the Top 10 Michigan Supplemental (Non-Cyber) Secondary Virtual Course Enrollments in Social Sciences and History

Social Sciences & History Course Titles	2013-14 School Year										
	Enroll Count	Completion Status									Total
		AU	CF	CP	I	OE	TO	WE	WF	WP	
U.S. History—Comprehensive	6,001	3%	16%	57%	11%	0%	0%	10%	2%	2%	100%
Economics	5,127	2%	12%	61%	11%	0%	0%	10%	2%	2%	100%
World History and Geography	5,083	4%	12%	51%	16%	0%	0%	14%	1%	1%	100%
U.S. Government—Comprehensive	3,277	5%	13%	58%	9%	0%	0%	11%	2%	3%	100%
World History—Overview	3,264	3%	18%	50%	15%	0%	0%	8%	1%	5%	100%
Psychology	2,264	3%	12%	67%	7%	0%	0%	7%	1%	2%	100%
Civics	2,214	2%	14%	56%	14%	0%	0%	9%	2%	3%	100%
Modern U.S. History	1,750	4%	15%	52%	12%	0%	0%	12%	1%	4%	100%
Sociology	1,661	3%	8%	69%	10%	0%	1%	6%	0%	3%	100%
Early U.S. History	753	3%	16%	36%	14%	0%	0%	26%	3%	2%	100%
Total	**31,394**	**3%**	**14%**	**56%**	**12%**	**0%**	**0%**	**11%**	**1%**	**3%**	**100%**

Note: AU = Audited (No Credit Issued), CF = Completed/Failed, CP = Completed/Passed, I = Incomplete, OE = Ongoing Enrolled/Special Ed, TO = Testing Out, WE = Withdrawn/Exited, WF = Withdrawn/Failed, WP = Withdrawn/Passing

Completed/Passed Rates

Table 29. Completion Statuses for the Top 10 Michigan Supplemental (Non-Cyber) Secondary Virtual Course Enrollments in Miscellaneous

Miscellaneous Course Titles	2013-14 School Year								
	Enroll Count	Completion Status							Total
		AU	CF	CP	I	WE	WF	WP	
Miscellaneous—Other	7,056	6%	14%	54%	8%	18%	0%	0%	100%
Miscellaneous—Independent Study	5,135	0%	24%	58%	8%	9%	0%	0%	100%
Career Exploration	3,336	1%	16%	62%	8%	8%	1%	4%	100%
Study Skills	2,974	6%	21%	64%	2%	5%	1%	2%	100%
Dropout Prevention Program	2,248	6%	21%	46%	4%	17%	3%	3%	100%
Life Skills	1,463	0%	4%	64%	6%	23%	1%	2%	100%
Employability Skills	1,244	4%	10%	68%	9%	7%	1%	1%	100%
Tutorial	1,211	0%	14%	55%	10%	19%	0%	2%	100%
State Test Preparation	805	0%	28%	28%	2%	5%	0%	37%	100%
Consumer Economics/Personal Finance	684	7%	7%	67%	6%	7%	3%	3%	100%
Total	**26,156**	**3%**	**17%**	**57%**	**7%**	**12%**	**1%**	**2%**	**100%**

Note: AU = Audited (No Credit Issued), CF = Completed/Failed, CP = Completed/Passed, I = Incomplete, WE = Withdrawn/Exited, WF = Withdrawn/Failed, WP = Withdrawn/Passing

Completed/Passed Rates

Not surprisingly, Virtual Learners taking AP courses virtually had a higher "Completed/Passed" rate than the Virtual Learner average of 57%. Seventy-nine percent of virtual AP enrollments earned a "Completed/Passed" status. However, this 79% rate is 9% below the AP "Completed/Passed" rate for Virtual Learners taking non-virtual versions of the same AP courses (See Table 31 on page 25).

Table 30. Completion Statuses for Virtual Learners in Their Virtual AP Courses

AP Course Titles	2013-14 School Year								
	Enroll Count	Completion Status							Total
		AU	CF	CP	I	WE	WF	WP	
AP Psychology	203	1%	14%	76%	4%	2%	1%	1%	100%
AP English Literature and Composition	150	0%	6%	87%	3%	3%	0%	0%	100%
AP Computer Science A	126	1%	13%	81%	4%	1%	0%	0%	100%
AP Macroeconomics	118	2%	6%	76%	3%	12%	1%	0%	100%
AP English Language and Composition	114	1%	2%	85%	5%	4%	2%	1%	100%
AP Statistics	114	0%	6%	86%	4%	2%	1%	2%	100%
AP Biology	96	14%	7%	71%	1%	2%	3%	2%	100%
AP Microeconomics	96	3%	5%	88%	1%	3%	0%	0%	100%
AP U.S. History	80	0%	13%	68%	3%	11%	5%	1%	100%
AP Calculus BC	72	3%	6%	83%	0%	7%	0%	1%	100%
AP U.S. Government and Politics	64	0%	6%	86%	2%	3%	0%	3%	100%
AP Calculus AB	60	0%	3%	85%	0%	8%	0%	3%	100%
AP Chemistry	60	10%	2%	82%	2%	3%	2%	0%	100%
AP Physics B	60	5%	7%	75%	0%	5%	2%	7%	100%
AP Spanish Language	53	26%	11%	55%	2%	6%	0%	0%	100%
AP Art—History of Art	45	0%	11%	78%	2%	4%	4%	0%	100%
AP Environmental Science	44	7%	7%	82%	0%	5%	0%	0%	100%
AP Physics C	31	13%	3%	84%	0%	0%	0%	0%	100%
AP French Language	26	15%	15%	42%	4%	19%	0%	4%	100%
AP Government	21	0%	10%	81%	5%	5%	0%	0%	100%
AP World History	18	6%	11%	61%	22%	0%	0%	0%	100%
AP European History	<10	0%	0%	100%	0%	0%	0%	0%	100%
AP German Language	<10	0%	17%	17%	67%	0%	0%	0%	100%
AP Human Geography	<10	17%	0%	83%	0%	0%	0%	0%	100%
AP Computer Science AB	<10	0%	0%	100%	0%	0%	0%	0%	100%
AP Music Theory	<10	0%	0%	100%	0%	0%	0%	0%	100%
AP Studio Art—General Portfolio	<10	0%	0%	100%	0%	0%	0%	0%	100%
AP Economics	<10	0%	0%	100%	0%	0%	0%	0%	100%
Total	**1,683**	**4%**	**8%**	**79%**	**3%**	**4%**	**1%**	**1%**	**100%**

Note: AU = Audited (No Credit Issued), CF = Completed/Failed, CP = Completed/Passed, I = Incomplete, WE = Withdrawn/Exited, WF = Withdrawn/Failed, WP = Withdrawn/Passing

Completed/Passed Rates

Table 31. Completion Statuses for Virtual Learners in Their Non-Virtual AP Courses

Social Sciences & History Course Titles	2013-14 School Year								
	Enroll Count	Completion Status							Total
		AU	CF	CP	I	WE	WF	WP	
AP Psychology	1,511	6%	4%	85%	0%	3%	0%	2%	100%
AP English Literature and Composition	3,099	4%	2%	90%	0%	2%	0%	2%	100%
AP Computer Science A	130	9%	5%	72%	0%	8%	0%	5%	100%
AP Macroeconomics	165	7%	2%	87%	0%	2%	0%	2%	100%
AP English Language and Composition	3,139	1%	3%	92%	0%	2%	0%	2%	100%
AP Statistics	1,302	7%	2%	84%	0%	3%	0%	3%	100%
AP Biology	144	7%	4%	85%	0%	2%	1%	1%	100%
AP Microeconomics	1,836	3%	3%	90%	0%	2%	0%	2%	100%
AP U.S. History	1,627	3%	3%	89%	0%	4%	0%	1%	100%
AP Calculus BC	712	4%	1%	93%	0%	1%	0%	1%	100%
AP U.S. Government and Politics	905	5%	5%	86%	0%	2%	0%	2%	100%
AP Calculus AB	374	5%	2%	90%	1%	0%	0%	2%	100%
AP Chemistry	1,251	5%	2%	89%	0%	1%	0%	2%	100%
AP Physics B	262	0%	2%	92%	0%	1%	0%	5%	100%
AP Spanish Language	2,283	3%	2%	90%	0%	2%	0%	2%	100%
AP Art—History of Art	334	0%	16%	54%	0%	11%	4%	14%	100%
AP Environmental Science	565	8%	2%	85%	0%	3%	0%	2%	100%
AP Physics C	225	2%	1%	93%	0%	0%	0%	4%	100%
AP French Language	36	0%	0%	97%	0%	3%	0%	0%	100%
AP Government	537	0%	3%	94%	0%	3%	0%	0%	100%
AP World History	627	0%	6%	91%	0%	2%	0%	1%	100%
AP European History	372	4%	3%	84%	0%	5%	0%	3%	100%
AP German Language	31	0%	10%	81%	0%	10%	0%	0%	100%
AP Human Geography	289	0%	4%	40%	55%	0%	0%	2%	100%
AP Computer Science AB	14	0%	14%	86%	0%	0%	0%	0%	100%
AP Music Theory	29	14%	0%	79%	0%	0%	0%	7%	100%
AP Studio Art—General Portfolio	269	12%	7%	75%	0%	3%	0%	2%	100%
AP Economics	95	0%	7%	91%	2%	0%	0%	0%	100%
Total	**22,163**	**4%**	**3%**	**88%**	**1%**	**2%**	**0%**	**2%**	**100%**

Table 32 looks at how "Completion/Passed" rates varied by locale. In the past two years, the highest percentage of "Completed/Passed" statuses were from students in rural schools, though rural showed a 7% decline for 2013-14. Drawing the conclusion that rural students are better suited for virtual learning, however, is not advisable. Other factors, such as the reason for taking the virtual course, the kinds of students encouraged to take a virtual course, or the supports these schools tend to provide are more likely factors in their increased performance.

Table 32. Percentage of "Completed/Passed" Michigan K-12 Virtual Course Enrollments by Locale and School Year

Locale	School Year		Year over Year
	2012-13	2013-14	% Comp/Passed
Rural	72%	65%	-7%
Town	58%	57%	-1%
Suburb	61%	56%	-5%
City	59%	53%	-6%
MISSING	53%	57%	+4%
Total	**60%**	**57%**	**-3%**

Completed/Passed Rates

Fifty-one percent of schools with virtual enrollments in 2013-14 had school-wide "Completed/Passed" rates of 70% or better (see Table 33). Clearly some schools are implementing models that work better than others do. It is not clear what specifically differs between successful and unsuccessful schools, but likely factors include the quality of course content, the skill of the online instructor (if there even is one within the course), the readiness of students selected for virtual learning, and the wrap-around supports schools use to nurture their virtual learners.

Table 33. Count and Percentages of Entities by School "Completed/Passed" Rate Categories and School Year

School "Completed/ Passed" Rate	School Year				Year over Year	
	2012-13		2013-14			
	# of Entities	% of Entities	# of Entities	% of Entities	# of Entities	% of Entities
0% to <10%	86	9%	91	9%	+5	0%
10% to <20%	35	4%	38	4%	+3	0%
20% to <30%	34	4%	50	5%	+16	+1%
30% to <40%	54	6%	68	7%	+14	+1%
40% to <50%	51	6%	72	7%	+21	+1%
50% to <60%	90	10%	75	7%	-15	-3%
60% to <70%	94	10%	89	9%	-5	-1%
70% to <80%	78	9%	113	11%	+35	+2%
80% to <90%	113	12%	125	12%	+12	0%
90% to 100%	271	30%	286	28%	+15	-2%
Total	**906**	**100%**	**1,007**	**100%**	**101**	**0%**

Table 34 shows how school-wide "Completed/Passed" rates for virtual enrollments varied by locale.

Table 34. Percentages of Schools by School "Completed/Passed" Rate Categories, School Year, and Locale

School "Completed/ Passed" Rate	School Year								Year over Year % of Entities			
	2012-13				2013-14							
	Rural	Town	Sub	City	Rural	Town	Sub	City	Rural	Town	Sub	City
0% to <20%	11%	12%	12%	10%	8%	11%	13%	20%	-3%	-1%	1%	10%
20% to <40%	9%	10%	10%	10%	9%	13%	12%	14%	0%	3%	2%	4%
40% to <60%	13%	19%	17%	17%	17%	13%	13%	11%	4%	-6%	-4%	-6%
60% to <80%	20%	19%	18%	24%	21%	24%	21%	18%	1%	5%	3%	-6%
80% to 100%	47%	39%	43%	39%	45%	40%	41%	38%	-2%	1%	-2%	-1%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**0%**	**0%**	**0%**	**0%**

Completed/Passed Rates

One of the areas where schools appear to struggle is supporting students who take a large percentage of virtual courses. Table 35 shows how the average number of virtual enrollments per virtual learner is related to schools' "Completed/Passed" rates. About 37% of the low ratio schools (schools with an average of one to two virtual courses per virtual learner) for the 2013-14 school year had a "Completed/Passed" rate of 90% to 100%. Only 21% of schools with medium ratios (average of three to four virtual courses per virtual learner) and high ratios (average of more than four virtual courses per virtual learner) achieved the 90% to 100% rate.

Table 35. Percentage of Schools by School "Completed/Passed" Rates, School Year, and Virtual Usage

School "Completed/ Passed" Rate	School Year						Year over Year		
	2012-13			2013-14					
	Low	Med	High	Low	Med	High	Low	Med	High
0% to <10%	11%	7%	8%	11%	7%	9%	0%	0%	1%
10% to <20%	2%	4%	9%	2%	5%	6%	0%	1%	-3%
20% to <30%	2%	7%	4%	2%	5%	10%	0%	-2%	+6%
30% to <40%	3%	8%	10%	4%	8%	11%	+1%	0%	1%
40% to <50%	2%	9%	12%	4%	12%	8%	+2%	+3%	-4%
50% to <60%	8%	14%	10%	6%	8%	9%	-2%	-6%	-1%
60% to <70%	10%	11%	11%	9%	7%	11%	-1%	-4%	0%
70% to <80%	10%	7%	5%	13%	11%	9%	+3%	+4%	+4%
80% to <90%	14%	10%	10%	14%	15%	6%	0%	+5%	-4%
90% to 100%	38%	22%	18%	37%	21%	21%	-1%	-1%	3%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**0%**	**0%**	**0%**

Note: Schools with a virtual-course-to-virtual-student ratio of two or less were classified as "Low." Schools with a ratio greater than two but less than or equal to four were classified as "Medium," and schools with ratios greater than four were classified as "High."

The idea of some schools doing really well or really poorly is mirrored when looking at students. Table 36 below looks at Virtual Learners from the *MVS* and Local virtual subsets. These subsets typically represent virtual learners who took some of their courses virtually and some non-virtually. What we see in this table is that about 65% of these virtual learners passed their course when they took only one virtual course and 57% passed both their courses when they took two virtual courses. This declining trend flattened out at around 30% of virtual learners in these two subsets passing all of their virtual courses regardless of whether they took five to 12 virtual courses in the year. On the other hand, about 30% of virtual students in these two subsets failed all of their virtual courses when they took between one and five virtual courses and of those who took eight or more courses, about 10% to 20% failed all of their virtual courses.

Table 36. Percent of *MVS* and Local Virtual Subsets Passing All or None of Their Virtual Courses by Virtual Course Count

# of Virtual Courses per Student	School Year	
	2013-14	
	% Passing All	% Passing None
1 Virtual Course (n = 24,415)	65%	34%
2 Virtual Courses (n = 16,006)	57%	28%
3 Virtual Courses (n = 6,160)	42%	27%
4 Virtual Courses (n = 4,891)	42%	27%
5 Virtual Courses (n = 2,711)	33%	30%
6 Virtual Courses (n = 3,234)	24%	40%
7 Virtual Courses (n = 1,755)	29%	25%
8 Virtual Courses (n = 1,346)	30%	20%
9 Virtual Courses (n = 1,015)	29%	15%
10 Virtual Courses (n = 952)	30%	20%
11 Virtual Courses (n = 702)	31%	13%
12 Virtual Courses (n = 1,399)	28%	21%

Note: Students with more than 12 virtual courses for the 2013-14 were excluded from the table; however their trends continued the flattened-out pattern.

Completed/Passed Rates

Table 37 reaffirms this pattern, but also includes data on Virtual Learners from the *MVS* and Local virtual subsets who neither passed all nor failed all of their courses. On average, students had the highest "Completed/Passed" rates in their virtual courses when they took one to two virtual courses in a year (categorized as "Low" use). Students who took five or more virtual courses in a year (categorized as "High" use) tended to have lower "Completed/Passed" rates (see Table 37).

Table 37. Percentage of "Completed/Passed" Rates for *MVS* and Local Virtual Subsets by School Year and Virtual Usage

Student Level of Virtual Usage	School Year				Year over Year	
	2012-13		2013-14			
	# of Enrolls	% Comp/Passed	# of Enrolls	% Comp/Passed	#of Enroll	% Comp/Passed
Low	44,634	68%	56,427	65%	+26%	-3%
Medium	31,182	59%	38,038	58%	+22%	-1%
High	94,862	55%	140,156	56%	+48%	+1%
Total	**170,678**	**59%**	**234,621**	**57%**	**+37%**	**-2%**

Note: "Low" usage was classified as students taking two or fewer virtual courses in a school year. "Medium" usage was classified as students taking three to four virtual courses in a school year. "High" usage was classified as students taking more than five virtual courses in a school year.

The 57% "Completed/Passed" rate from virtual enrollments fluctuated by grade level (see Table 38). Elementary and middle school grade levels tended to have "Completed/Passed" rates that hovered in the high 60s or low 70s. Virtual enrollments from students in ninth grade had the poorest performance with a 44% "Completed/Passed" rate. Sophomores and juniors had rates of 51% and 55%, respectively, with 12th graders having the highest performance of the high school grades with 61%. See Tables 39 and 40 to compare how grade level "Completed/Passed" rates varied by Virtual Learners in their non-virtual courses and Non-Virtual Learners.

Table 38. Count and Percentage of "Completed/Passed" by Grade Level for Virtual Learners in Their Virtual Courses

Grade Level	School Year				Year over Year
	2012-13		2013-14		
	# of Enrolls	% Comp/Pass	# of Enrolls	% Comp/Pass	% Comp/Pass
K	541	91%	5,070	76%	-15%
1	682	87%	4,003	73%	-14%
2	1,037	94%	4,579	67%	-27%
3	1,193	90%	4,928	68%	-22%
4	1,176	92%	6,588	69%	-23%
5	1,511	92%	6,545	69%	-23%
6	3,170	77%	8,731	66%	-11%
7	4,868	70%	12,174	68%	-2%
8	7,267	72%	16,001	65%	-7%
9	23,262	47%	42,029	44%	-3%
10	40,604	52%	59,759	51%	-1%
11	38,111	60%	58,493	55%	-5%
12	61,631	65%	90,730	61%	-4%
Total	**185,053**	**60%**	**319,630**	**57%**	**-3%**

Completed/Passed Rates

Table 39. Count and Percentage of "Completed/Passed" by Grade Level for Virtual Learners in Their Non-Virtual Courses

	School Year 2013-14	
Grade Level	# of Enrolls	% Comp/Pass
K	1,850	79%
1	743	70%
2	1,118	56%
3	1,386	75%
4	2,095	82%
5	2,889	73%
6	13,897	81%
7	22,038	78%
8	37,637	77%
9	92,321	63%
10	150,698	67%
11	151,254	72%
12	215,040	75%
Total	**692,966**	**71%**

Table 40. Count and Percentage of "Completed/Passed" by Grade Level for Non-Virtual Learners

	School Year 2013-14	
Grade Level	# of Enrolls	% Comp/Pass
K	835,459	92%
1	864,624	94%
2	890,549	94%
3	931,595	94%
4	986,445	95%
5	1,041,230	95%
6	1,431,265	92%
7	1,573,399	90%
8	1,546,867	89%
9	1,585,301	84%
10	1,490,998	85%
11	1,246,004	86%
12	1,095,732	82%
Total	**15,519,468**	**89%**

Completed/Passed Rates

Like 2012-13, the "Completed/Passed" rates for males and females in 2013-14 were similar with males having a 57% "Completed/Passed" rate and females a 58% "Completed/Passed" rate (see Table 41).

Table 41. Count and Percentage of Michigan K-12 Virtual Course Enrollments by Completion Status, School Year, and Gender

	School Year								Year over Year			
	2012-13				2013-14							
Completion Status	#M	#F	%M	%F	#M	#F	%M	%F	#M	#F	%M	%F
Audited (No Credit Issued)	4,685	4,071	5%	5%	3,902	3,720	2%	2%	-783	-351	-3%	-3%
Completed/Failed	13,196	10,448	14%	12%	25,924	24,202	16%	15%	+12,728	+13,754	+2%	+3%
Completed/Passed	57,333	54,478	60%	61%	91,324	91,686	57%	58%	+33,991	+37,208	-3%	-3%
Incomplete	7,718	7,753	8%	9%	12,793	11,830	8%	7%	+5,075	+4,077	0%	-2%
Ongoing Enrolled/Special Ed	0	0	0%	0%	15	11	0%	0%	+15	+11	0%	0%
Testing Out	46	47	0%	0%	69	52	0%	0%	+23	+5	0%	0%
Withdrawn/Exited	8,419	7,656	9%	9%	13,431	11,960	8%	8%	+5,012	+4,304	-1%	-1%
Withdrawn/Failing	1,682	1,365	2%	2%	8,784	9,030	5%	6%	+7,102	+7,665	+3%	+4%
Withdrawn/Passing	3,158	2,998	3%	3%	5,268	5,629	3%	4%	+2,110	+2,631	0%	1%
Total	**96,237**	**88,816**	**100%**	**100%**	**161,510**	**158,120**	**100%**	**100%**	**+65,273**	**+69,304**	**0%**	**0%**

"Completed/Passed" rates varied by race/ethnicity. "Asian" students had the highest "Completed/Passed" rate for their virtual courses at 67% whereas "American Indian or Alaska Native" students as well as students of "Unknown" race had the lowest "Completed/Passed" rates at 52% (see Table 42). Caution is recommended in drawing conclusions from this data about one race or another being "more successful" virtual learners. Differences such as the types of courses taken, the reasons the courses were taken, the local support provided to the student, etc., are likely factors in "Completed/Passed" rates and are not accounted for in the table.

Table 42. Completion Statuses by Race/Ethnicity for Virtual Learners in Their Virtual Courses

	School Year							
	2013-14							
Completion Status	Am. Indian or Alaska Native	Asian	African American	Nat. Hawaiian or Pacific Islander	White	Hispanic or Latino	2 or More Races	Unknown
Audited (No Credit Issued)	1%	2%	4%	2%	2%	2%	1%	5%
Completed/Failed	16%	11%	16%	10%	16%	16%	20%	7%
Completed/Passed	52%	67%	52%	58%	58%	60%	56%	52%
Incomplete	10%	5%	7%	5%	8%	7%	5%	26%
Ongoing Enrolled/Special Ed	0%	0%	0%	0%	0%	0%	0%	0%
Testing Out	1%	0%	0%	0%	0%	0%	0%	0%
Withdrawn/Exited	13%	4%	10%	7%	7%	8%	7%	4%
Withdrawn/Failing	5%	5%	6%	10%	6%	5%	7%	3%
Withdrawn/Passing	3%	6%	4%	9%	3%	3%	3%	2%
Total	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**	**100%**

Completed/Passed Rates

While "Completed/Passed" rates did not differ by gender, the data indicate that students who were identified as living in poverty did not perform as well as their non-poverty peers. In the 2013-14 data, 64% of the virtual enrollments from students not flagged as living in poverty achieved the completion status of "Completed/Passed" whereas only 53% of the virtual enrollments from students flagged as living in poverty achieved the same completion status (see Table 43).

Table 43. Completion Status by Poverty Status for Virtual Learners in Their Virtual Courses

	School Year				Year over Year	
	2012-13		2013-14			
Completion Status	%Yes	%No	%Yes	%No	%Yes	%No
Audited (No Credit Issued)	5%	4%	2%	3%	-3%	-1%
Completed/Failed	15%	11%	18%	13%	+3%	+2%
Completed/Passed	52%	66%	53%	64%	+1%	-2%
Incomplete	10%	7%	8%	7%	-2%	0%
Ongoing Enrolled/Special Ed	-	-	0%	0%	NA	NA
Testing Out	0%	0%	0%	0%	0%	0%
Withdrawn/Exited	11%	7%	9%	7%	-2%	0%
Withdrawn/Failing	2%	1%	7%	3%	+5%	+2%
Withdrawn/Passing	4%	3%	4%	3%	0%	0%
Total	**100%**	**100%**	**100%**	**100%**	**0%**	**0%**

Note: The "%Yes" column presents data on enrollments from students living in poverty. The "%No" column presents data on enrollments from students who were not living in poverty. Because their poverty status was unknown, 2,928 virtual enrollments were excluded from the 2013-14 school year.

This discrepancy suggests that there remains much to do to realize the potential of virtual learning to help reduce the effects of poverty on learning outcomes. However, the gap for Virtual Learners in their non-virtual courses was even larger: Virtual Learners in poverty had a 14% lower "Completed/Passed" rate in their non-virtual courses than Virtual Learners who were not in poverty.

Table 44. Completion Status by Poverty Status for Virtual Learners in Their Non-Virtual Courses

	School Year				Year over Year	
	2012-13		2013-14			
Completion Status	%Yes	%No	%Yes	%No	%Yes	%No
Audited (No Credit Issued)	3%	3%	2%	4%	-1%	+1%
Completed/Failed	20%	11%	16%	8%	-4%	-3%
Completed/Passed	62%	77%	64%	80%	+2%	+3%
Completed/Special Ed Only	0%	0%	-	-	NA	NA
Incomplete	2%	1%	2%	1%	0%	0%
Ongoing Enrolled/Special Ed	0%	0%	0%	0%	0%	0%
Testing Out	0%	0%	0%	0%	0%	0%
Withdrawn/Exited	10%	5%	12%	5%	+2%	0%
Withdrawn/Failing	2%	1%	1%	0%	-1%	-1%
Withdrawn/Passing	3%	2%	3%	3%	0%	+1%
Total	**100%**	**100%**	**100%**	**100%**	**0%**	**0%**

Note: The "%Yes" column presents data on enrollments from students living in poverty. The "%No" column presents data on enrollments from students who were not living in poverty. Because their poverty status was unknown, 5,117 non-virtual enrollments were excluded from the 2013-14 school year.

Completed/Passed Rates

Non-Virtual Learners also showed a drop (-9%) for students living in poverty (see Table 45).

Table 45. Completion Status by Poverty Status for Non-Virtual Learners

Completion Status	School Year 2013-14 %Yes	%No
Audited (No Credit Issued)	1%	2%
Completed/Failed	6%	2%
Completed/Passed	86%	93%
Incomplete	1%	0%
Ongoing Enrolled/Special Ed	0%	0%
Testing Out	0%	0%
Withdrawn/Exited	5%	2%
Withdrawn/Failing	0%	0%
Withdrawn/Passing	1%	1%
Total	**100%**	**100%**

Note: The "%Yes" column presents data on enrollments from students living in poverty. The "%No" column presents data on enrollments from students who were not living in poverty. Because their poverty status was unknown, 52,443 non-virtual enrollments were excluded from the 2013-14 school year.

Like poverty level, students identified as seat time waiver students – which lifts the requirement for them to be physically in attendance at the school facility and lifts the cap on the number of online courses a student can take – experienced lower levels of success as measured by the "Completed/Passed" rate. Fifty-five percent of virtual enrollments from seat time waiver students in the 2013-14 school year yielded a completion status of "Completed/Passed" compared with 58% from non-seat time waiver students (see Table 46). This gap closed considerably in 2013-14 over what was seen in 2012-13. The closing of the gap occurred both because of increased performance from seat time waiver students taking virtual courses and because of decreased performance from non-seat time waiver students taking virtual courses.

Table 46. Percentage of Michigan K-12 Virtual Course Enrollments by Completion Status, School Year, and Seat Time Waiver Status

Completion Status	School Year 2012-13 %Yes	%No	2013-14 %Yes	%No	Year over Year %Yes	%No
Audited (No Credit Issued)	4%	5%	3%	2%	-1%	-3%
Completed/Failed	12%	13%	15%	16%	+3%	+3%
Completed/Passed	48%	65%	55%	58%	+7%	-7%
Incomplete	18%	5%	15%	5%	-3%	0%
Ongoing Enrolled/Special Ed	-	-	0%	0%	NA	NA
Testing Out	0%	0%	0%	0%	0%	0%
Withdrawn/Exited	15%	6%	10%	7%	-5%	+1%
Withdrawn/Failing	1%	2%	1%	7%	0%	+5%
Withdrawn/Passing	2%	4%	1%	4%	-1%	0%
Total	**100%**	**100%**	**100%**	**100%**	**0%**	**0%**

Note: Because their seat time waiver status was unknown, 2,928 virtual enrollments were excluded from the 2013-14 school year.

Completed/Passed Rates

While completion status data provide another lens for understanding virtual learning, the Michigan Merit Exam (MME) and ACT provide external measures that offer another perspective. Table 47 below shows the percentages of virtual learners who tested proficient on the various subjects of the 2014 MME – an annual exam administered to high school juniors in the spring – and compares those percentages to the statewide averages for all Michigan juniors. For each MME subject, the percentage of virtual learners testing proficient was below the state average by 10% or more. Writing had the largest difference with virtual learners 16.8% below the state average, and Science had the smallest difference at 10.3%.

Table 47. Percentage Proficient on Each MME Subject for Virtual Learners and the State

MME Subject	School Year 2013-14		Virtual Learner Difference
	Virtual Learners	State Average	
Reading	45.6%	58.7%	-13.1%
Writing	34.0%	50.8%	-16.8%
Social Studies	30.9%	43.9%	-13.0%
Mathematics	16.7%	28.8%	-12.1%
Science	18.1%	28.4%	-10.3%

The ACT data paint a similar picture. Table 48 below shows the percentages of virtual learners who met or exceeded the ACT college readiness benchmarks on the various subjects of the ACT and compares those percentages to the statewide averages for all students. Again, each subject showed a lower percentage of virtual learners reaching the benchmark compared to the state average. English had the largest difference with virtual learners 16.6% below the state average and Science had the smallest difference at 3.5%.

Table 48. Percentage Meeting/Exceeding ACT College Readiness Benchmarks per Subject for Virtual Learners and the State

ACT Subject	School Year 2013-14		Virtual Learner Difference
	Virtual Learners	State Average	
English	40.2%	56.8%	-16.6%
Reading	27.3%	42.0%	-14.7%
Mathematics	18.7%	32.1%	-13.4%
Science	19.5%	23.5%	-3.5%
College and Career Readiness (All Subjects)	11.8%	17.8%	-6.0%

Despite clear differences between virtual learners and the average Michigan student, the data do not tell us what accounts for the underperformance or even what impact the virtual learning aspect of virtual enrollments plays in these data. Consider, for instance, that some virtual learners only took a single virtual course for the year – and some not even in a subject tested – whereas others took several virtual courses in the year – even multiple in a subject tested. Some had taken virtual courses in previous years; others took their first virtual course this year.

Completed/Passed Rates

Some students were seat time waiver students whereas others were not. Table 49 below shows how seat time waiver students performed compared to non-seat time waiver students. In all ACT subjects, the percentage of non-seat time waiver students who met or exceeded the ACT college readiness benchmarks was about 10% higher or more than it was for seat time waiver students, and the percentage of students who met or exceeded the ACT college readiness benchmarks in all four ACT subjects was 8.5% lower for seat time waiver students than it was for non-seat time waiver students.

Table 49. Percentage Meeting or Exceeding ACT College Readiness Benchmarks per Subject for Virtual Learners by Seat Time Waiver Status

ACT Subject	School Year 2013-14			STW Difference
	Virt Learners (STW)	Virt Learners (Not STW)	All Virtual Learners	
English	28.3%	41.7%	40.2%	-13.4%
Reading	18.6%	28.3%	27.3%	-9.7%
Mathematics	7.8%	20.0%	18.7%	-12.2%
Science	10.1%	20.6%	19.5%	-10.5%
College and Career Readiness (All Subjects)	4.2%	12.7%	11.8%	-8.5%

Note: Some students were reported by more than one entity and with conflicting information about the student's seat time waiver status. For the purposes of this table, a student was counted as a seat time waiver student if any entity reported the student as such. Included in the Virt Learners (STW) column were 1,543 students; 12,390 students were included in the Virt Learners (Non-STW) column.

While there was clear variation for virtual learners based on seat time waiver status, there were even bigger differences based on poverty status. Table 50 below shows how virtual learners in poverty performed compared to virtual learners not in poverty. In all ACT subjects, the percentage of virtual learners not in poverty who met or exceeded the ACT college readiness benchmarks was 20% higher or more than it was for virtual learners in poverty. The percentage of virtual learners who met or exceeded the ACT college readiness benchmarks in all four ACT subjects was 16.1% lower for virtual learners in poverty than it was for virtual learners not in poverty.

Table 50. Percentage Meeting or Exceeding ACT College Readiness Benchmarks per Subject for Virtual Learners by Poverty Status

ACT Subject	School Year 2013-14			Poverty Difference
	Virt Learners (In Poverty)	Virt Learners (Not in Poverty)	All Virtual Learners	
English	27.0%	55.4%	40.2%	-28.4%
Reading	15.9%	40.4%	27.3%	-24.5%
Mathematics	9.0%	29.8%	18.7%	-20.8%
Science	9.5%	31.0%	19.5%	-21.5%
College and Career Readiness (All Subjects)	4.3%	20.4%	11.8%	-16.1%

Note: Some students were reported by more than one entity and with conflicting information about the student's poverty status. For the purposes of this table, a student was counted as in poverty if any entity reported the student as such. Included in the Virt Learners (In Poverty) column were 7,491 students; 6,442 students were included in the Virt Learners (Not in Poverty) column.

Completed/Passed Rates

One last example to highlight the difficult nature of interpreting the data can be seen by looking at the variation that existed by virtual subset. The percentage of students who took at least one virtual course with *MVS* always exceeded the statewide average – sometimes by more than 20% for an ACT subject – whereas virtual enrollments from the Cyber and Local subsets fell below the state average for every ACT subject (see Table 51).

Table 51. Percentage Meeting or Exceeding ACT College Readiness Benchmarks per Subject for Virtual Learners and the State by Virtual Subset

ACT Subject	School Year 2013-14			
	Cyber	MVS	Local	State Av.
English	47.6%	73.8%	34.5%	56.8%
Reading	31.3%	55.8%	22.6%	42.0%
Mathematics	15.7%	50.0%	13.7%	32.1%
Science	18.4%	48.5%	14.9%	23.5%
College and Career Readiness (All Subjects)	7.8%	35.6%	8.1%	17.8%

Note: Some students had virtual enrollments across multiple virtual subsets. For the purposes of this table, a student is counted in each virtual subset in which the student had a virtual enrollment; therefore, a student may appear on more than one virtual subset. Included in the Cyber column were 521 students, 1,840 in the MVS column, and 11,617 in the Local column.

Given other aspects of this report, it seems more likely that these performance differences are more attributable to the kinds of students who are provided opportunities or who choose between these different virtual options, the readiness of students for virtual learning, the entry-level subject proficiency or lack thereof with which students begin their virtual courses, the reason the student takes the course virtually as opposed to in a traditional mode (if that option existed for the student), and even the local support or family supports available to virtual learners. Whatever combination of factors it is, however, the bottom line is that too many Michigan students are not being adequately educated through existing virtual learning options.

Overall Impact

OVERALL IMPACT

In 2013-14, the percentage of pupils in each of grades K-5 reported to have taken a virtual course remained below 1%, but middle school students (grades 6-8) exceed 1%, with 7th and 8th graders both over 2%. Students in 10th and 11th grade surpassed double-digit percentages of students taking virtual courses, and about 20% of high school seniors took one or more virtual courses. This rate is up 5% over the previous year (see Table 52).

Table 52. Percentage of Michigan K-12 Students Taking a Virtual Course by Grade Level and School Year

Grade Level	School Year						Year over Year
	2012-13			2013-14			
	Virtual	All*	%	Virtual	All*	%	%
K	175	122,496	**0.14%**	725	117,943	**0.61%**	+0.47%
1	199	113,047	**0.18%**	472	113,337	**0.42%**	+0.24%
2	273	110,939	**0.25%**	521	111,901	**0.47%**	+0.22%
3	206	113,332	**0.18%**	582	110,437	**0.53%**	+0.35%
4	213	112,068	**0.19%**	656	113,420	**0.58%**	+0.39%
5	291	112,720	**0.26%**	816	112,175	**0.73%**	+0.47%
6	744	116,465	**0.64%**	1,844	113,459	**1.63%**	+0.99%
7	1,155	118,538	**0.97%**	2,412	117,440	**2.05%**	+1.08%
8	2,259	117,640	**1.92%**	3,531	118,441	**2.98%**	+1.06%
9	7,661	128,118	**5.98%**	10,044	126,849	**7.92%**	+1.94%
10	12,101	128,153	**9.44%**	15,597	127,820	**12.20%**	+2.76%
11	12,061	117,464	**10.27%**	15,536	116,283	**13.36%**	+3.09%
12	18,286	118,907	**15.38%**	23,953	116,866	**20.50%**	+5.12%

Note: Because some students took courses across multiple grade levels for a single year, an individual student may be counted toward more than one grade level for a given school year. Total headcount data was obtained from the MI School Data website (https://www.mischooldata.org/).

As a percentage of overall enrollments, virtual enrollments represented about 2% of the enrollments in the state in 2013-14, a gain of about .8%. The pattern of continued growth over the past several years continues (see Table 53).

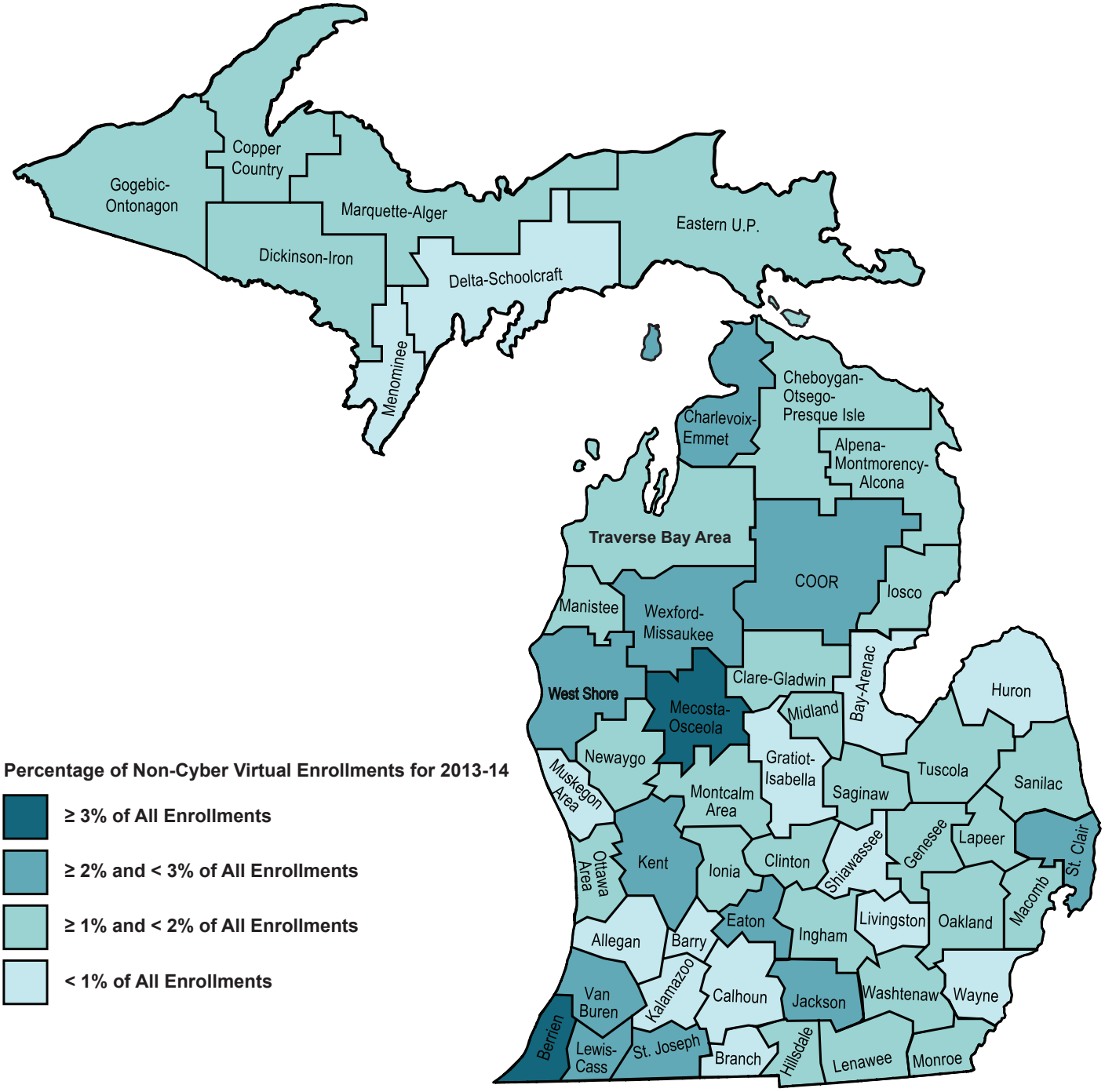
Table 53. Percentage of Michigan K-12 Virtual Enrollments by School Year

School Year	Virtual Enrollments	All Enrollments	% Virtual
2010-11	89,921	14,439,944	0.62%
2011-12	153,583	16,371,977	0.94%
2012-13	185,053	16,780,152	1.10%
2013-14	319,630	16,532,064	1.93%

Overall Impact

Figure 1 depicts how virtual enrollments vary by ISD across the state.

Figure 1. Percentage of Michigan K-12 Virtual Enrollments by ISD



Overall Impact

Virtual enrollments only represented about 2% of all K-12 enrollments in Michigan during the 2013-14 school year. Of the core subject areas, Mathematics had the highest percentage of virtual enrollments with 2.56%, followed by Social Sciences and History (2.49%), English Language and Literature (2.22%) and Life and Physical Sciences (2.13%). Subject areas with the highest rate of virtual enrollments were Public, Protective, and Government Services (6.93%) and Health Care Sciences (6.40%) (see Table 54).

Table 54. Percentage of Michigan K-12 Virtual Enrollments Compared to All Michigan K-12 Enrollments by Subject Area

	School Year 2013-14		
Subject Area	**Virtual**	**All**	**% of Enrolls**
Agriculture, Food, and Natural Resources	39	9,745	0.40%
Architecture and Construction	53	30,300	0.17%
Business and Marketing	3,142	117,894	2.67%
Communication and Audio/Visual Technology	1,433	86,204	1.66%
Computer and Information Sciences	10,037	457,664	2.19%
Engineering and Technology	477	80,203	0.59%
English Language and Literature	66,730	3,005,359	2.22%
Fine and Performing Arts	14,782	1,919,900	0.77%
Foreign Language and Literature	11,677	749,956	1.56%
Health Care Sciences	1,250	19,539	6.40%
Hospitality and Tourism	215	9,711	2.21%
Human Services	231	14,690	1.57%
Life and Physical Sciences	44,643	2,097,450	2.13%
Manufacturing	11	49,492	0.02%
Mathematics	58,501	2,281,971	2.56%
Military Science	10	13,338	0.07%
Miscellaneous	32,827	912,991	3.60%
Nonsubject Specific	2,090	1,129,884	0.18%
Physical, Health, and Safety Education	17,442	1,375,577	1.27%
Public, Protective, and Government Services	457	6,598	6.93%
Religious Education and Theology	26	1,030	2.52%
Social Sciences and History	53,514	2,147,987	2.49%
Transportation, Distribution and Logistics	43	14,581	0.29%
Total	**319,630**	**16,532,064**	**1.93%**

Overall Impact

Males (51%) and females (49%) enrolled in virtual courses at about the same rate in 2013-14 though there was some variability by grade level. For instance, the elementary grades saw higher percentages of virtual enrollments come from males than females, but the high school grades were fairly balanced (see Table 55).

Table 55. Count and Percentage of Michigan K-12 Virtual Enrollments by Grade Level, School Year, and Gender

Grade Level	School Year										Year over Year				
	2012-13					2013-14									
	#M	#F	Total	%M	%F	#M	#F	Total	%M	%F	#M	#F	Total	%M	%F
K	287	254	541	53%	47%	2,621	2,449	5,070	52%	48%	+2,334	+2,195	+4,529	-1%	+1%
1	351	331	682	51%	49%	2,007	1,996	4,003	50%	50%	+1,656	+1,665	+3,321	-1%	+1%
2	588	449	1,037	57%	43%	2,398	2,181	4,579	52%	48%	+1,810	+1,732	+3,542	-5%	+5%
3	662	531	1,193	55%	45%	2,710	2,218	4,928	55%	45%	+2,048	+1,687	+3,735	0%	0%
4	585	591	1,176	50%	50%	3,598	2,990	6,588	55%	45%	+3,013	+2,399	+5,412	+5%	-5%
5	787	724	1,511	52%	48%	3,268	3,277	6,545	50%	50%	+2,481	+2,553	+5,034	-2%	+2%
6	1,639	1,531	3,170	52%	48%	4,796	3,935	8,731	55%	45%	+3,157	+2,404	+5,561	+3%	-3%
7	2,594	2,274	4,868	53%	47%	6,580	5,594	12,174	54%	46%	+3,986	+3,320	+7,306	+1%	-1%
8	3,985	3,282	7,267	55%	45%	8,035	7,966	16,001	50%	50%	+4,050	+4,684	+8,734	-5%	+5%
9	12,674	10,588	23,262	54%	46%	21,882	20,147	42,029	52%	48%	+9,208	+9,559	+18,767	-2%	+2%
10	20,773	19,831	40,604	51%	49%	30,015	29,744	59,759	50%	50%	+9,242	+9,913	+19,155	-1%	+1%
11	19,212	18,899	38,111	50%	50%	28,383	30,110	58,493	49%	51%	+9,171	+11,211	+20,382	-1%	+1%
12	32,100	29,531	61,631	52%	48%	45,217	45,513	90,730	50%	50%	+13,117	+15,982	+29,099	-2%	+2%
Total	**96,237**	**88,816**	**185,053**	**52%**	**48%**	**161,510**	**158,120**	**319,630**	**51%**	**49%**	**+65,273**	**+69,304**	**+134,577**	**-1%**	**1%**

Of the 76,122 virtual learners in Michigan during the 2013-14 school year, 66% were White and 20% were African American; no other race accounted for at least 10% of the students. A correspondingly similar percentage of the virtual enrollments were attributed to students of each race (see Table 56). According to the public data available through the MI School Data website (https://www.mischooldata.org), 68.28% of all students in the state for the 2013-14 school year were White and 18.34% were African American.

Table 56. Percentage of Virtual Learners and Virtual Enrollments by Race for 2013-14 School Year

Race	School Year 2013-14	
	% of Virtual Learners	% of Virtual Enrollments
American Indian or Alaska Native	1%	1%
Asian	2%	1%
African American	20%	20%
Native Hawaiian or Pacific Islander	0%	0%
White	66%	65%
Hispanic or Latino	7%	8%
Two or More Races	3%	4%
Unknown	1%	1%
Total	**100%**	**100%**

Completed/Passed Rates

Sixty-four percent of virtual enrollments for the 2013-14 school year came from students living in poverty. That means over 200,000 virtual enrollments came from students living in poverty. This rate of poverty for virtual enrollments was 16% higher than the 48% statewide average for all enrollments (virtual and non-virtual) during the same time period (see Table 57).

Table 57. Michigan K-12 Virtual Enrollments by Grade Level, School Year, and Poverty Percentage

Grade Level	School Year 2013-14	
	Virtual Pupils	MI Pupils
K	61%	53%
1	70%	55%
2	70%	54%
3	68%	53%
4	68%	51%
5	66%	50%
6	66%	50%
7	66%	49%
8	63%	47%
9	71%	47%
10	68%	44%
11	62%	40%
12	58%	37%
Total	**64%**	**48%**

Note: The percentage of total MI pupils in poverty per grade level were calculated from fall free and reduced lunch count data available publicly from https://www.mischooldata.org/Other/DataFiles/StudentCounts/HistoricalFreeAndReducedLunchCounts.aspx. Because their poverty status was unknown, 2,928 virtual enrollments were excluded from the 2013-14 school year.

For the 2012-13 school year, approximately 23% of the virtual courses were taken by seat time waiver students (see Table 58).

Table 58. Count and Percentage of Michigan K-12 Virtual Enrollments by Seat Time Waiver Status and School Year

Seat Time Waiver Status	2012-13		2013-14		Year over Year	
	# of Enrolls	% of Enrolls	# of Enrolls	% of Enrolls	# of Enrolls	% of Enrolls
Yes	49,440	27%	73,133	23%	23,693	-4%
No	135,613	73%	243,569	77%	107,956	4%
Total	**185,053**	**100%**	**316,702**	**100%**	**131,649**	**0%**

Note: Because their seat time waiver status was unknown, 2,928 virtual enrollments were excluded from the 2013-14 school year.

Finally, the number of educational entities that had students who took a virtual course in 2013-14 continued to grow (see Table 59). Twenty-nine percent of Michigan K-12 educational entities had students who took at least one virtual course. Based on the observed grade level differences, the percentage of high school entities would likely be higher than this figure, whereas the percentage for elementary entities would likely be lower. Since the 2010-11 school year, this represents an 11% increase in the number of schools with virtual learners.

Table 59. Count of Michigan K-12 Educational Entities with Virtual Coursework

School Year	# of Entities	# of MI Entities	% of Entities
2010-11	654	3,656	18%
2011-12	850	3,625	23%
2012-13	906	3,748	24%
2013-14	1,007	3,497	29%

Note: Some enrollments from 2011-12 and 2012-13 school years did not have district codes or building codes. Therefore, the number of entities for these years are under-reported.

Conclusion

CONCLUSION

As has been the trend in Michigan and across the country, virtual learning continued at an accelerating pace in the 2013-14 school year. Whether it be the number of students taking virtual courses, the total number of virtual enrollments taken, or the percentage of schools with virtual learners, the numbers and rates have continued to go up – except for the percentage of students who are successful in completing these kinds of courses. The "Completed/Passed" rate for Virtual Learners taking virtual courses in 2013-14 dropped 3% from the previous year to 57%.

This average, however, may not be of great value in understanding what is happening with virtual learning. When we look at virtual learning data for 2013-14, over half of the students who took one or two virtual courses passed all of them. Over 40% passed all of their virtual courses if they took three or four. While the percentage of students who passed all of their virtual courses trended down to around 30% as the number of virtual enrollments they took increased, the percentage of students who passed none of their virtual courses tended to be fairly consistent; whether students took one, two, three, four, or even five virtual courses, about 30% failed all of them. For the most part, Virtual Learners tended to be highly successful or highly unsuccessful; few students fell in between. This pattern of high or low success was similar for school measures. Many schools had high success rates for their virtual learners; too many did not.

In line with last year's report, the population of Virtual Learners shows important differences from the overall Michigan K-12 student population. While roughly 48% of all enrollments in the state came from students living in poverty, 64% of the virtual enrollments came from students living in poverty. Non-Virtual Learners passed their courses 89% of the time whereas Virtual Learners in their non-virtual courses only passed 71% of the time. Approximately 23% of virtual enrollments came from seat time waiver students, a group that had a "Completed/Passed" rate for their virtual courses of only 55%. These data points all support conclusions that many experts in virtual learning have believed for some time: virtual learning, at present, is reserved predominantly for students who are not particularly successful in traditional courses. The MME and ACT data further underscore this point.

No matter what factors make the current set of students taking virtual courses unique from the Michigan K-12 student population in general, it is clear that current implementation of virtual programs must improve to more adequately educate these students. Take, for instance, the finding that a large percentage of students with more than a few virtual courses in a year are failing all of them. What policies or procedures, either at the local or state level, exist that prevent schools from enrolling students in a larger number of virtual courses without evidence of prior success with one or two virtual courses? Such policy language exists in Section 21f of the State School Aid Act, which limits the number of virtual courses a student can take to one or two per academic term unless the student has demonstrated previous success and the school and parent agree it is in the best interest of the child. Be that as it may, almost all of the virtual enrollments in the state for 2013-14 were non-21f enrollments. Such a "walk-before-you-run" policy may be a good idea for all virtual enrollments, not just the few that are 21f.

Just as students are experiencing virtual learning for the first time, virtual learning is new to many schools and their staffs. There is wide variability in the local procedures schools use to counsel students and parents about virtual options. Some schools devote specific space to their virtual learners while others do not. Some assign one or more staff members periods of the day to mentor their virtual learners; in other schools, mentor teachers are assigned students despite having full teaching loads, and they have no assigned time to work with their virtual learners. Some schools invest significant financial resources into the local supports they provide students; some believe they cannot afford to, and others simply choose not to.

To help assist schools with adopting more effective local support models, *MVU* published *Mentor Fundamentals: A Guide for Mentoring Online Learners*, which is freely available at https://micourses.org/resources/pdf/toolkit/mentor_guide_14.pdf. *Mentor Fundamentals* is full of practical, research and experience-based best practices for school employees or parents who provide on-site support for online learners. Much of the content for *Mentor Fundamentals* was distilled from interviews with experienced mentors from a range of school settings. These interviews yielded significant shared conceptions about mentor roles and

Conclusion

responsibilities, proven practices that lead to increased student success, and common concerns about pacing and communication issues. The guide also includes a section that highlights the research conducted around mentoring online learners.

Finally, this year's data continues to show the trend that Virtual Learners have higher "Completed/Passed" rates in their non-virtual courses (71%) than they do in their virtual courses (57%). This kind of drop-off even appears for higher performing students. Virtual Learners who took virtual courses with *MVS* had the highest "Completed/Passed" rate at 72%, but this rate was still 14% below how those same learners did in their non-virtual courses. Virtual Learners (all virtual subsets) who took AP courses virtually passed them 79% of the time, whereas Virtual Learners who took non-virtual AP courses passed them 88% of the time. It takes mere seconds to rattle off a list of potential hypotheses for why these differences might exist – the tendency for virtual courses to be taken for credit recovery purposes; lack of motivation, time management, study skills, or other self-regulation abilities; physical isolation from peers and teachers – are all examples of factors mentioned in the research literature. Much research remains to be done to tease out these effects and to identify best practices for course design, virtual instruction, local support, and student readiness activities.

Even with significant progress, we may never see these gaps close completely, at least not in students' first experiences with virtual learning. Just as experienced, effective face-to-face teachers need time and training to learn how to maximize their effectiveness as virtual teachers, first time virtual learners, and even infrequent virtual learners, must be given time to learn, develop, and hone the skills to be successful virtual learners. This development may come, to some extent, at the expense of acquiring subject proficiency. In the long run, however, developing the capacity to be successful learners in both virtual and non-virtual modes will serve students well and will increasingly be a part of what it means to graduate from high school college- and career-ready.

Appendix A

APPENDIX A

Wild-Card Search Criteria for MVS

'%MI Virtual%', '%Mich Virt%', '%MIVHS%', '%MIVS%', '%MVS%', '%MVU%', '%VH', '%MVHS%', '%MIVU%', '%VHS%', 'MV%', '%MV', '%Michigan Virtual%', '%IS: MV%', '%IS:MV%', '%MI Virt%', '%MV HS%', 'Virtual HS%', and 'Mich. Virtual High School%'

Wild-Card Search Criteria for Common Third Party Providers

'%Apex%', 'APX%', '%Aventa%', '%BYU%', '%Brigham%', '%Compass%', '%Edgen%', '%2020%', '%20/20%', '%20-20%', '%E20%', '%Edison%', '%FLVS%', '%FVS%', '%GenNet%', '%Gen Net%', '%K12 Virtual%', '%K12:%', '%K12vs%', '%Lincoln Int%', '%Little Lincoln%', '%- Lincoln%', '%(Lincoln)%', '%Lincoln', '%UNL%', '%Middlebury%', '%Nova net%', '%Novanet%', '%Odyssey%', '%Odware%', 'ODY%', '%(OD%', '%Edmentum%', and '%Plato%'

Wild-Card Search Criteria for *Common Generic Labels for Online or Virtual Learning*

'%Online%', '%On-line%', '%On line%', '%onl', '%onli', '%onlin', '%- OL', '%-OL', '%O/L%', 'OL %', '%STW%', '%E-Learn%', '%E-LRN%', '%Virtual%', '%- virt%', and '%- DL'

mivu.org

3101 Technology BLVD STE G | Lansing, MI 48910 | www.mvlri.org | 888.532.5806