Alignment of Cyber Language Arts and Math Curriculum with the District “Building” Curriculum in Grades K-8

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Mentoring Administrator: Dr. Frank Bruno

Total Hours Completed: 188.5

Project's Goal

By aligning the cyber content to the building content, the transition issues between cyber and brick and mortar are expected to improve. The resulting consistency of content as well as the accompanying formative and summative assessments will also contribute to district-wide achievement improvements on PSSA and Keystone test scores.

Project's Objectives & PDE Standards

- Map the scope and sequence of LA and Math in grades K-8 & the Keystone area contents at the high school with the corresponding online courses. PDE Standards C2, C3, CL6
- Map and compare the assessment activities within all areas being studied in the building with that of the cyber program. PDE Standards C2, C3, CL6
- Identify areas of disparity and begin adjusting any online content as needed to match that of the building with regard to standards and assessment. PDE Standards C2, C3, CL6

- Develop a one-year plan to fully align the two delivery methods. PDE Standards C1, C2, C3, CL1, Cl2
- Develop opportunities, once the curriculum is mapped, to integrate online content into the buildings as support for standards based achievement for content areas studied. PDE Standards C1, C2, C3, CL1, CL2, CL3

Description & Analysis

Today's educational landscape is changing. With the increase in the number of Charter and Cyber Charter schools, districts have seen an increase in transient student population. This is not a new phenomenon, poverty, migrant populations and residency issues have long contributed to high levels of student transiency (Hartman & Franke, 2001). Many studies have shown that transitioning between school environments can have a negative impact on student achievement. Transient students are more likely than non-transient students to experience a negative impact on academic achievement across all indicators (Parr, 2010). In urban districts alone, the rate of mobility of students can be up to 70% with up to 50% of students spending less than three years in the same elementary environment (Kerbow, 1996). Whether it is a transition between classes, same school divisions or new a district, physical academic transition impacts student achievement. Thus, unmanaged adjustment to new environments can result in learning and retention issues. While there is no definitive data at this point, it can be argued that this transition effect would also apply for students moving from a traditional setting to a cyber environment.

The Cyber program within in the William Penn School district has been in operation for 13 years. During that time, the program has seen a clear pattern of student mobility. The program

provides instruction for grades K-12. Since its inception in 2016, it has had an average of 75 students per year in the program, with a minimum of ten the first year, to a maximum of 125 in 2017. The current population is 76 students. However, during any given year, the total number of students by the end of the year represents only about a half to two thirds of the number of students that began the school year. The Cyber program has a high rate of student transiency. Unlike transiency at the district level, the majority of our mobile students are already members of the school district having either attended one of the school buildings or an outside placement program. Despite remaining in the same district, the change in content, content delivery methods and environment can lead to lower academic achievement compared to that in the buildings. Research shows that transitioning students are faced with many challenges that contribute to their lack of academic achievement. In addition to the feeling of isolation, and a need to belong (Sancho & Cline ,2012), transient students also tend to have gaps in their academic knowledge and skills (Lash et. al., 1990). When moving from a traditional setting to a Cyber setting, those gaps in academic knowledge can become more pronounced due to the added technology barriers and increased sense of isolation that may exist for some learners.

In order to counter the effect that mobility has on learners, systems need to be in place to support the transition of these students. This project centers on the roll that providing a consistent curriculum and instructional program across each learning environment can play on student academic achievement (Smith et al., 2008). Currently, while both the traditional setting and the Cyber settings cover the required State and Core Standards for each grade level and discipline, those standards and skills are not presented in the same scope and sequence across both environments. As discussed, this discourse of instruction can result in learning gaps for students who transition back and forth between the traditional and Cyber settings (Thompson et al.,

2011). In order to lessen this effect in our school district, my project focuses on aligning the cyber classes (and corresponding assessments) to the brick and mortar (traditional building) classes within our district in the areas of K-8 Math and Language Arts, as well as the High School Keystone specific courses (Algebra 1, Biology and Literature). It needs to be said, that while covering all of these content areas is still a long term goal, given the time limitation of this project, this paper will focus on one grade level and one content area only, with plans to expand to the all of the aforementioned K-8 and High School content areas.

Scope and Sequence Data Collection & Analysis

In order to accomplish the project goals, I first obtained and reviewed the scope and sequence for the Second Grade Math program that is used in the traditional setting in the district (see Appendix A). Working with the Curriculum Director as well as building level teachers that use the content, I was able to gain insight into how the content is used, as well as acquire actual teaching materials used in instruction. During the same time period, I gathered samples of the Scope and Sequence and Standards list for the Cyber content (see Appendix B) for the corresponding grade level and content area. I created a chart to compare the introduction patterns of major concepts in both curriculum platforms (see Appendix C). At this point, it needs to be noted that the content used for the Cyber program is pre-package, and the particular version for the K-5 grades is not as flexible and is older than the online content for grades 6-12, so there were already some inconsistencies based on the outdated nature of the Cyber content. From this data it was clear that the contents were not well aligned and the Cyber content in fact needed to be adjusted.

Assessment Data Collection & Analysis

In addition to the scope and sequence, I reviewed the formative and summative assessments used by each program, as well as the district level assessments (PSSA) taken by both traditional and Cyber students. In comparing the in-program assessments, it was evident that there were more opportunities in the building content for alternate assessments. Given the face to face nature of the building environment this was to be expected. This raise the questions as to what roll, if any, do alternate assessments play in the academic success of the students at the building? If there is a significant effect, can that opportunity be replicated in the Cyber environment? While this was not part of the initial focus of this project, this revelation should also be explored in a future study.

PSSA data was also collected to compare achievement levels of the building and the Cyber students. Research shows that there is a notable difference between scores for mobile students when compared to non-mobile students. Transient student status was show to have a negative impact on testing scores (Thompson et.al., 2011). Upon review of the PSSA data that was collected (see Appendix D), it was clear that there is a disparity between the two groups in this project which may reflect the transient nature of the Cyber Students. It needs to be noted that the sample of Cyber students used for this comparison was very small compared to the building population, in addition, the Cyber program does not have students at every elementary grade level each year, and on average, only half of the elementary students remain in the program for an entire school year. A larger, more stable group would have to be studied to consider this a

reliable result. One of the goals of this project is to improve testing data. Due to the low numbers of Cyber students a more longitudinal approach may have to be used to identify trends in standardized testing as an indicator of the positive outcome of aligning Cyber content to building content.

Curriculum Alignment

Based on the data collected, I was able to begin the alignment process. The original plan for the project was to review *multiple* courses at various grade levels and then begin the process of aligning content. The hope was to have at least some of the content adjusted so that students in Cyber would benefit from the changes during the current school year. Having the students actively utilizing the changes might have allowed for additional assessments to take place. With the additional assessment data, possible comparison could have been made to see if the changes to the content produced a noticeable improvement in achievement. While noble in its intent, this proved to require far too much time and effort to be brought to fruition given the constraints of the project (collegiate) timeline.

In addition to the limited timeframe, a second issue arose in the last month of the project, this one revolved around the content that was to be adjusted. When reaching out to our Cyber content representative, it was learned that the K-5 content that I was in the process of adjusting, was to be replaced by an updated version. The new version would be on an entirely different Learning Management System (LMS) so all changed that I had made and was about to make, would be not be available in the Fall, essentially they would be lost. The one saving grace is that the new content will be the same LMS as our 6-12 grade content. That content is far easier to adjust, re-order and add external content to than the current K-5 content.

Ongoing and Future Tasks

Prior to the development of the time limitations, as well as the impending LMS changes, I was still able to move forward with the planning phase for continued review of the remaining levels and content areas. Originally, this phase was based on the expectation that the Cyber content would remain the same for K-5. The starting point was planned for the elementary level since that content area seemed to be the most misaligned, and research also showed that there was a greater negative impact on learning and achievement for transient students in the elementary and middle school grades compared to that of secondary students (Sancho & Cline, 2012). With this in mind I formalized a timetable for aligning content.

One other factor came to light during this research and that was the need to provide the Cyber students with more opportunities for alternative assessments. While the newer LMS can accommodate 'added' material, it is still not robust enough to offer many types of alternatives. Thus as part of my fieldwork, I also began to explore how other schools were handling assessments in the Cyber environment. This deviation from my original plan was actually very beneficial. When I attended the PETE & C conference in February, I made a point of sitting in on presentations that were done by other school districts that also offered their own "Cyber school". I was specifically interested in what learning content they used, what their academic success rates were, and what (if any) alternate assessment they used in the Cyber environment. What I discovered was that the most successful schools were the ones that had walked away from the 'pre-packaged' software, and had instead engaged their teachers in developing their own content on a management system. These schools realized the need to keep the content consistent across

the environment and had literally 'imported' the building content to the management system. While this seems easy, it requires a lot of time, and planning as well as stakeholder buy-in.

Based on this revelation, I approached our Curriculum Director about the possibility of adopting this approach to build our own Cyber content, and move away from the pre-packaged model. This alternative plan would have to be at least 3 to 5 years in duration in order to implement it successfully. It would start by piloting one or two elective courses within the Cyber program for implementation the first semester of the coming school year. At the end of the semester, usage data, test scores, and student survey data, would be compiled and reviewed. Ideally, a committee would be set up in the Fall and the data would be reviewed by the committee. If in agreement, a second phase would see additional course content being adapted to the online environment. Reviews would take place after each semester, and refinements to the overall plan and time-table would be maintained by the committee. The initial implementation plan encompasses a three-year approach (see Appendix E). I have initial verbal approval from the Curriculum Director and I have already purchased a limited number of licenses for the new LMS. The concept is still new and I will need to experience the software for a few weeks before I start reaching out to other teachers who are technology leaders in our district. The goal is to get them interested before the summer break, so that I can get them set up with access to the LMS and afford them the ability to try it out and be as impressed with the possibilities as I am.

PDE Standard Goals

The Administrative Internship and the Internship Project afforded me the opportunity to deepen my understanding of the Administration Standards as well as give me practical exposure to the importance of each of the leadership attributes.

Through my project, I was able to address the standards that I had intended. At the core of my project was the need to ensure that the students in the Cyber program were able to achieve academic success equal to, or surpassing the success rate in the traditional building setting, my intentions were as an advocate for all students (Corollary Standard CL5). Through the use of technology and the resources available to me for data collection, I found patterns that suggested that our current methods of instruction were not working as intended (Core Standard 3). In order to correct this issue, a strategic plan had to be put in place, as change needed to occur (Core Standard 1). I collected data and used my knowledge of national, state and local standards as a way to identify increased student achievement (Core Standard 2). I also relied on current research as well as other district's experiences to inform my decision making (Corollary Standard 1). Despite not having the opportunity to implement the changes at this point in time, I am certain, that there will be achievement gains for the Cyber (transient) students. I also believe that having a curriculum that offers more opportunities for alternate assessments will also reduce our transiency rate during the school year.

One of the most challenging aspects of the project was managing resources (Corollary Standards 2). While I do have more control over my day to day management of the Cyber program, the level of access to manage resources was somewhat limited in this 'project' capacity. I was able to practice this skill when working with co-teachers to establish course needs and interests (Corollary Standard 3), as well as my communications with vendors and administrators. I also had to work within a defined budget and do a cost analysis when the focus of the project morphed from just re-aligning existing curriculum to creating a new content directly from the building content. Due to this change, several other cost, time and space usage factors will have to be address. Teachers will need to be reimbursed for time spent adapting their

courses to the online format. In addition, space and time challenges will have to be overcome to establishing committee meeting times and places, as well as training schedules and locations.

The Educator development activities are also directly aligned with student achievement goals. I believe in modeling the practice that you expect to see in others. It is a top-down structure. One of the characteristics that I value most is the desire to continually learn and grow. It is very rewarding to be able to provide others with the opportunity to improve their practice through professional development activities (Corollary Standard 6).

Despite not having it as one of the standard expectations associated with my project, operating in a fair and equitable manner and working with integrity is something that I try to do on a daily basis. I believe that this should have been listed in all areas of my project description and that was an oversight on my part. All interactions that I participate in, within the roll or administrator, or teacher, or responsible adult, should reflect my adherence to professional integrity.

Another standard that I only touched on in the project was advocating for children and public education in the larger political, social, economic, legal and cultural context (Corollary Standard 5). There were several times within the scope of this project where I had the opportunity to speak with decision makers within the educational community about our program, its merits, our struggles and our successes. Outside of the project, but within the scope of my practicum, I had many instances where I enlighten others about the inequities that still exists in education. It still amazes me how the majority of people prefer not to notice that there are major disparities that need to be addressed.

The final set of standards are those governing Special Education. Again, I see that while I did not put them into my expected project standards, I did meet then all through the project. The district has a high population of special needs students, in the Cyber program that percentage is actually higher than the district distribution. Every decision that I make, every change that I contemplate, I always reflect on the impact that those decisions will have on our special education population. One of the themes that was evident in my project was the realization that we need to have more alternate assessment opportunities for our Cyber students. The ability to break down the barriers that impede student understanding is key to increasing special education student achievement. Our 6-12 content does offer some accommodations for special needs students, but in many instances, those students are not supported in the home environment to the extent necessary, and they often lack the motivation to stay online for very long each day. Re-examining the Cyber delivery methods and content is one way to help identify where we can improve as a program and meet the needs of all of our learners.

Reflections & Recommendations

This project and the field experience have opened my eyes to the incredible opportunities that leaders have to make positive change in the lives of others. There is work, there are frustrations and obstacles, but there is also the ability to inspire and empower others. Strategic planning is core to being able to navigate most of the impediments that can arise. While I am a planner and problem solver, I have found that I need to carve out more time to be able to address tasks with a more strategic approach.

Throughout this program and in my current district role, I still feel that I am on the outside (of leadership) looking in. I am privy to some aspects but not to others. I would have liked to have had a more inclusive experience. As an example, leaders have to make unpopular decisions at times, and many times those decisions are rooted in rational that cannot necessarily be shared with non-administrator. The perception of staff to the decision is often divided, but the administrator needs to maintain a professional stance in not divulging details. Additionally, parts of my project were easy to initiate, but others were not. This was more a factor of the limited time that other administrators have to be able to devote to a non-essential activity such as a practicum project.

Another aspect of my project that was frustrating, was the limitation that this format allowed with respect to time to complete the project. Moving forward, if faced with another 'course structure' that required a practicum based project, I would select something that is not as complicated as what I selected to do. There was not enough time to truly put in place all aspects of project planning. While I was able to see, through test results and daily interactions with students and teachers in the Cyber school, that there was an effect on learning due to the transient nature of the students, there was not enough time to properly inform others of this discrepancy before acting. In a real-time situation, there would have been a more strategic plan in place to address the situation. The data would be reviewed quarterly for trends. Once a trend is seen, then discussions would take place and research completed to see what might be causing the achievement discrepancy between building and Cyber populations. Further discussions would take place with the staff and administration to then formalize a plan of action. All immediate stakeholders would be part of this process. For my part, as administrator, I would do everything in my power to facilitate the teacher and staff engagement in the process. Again, there were

limitations since this was a practicum, I was not afforded the kind of access to change training schedules or set up an actual committee. Currently the district is attempting to review the entire curriculum K-12 as that has not been attempted in many years. While I am proceeding with the pilot program in the summer and into next school year, the data collected will then determine if a full committee is warranted and if the district can move forward with the initiative.

This all leads to the fact that, in order to have the most success, districts need to narrow the focus and concentrate on fewer initiatives during one given time period. Too many can lead to confusion, frustration and lack of direction for teacher, staff and administration. As part of an administrative team, I would have more knowledge on the overarching goals for district development as well as the timeframes involved. I was not able to sit in on administrative meetings (principal meetings) to hear directly where the focus and the long range plans are for the district. So I was not able to incorporate a structure for this long-term project directly into the district's long-term planning calendar. If this had only involved Cyber staff and not building staff, this would not have been as much of an issue.

Through this project as well as through my field experience, I did learn that I need to have more of a presence in district meetings and activities. During the field work, I was present for several board and committee meetings. It was beneficial in several ways. First, some of the board and committee members did not know who I was, or what my role in the district was, so I was able to make myself known. Second, I was able to gain first-hand knowledge about board and committee decisions and also had the opportunity to share my thoughts and ideas. Finally, it allowed me to see the 'culture' of the board, and how they interact with the public, staff, and other stakeholders. The Cyber program is also somewhat removed from the buildings, so it can

be difficult to gage the climate and culture of the buildings. Our students are allowed to participate in all extra activities offered at the buildings, but the program is often an afterthought for many. This project and field work has opened doors for me to increase the engagement of our students at the buildings. Through my interactions related to the field work, I have built relationships with the counselors, teachers and administrators at each building. This kind of relationship building is key to a successful administrator. I look forward to continuing to build on the administrative skills and state standards addressed in the project and field work.

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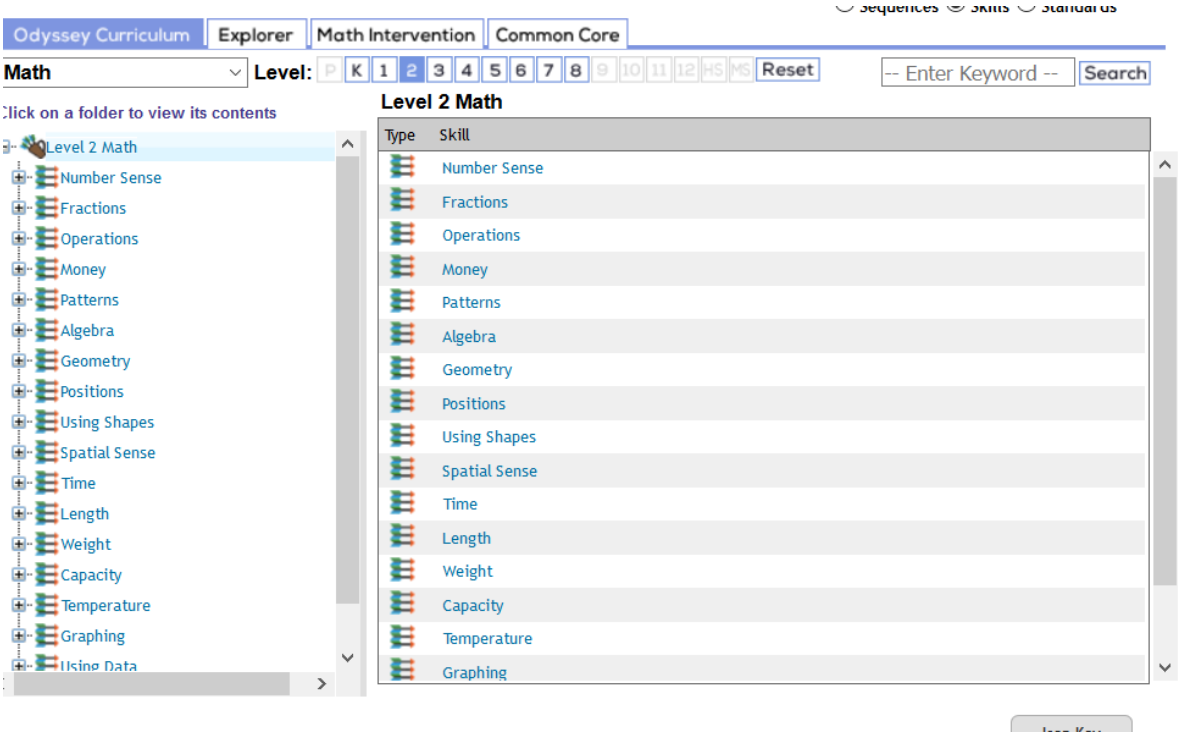
Appendix A

Scope and Sequence for Cyber Program Math 2 Compass Math



Appendix B

Scope and Sequence for Math in Focus Singapore Math, Grade 2

Math in Focus Grade 2 Scope and Sequence

Chapter 1 Numbers to 1000 - approximately 14 days

Chapter 2 Addition to 1000 - approximately 14 days

Chapter 3 Subtraction to 1000 - approximately 11 days

Chapter 4 Bar Models with Addition and Subtraction - approximately 12 days

Chapter 5 Multiplication and Division - approximately 10 days

Chapter 6 Multiplication tables of 2,5 and 10 - approximately 13 days

Chapter 7 Metric Measurement - approximately 10 days

*Chapter 10 Mental Math and Estimation - approximately 12 days

Chapter 11 Money - approximately 15 days

Chapter 12 Fractions - approximately 5 days

Chapter 13 Customary Measurement - approximately 7 days

Chapter 14 Time - approximately 8 days

*Chapter 17 Graphs and Line Plots - approximately 9 days

Chapter 18 Lines and Surfaces - approximately 5 days

Chapter 19 Shapes and Patterns - approximately 9 days

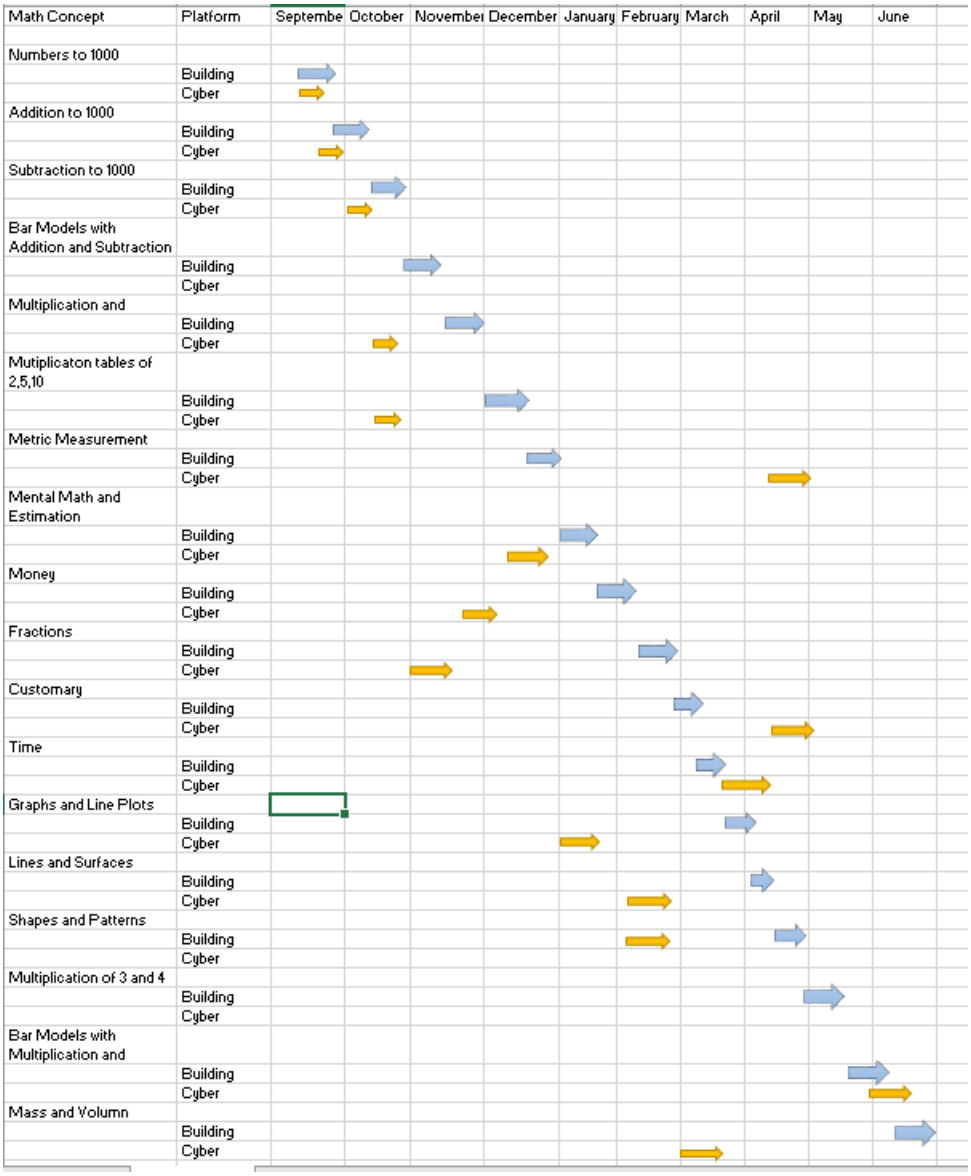
Chapter 15 Multiplication of 3 and 4 - approximately 10 days

Chapter 16 Bar Models with Multiplication and Division - approximately 6 days

Chapter 8 & 9 Mass and Volume - approximately 5 days

Appendix C

Graphic Comparison Building vs Cyber Math 2

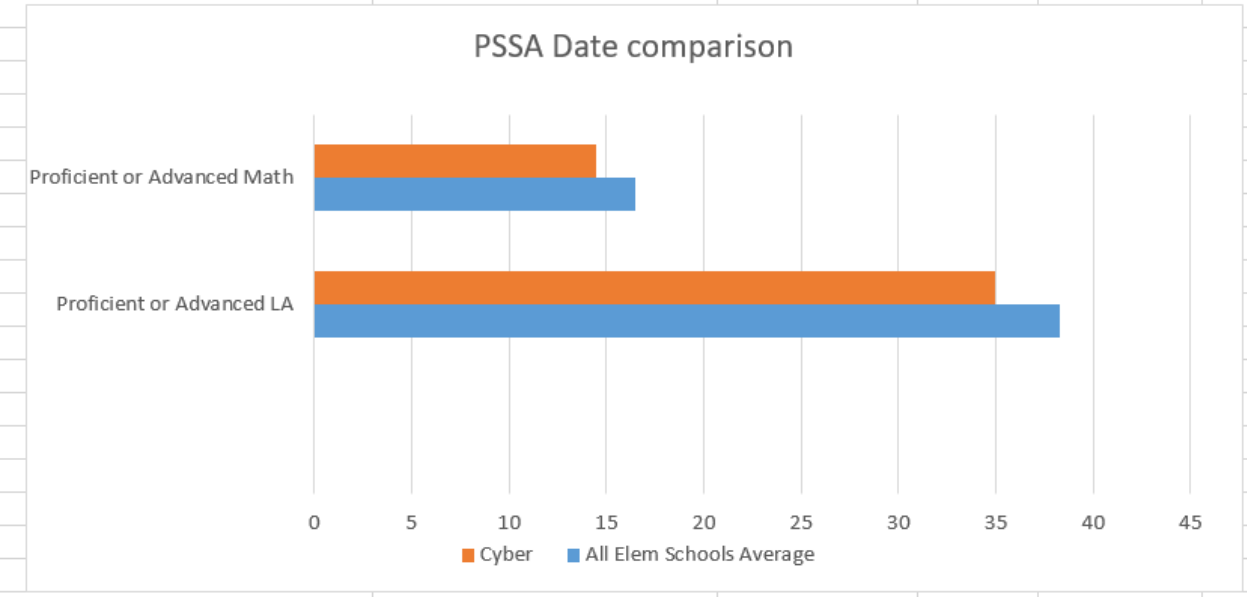


Appendix D

PSSA Data Comparison

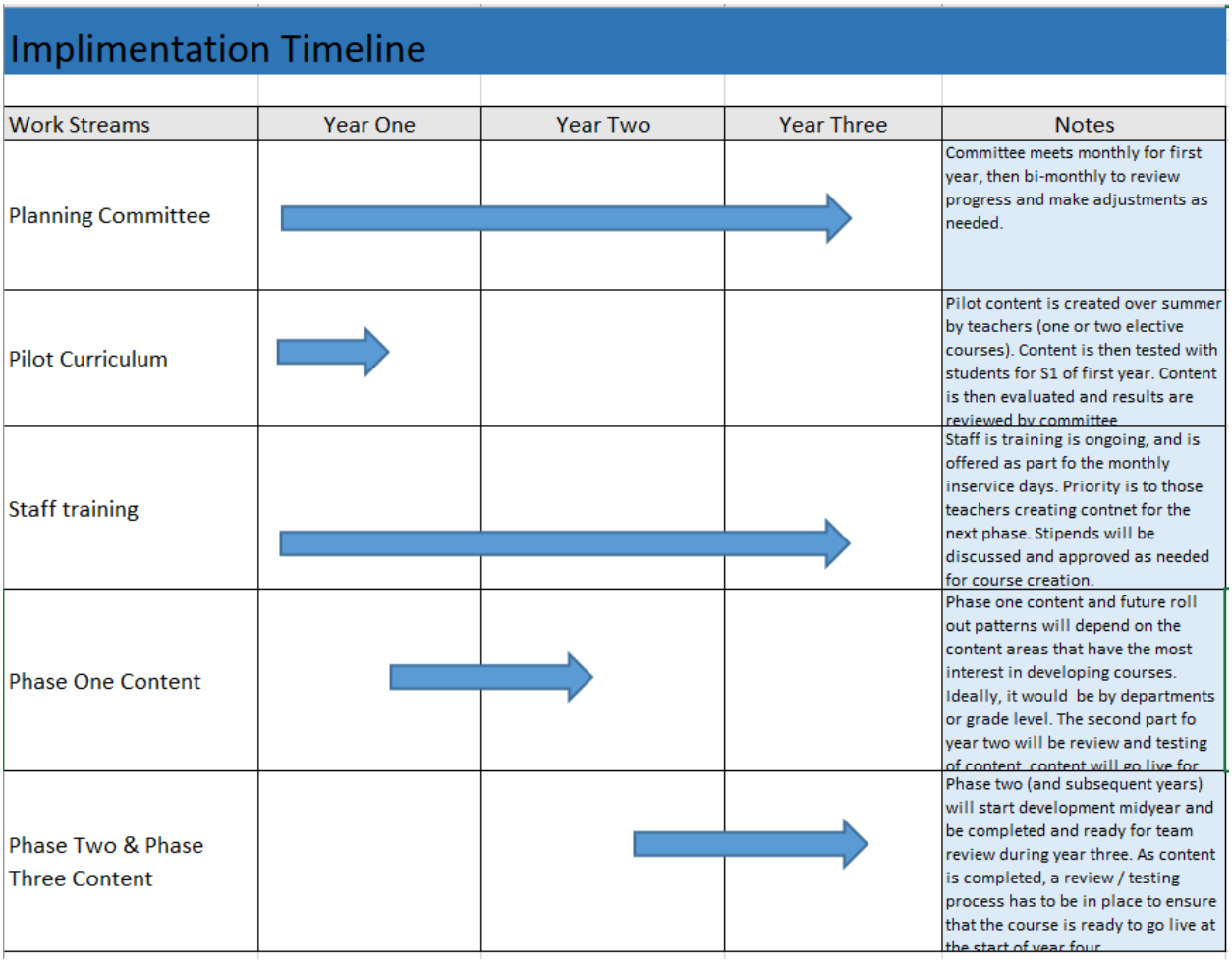
Indicator Name	Aldan El Sch	W B Evans Magnet Sch	Ardmore Avenue Sch	Bell Avenue School	East Lansdowne El Sch	Walnut Street El Sch
Percent Proficient or Advanced on ELA/Literature (All	46.9	49.8	39.3	32.8	34.4	26.5
Percent Proficient or Advanced on Mathematics/Algebra 1 (All Student)	27.6	21.3	16.3	10.1	15.9	7.5
Percent Proficient or Advanced on Science/Biology (All	41.9	66	44.2	48.5	47.5	32.4
Meeting Annual Academic Growth Expectations (PVAAS) ELA/Literature (All Student)	59	56	54	74	53	64
Meeting Annual Academic Growth Expectations (PVAAS) Mathematics/Algebra 1 (All Student)	70	79	100	80	64	73
Meeting Annual Academic Growth Expectations (PVAAS) Science/Biology (All Student)	50	50	50	65	50	62
Percent Advanced on ELA/Literature (All Student)	11.7	7.6	7.1	3.2	5.9	1.7
Percent Advanced on Mathematics/Algebra 1 (All Student)	6.3	5.2	2.6	0	6.4	1.7
Percent Advanced on Science/Biology (All Student)	9.7	24	6.5	6.1	10.2	2.9
Percent English Language Growth and Attainment (All	IS	IS	41.1	IS	IS	IS
Percent of Students with Regular Attendance (All Student)	88.8	86.2	86.6	79.7	86.2	82.5
Percent Grade 3 Reading (All Student)	53.6	40.7	48.7	32.1	33.3	35
Percent Grade 7 Mathematics (All Student)	Data Does Not Apply	Data Does Not Apply	Data Does Not Apply	Data Does Not Apply	Data Does Not Apply	Data Does Not Apply
Percent Grade 5, Grade 8, and/or Grade 11 Career Standards Benchmark (All Student)	98	98	98	98	98	98

PSSA Score	All Elem Schools Average	Cyber
Proficient or Advanced LA	38.28	35
Proficient or Advanced Math	16.45	14.5



Appendix E

Basic Implementation Plan



Implimentation Timeline				
Work Streams	Year One	Year Two	Year Three	Notes
Planning Committee				Committee meets monthly for first year, then bi-monthly to review progress and make adjustments as needed.
Pilot Curriculum				Pilot content is created over summer by teachers (one or two elective courses). Content is then tested with students for S1 of first year. Content is then evaluated and results are reviewed by committee
Staff training				Staff is training is ongoing, and is offered as part fo the monthly inservice days. Priority is to those teachers creating contnet for the next phase. Stipends will be discussed and approved as needed for course creation.
Phase One Content				Phase one content and future roll out patterns will depend on the content areas that have the most interest in developing courses. Ideally, it would be by departments or grade level. The second part fo year two will be review and testing of content, content will go live for
Phase Two & Phase Three Content				Phase two (and subsequent years) will start development midyear and be completed and ready for team review during year three. As content is completed, a review / testing process has to be in place to ensure that the course is ready to go live at the start of year four