

The Perceptions of Students in Online-Blended Courses  
Designed to Support Successful Maryland High School  
Assessment Completion

By  
Paul Latanishen

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## **Abstract**

The purpose of this study was to gain information regarding the perceptions of students enrolled in online-blended courses, specifically those geared towards successful completion of the Maryland High School Assessment. The study utilized a descriptive approach and employed a researcher-designed survey instrument to gather data. Information and perceptions related to rigor, interaction, general satisfaction with instruction, were of greatest influence while conducting research. The APEX offering that relies heavily on the ‘online’ portion of ‘online-blended’ models is clearly something that is appealing to today’s high school student. The coursework, though limited in opportunities for peer and instructor interaction, provides a format that speaks to the needs and preferences of a group of learners that are clearly some of our most at-risk. This at-risk population is meeting with marked success while pursuing graduation via this vehicle. Perceptions were very one-sided; clearly students have an affinity for offerings that allow them to demonstrate prior knowledge in order to save time, demonstrate learning using technology, and interact as they choose with their peers and instructors.

**CHAPTER I**  
**INTRODUCTION**

**Overview**

Testing and assessment have certainly been at the forefront of public education for some time now. Student achievement on standardized tests has been deemed not only important, but a metric of such significance that eligibility for graduation need be based upon these assessments. While the assessments continue to evolve and take new shapes and forms, so do the corresponding courses.

Baltimore County Public Schools took action to develop a uniform approach to most scheduling for the 2014-2015 school year. Students in high school are enrolled in a maximum of eight one-credit courses. Classes are structured around a 90-minute period framework, with students taking given courses on an “A/B” schedule, which allows them to have classes every other day, for the duration of the school year.

For some courses, students are responsible not only for earning credit for the course, but also successful completion of a Maryland High School Assessment (HSA). This is the case for students in both Biology and American Government. To address the challenges associated with a heavy volume of students who were unable to meet both criteria (jeopardizing graduation eligibility), BCPS has offered an ‘online-blended’ model of instruction to students.

**Statement of Problem**

The intent of this study is to gain information about the course offerings and examine the perceptions of students who were enrolled in these ‘online-blended’ courses for American Government, offered through APEX Learning. Information and perceptions related to rigor,

interaction, general satisfaction with instruction, were of greatest influence while conducting research.

### **Hypothesis**

This descriptive study was developed and undertaken to ascertain perceptions about the online-blended courses that were offered as ‘substitutes’ for the traditional, in-person course offerings. As this study was descriptive in nature, there is no hypothesis. Instead there was a research question: What are the perceptions of online/blended learning compared to traditional course instruction for high school students who have participated in both instructional models?

### **Operational Definitions**

The *High School Assessments* (HSA’s) in Maryland were developed to fulfill requirements put in place by the federal *No Child Left Behind Act* (NCLB). The assessments have been utilized in some capacity (pilot, required to take, required to pass, etc.) for over a decade. The assessment for American Government, in its present form, contains a series of selected response and free response items. Students are required to attain a score of 390 or better in order to pass the exam at a satisfactory level.

The *online-blended model* that has been implemented in Baltimore County Public Schools is offered by APEX Learning. The courses are aligned with the curriculum that is used throughout the county. When there are issues of alignment, instructors have the option to modify curricular requirements. Courses consist of a pre-test (for courses where students have already taken the class and failed, which was the case for American Government students in this study), quizzes, guided activities, discussions, journals, computer-scored assessments, and teacher-scored assessments. Teachers were also encouraged to have ‘breakout sessions’ throughout the day in order to ensure student-teacher interaction. Students were required to demonstrate

mastery at a 70% level throughout the course while taking unit quizzes. Satisfactory pass rates were required to move forward within each unit. Students were also required to take the standard county final exam as a part of completing the course; though depending upon their APEX grade, passing the exam may not have been required (as it often is not in traditional courses).

## **CHAPTER II**

### **REVIEW OF THE LITERATURE**

Recent trends in education have presented expanded instructional opportunities for high school students enrolled in courses that require successful completion of the Maryland High School Assessment. During the regular school year and during summer school programs, student are now being afforded course completion via an online-blended model. This research seeks to identify the effect to which students in these online-blended courses meet with success, in comparison to their counterparts who are enrolled in traditional, face-to-face instructional settings. While a substantial section of the literature review will examine the relative importance of these competing instructional approaches, there are two other primary considerations. First, the specific challenges encountered by students in technology-driven classrooms. The review will also include methods that can be utilized to ameliorate these challenges.

#### **The Importance of Instruction: Traditional Face-to-Face vs. Online-Blended Models**

The method by which students receive instruction has changed considerably in recent years. In fact, the enrollment of students in online courses has outpaced registration for traditional, face-to-face instruction in some settings (Akers, Atchley, & Wingenbach, 2013). With the relevance and emergence of online and online-blended instruction well-documented and established, students are now being placed into courses that require completion of statewide assessments. These placements require educators to examine the significance of varying instructional methodologies and their impact on student performance therein. Despite dismissal from many educators, particularly in the confines of state-tested arenas, online-blended

instruction has been shown to increase capacity and improve outcomes (Golden & Karpur, 2012).

Compelling research has been done internationally that provides statistically significant findings that demonstrate the viability of the online-blended model. Akbayin and Yapici (2012) found that with a pre-test-posttest model study of high school biology students, the online-blended instructional model yielded considerably better outcomes than traditional face-to-face instruction. Further, these students developed statistically significant opinions toward the benefits of online instruction. These mindsets, which were clearly demonstrated, have the potential to impact engagement and student buy-in; clearly important considerations in developing and delivering an instructional program.

Further examining the effectiveness of online-blended instruction (OBL), researchers found that OBL provides opportunities for more efficient instruction, democratic choice in endeavors, and an overall improved classroom climate (Cherry, 2010). Cherry concluded that the needs of our next generation can be met, demonstrably so, by tailoring educational initiatives within the OBL model. Students are more inclined to authentically engage in tasks when educational opportunities are delivered in a manner that they select and are with which they are more comfortable.

Research clearly indicates that presence of OBL instruction is becoming greater and greater. It also indicates that for various groups, in a variety of settings, there may be more merit in these instructional approaches than was widely believed a short time ago. As school systems look to confront challenges in meeting local and state graduation standards, OBL offers a model that is efficient and flexible and worthy of further examination in regard to the quality of outcomes to standardized state testing for students that utilize these instructional models.

## **Assessment Achievement Issues: Students in Online Courses**

Practitioners are well-versed with the plethora of factors that contribute to student testing difficulties. As students attempt to demonstrate mastery on a wide-variety of assessments, these factors manifest themselves in different ways. With respect to this study, important are those factors that are demonstrably relevant for students in the online-blended model, and those that may impact student assessment performance therein.

The first consideration is that which must be given to the student population that is often enrolled in OBL courses. As they are often in 'alternative' to face-to-face instruction that has been unsuccessful, oftentimes student populations in OBL classes are those who have repeated coursework (Kronholz, 2011). In considering pass rates for students in OBL courses, consideration must be given to the at-risk populations typically enrolled, and this must be controlled when examining pass rates. A simple comparison of achievement would lack validity as pass rates for in-person instruction would include many first-time test takers and, oftentimes, some degree of gifted population.

Additionally, there are growing concerns regarding differing achievement patterns based solely upon the gender of the student enrolled in the course. While achievement for students in face-to-face settings may remain in question, there is evidence to support gender considerations for online instruction. Findings indicate that for students with average grade point averages, gender does not seem to be a significant factor in achievement. However, for students in lower-than-average GPA's, differences in achievement based upon are gender is statistically significant (Kupczynski, Brown & Holland, 2014).

Also of concern for students in the OBL model of instruction when it comes time for assessment, are those students with diagnosed and documented disabilities. The instructional accommodations that are provided on a daily basis by teachers, along with testing accommodations mandated by law are certainly consequential. How these accommodations are incorporated into varying OBL models is not only important, but highly impactful when examining outcomes (Betts, Cohen, Veit, Alphin, Broadus, & Allen, 2013). Students with language difficulties, those in need of extended time, verbatim reading of instructions, etc., must be ensured that their instructional needs are fully met in the online setting.

Finally, the method by which students physically take a provided assessment can have consequences on the outcome. For students who take OBL courses, they often test in a similar format. According, students in face-to-face instructional settings may take assessments in either paper/pencil format or they may utilize a technological method (computer-based). Concerns that online testing provides an inherent impediment to test takers has been examined and does not seem to alter outcomes any more than conventional testing methods (Llamas-Nistal, Fernandez-Iglesias, Gornzalez-Tato & Mikic-Fonte, 2013). This is an important consideration when examining the effectiveness of OBL as a means by which to achieve graduation requirements via standardized testing.

### **Online Blended Learning: Increasing Student Success**

Models that rely heavily on online instruction, with some degree of complimentary face-to-face instruction (the ‘blended’ aspect), have been widely researched in regard to methods that can improve student performance on coursework and subsequently, on various assessments. As classroom teachers have the opportunity to reflect upon what is working and adjust, typically OBL instruction is predesigned and determined, so abundant consideration must be made to

ensure maximization of achievement for those functioning (largely independently) within this model.

An area that is often a focus for teachers across disciplines is that of participation. Teachers gauge participation regularly to check for understanding and ensure engagement in class activities. OBL models offer an opportunity for students who are reluctant to participate in classroom discussion for various socio-emotional reasons. Typed or video recorded discussion boards mandate student participation and provide an excellent opportunity for teachers to deliver feedback on formative and summative assessments in a manner that can be evaluative or non-evaluative (Alrushiedat & Olfman, 2013).

A key initiative in school systems across the country is the increased use of data to drive instructional decision-making. With online-blended instruction, teachers have access to data in a manner that is simply not there in conventional face-to-face classroom settings. This data can be used to determine the need for remediation and re-teaching along with areas of strength and student interest. Decision-making that is driven by robust data is becoming a reality for more and more educators and OBL offers this opportunity (Schorr & McGriff, 2011). This finding is in-line with system-wide initiatives throughout the country, that data be the driving force behind instruction decisions. Actions that coincide with this philosophy lead to improved educational outcomes.

### **Summary**

The concept of online-blended learning (or 'hybrid' instruction) is becoming more and more common throughout the United States and the world. Models that have been developed are demonstrating the potential for education that is truly individualized and instructional decision-

making that is driven by robust, timely data. While online learning models are fraught with challenges, these challenges can be overcome by designing models that are rich with participation, provide ongoing feedback, and are aligned with assessment in the same manner that face-to-face (conventional) instruction demands. Research suggests that students in online-blended settings are actually at a potential advantage in comparison to their peers. This may be due to generational shifts in what education 'should' be and the comfort level of students with online formats in general.

In examining the usefulness of OBL with respect to student performance on standardized assessments (particularly at the high school level), there is little research available at the present time.

## **CHAPTER III**

### **METHODS**

#### **Design**

This study utilized a descriptive design to address the subject in question. The design incorporated identification of participants in conjunction with post-course assessments and a student-completed survey designed to ascertain data-driven perceptions about the effects of online-blended learning environments when compared to traditional, in-person course offerings.

#### **Participants**

Identification of participants was based upon the total number of students who completed the American Government (course) and the subsequent High School Assessment (HSA) in the online-blended format while at attending a Baltimore County High School. This population, from the previous year (the only year available) included a total of four students. These students are all presently tenth grade students, who took the course during the summer between ninth and tenth grade years of high school. All four of the students are male, and all identify as Caucasian. Half of the students utilize an Individualized Educational Plan, while the other half do not.

#### **Instrument**

The two critical instruments utilized in this study are the American Government HSA and the ‘Student Survey.’ The American Government HSA is a standardized assessment which uses both selected responses and constructed responses to measure mastery of content. The test has been used as a graduation requirement in the State of Maryland for nearly a decade. Scores range from 240 (no answers provided) to well above 500, with the range demonstrating degree of mastery. In addition to the use of the HSA data, student perceptions about the course (difficulty, satisfaction, preparation, etc.) were evaluated by disaggregating data to a series of survey

questions. Survey instruments utilized 10 questions with pre-determined responses and one open-ended question which allowed students to elaborate about perceptions of the online-blended model and potential correlations to HSA preparation and success. The researcher worked with his design adviser to craft survey questions modeled after publicly available surveys of students who participated in online and/or blended educational courses. Face validity was established based on a comparison with these surveys. Reliability of the survey instrument was not able to be established.

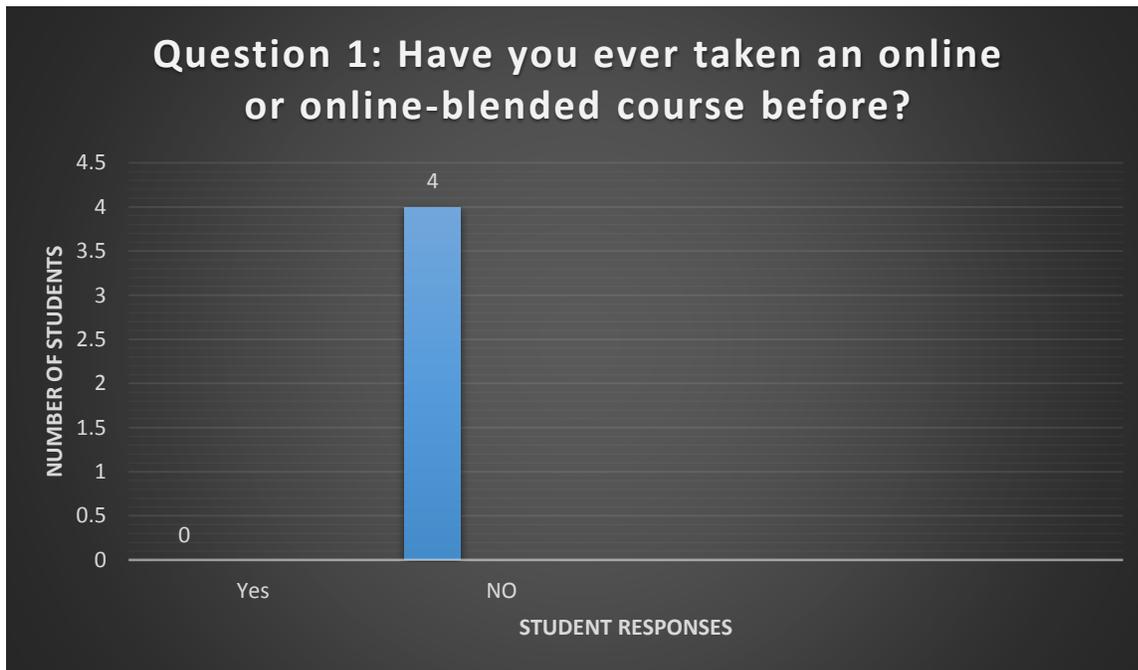
### **Procedure**

All students were afforded an opportunity to take a traditional in-person course offering in American Government while enrolled as ninth grade students in Baltimore County Public Schools. At the conclusion of the course, students were afforded the opportunity to successfully complete the HSA in American Government. All students in this target group were unsuccessful in the completion of both the course and the HSA. After students successfully completed the online-blended model for each course, in summer school via APEX Learning, they were asked to complete an 11-question survey designed to elicit feedback about the course, often in a comparative manner with respect to the original course offering. Questions were asked directly to students by the researcher in a one-on-one setting.

## CHAPTER IV

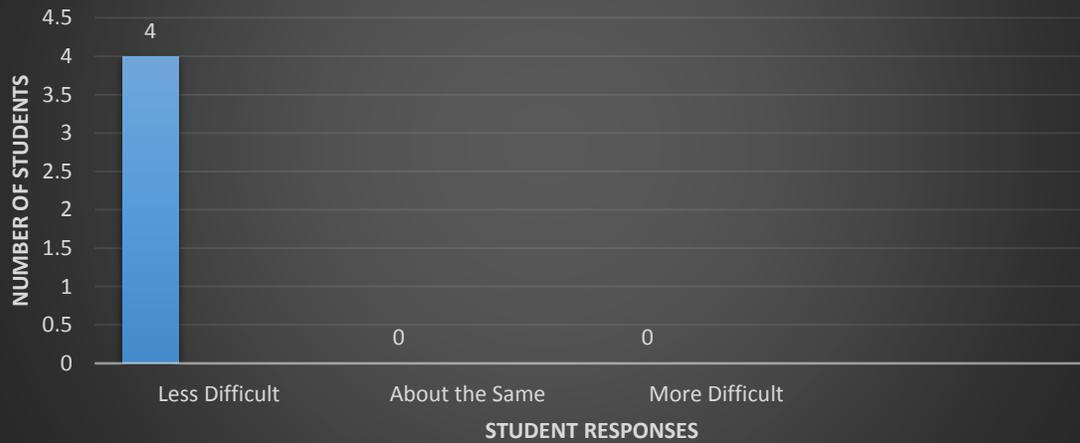
### RESULTS

The goal of this descriptive study was to enhance understanding regarding the perceptions of students enrolled in online-blended courses. These perceptions were surveyed in many regards, most essentially, in comparison to traditional, in-person instruction. The results reported below are the finding of the surveys conducted with the four students that formed the available population. As shown in the responses to Question 1, none of the students had taken an online or blended course before.

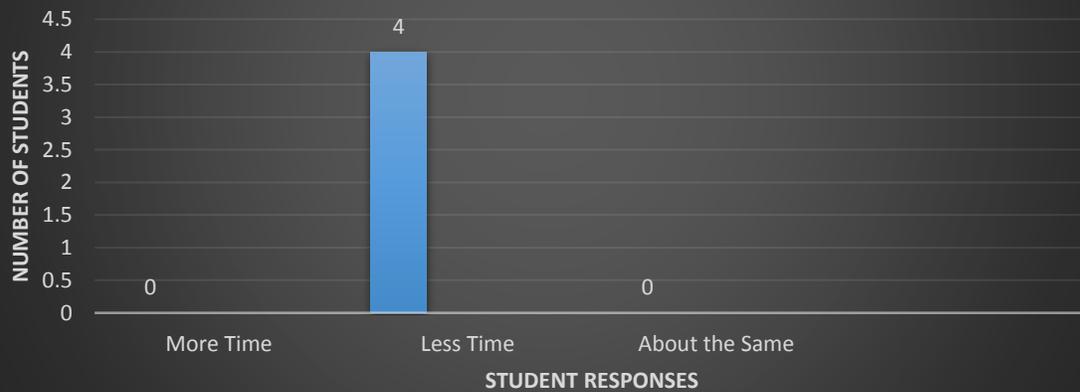


Questions 2 through 5 asked students about the course difficulty (perception of difficulty, perception of time required by the course, perception of course grading procedures, perception of preparation based on the course). As shown in the chart students perceived the APEX course to be less difficult, require less time, comparable or easier to successfully complete (pass), and felt well-prepared for the American Government HSA.

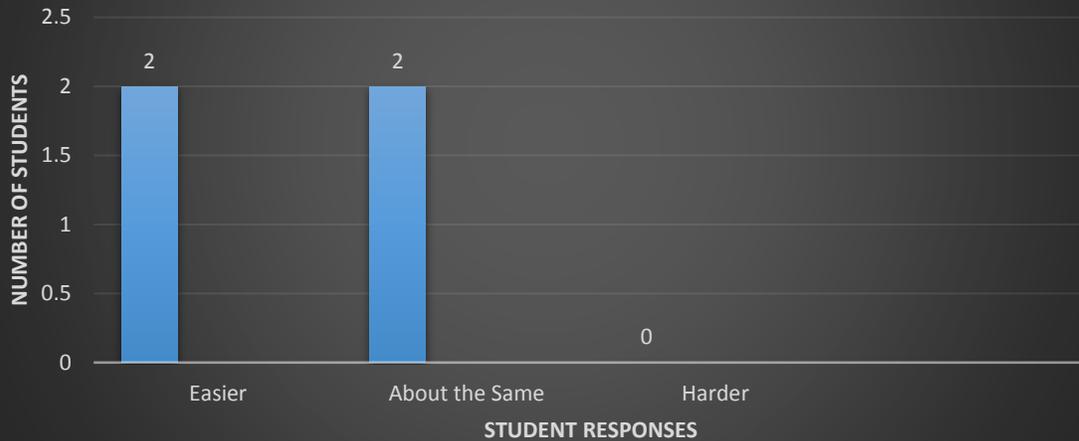
**Question 2: How difficult would you say the APEX course was, compared to a traditional in-person course?**



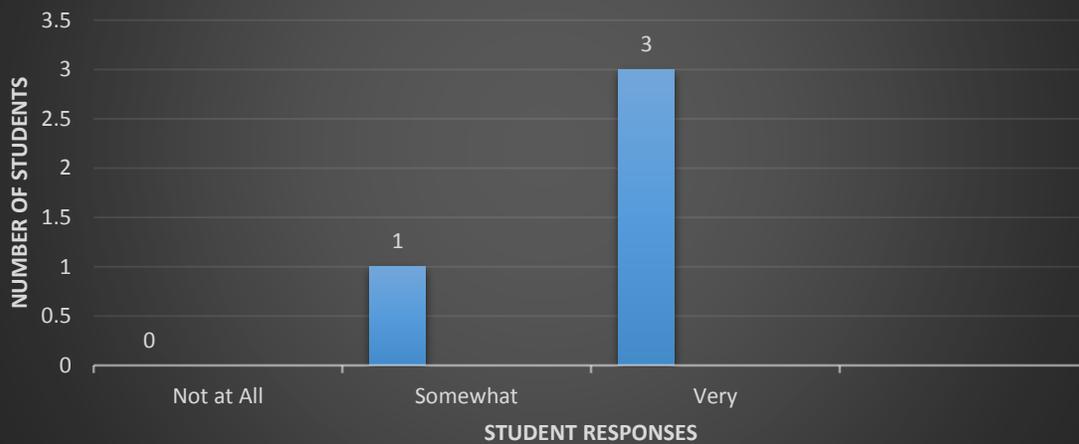
**Question 3: How would you compare the amount of time spent working online and at home in your APEX course to the time spend working on an in-person, traditional course?**



**Question 4: When it comes to grading, getting a passing grade in APEX, compared to a traditional course, is:**

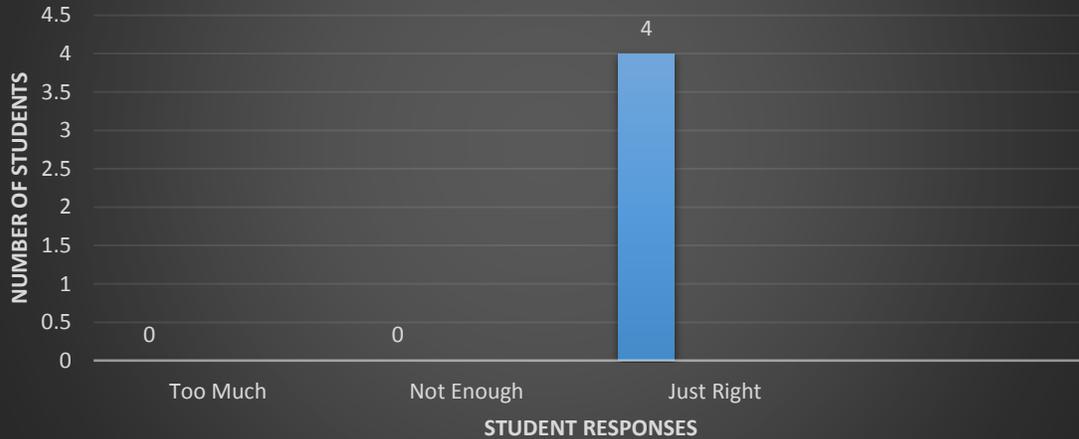


**Question 5: How well prepared for the American Government HSA were you at the conclusion of your APEX course?**

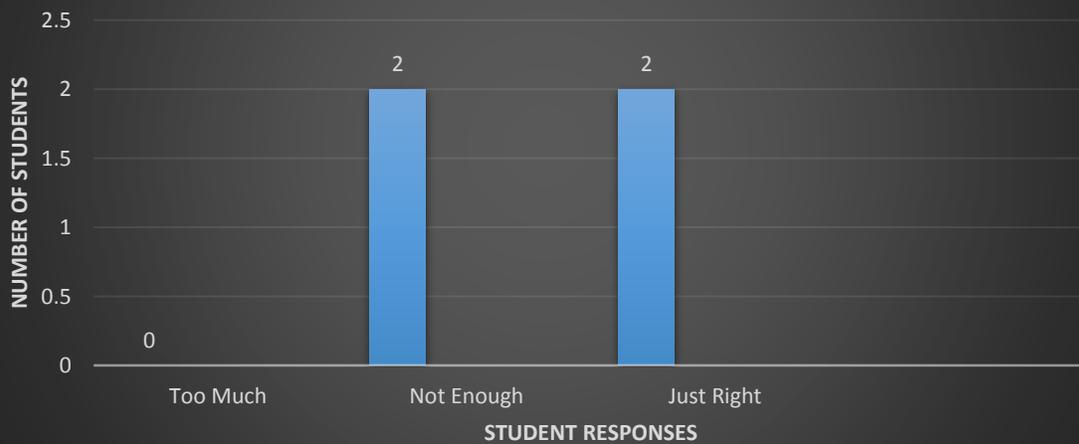


Questions 6 and 7 asked students to rate the level of interaction, both with peers and their instructor/facilitator. Students expressed satisfaction with the level of student-teacher interaction. With regards to interaction with their peers, student felt it was moderate-minimal; no students expressed the perception that student-to-student interaction levels were high.

### Question 6: How would you rate the level of interaction with the teacher in your APEX course?

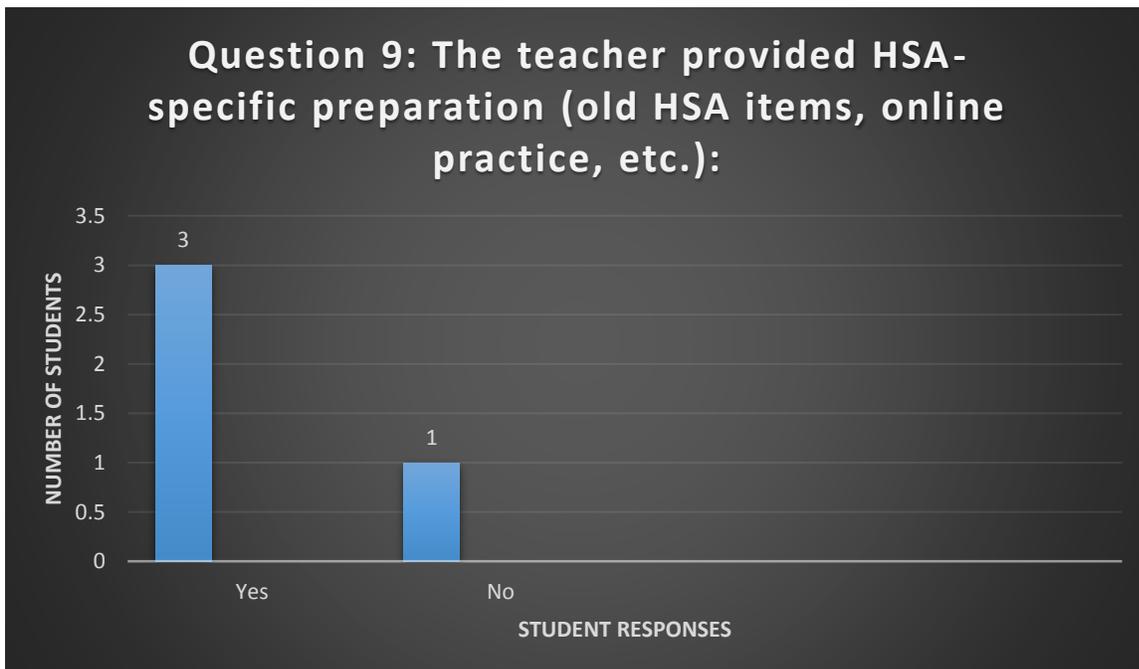
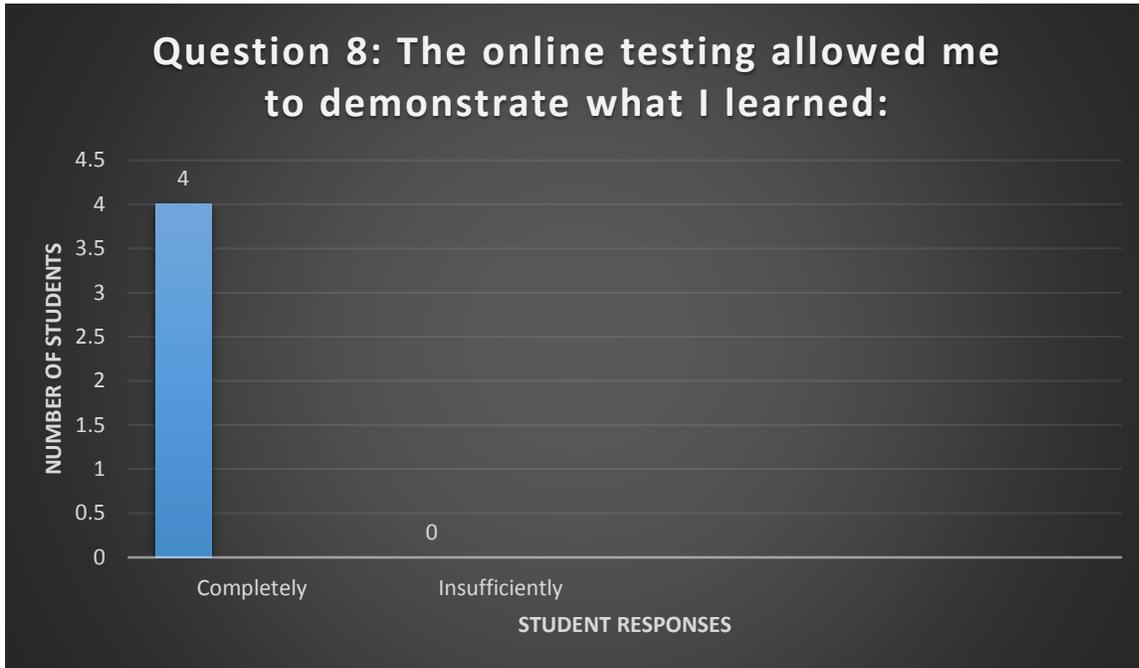


### Question 7: How would you rate the level of interaction with other students in your APEX course?



Questions 8 and 9 focused on assessment. The APEX online-blended courses offer an entirely computer-centered and administered exam for each unit, and at the completion of each unit. Student responses indicated that these assessments were effective in allowing them to demonstrate what had been learned in the course. Additionally, for this course, students are also

being indirectly prepared for successful completion of the Maryland American Government HSA. The survey question asked if the teacher provided supplemental preparation materials for this purpose. The majority of respondents indicated that such preparation did occur.



Finally, the survey concluded with an open-ended item. It stated, “If the APEX format was a preferred format, please describe any aspects of the APEX course format that you feel made for a more successful learning experience.” Student responses to this question indicated a preference due to the following reasons: less details, not as much writing (2), less pressure, preference for multiple choice only assessments, everything was on a computer (2), no paper, it was easier, a shorter time-frame than in-person classes, opportunity to work at own pace/finish early if you worked hard/at home, ability to utilize online search engines for requisite information.

## **CHAPTER V**

### **DISCUSSION**

#### **Implications of the Results**

The purpose of this study was to determine the perceptions of students who have completed an American Government course in a traditional, in-person setting along with an online-blended model (utilizing APEX as a service provider). The study was designed to be descriptive in nature. Data was gathered by the researcher utilizing a brief survey that asked respondents to make qualitative judgments about various components of their coursework, often in a comparative fashion. Respondents were also afforded an opportunity to provide feedback at the conclusion of the survey in a less rigid format (data is presented in Chapter IV).

While there was not a hypothesis for this descriptive study, it was anticipated that student responses would indicate a preference for the online-blended model, as they were unsuccessful in the traditional, in-person course offering during their first attempt to successfully complete American Government. Preference for the course offered via APEX appeared largely due to several key factors. Student respondents found the online-blended course to be easier when compared to their in-person course. Students also indicated a preference due to the timetable for the completion of the online-blended model (students were given 20 days during summer school to complete the online course, compared to 90 days during the course of the school year for the in-person option). Students were also clear that achieving a passing grade was similar or easier; none indicated that attaining a passing grade was more difficult in the online-blended model of instruction.

These results were not particularly surprising. What was however, was the satisfaction that students demonstrated with the lack of interaction, both with their peers and with their

instructor. When it came to student-instructor interaction, all students indicated that the level of interaction was 'just right' (as compared to 'too much' or 'not enough'). When probed about what made the level 'just right', students indicated, in similar fashion, that there was not much. Help was provided by the instructor when needed and at no other point. They did not although they could not seek help, but they didn't have to interact with their teacher if they didn't initiate. Furthermore, no student indicated in their survey responses that there was 'too much' interaction with other students. When asked to explain why there wasn't enough or why it was 'just right', students indicated that there really wasn't much interaction with others, curricular or otherwise, and this particular group found that to be more desirable than high levels of interaction with other students. This is a characteristic that would be in contrast with many instructional best practices.

Survey responses to the open-ended question at the conclusion of the questionnaire were also quite telling, though not surprising. Students were generally pleased with the lack of difficulty and absence of rigor. They found it appealing to not have to do substantial writing, take selected-response exams (which allowed the opportunity to utilize internet searches for the purpose of finding answers they did not know), and they were driven by the opportunity to work at their own pace (which included an opportunity to finish in as little time as two weeks, if participants were willing to complete assignments at home).

### **Theoretical Consequences**

Considerable educational theory points to the significance of interaction for students to promote an engaging classroom (Mortera-Gutierrez, 2006). It should be noted that participants found the lack of interaction with their peers and their instructor to be far more preferential than what would otherwise be advocated in a traditional classroom. Students

were also very much in favor of what they believed to be easier. The absence of rigor was evident as students described a course that would read information to you, allow you to take and re-take quizzes with no penalty, and testing situations that allowed the participants to locate answers in the course material (effectively an ‘open book’ testing situation).

It might be suggested that for this segment of the student population, those that are not meeting with success in the traditional classroom, a shift in the educational paradigm might be in order. What we expect and believe to be best/most appropriate, may very well not speak to all segments of the student population. From a theoretical perspective, this challenge to the instructional norms that drive education may provide considerable dividends when trying to successfully reach student populations that have demonstrated a propensity for failure in the traditional setting.

### **Threats to Validity**

In conducting the research for this study, there were multiple potential threats to the validity of the findings. Chief among these threats is the size of the sample utilized. While over 100 students completed the online-blended model of American Government during the 2014 summer school session, only four students were interviewed and surveyed due to privacy considerations. The very small sample size had an impact on the validity of any particular finding and potentially the collective findings.

There also should exist some degree of concern relative to validity due to the time-table of the study. Student participants completed their in-person courses during the prior two school years. That same group completed their online-blended course approximately six months prior to engaging in the study’s survey instrument. As students were asked to make qualitative judgments regarding comparative rigor, degrees of interaction, and overall

satisfaction, the validity of the feedback could be held in question due to the considerable intervals between each component. While this feedback may not have been intentionally misleading, the intent of the information is not the potential problem.

It is also worth noting that in considering the demographics of the student group, there was a high degree of homogeneity. All participants were white males, between the age of 15 and 17. This narrowly defined study group could certainly be of concern with respect to the potential validity of findings.

### **Connections to Previous Studies/Existing Literature**

Previous research done in regard to online-blended learning yielded findings that more and more students were being enrolled in these types of courses; in some cases, at a faster rate than traditional, in-person course offerings (Akers et al., 2013). Despite increasing enrollment and the very clear findings that online-blended learning can dramatically improve student achievement, what was of greater interest to the researcher was the perceptions of those enrolled.

Previous studies indicated that much of the success and popularity of online-blended courses stemmed from efficiency of the program, democratic choice in endeavor, improved classroom climate, and comfort with the method of instructional delivery (Cherry, 2010). The findings of this research would confirm the high degree of satisfaction with the ability to complete the program in a very efficient manner. The presence of choice was not directly surveyed but students indicated that they liked that they could move at their own pace, rather than that of the teacher, when they provided feedback during the concluding, open-ended measure of the survey instrument. Finally, students expressed a high degree of satisfaction with the format of the course and their comfort with an online model, one that

was free of the traditional paper and pencil, textbook-laden curriculum that are still utilized in the standard course offerings.

It would be disingenuous to suggest that this research found anything highly contradictory in regard to the perceptions of participants when examined in comparison to the findings in previous studies.

### **Implications for Future Research**

While there was no disagreement between the perceptions of students enrolled in this online-blended model and those from previous studies, future research should consider the highly positive perception and the noted successes of these offerings. While the research shows improved achievement, and students are pleased with the offering, it is difficult to compare the ‘final product’ of these courses without providing a consistent measure that authentically assesses what has been taught.

Students enrolled in the online-blended model take unit tests that allow them to retrieve information, do not require writing, and by most objective measures, are less rigorous. While these students are pleased with what they are receiving and are meeting the benchmark for completion, future research must consider the possibility that satisfaction with the course does not necessarily lead to increased achievement. Rather, the increased achievement is due to a less challenging course. Clearly, a student taking an alternative offering (the online-blended model) would not be disenchanted with a program that is shorter, easier, and less rigorous.

### **Conclusions/Summary**

The study that was conducted was insightful. The APEX offering that relies heavily on the ‘online’ portion of ‘online-blended’ models is clearly something that is

appealing to today's high school student. The coursework, though limited in opportunities for peer and instructor interaction, provides a format that speaks to the needs and preferences of a group of learners that are clearly some of our most at-risk. This at-risk population is meeting with marked success while pursuing graduation via this vehicle. Perceptions were very one-sided; clearly students have an affinity for offerings that allow them to demonstrate prior knowledge in order to save time, demonstrate learning using technology, and interact as they choose with their peers and instructors.

With that established, systems should be cognizant of the widespread perception that these courses are less-challenging. As systems work to increase the number of college and career-ready graduates coming from their institutions, the potential sacrifice of rigor, difficulty, and authentic assessment measures should be an item for consideration, if not concern.

## REFERENCES

- Akbayin, H., & Yapici, I. (2012). The Effect of Blended Learning Model on High School Students' Biology Achievement and on Their Attitudes towards the Internet. *Turkish Online Journal Of Educational Technology - TOJET*, 11(2), 228-237.
- Akers, C., Atchley, W., & Wingenbach, G. (2013). Comparison of Course Completion and Student Performance through Online and Traditional Courses. *International Review Of Research In Open And Distance Learning*, 14(4), 104-116.
- Alrushiedat, N., & Olfman, L. (2013). Aiding Participation and Engagement in a Blended Learning Environment. *Journal Of Information Systems Education*, 24(2), 133-145.
- Betts, K., Cohen, A. H., Veit, D. P., Alphin, H. J., Broadus, C., & Allen, D. (2013). Strategies to Increase Online Student Success for Students with Disabilities. *Journal Of Asynchronous Learning Networks*, 17(3), 49-64.
- Cherry, L. D. (2010, January 1). Blended Learning: An Examination of Online Learning's Impact on Face-to-Face Instruction in High School Classrooms. *ProQuest LLC*,
- Golden, T. P., & Karpur, A. (2012). Translating Knowledge through Blended Learning: A Comparative Analysis of Face-to-Face and Blended Learning Methods. *Rehabilitation Research, Policy, And Education*, 26(4), 305-314.
- Kronholz, J. (2011). Getting at-Risk Teens to Graduation: Blended Learning Offers a Second Chance. *Education Next*, 11(4), 24-31
- Kupczynski, L., Brown, M., Holland, G., & Uriegas, B. (2014). The Relationship between Gender and Academic Success Online. *Journal Of Educators Online*, 11(1).

Llamas-Nistal, M., Fernandez-Iglesias, M. J., Gonzalez-Tato, J., & Mikic-Fonte, F. A. (2013).

Blended E-Assessment: Migrating Classical Exams to the Digital World. *Computers & Education*, 6272-87.

Mortera-Gutierrez, F. (2006). Faculty Best Practices Using Blended Learning in E-Learning and

Face-to-Face Instruction. *International Journal On E-Learning*, 5(3), 313-337.

Schorr, J., & McGriff, D. (2011). Future Schools: Blending Face-to-Face and Online

Learning. *Education Next*, 11(3), 10-17.

**Appendix A**

**Online-Blended Course (APEX) Survey**

**Question 1:**

**Have you ever taken an online or online/blended course before?**

**Yes**

**or**

**No**

**Question 2:**

**How difficult would you say the APEX course was, compared to a traditional, in-person course?**

**Less Difficult**

**More Difficult**

**About the Same**

**Question 3:**

**How would you compare the amount of time spent working online and at home in your APEX course, compared to a traditional in-person course?**

**APEX required: More time**

**Less Time**

**About the Same**

**Question 4:**

**When it comes to grading, getting a passing grade in APEX, compared to traditional courses, is:**

**Easier**

**Harder**

**About the same**

**Question 5:**

**How well prepared for the HSA were you at the conclusion of your APEX course?**

**Very                  Somewhat                  Not at All**

**Question 6:**

**How would you rate the level of interaction with the teacher in your APEX course?**

**Too Much                  Not Enough                  Just Right**

**Question 7:**

**How would you rate the level of interaction with other students in your APEX course?**

**Too Much                  Not Enough                  Just Right**

**Question 8:**

**The online testing allowed me to demonstrate what I learned:**

**Completely                  Insufficiently**

**Question 9:**

**The teacher provided HSA specific preparation (old HSA items, online practice, etc.)**

**Yes                  No**

**Question 10:**

**Compared to a traditional class, in APEX, I would say I learned:**

**More                  Less                  About the Same**

**"If you indicated that the APEX format was a preferred format, please describe any aspects of the APEX course format that you feel made for a more successful learning experience:"**