

DOES THE UTILIZATION OF PERSONALIZED LEARNING ENVIRONMENTS
INCREASE ACHIEVEMENT IN FIRST-YEAR UNDERGRADUATE STUDENTS?

Talitha Gentry

Michigan State University

CEP 822

Fall 2016

TABLE OF CONTENTS

<u>CHAPTER</u>	<u>PAGE</u>
Executive Summary.....	4
Appendix A	6
❑ Introduction.....	6
Appendix B.....	10
❑ Abstract.....	10
❑ Review of Literature.....	10
❑ What is Personalized Learning?.....	12
❑ Types of Learning Styles.....	13
❑ The Role of the Instructor and the Student.....	14
❑ Challenges that First-Year College Students Face.....	16
Appendix C.....	19
❑ Research	
Plan.....	19
❑ Research questions.....	19
❑ Methods.....	19
❑ Sample.....	21
❑ Study Design.....	21
❑ Data Sources.....	23
❑ Procedure.....	25
❑ Data Analysis.....	25

Appendix D	28
❑ Summary	28
Appendix E	30
❑ References.....	30

Executive Summary

The purpose of this research proposal is to explore how Personalized Learning Environments (PLE's) can affect the academic achievement of first-year undergraduate students. As a current Director and former undergraduate instructor I have witnessed a vast array of students, and unfortunately many of those students are plagued with a host of issues that affect their abilities to matriculate successfully in college. I started my journey in education working in an Admissions department: not only did this experience enlighten my understanding of how a student begins the process of becoming a student, but I also was able to evaluate their overall academic ability. The transition seemed rather easy for some student; but for some, the transition was filled with angst and often an inability to truly understand the gravity of what higher education entails. When inquiring about rejecting these students' applications to the college I was told "if they can pay let them enroll," but from an ethical standpoint this seemed like a disservice to the student. Students would enroll but fail to matriculate past their first classes, and even if they did pass, many would still eventually fail after the second and third sessions.

While not all colleges and universities operate in this manner, there are many institutions that exist that have lax or non-existent admissions criteria; and furthermore, curriculum is not always created to support the needs of students who have not readily prepared for the rigors of higher education. I have worked at several prominent for-profit institutions which had virtually no admissions criteria beyond a high diploma or GED. Many schools also do not take into consideration the complexities that a student's educational background may entail. I have encountered students who have faced insurmountable adversities, while others lacked support

from educational figures and their environment. Some students have discussed how they never were taught accountability, and many never knew there were alternatives to learning beyond sitting in a classroom lecture. On the other hand, we also have students who are well-adjusted to the college setting, and experience minimal challenges with the rigors. Why do these disparities exist? What can we as educators do to minimize or equalize the educational divide?

When I transitioned into the administrative side of higher education by working as a Director and Instructor my primary goal was to work with colleagues and administration to completely revamp our approach with new students. I wanted to enhance our curriculum by adding levels of personalization so that each assignment use elements of auditory, visual, and kinesthetic learning principles. Along with streamlining the curriculum with personalization I also felt that it was important to enhance the instructor's role in any course by allowing them to also serve as a type of advisor and mentor for success. While I initially thought that my proposals would fall on deaf ears I had a plethora of professors, administrators, and staff that also felt that a change was needed immediately, and that we had to do more to help our students to be successful. Other initiatives and trials are still currently in the works, but I was honored that our first research project started with the implementation of PLE's in the online classroom.

This plan serves as our initial research into utilizing PLE's in the classroom. It is purposely kept rather simple, as we wanted to test to see if there was any merit in continuing our research. Depending on the results further research and implementation may continue, and we are hopeful that we can incorporate PLE's in even more courses as time continues. The PLE classroom will not only be technologically diverse, but will also have a multitude of learning options that will appeal to all learning abilities.

Appendix A

Introduction and Background

Issue: Does the Utilization of Personalized Learning Environment increase Achievement in First Year Undergraduate Students?

Purpose. As an educator and administrator at a large proprietary institution, focusing on quality online instruction is a paramount necessity. Our educational system has to constantly fluctuate to meet the demands of the Department of Education's regulations; but more importantly, our focus is to create programs that meet the needs of a diverse demographic of students: the adult learner. Students who attend our school and other higher education institutions are required to meet specific academic guidelines; however, there are significant limitations as the curriculum is often based on outdated principles. As researchers and educators evolve and study the traits of learners there is significant evidence that supports the importance of providing more personalized learning within the prescribed curriculum.

Since adult learners do not have set benchmarks that are commonly associated with K-12 learners, they can easily be exposed to fragmented and stagnant methods of instruction. To be perfectly blunt, there are some institutions that are delayed in exploring new methods of teaching including creating more conducive learning environments. There could be financial constraints that are associated with changes within the academics system, such as the "cost to provide additional training and education for instructors and retraining educators to update their teaching methods." As an educator I am not immune to resisting change simply because there is a level of

comfort in using an instructional method that has apparently worked in the past. However, sentiments like this are not in the best interest of the student. Higher education systems collectively must move past biases and other constraints to ensure that the priority of their operation is to consistently improve the quality of education for the individual learner instead of the majority.

Practical Significance. The sole beneficiary of the shift to provide personalized learning environments and instruction that incorporates individuality is the student. Higher education systems exist to provide education to adult learners, so instructional and learning plans should focus on ensuring that a higher level of critical thinking, understanding, and awareness are occurring. The educator has a specific role to facilitate this process by providing quality instruction; however, their instruction must be structured in a manner to help the student to transcend traditional realms of thinking.

By creating personalized learning environments in collegiate classrooms the purpose of the educator and student manifests in a more productive manner. The educator evolves more constructively (Bransford, 2000). to “help students to develop the intellectual tools and learning strategies to acquire knowledge that will allow them to think productively” (pg. 5). The process can become hindered when there is a lack of tools, strategies, or when those presenting the material do not have a vested interest in the success of all participants. Sahin and Kislal’s (2016) research states that the enhanced role of the student requires them to be an active and willing participant to engage and interact with the information that is presented (pg.1) Both of

these roles must coexist; however, the success of any plan can easily be jeopardized if the environment is not conducive to each individual learner's interests and abilities.

Learning is a highly complex process, where cognitive function deeply impacts one's ability to retain and understand information. One must also understand that a person's chosen cognitive style also plays a major role in their learning style as it must be conducive to their personality, their experiences within the prescribed social environment, and on a biological level (Willingham, 2009). The individual learner has the ability to utilize attributes that coincide with their own style of learning, and specific skills are improved over time with repetition and practice. This in turn enhances the learning experience by making education more personalized and increasing autonomy within the process.

Current Research Supporting Issue. While some of these articles have been shared in the prior section, one cannot refute the importance of expanding the learning experience for all levels of students. The initial research from Sahin and Kislal (2016) is critical to understanding the importance of personalized learning environments due to the positive correlations that their research has already demonstrated. Student's attitudes towards learning increased, as they readily accepted their collaborative role in the educational process. One can only imagine how the scope of higher education could change to benefit adult learners. Instead of having students graduating ill-prepared for their professions or those who never matriculate we could have a new age of graduates who set the precedent to excel and better their lives of themselves and their communities. Students could become lifelong learners or could seek educational opportunities

outside of the classroom. The possibilities are literally endless, but are still yet to be determined.

Appendix B

Abstract

The purpose of this study is to explore the impact that personalized learning environments (PLE) can have on the achievement of first-year undergraduate students. The study seeks to show the benefits of implementing these types of environments in colleges and universities to increase overall retention and success of each individual student. The goal is to analyze the impact that the instructor plays in supporting and implementing PLE's within their curriculum and classrooms, and to assess the overall success rates of students who either take these types of courses or those who do not.

Review of Literature

Student achievement has typically been the standard method of quantifying learning in the vast majority of educational forums, as curriculum components are generally based on vague rubrics and the successful completion of specific courses. There is a paradigm shift that is occurring now in higher education where more professors and educators in general are looking towards making the learning environment more conducive for all types of learners. This change is also not just limited to K-12 institutions: colleges and universities across the country are analyzing the benefits of creating personalized learning environments (PLE's) for students to create an increased level of critical thinking, understanding, and retention. Our research will examine the importance of PLE's in terms of addressing achievement for first-year undergraduate students, the role of the instructor on the overall outcome of PLE usage in the curriculum, review of current

research and analysis that validates their success, and the future outcomes of how they could shape the future of achievement for these types of students.

Before we can begin our discussion of how student achievement is affected by curriculum and the classroom environment, let us first take a more in depth look into how PLE's came into existence and why they support overall student learning and achievement. PLE's are basically "adaptable learning environments that offer alternatives to instruction" that are based on the individual's learning styles, prior knowledge, and interests (Sahin et. al, 2016). A simpler interpretation is that PLE's are individual learning plans that aim to address the individual learning needs of the student. They have also been called environments that help students to acquire the necessary skills and knowledge to lead so that they can have productive lives within their social communities (Waldeck, 2007). Waldeck (2007) suggests that when a student is aware of how they learn they become more confident to share their knowledge with others, stepping more into a leadership capacity to help others to understand. Despite the variety of definitions for PLE's, the fact remains that they have a distinct feature to improve a student's aptitude to learn by using personalized motivating factors (rewards, praise, success, etc.) within the curriculum and lesson planning.

PLE's are relatively new in terms of implementation, particularly in the higher education environment. Sahin and Kislal (2016) state that in order for the personalized learning environment to also be successful all partners "must participate in the development of the environment, and that the direct recipient of the environment should have their opinions taken into consideration in the continued progression" to increase motivation and their attitudes (pg. 9). The instructor and the student have a collaborative relationship where both must use effective communication skills to

discuss needs and opportunities for growth. PLE's are not meant to be punitive environments; but rather, are plausible future replacements for today's higher education classroom.

Understanding Personalized Learning and the Complexity of Learning Styles

What is Personalized Learning? In many ways an institution could consider their school to be “personalized;” however, what exactly does this constitute? On a broad level one would assume that personalization refers to how the school considers the individual within the educational experience, but personalized learning is truly more than this generalization. According to John Gardner (2012), personalized learning involves the reorganization of the school curriculum to “enhance the pedagogical practices of educators, while also simultaneously taking in account the individual student characteristics and needs to organize the learning environment.” The environments also essentially thrive from the restructuring of traditional teaching methods, as the educator must create a unique curriculum that revolves around individual learning plans.

While this type of learning may seem relatively new, the basics of the approach are relatively simple to implement to the curriculum. Gardner (2012) encourages educators to create “engaging learning opportunities, flexible timing, and tailored services” as it can motivate the student to learn according to their own interests. To begin, implementing the ideals of the personalized learning approach involve four basic elements: 1) building a foundation through communication between the student/instructor on how the student prefers to learn; 2) clear and engaging examples on how work could be completed based on the desired learning style; 3) supportive relationship and forum where dialogue is promoted between the student/instructor; and 4) shared decision-making and dialogue about their experiences in the classroom so

continued enhancements can be made (pg. 220). The critical issues that educators must always be cognizant of is that at the core of this type of learning that collaboration and communication breed the approaches success. The instructor and student develop a symbiotic relationship, and any type of discord could hinder the success of the approach.

Types of Learning Styles. Learning is a highly complex process, where cognitive function deeply impacts one's ability to retain and understand information. One must also understand that a person's chosen cognitive style also plays a major role in their learning style as it must be conducive to their personality, their experiences within the prescribed social environment, and on a biological level (Willingham, 2009). Learning environments aren't meant to be a replica of another student's environment because it is non-authentic to the true needs of that person. Humans generally develop either a set learning style, or they may utilize multiple learning styles over time. The human experience as it pertains to learning is highly individual. While we may learn the same things, our experience or path to learn and understand is innately different. This variable must be accounted for within education because no student should be penalized for their own learning abilities.

There are host of theories that currently exist that rationalize and explain the various learning styles that are present in humans; however, for simplicity we will solely review three of the basic learning styles: visual, auditory, and kinesthetic. Vincent and Ross (2001) define visual learners as those that learn on a visual sense in that they must read or watch something to develop understanding. They recreate what they are reading within a virtual landscape mentally, and they try visualize how they conceptualize information. Auditory learners are quite different than visual learners in that they must hear what they are learning rather than visualizing (Vincent

et. al, 2001). Since they connect through speech and listening they naturally filter information by talking or formulating discussions. Lastly, kinesthetic learners approach learning differently as they are what we could call the “hands-on learner.” They learn by physically engaging in the learning material, and prefer to emulate or practice the concepts that they are learning (Vincent et. al, 2001). They cannot respond to solely visual or auditory stimuli; but rather, they need a more direct medium that will allow them to manipulate the information directly.

When we are considering how these learning styles could affect a PLE the instructor must be willing to create a curriculum that is based on each method. Understandably, these learning styles have completely different requirements, yet the instructor must understand the significance to a PLE. If individual learning styles are omitted in a plan the PLE could fail. Without this initial analysis the student could also easily be placed in a PLE that is not advantageous for their unique needs. They could develop negative connotations regarding their academic abilities, which could be detrimental to their long-term success and matriculation in school. While it may be viewed as cumbersome to adapt such variety in the curriculum, the potential benefits and disadvantages are clear so the instructor (and institution as a whole) should be committed to the success of each student.

The Role of the Instructor and the Student

The Relationship Between the Student and Instructor. While we touched on the importance of the symbiotic relationship between the instructor and student, it is important to fully analyze how it affects the success of a PLE. Waldeck (2007) states that both parties should “be engaged in a reciprocal self-disclosing relationship where social exchanges are paramount.” If there is a lack of dialogue between the parties the core foundation of a PLE will not exist. The

instructor cannot create an individualized learning plan for that student because they will be oblivious to their needs, nor will they know how they learn. To further our analysis it should be noted PLE's do not solely rely on these factors. Kim (2012) stresses that pedagogical activities should be utilized when attempting to use this type of system in the classroom. Teachers must have knowledge of the student's experiences with curriculum, the student's personal histories, general attitudes about schooling, and any other cultural or social factors that either positively or negatively affect their ability to learn (Kim, 2012). This process is generally referred to as "emotional scaffolding," as the instructor develops a more complex understanding on variables that could trigger frustration in learning (Kim, 2012). Since the instructor is aware of these triggers, they could cater assignments and activities that avoid negative frustrations; thereby, allowing the student to further explore their understanding and motivation to learn more.

So what other roles do the educator and student play in facilitating success with personalized learning plans? Another key trait of an educator (Bransford et. al, 2000) should be to "help students to develop the intellectual tools and learning strategies to acquire knowledge that will allow them to think productively." The process can become hindered when there is a lack of tools, strategies, or when those presenting the material do not have a vested interest in the success of all participants. If an instructor resists the validity or purpose of a PLE it could completely hinder the environments success. The instructor must constantly and actively evaluate the student's progress by collaborating with them, while also using inquiry methods to expand upon their personal learning needs. When assessing the technological side instructors must also have the technological resources (applications, software, hardware) to create lesson plans that are creative, and adhere to the specific needs of the student. Not all colleges and universities may have access or budget for

these costly items so this must also be taken into consideration. These issues alone are critical to the PLE's success, and must be addressed in order for implementation to be successful.

Sahin and Kislal's (2016) research states that the role of the student is to be an active and willing participant to engage and interact with the information that is presented. Students have to understand how their own emotional regulation affects their ability to learn, and part of the process starts at the conception of entering a PLE. They must openly share their emotional experiences from their prior studies, and even their interactions within their own social environments. For example, Kim (2012) refers to the emotional regulation that is experienced during test-taking. If a student avoids focusing on a test because they are constantly self-doubting or exhibiting hopelessness and anger these sentiments could continue to plague them as they enter a PLE environment. Students must be candid about these emotions so coping strategies and skills can be developed and cultivated to attribute more positive behaviors to a trigger or stimulus (Kim, 2012). Without this level of transparency the success of any PLE can easily be jeopardized as the collaborative trust of the instructor and student is non-existent.

Challenges that First-Year College Students Face

How College Affects Students. The college experience has transformed dramatically over the past few decades, and as advancements in research and the needs of the student population change the environment is bound to evolve even more. The demographic of student has shifted entirely, as there is marked increase in diversity for the postsecondary landscape (Pascarella, 2006). The "traditional" landscape of the collegiate population was devoid of the traits that are common today: caucasian middle and upper class students ranging in ages of 18 to 22 were typically seen in these classrooms, and the vast majority were attending college full-time (Pascarella, 2006). Today, we see diversity on levels beyond race. Students in higher education

often have had or currently have professional work experience, have families, are often seeking career advancement, or choose to attend college for self-fulfillment. While these are not all of the motivators for attending college, they are quite common experiences that today's undergraduate student encounters.

As we consider this information it validates the importance of incorporation of personalized learning in the undergraduate classroom, especially for students who have not experienced a higher education environment. Instructors must embrace diversity by expanding their curriculum to meet each student's unique needs, as the same method of instruction may not benefit the student (Taylor, 2007). Pascarella (2006) takes Taylor's (2007) idea a step further by suggesting that using the same type of teaching method for all students could cause a "conditional effect" where the magnitude of learning could have drastically different impacts on each student. This is completely different than the goal of a PLE, as the instructor uses a varied modality of instruction to reach a common result of measured learning and achievement.

Challenges and Strategies for First Year Students. Undoubtedly, the transition to the collegiate setting could be potentially jarring for a new student, and it is important that he or she develop specific skills and seek support to adjust. Clark (2005) explored some of the prominent challenges of this demographic, and a number of those revolved around adjusting to the shift in time management skills, goal setting, self-discipline, understanding and communicating their own individual learning needs to faculty, and developing persistence behavior. The student must take accountability for their experiences, and are often the sole-determinant in encouraging their success. Their attitudes and behaviors are key to developing strong intrinsic motivation, and Clark (2005) suggest using nurturing from others: in particular utilizing support relationship with

faculty and student organizations. Instructors have a more prominent presence in students' lives since they are at the forefront of conducting their classes; therefore, students can easily attach them to the image of a supportive figure. If a student is open to eradicating these barriers (as well as others) they must openly seek guidance and support so that their goals can be achieved.

Our goal with the impending research plan is to take previous evidence and support to make our PLE relevant to undergraduate students. We understand that there are a number of possible limitations to our research; however, we stand confident that it is crucial to implement a radical change to our current curriculum. There is also hope that our research will ultimately help all students to develop the necessary skills to succeed inside and outside of the classroom. We have confidence that our dedication to support the needs of our students resonates within our institution, but also we want our students to know that we are vested in their success as an individual.

Appendix C

Research Plan

Research questions. The focal point of our research is to examine several key areas in terms of academic achievement. First, does a personalized learning environment improve achievement,

particularly when assessing the success of first-year undergraduate students? Our research should provide evidence that shows how PLE's positively impact this demographic of students, while also illustrating the specific details of what elements in PLE's encourage achievement and learning. Secondly, does this revised environment prevent or alleviate factors that can deter overall retention? We have already assessed specific factors that deter attrition through college; however, we are seeking data that could support the proposal to implement PLE's. Research could prove to be futile if there is no logical correlation between PLE's and retention. And lastly, what is the impact that the instructor and student have in terms of ensuring that the implementation of PLE's are successful? In order for a PLE to exist the instructor must first create the plan to utilize in their curriculum, and they must also facilitate the PLE for each student. The student also has a dual role to work with their instructor, and they must be candid to provide details of what they require and how they prefer to learn.

Methods

While a host of methods could be plausible options to explore the phenomena of PLE on student achievement, the most logistical and explorative method would be to conduct a quantitative research method. Since we have a set criterion of variables that we would like to explore concerning student achievement, manipulating conditions is not necessary. Our goal is to research what happens in specific environments, and to assess those relationships to see if there is a direct correlation between PLE's and achievement; therefore, using a nonexperimental research design will provide us the most efficient results. We will focus on using a collaborative approach of utilizing a comparison and survey research design, as the two-fold approach should add another dimension of support to the impact of these environments. We will compare the final

grades of the participants to the typical grades that are seen in this introductory course in an attempt to show any direct correlation to the PLE environment.

Attempts to utilize a PLE in this course have not yet been attempted; however, elements of PLE have been used over the past few semesters. Leadership and Academic departments at the participating institution have held several focus-group meetings to change the curriculum to help all levels of students to be successful. There has been a marked trend that shows that some students reported in their surveys that the curriculum seemed “irrelevant to their needs,” and “poorly structured to help students who have been out of school for an extended period of time.” Traditional assessments have been removed, and now this course strictly relies more on a holistic approach to assessing a student’s knowledge. Weekly assignments now also require students to engage in lengthy discussions with their peers, a marked transition from the prior approach to gauge learning by requiring that students complete complex written assignments. The goal with these types of revisions are to slowly ease a student into the rigors of being a college student to reduce early dropout rates and to increase overall retention. The implementation of the PLE into this course will only strengthen these plans by allowing instructors to tailor the learning experience for each student, and also providing that data to future instructors so that they have an increased potential to be successful.

Sample

For the purpose of this study a comparative study will be performed that examines the experiences of first year students who are in a PLE classroom setting for an introductory college course (Introduction to Student Success). The sample will consists of a total of 5 students who

are taking the the PLE Introduction to Student Success course. Prior educational experience or challenges will not be considered in the study, as the study will solely measure the result of their experiences after their initial 5-week course. Students participating will simply be noted as “first-year” undergraduate students. The sample will also contain a mix of female and male students, with no distinctions made regarding race, cultural background, or prior educational background. Another important element of the selection process is that the first-year students in our programs do not have their prior educational experience evaluated before starting their first class. Regardless of their academic ability students are placed in an introductory course so they are adequately informed and prepared for the rigors of higher education. This added variable should help in examining how a PLE can affect a new student.

Study Design. Our study has been orchestrated in a manner where the participants will supply their responses to specifically crafted questions that are designed to highlight the pros and cons of a personalized learning environment. According to Sami Almalki (2016) an effective quantitative research design should provide the rationale and evidence that supports the benefits of PLE’s, but the compiled results should also mathematically quantify the relevance of PLE’s. Our educational research is also driven to improve the current state of the introductory higher education environment. This study should not only improve introductory classes but should also have a positive impact on those learners and a society as a whole (Almalki, 2016). The method will focus on utilizing an independent survey to assess the overall effectiveness and relevance to the learning experience for each individual student.

Designing this study was not taken lightly: we chose this method as the best method to start the process of understanding how PLE’s could affect this demographic of student because it

had never been implemented into any curriculums at our participating institution. The online curriculum at this school had not been revised since its inception back in 2008, with only minor variances occurring in terms of how the curriculum was delivered to students. A grandiose implementation of this study was not feasible partially due to the financial implications, and because executive academic leadership preferred to research and test a PLE environment due to the increased commitment for instructors to revise their curriculums. We also had no prior knowledge in terms of whether or not a student had participated in a PLE classroom. Our goal is to ask this question in final survey so students can provide insight regarding their prior experiences.

Our study focuses on a test section of the Introduction to College Success (UNIV103) course at the participating institution. Five total students will participate in the study over the duration of their 5-week course, with a survey being provided concluding the end of the course. The survey questions will specifically ask about their experiences in the course, and if they felt the experience positively or negatively impacted their academic experience and potential to succeed in the future. Questions are mainly closed ended; however, there are several questions that will allow the student to detail their experiences. Feedback had already been collected in prior surveys at the institution that showed that student engagement was low, and that the curriculum lacked depth to truly teach a student to learn. Our questions will ask specifically how their experiences differed that their prior academic experiences at other schools, and if their engagement increased from the PLE. We will also examine the final grades for each of the five participants to see if they could be a direct correlation to show the relevance of using PLE's.

Data Sources. This quantitative study focuses on using surveys as they were an effective way to collect data without bias, and allowed for the participant to provide their feedback without any types of interference. In order for our preliminary research on this type of modality to be approved administrators only warranted a survey method so the initial data could be analyzed. Our researchers are aware that more in depth data collection (interviews, focus groups, and also comparison studies) could provide even more relevant data to support our research questions however, plans do exist to implement these strategies in future research depending on the findings of this study. Our goal was to keep this initial juncture into PLE’s relatively small as they are not common practice in college/university institutions at this time (Waldeck, 2007). Classes all generally have an end of session survey build into the online course modules, so adjusting the questions for this test course required no immediate changes on an implementation standpoint. The survey consists of ten questions that are aimed to probe and assess the academic and emotional experiences within the revised UNIV103 course. Most questions are generally “yes” or “no” questions for simplicity in gathering data, but there are several questions that require the student to provide more elaborate details regarding their experiences in the UNIV103 course. The questions are ranked in ascending order of importance as follows in the survey (1= low priority, 10= high priority):

End of Course Survey UNIV103	
<ol style="list-style-type: none"> 1. Was this your first time attempting a college course? (Yes or No) 2. Have you ever participated in a personalized learning environment 	<ol style="list-style-type: none"> 3. Upon reflecting upon your experiences do you feel that you are better prepared to handle the rigors of higher education? (Yes or No)

classroom in your past studies? (Yes or No)	<ul style="list-style-type: none"> a. If yes please provide a brief example explaining why you are better prepared b. If no please provide an explanation of what could be adjusted to help you in your endeavors
4. Did you feel that this course provided more options to engage your own individual learning styles? (Yes or No)	5. Were the instructions in your assignments clear and easy to understand? (Yes or No) <ul style="list-style-type: none"> a. If yes, how did the assignment align to your personal learning style? b. If no, please provide details regarding why your assignments were unclear
6. Was your instructor receptive to your individual learning style (as described in the first Unit's assignment to write a post about your learning style and why it is important)? (Yes or No)	7. Did your needs change as you progressed through each learning module? (Yes or No) <ul style="list-style-type: none"> a. If yes, was your instructor willing to adjust based on your needs and did the change result in a positive progression?
8. Did you feel that the assignments properly represented your individual learning style? (Yes or No)	9. What other benefits do you feel that this personalized learning environment provided you?
	10. Would you take this type of course again? (Yes or No) <ul style="list-style-type: none"> a. If yes or no, please provide details why you have made this decision

Procedure. Since we are using a survey quantitative research modality the focus is to investigate each participant's experiences anonymously and without any bias. The survey inquiry will assess how each participant's experiences were impacted by their instructor's

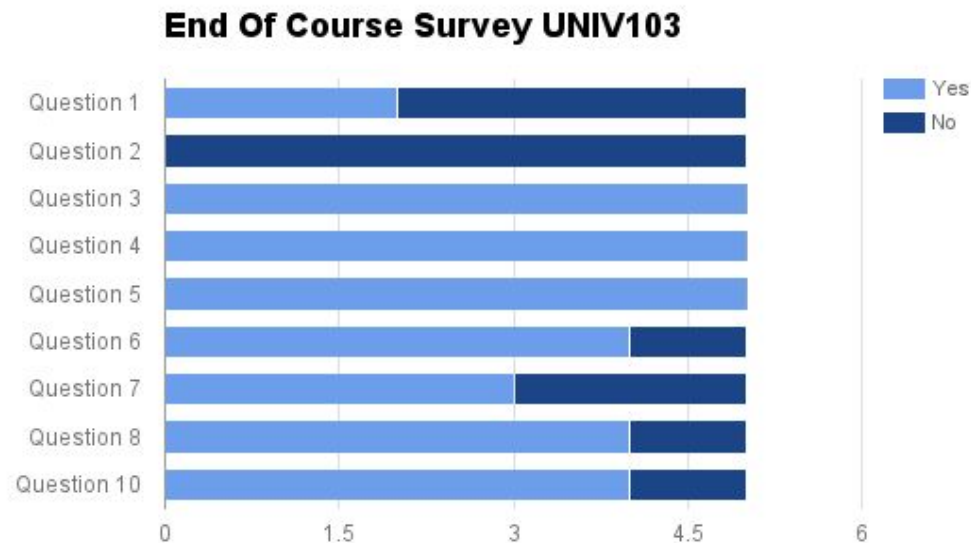
teaching modality and how the personalized learning was implemented in the classroom.

Students will be given surveys at the end of the course to share their experiences. Surveys are required by all students in order for final grades to be released, so each student will submit their surveys via our online survey application. While each student's final score will also be assessed in the final data analysis those results are not connected directly to the survey results. We will assess the scores independent of survey responses since there is an emphasis to keep this study anonymous.

Data analysis

The data that was compiled provided quite interesting results as many of our participants showed overall favorable results towards their experiences in the PLE version of UNIV103. When we look at the overall experience in the course, "80% of our participants reported that they would take this course again, and that they are better prepared for the rigors of higher education." Initially upon reviewing the sample, only three participants had taken a college course in the past, so there was a possibility that the course could have posed no benefits for them. The survey also revealed that 100% of our participants felt that the course provided more to engage and explore their own learning styles, and their instructors were pivotal in being receptive to their individual needs. One participant remarked that the instructor, "opened doors that they didn't realize were there," and that they had no idea that their learning was affected by "how they actually learn." All of the participants also noted that the assignments matched the prescribed learning style that they preferred. Another survey participant noted that they "wished an environment like this existed before" as they would not have forgone their academic studies when they were younger.

Details of our course survey questions are below with a bar chart illustration of the answers given by the participants:



While our data shows a positive correlation to the PLE environment, 20% of the sample did not have a favorable experience compared to their counterparts. This population also noted that their needs changed at some juncture during the course, and the prescribed initial PLE produced counterproductive results. On the survey the student noted that they were initially an auditory learner; however, over the course of doing the first three assignments they felt they needed more visual examples to understand the premise of the work. Another student also felt that the assignments were unclear in some areas as the course progressed, but that more clarification in the assignment details could have alleviated the problem.

The final grades from all five participants also showed that PLE's could be a beneficial implementation to the classroom for first-year students. The average score was a 3.7 on a 4.0 GPA scale, with three students receiving a 4.0, one student receiving a 3.5, and one receiving a

3.0. Students who did not receive a perfect score for the entire class did well in their first two units of assignments; however, once they reached the last three modules experienced some challenges in meeting the guidelines of the assignments. The instructor provided ample feedback on areas of opportunity with each unit's assignments; however, there was no offer to change the PLE modality in the options to improve. Since one participant noted that their needs shifted at some juncture within the course this is clearly an area of opportunity to ensure that instructors have preparations made to alter the curriculum should a student demonstrate need for assistance. We simply cannot just look at the positive trends of this research: there are indeed areas of opportunity to improve the PLE experience for all students, and to ensure that components are flexible to abrupt or continuous change.

Appendix D

Summary

As we apply our data to our research questions initially discussed, there is a clear benefit of the PLE environment for first year students. With “4 out of 5 students reporting that they would take this course again,” clearly there is a benefit to implementing a PLE in the curriculum; and

more importantly, final grades show that all students successfully passed the course with a B average (3.0 and above) or higher. Four of those students also reported that they felt that the course prepared them to matriculate through their program as well. It should also be noted that while this course is meant to prepare first year students to the rigors of the college environment, only about 45% of our current student population at the research institution successfully matriculate. This experiment far superseded our current rates at 80%, which clearly shows that there could be evidence that shows the PLE curriculum positively affects new students. Our goal will be to continue to research and explore more diverse samples and improved standards in the PLE curriculum to implement this change on a wider scale within the institution.

Lastly, it should be important to note that 100% of our participants remarked that their instructor had a role in their ability to succeed in the course. The primary component of the Unit 1 assignment for this course revolved around setting up a video conference with the instructor to review each individual student's goals, motivations, potential areas of opportunity, and preferred learning methods. PLE's are meant to encourage affective and cognitive learning simultaneously through a collaborative relationship between the instructor and student (Waldeck, 2007). Each assignment involved detailed interaction between the instructor and student, with the instructor delivering the content of each unit in a manner that was conducive to the student's prescribed learning styles. Kim (2012) also noted curricular constraints often limit the instructor's ability to positively influence motivation and academic needs. In the PLE model the instructor has autonomy to work with the student in depth at the onset of the course to explore not only these elements, but to continuously assess improvements to build motivation (Kim, 2012). While this research did not facilitate this type of in depth assessment, the foundation has been set to

continue to explore expanding the current undergraduate curriculum. Students understand the critical role that their instructors can serve in their success, and they also could be the key to overcoming challenges with retention in colleges and universities.

Appendix E

References

- Abeles, T. P. (2015). The challenge of personalized education on the institution of higher education. *On the Horizon*, 23(4), 273-276. <http://dx.doi.org/10.1108/OTH-08-2015-0056>
- Almalki, S. (2016). Integrating quantitative and qualitative data in mixed methods Research—Challenges and benefits. *Journal of Education and Learning*, 5(3), 288.
doi:10.5539/jel.v5n3p288

Bransford, J.D., Brown, A.L., & Cocking, R.R. (2000). How people learn: Brain, mind, experience and school. National Academies Press. Retrieved from <http://www.nap.edu/openbook.php?isbn=0309070368>

Clark, M. R. (2005). Negotiating the freshman year: Challenges and strategies among first-year college students. *Journal of College Student Development*, 46(3), 296-316.

Gardner, J. W. (2012). Student Centered/Personalized Learning. Ch, 8, 219. <http://itec-ubc.ca/wordpress/mackowetsky/wp-content/uploads/sites/54/2014/02/chapter-8-student-centred-personalized-learning.pdf>

Kim, C. (2012). The role of affective and motivational factors in designing personalized learning environments. *Educational Technology Research and Development*, 60(4), 563-584. <http://www.jstor.org/stable/23271605>

Pascarella, E.T. (2006). How College Affects Students: Ten Directions for Future Research. *Journal of College Student Development* 47.5: 508-20.

Sahin, M., & Kislal, T. (2016, January). An Analysis of University Students' Attitudes towards Personalized Learning Environments. The Turkish Online Journal of Educational Technology, 15(1), 1-10. Retrieved from <http://files.eric.ed.gov/fulltext/EJ1086195.pdf>

Schiaffino, S., Garcia, P., & Amandi, A. (2008). eTeacher: Providing personalized assistance to e-learning students. *Computers & Education*, 51(4), 1744-1754.

Taylor, L. L. (2007). *Adapting Instruction Based on Learning Styles for Improved Learning among Rural Community College Students*. University of South Alabama.

Vincent, A., & Ross, D. (2001). Personalize training: Determine learning styles, personality types and multiple intelligences online. *The Learning Organization*, 8(1), 36-43.
doi:10.1108/09696470110366525

Waldeck, J. H. (2007). Answering the question: Student perceptions of personalized education and the construct's relationship to learning outcomes. *Communication Education*, 56(4), 409-432. <http://dx.doi.org/10.1080/03634520701400090>