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**FIRST-YEAR SEMINAR DELIVERY METHOD EFFECT ON STUDENT SUCCESS AT
AN APPALACHIAN OPEN-ENROLLMENT INSTITUTION**

A dissertation submitted to
the Graduate College of
Marshall University
In partial fulfillment of
the requirements for the degree of
Doctor of Education
In
Leadership Studies
by
Anthony Michael Underwood
Approved by
Dr. Barbara Nicholson, Committee Chairperson
Dr. Charles Bethel
Dr. Robert Rubenstein

Marshall University
May 2020

APPROVAL OF DISSERTATION

We, the faculty supervising the work of **Anthony Underwood**, affirm that the dissertation, *First-Year Seminar Delivery Method Effect on Student Success at an Appalachian Open - Enrollment College*, meets the high academic standards for original scholarship and creative work established by the EdD Program in **Leadership Studies** and the College of Education and Professional Development. This work also conforms to the editorial standards of our discipline and the Graduate College of Marshall University. With our signatures, we approve the manuscript for publication.

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ABSTRACT

First-year seminars (FYS) have been identified as one of the most effective high impact practices in supporting student success as measured in this study by GPA, semester-to-semester persistence, and second semester student course load. However, those students who would most need this support, students at public open-enrollment institutions in the Appalachian region, have often either not been required to participate or have not been given the chance to do so due to limits on academic program length or a perceived lack of resources at such institutions. This research measured the effectiveness of an FYS program in the above defined environment where the institution studied gave programs the option of a standalone FYS course, or a pre-professional, discipline linked (PPDL) course where FYS content was delivered within pre-existing 100-level content specific introductory courses. The course was mandated for all first-time freshmen or transfers with 30 or fewer transferable credit hours. The data demonstrated that the less resource intense PPDL method was just as effective as the standalone course.

CHAPTER ONE

First-year seminar (FYS) courses, “small enrollment courses that help beginning students with their academic and social transition” have been long cited as a foundational element regarding increasing the first-year success of college students (Koch and Gardner, 2014, and Goodman & Pascarella, 2006). It is a practice long used by traditional liberal arts and large land grant institutions, but remains an issue of debate among community, technical and other open enrollment institutions in terms of effective delivery of FYS content in the face of politically-driven credit hour limits and in consideration of large, non-traditional student population segments. Rural Appalachia, as represented by WVU Parkersburg, an institution of the West Virginia Community and Technical College System, offered a unique population of low higher-education attainment, with a cultural antipathy toward higher education, in a political climate that demanded fewer resources directed to non-degree required courses, with declining financial support for higher education (Johnson, et al., 2012).

WVU Parkersburg was a public, non-residential, open enrollment institution with a designated seven-county service area that directly bordered Marietta, OH. The Parkersburg-Marietta-Vienna metropolitan area contained 161,118 residents, according to the U.S. Census (2015). WVU Parkersburg was classified as a “four-year and above” institution by the Carnegie Classification of Institutions of Higher Education. It was independently, regionally accredited by the Higher Learning Commission and, despite its name, logo and iconography, has been independently governed as a separate institution from West Virginia University since an act of the state legislature in 2008. In variance from its Carnegie Classification, WVU Parkersburg was governed as part of the West Virginia Community and Technical College System and was

required to follow that system's policies and rules, while only its bachelor's degree programs were governed by the West Virginia Higher Education Policy Commission.

At a time when student-success research all but demanded more resources for non-academic student support through an FYS structure, is there a way to balance the objective needs for FYS and the financial and political demands of the culture?

Background

College administrators and their systems were under political, consumer and competitive pressure to reduce cost to taxpayers, control tuition costs, and reduce time to degree while increasing student performance dramatically. In 2012, Complete College America conducted a national survey regarding the typical requirements for associate and bachelor's degrees. Nationally, most four-year degree granting institutions have restricted their bachelor's degree programs to 120 credit hours, though a significant minority of programs in the humanities and social sciences still require 125 credit hours or more. Associate degree institutions demonstrated a much higher degree of variance, with only transfer degrees being typically restricted to 60 credit hours. Career and technical courses of study usually require more than 60 credit hours. There appeared to be no clearly defined dividing line of perceived quality of institutional reputation as it relates to credit hour total for degree, other than the minimum of 60 hours for an Associate degree and 120 for the bachelor's degree. According to the survey, "many well regarded institutions are still able to offer 120-credit-hour degrees," and, "[a]t least some (associate degree) institutions manage to offer 60-credit associate's degrees in almost every field" of academic study (Johnson, Reidy, Droll, & LeMon, 2012).

In the State of West Virginia, the limits for required credit hour attainment for associate degrees have the force of law: "Associate degrees require a maximum of sixty-credit hours

unless otherwise required by accrediting agencies for completion of the degree and the certificate degree requires a maximum of thirty-credit hours for completion unless otherwise required by accrediting agencies” (Series 11, 2011).

The arbitrary limiting of required credit-hours for degree completion would on the surface appear to be a counterintuitive demand, as increasing student success would seem to demand more time and additional resources. As demonstrated by Complete College America, however, advancement on these fronts can be significantly achieved from a data informed and student success driven restructure of administrative, academic and student support systems. While FYS is not an explicit core strategy of the Complete College America, it does not exist in opposition to it either. Rather, the results of this research may indicate that it is possible to redistribute existing resources to attain the student performance benefits of FYS without additional resources.

This proposed research will provide information to policymakers and curriculum designers about the relative efficacy of offering more expensive stand-alone FYS courses versus the embedded method, which validated the additional demand on faculty to include FYS material in pre-existing courses as doing so saved the institution in additional salary, classroom commitment, and course schedule space. If successful, this research will play a part in assisting rural or Appalachian colleges in how best to allocate first-year seminar resources to effect student success.

In the United States, from its foundation, American higher education was for the use and improvement of “privileged, white, land owning males” (Koch & Gardner, 2014). The introduction of the Industrial Revolution and the Civil War to the American experience began an all too slow change in higher education that found itself transforming from the age of static

privilege to what had become after the end of World War II the age of merit. While strong currents of misogyny and racism obstructed millions from partaking in higher education, the post-World War II and Korean War G.I. Bills allowed for millions of working-class men, still mostly white, to access American college systems.

The Civil Rights Act of 1964 and the growing women's rights movement led to a condition on many campuses that saw student populations transformed from almost exclusively white, male and elite, to a more diverse and somewhat more egalitarian student body (Koch & Gardner, 2014). Higher education enrollment in 1970 was double what it had been in 1960 (American Council on Education, 1984).

As this change in demographics led to the empowerment of new voices in academia, the controversy over the continuation of the Vietnam War led to extensive unrest and outright physical conflict on several American campuses, often symbolized by the shooting of an unarmed protesting student at Kent State University on May 4, 1970.

To create an opportunity to consciously orient students from families unfamiliar to academia and to create a more respectful and student-centered atmosphere, colleges and universities reached back into their past for a possible solution: first-year seminars. FYS had been introduced to higher education in the United States in 1911 at Reed College in Oregon. By 1938, 90% of American university freshmen were being required to take FYS and leading universities were including the course in their curricula (Gordon, 1989). After this zenith, however, the FYS suffered a backlash from faculty on the grounds that it was not proper to offer academic credit for what amounted to "life adjustment content" (Gordon, 1989). By the 1960s, the FYS was essentially non-existent (Gordon, 1989).

After an on-campus riot in the 1970s, the University of South Carolina instituted a modern version of FYS, which was derided for its lack of structure and academic content. Its positive effect on college retention, however, combined with an industry-wide predicted decrease in college enrollment, led to the wider adoption of FYS throughout North America (Koch and Gardner, 2014). During the 1990s and continuing into the 21st century with the ongoing loss of financial support from both state and federal sources and a flattening of population growth in the United States, structures that maintained and increased retention had become important from not only the perspective of serving students and our society, but for reasons of institutional financial health.

Current Practice

While the term “First-Year Initiatives” encompassed a wide range of both “pre-semester” and first semester activities, the FYS is by far the most common structure for a curricular-based strategy with 80% of four-year institutions and 64% of all two-year institutions offering FYS (Barefoot, 2005). Due to its ubiquity, FYS is also one of the most well researched First-Year Initiatives in higher education (Pascarella and Terenzini, 2005). Though its use is widespread, FYS can take a widely recognized series of forms. Common categories of FYS implementation are

- extended orientation;
- academic seminar with uniform content;
- academic seminar on various topics;
- pre-professional or discipline linked;
- basic study skills; and
- hybrid.

The least implemented form of FYS is pre-professional or disciplined linked, with only 2.0% of two-year institutions and 4.4% of four-year institutions using the method (Keup & Young, 2016), despite the possible cost-saving and credit-hour efficiency of using pre-professional course works to inculcate common FYS curriculum.

FYS Effectiveness

The effectiveness of FYS is well documented for community college settings. The Center for Community College Student Engagement has identified FYSs as one of the 13 key practices for student success among community colleges (CCSSE, 2012), and the Association of American Colleges and Universities demonstrated that FYS was one of 10 high impact practices (HIP) that would support positive academic outcomes as part of their Liberal Education and America's Promise (LEAP) project (Kuh, 2008; Keup & Young, 2016).

Due to the very nature of FYS, it is often one of the first organized and measured efforts of the institution to engage with students specifically to shore up student success and retention. Additionally, FYS structure allowed it to be a channel to deliver other HIPs, such as common intellectual experiences, learning communities and writing intensive coursework, generating an accelerated or layered effect to introduce the student to multiple HIPs in the initial semester.

Ultimately, HIPs and the FYSs that deliver them are about making the promise of equity in higher education, a promise that was begun and expanded beginning in 1946 to the present day, a concrete reality. It is one point to welcome the disadvantaged, the working class, the ethnic minority, or the under-represented gender into academia, but another to create a space and tools for such populations that are often either underprepared for or unfamiliar with the “rules of the game” so that they may also attain professional success.

While most of the research remains focused on the FYS experience at four-year institutions (Keup & Young, 2016), community colleges remain a major element of United States higher education that is too often underfunded and understudied.

Statement of the Problem

While research indicated that FYSs and the HIPs they delivered were both widely used and research-supported elements of first-year initiatives, financial, academic and policy pressures have limited the use and research of the FYS at the community and technical college level. Thus, the most vulnerable students in higher education, those both underprepared academically and those from cultural groups that either de-emphasize or are hostile to the benefits and ethos of higher education, have been the students least likely to have access to the benefits of FYS programs, specifically increased persistence, shorter times to graduation, and improved academic performance. The historically least used delivery method for FYS, pre-professional or discipline linked (PPDL) courses, offered opportunities to provide the benefits of FYS to community college students in an efficient and financially acceptable manner without stretching the policy boundaries of maximum credit hour limits for degrees. If PPDL courses have been at least as effective as standalone FYS courses in supporting common measures of first semester student success, then it is possible to recommend this pathway for institutions operating under these financial and policy limitations.

Purpose of the Study

This study compared the academic performance of first-time students enrolled during a fall or spring semester at West Virginia University at Parkersburg (“the college”) from 2015 to 2017. The college implemented FYS in the spring semester of 2017. These students were sorted into populations that were inclusive of students who were taking either a standalone FYS (College 101), a PPDL FYS (Childhood Development 105, Education 101 or General Business

101), or a control group who, though nominally required to take a FYS course in their first semester, were allowed not to, due to professional judgement of advising staff. This comparison yielded data on the relative efficacy of the type of FYS delivery during the same period.

Another comparison contrasted student performance from the fall and spring semesters for 2015 and 2016, those years prior to FYS implementation at the college, using both the control group and those courses which were redesigned to include FYS and HIP material in 2017. A third comparison demonstrated whether the volume of HIP or cultural (Appalachian) specific success strategies had an impact on first semester student success. First semester student success was measured in terms of first college semester GPA, persistence from the first college fall or spring semester to the next, and the volume of credit hour enrollment for the following fall or spring semester.

Research Questions

The literature supported the proposition that higher education students with the greatest amount of academic and cultural challenges to success, as exemplified by rural, Appalachian students, were the least likely to have access to an FYS program, a common and benchmarked method for addressing these barriers. Public, open-enrollment or community college systems, the systems that most commonly served such students, were often constrained by both budget and policy from offering FYS. A possible solution was one of the most budget conscious and least implemented methods of FYS; pre-professional or discipline linked (PPDL) courses wherein introductory content knowledge was paired with FYS course work.

- Did the participation in a semester-long, first-year experience course have a positive effect on student academic performance indicators, as measured by first semester grade

point average, following semester persistence, and following semester enrollment level for first semester students at an open enrollment Appalachian institution?

- Did the use of High Impact Practices in First-Year Seminar classes result in higher student academic performance indicators, as measured by first semester grade point average, following semester persistence and following semester enrollment level for first semester students at an open enrollment Appalachian institution?
- Did the inclusion of Appalachian-specific success factors in the curriculum of First-Year Seminar classes result in higher student academic performance indicators, as measured by first semester grade point average, following semester persistence and following semester enrollment level for first semester students at an open enrollment Appalachian institution?
- Among students who participated in a semester-long, first-year experience course, was there a relationship between Expected Family Contribution and first semester GPA?

Significance of the Study

The issues of student success and degree attainment have become critical for American community colleges (Yorkshire, 2016). First-Year Seminars have been well documented to provide higher levels of academic success to students at both four-year and two-year institutions, although there is a lower degree of FYS implementation at two-year institutions. That such a well-documented student success strategy should be ignored by nearly one third of two-year institutions seems counter-intuitive until one understands the financial, political and policy pressure arrayed against community colleges to limit credit hours required for degree programs. While that is a positive in terms of limiting costs for students and eliminating unnecessary

courses from the curriculum, it can also be a barrier to student success processes such as FYS that require a curricular element.

The employment of pre-professional or discipline linked courses offer a possible solution. Pre-existing “101” courses that serve as introductions to professional academic disciplines are courses that have already been allocated instructional resources and would require little more than access to a common curriculum core that can be infused into a course that already may be addressing some of the acculturation needs of a first-year student. If PPDL FYS courses are statistically similar to standalone FYS courses, the full use of PPDL FYS courses could both support student academic success and be a cost-effective way of FYS implementation in the current higher education atmosphere.

Definition of Terms

First-Year Seminars, or FYS are “small enrollment courses that help beginning students with their academic and social transition” (Koch and Gardner, 2014).

High Impact Practices are “powerful ... (instructional strategies that) increase the frequency of meaningful interactions with faculty and peers, induce students to spend more time and effort on research, writing, and analytic thinking, and involve students in more hands-on and collaborative forms of learning” (American Association of Colleges and Universities [AACU], 2011).

First Time Students is a common phrase in higher education that means college students in their first regularly admitted semester of higher education at any institution.

Transfer Students are students who began their higher education student career at one institution before gaining admission to a separate higher education institution and enrolling in that institution.

Persistence is defined by the National Student Clearinghouse Research Center as “continued enrollment (or degree completion) at any higher education institution ... in the fall semesters of a student’s first and second year” (NSC Research Center, 2017). This definition is overly traditional, however, and oriented away from the enrollment patterns of community colleges. For the purposes of this study, persistence is the continued enrollment from a student’s first fall or spring semester to that student’s next fall or spring semester.

Following Semester Enrollment is the measure of a student’s credit hour enrollment in the fall or spring semester after the most immediately completed fall or spring semester.

Appalachia is defined, as it is for the Appalachian Regional Commission, as “a 205,000-square-mile region that follows the spine of the Appalachian Mountains from southern New York to northern Mississippi. It includes all of West Virginia and parts of 12 other states: Alabama, Georgia, Kentucky, Maryland, Mississippi, New York, North Carolina, Ohio, Pennsylvania, South Carolina, Tennessee, and Virginia. Forty-two percent of the Region's population is rural, compared with 20 percent of the national population” (Appalachian Regional Commission, 2018).

Method

Beginning in the Spring 2017 academic semester and continuing through the Fall 2017 semester, West Virginia University at Parkersburg, as part of their efforts to increase retention, sought to resolve the conflict between the demonstrated effectiveness of FYS programs and the pressure for institutions to reduce credit hours in degree programs by allowing individual academic programs to select from two different first-year seminar delivery options:

1. a “stand-alone” one-credit hour course titled College 101 with a common syllabus to be taken in a student’s first semester; or
2. a three-credit hour, content-specific introductory course (for example, EDUC 100, “Introduction to Teacher Education”) wherein the College 101 curriculum was consciously embedded.

The first college semester GPA, semester to semester persistence, and following semester enrollment were measured as key academic performance indicators for the entire population of first-time students and for those transfer students with fewer than 30 transferred credit hours who, by the college’s definition, were required to have an FYS course during their first fully admitted semester of college. This population was then divided into two groups: a control group, who were allowed on an individual basis to not have an FYS experience in their first semester, and a group who were enrolled in an FYS course. The latter were then sorted by the mode of FYS delivery (i.e., standalone FYS or PPDL FYS).

The academic performance of these populations was longitudinally compared. PPDL FYS courses from Fall and Spring 2017 were compared to those same courses, minus the FYS content, from 2015 and 2016. The standalone FYS course, College 101, was compared to control groups from 2015, 2016 and 2017.

Academic performance from these populations was compared to the level of HIPs and Appalachian success factors as defined by the literature. Data will be collected through a working relationship with the Information Technology Office of WVU Parkersburg, providing the researcher with data reports directly sourced from the live data within the institution’s student information system. There is no difference between the collected data and the data the institution

recognizes as official. Variables will be analyzed for possible relationships using the Microsoft Excel statistical package.

CHAPTER TWO

Review of the Literature

The subjects of this research have been examined with consideration as to cultural background, economic status, adverse childhood experiences and benchmarked methods for addressing the effects of such backgrounds on college success. First to be considered was the definition of a first-year seminar (FYS) and the key practices and benchmarks that give that definition meaning within the literature. This focused on what defines a quality or “high impact” FYS experience based on frequently used best practices of institutions that have implemented the process. The second consideration was the problem of bringing the FYS model on new student intake to open enrollment and community/technical college institutions which often have challenges in terms of stable enrolment and funding, ideologically driven political pressures, a lack of residential programs, and a mission to serve those students in the most need of transition. The factors that both support and mitigate success in Appalachian students, with a specific focus on adverse childhood experiences, was reviewed next along with the specific rejection of FYS by the West Virginia Community and Technical College System. Finally, the overall history of success of FYS programs to increase student performance was reviewed to contrast nationally benchmarked FYS adoption and results with the rejection of FYS programs in West Virginia community colleges.

Defining the First-Year Seminar and Key Practices

A first-year seminar was a course that, “assists students in their academic and social development and in their transition to college. A seminar, by definition, is a small discussion-based course in which students and their instructors exchange ideas and information. In most

cases, there is a strong emphasis on creating community in the classroom” (Hunter & Linder, 2005).

An Overview of First-Generation and Low-Income Students in Appalachia

First-generation and low-income students were not separate from the broader population of other first-time college students; those challenges and traits that apply to all first-time students also apply to first-generation and low-income students, though research suggested that such students have additional characteristics that - if unaddressed – made college completion less likely. Gibbons and Shoffner (2004) provided a framework for understanding these unique characteristics: lack of family and parental experience with the college admissions process, lack of experience to prepare academically and personally for the college experience, variation from their more affluent peers in the rationale for attending college, different and limiting personal/cultural experiences before college, and the nature of their personalities.

First-generation students had trouble feeling like they belonged and lacked confidence that they either know what they should have done or lacked the confidence or agency to discover it (Phillips, 2015). First-generation students tended to take fewer classes, made less time to study, worked more during the academic week, had a lower GPA, and took fewer science, math and humanities classes compared to other student groups (Pascarella , Pierson, Wolniak, & Terenzini, 2003). First-generation students were even less likely to avail themselves of the very student support services meant to assist them, tutoring, or student organizations than their peers (Brachman, 2012). More telling for community college first-generation students, they convinced themselves that they can work long hours and still meet their academic obligations at rates higher than their non-first-generation community college peers. Broadly speaking, first-generation students were more likely to not understand the academic demands of college, to have

unsupportive family members, and to not be academically prepared for higher education (Padron, 1992). These studies indicated that first-generation students had a challenge in committing to be college students, believing that doing so had cultural, financial and personal relationship ramifications they could not reconcile with their desire for a better career.

This inability to merge their home culture, friends, and family with the academic, social, and institutional skills necessary for college completion had real and immediate effects. While academic preparation was important, cultural issues persisted in their influence. Regardless of low-income students' level of academic preparation, they still failed to graduate at a similar rate as equally prepared non-first-generation students by a rate of 59% to 77% (Wyner, Bridgeland & Diulio, 2007). Only 7.5% of students who received or were eligible for a Pell Grant, which through means of family finance analysis is disproportionately allocated to first-generation students, completed a bachelor's degree in six years (Tinto, 2012). Further, low-income students dropped out of college at a rate 16% higher than high-income students. Despite these barriers to higher education enrollment, more first-generation students were beginning college, making up a third of the higher education student population (Institute for Higher Education, 2012). These drop-out rate growing rates of enrollment made first-generation students, with their propensity to also be labeled low-income, both a partially tapped market for new student enrollment and a population who needed more attention once they begin their studies.

This pressure of conflicting cultures and economic class had direct impact on a student's well-being and academic performance. A 2008 study by Wang and Castaneda-Sound found that first-generation students had more problems with self-agency over academic matters, suffered more from stress-related and physical ailments, and had higher levels of difficulty with academic assignments. They also found that self-esteem, that product of home life and culture, was the

single best predictor of a student's psychological well-being. The personality characteristics of first-generation students were formed in unique ways by their cultural/class experience. They suffer from lower levels of self-esteem, feel socially ostracized, and did not see themselves as being capable of creativity (McGregor, Mayleben, Buzzanga, Davis, & Becker, 1991), while being less likely to engage in those co- or extracurricular activities on campus that may ameliorate those problems of self-esteem, and social connection (Terenzini, et al., 2001).

It is important to note that even the reasons or motivations that first-generation students have for attending college were very different from those of their peers. For them, higher education was a pathway to gain respect, family honor, and being able to provide for their families financially after college (Bui 2002). These students also had greater anxieties about failing college, qualifying for and keeping financial aid, and felt they needed to study more than other students. Another study indicates that first-generation students believed that they were less likely to succeed in college than other students and did tend to have a lower GPA, though one questions whether this is an artefact of the "self-fulfilling prophecy" (Ramos-Sanchez & Nichols, 2007). It was also revealed that first-generation students struggled more with the concept of time management, and properly preparing for or taking tests due to family responsibilities (Payne, 2007; Shields, 2002). The U.S. Department of Education determined that even when controlled for issues of academic preparation, first-generation students still failed to persist at a disproportionate rate and were more likely to drop or transfer out before degree completion (US Department of Education, 2001).

These indicators were especially important when considering higher education in an Appalachian context. While completion rates for secondary education have begun to meet or exceed national trends, the entirety of the Appalachian region shows no improvement in the

college completion gap when compared to the rest of the nation (Pollard & Jacobsen, 2019). In West Virginia, the location of this study and the geographical center of Appalachia, 43.2% of residents between 18 and 24 years of age had either “some college” or an associate degree (vs. 46.0% national average), with only 7.8% (vs. 10.2% nationally) with a bachelor’s degree. For residents 25 years or older, 18.5% had some college, 6.8% (vs. 8.2% nationally) had an associate and 19.6 (vs. 30.3% nationally) had a bachelor’s degree or higher (United States Census Bureau, 2016). The median household income level for our study location within the middle Appalachian region clearly identified the service area as economically challenged and its residents scientifically likely to be low-income. These figures may be seen in Table 1.

Table 1.

Comparison, Median Household Income, WVUP Service Area to State and Nation

Counties in WVUP Service Area (All in Appalachia)	County Average Household Income (\$)	+ / - vs. State Average (\$)	+ / - vs. National Average (\$)
Jackson	40,949	-1,695	-14,373
Pleasants	45,191	+2,547	-10,131
Ritchie	40,850	-1,794	-14,472
Roane	34,144	-8,500	-21,178
Tyler	38,674	-3,970	-16,648
Wirt	38,101	-4,543	-17,221
Wood	43,944	+1,300	-11,378

From “2012-2016 American Community Survey 5-Year Estimates,” by the United States Census Bureau. Retrieved August 6, 2018, from <http://factfinder.census.gov>

Though two of the seven state-defined service area counties for WVUP were slightly above the state’s median household income level, all were significantly below national levels, as can be seen in Table 2.

Table 2.

Comparison, Educational Attainment, WVUP Service Area to State and Nation

Counties in WVUP Service Area (All in Appalachia)	Percentage of 25 years and Older with an Associate Degree or Higher	+ / - vs. State Average 24.6	+ / - vs. National Average 38.5
Jackson	26.4	-1.8	-12.1
Pleasants	19.3	-5.3	-19.2
Ritchie	18.1	-6.5	-20.4
Roane	17.5	-7.1	-21.0
Tyler	22.0	-2.6	-16.5
Wirt	14.5	-10.1	-24.0
Wood	29.4	-4.8	-9.1

From “2012-2016 American Community Survey 5-Year Estimates,” by the United States Census Bureau. Retrieved August 6, 2018, from <http://factfinder.census.gov>

There can be no doubt that Appalachia in general, and West Virginia and the WVUP service area in specific, were disproportionately home to potential first-generation and low-income/SES college students. No college retention or completion program that fails to address issues of culture and class can be fully successful.

Institutional Setting

West Virginia University at Parkersburg (WVUP) was a small (2,482 undergraduates) public institution with a non-residential, suburban campus setting that served seven primarily rural counties in northwest West Virginia along the Ohio River. Though governed independently as a public college by the West Virginia Community and Technical College System, WVUP is classified as a “4-year or above” institution, and in the basic classification category of “Baccalaureate / Associate's Colleges: Mixed Baccalaureate/Associate's” by the Carnegie Classification of Institutions. WVUP was an open enrollment institution and all its academic programs were subject to oversight by the state’s two-year governing board, except for its four-year programs, which were overseen by the West Virginia Higher Education Policy Commission. This divided oversight made WVUP unique amongst public institutions in West Virginia - though not nationwide - as states experiment with the blending of four-and two-year missions as is the case with the “state college” model in Florida.

The college had several institutional identities since its establishment in 1961 as a branch campus of West Virginia University (WVU), that state’s largest land-grant institution and only Research 1 university. At that time, the branch’s mission was to prepare local students for transfer to WVU. In 1971 the institution was reconceived as a community college by act of the legislature and renamed Parkersburg Community College (PCC), and itself opened a branch campus in Ripley, WV (Jackson County) in 1975. In 1989, the state legislature returned PCC to WVU oversight, made it a regional campus, and renamed it West Virginia University at Parkersburg. Independently accredited since 1971, in 1991 it became independently accredited to offer its first bachelor’s degrees in business administration and elementary education. In 2008, the state legislature changed WVUP again by administratively separating WVUP from WVU,

making WVUP fully independent. As a result, WVUP had accrued several higher education roles, while shedding none of the gathered missions.

At the time of the study the college had 71 full-time faculty members and 107 adjunct instructors. For the 2017-18 academic year, the total expenses for an academic year, including room and board, for an in-state student were \$12,220, of which \$3,552 was actual tuition and regular fees for a full-time student, which is the only part of the total expenses collected by the college. During that time period the average student received \$6,174 in grant or scholarship assistance and \$1,764 in federal loans, well above the tuition and regular fees for full-time attendance.

For students who began their studies at WVUP in Fall 2011, 36% completed a degree within 150% of being “on time.” For bachelor’s degree seeking students, 44% completed within 150% of being “on time.” College completion numbers for the college remained low across student populations, even when the diverging student descriptors were considered. The Integrated Postsecondary Education Data System (IPEDS) had traditionally reported student achievement statistics for only first-time, full-time students, which excluded many of the students that were served by open enrollment and community college institutions. For the 2011 cohort, IPEDS included “alternative measures of student success,” which allowed the comparison of first-time, full-time college students to both part-time, first-time students and to full-time, non-first time-students (Institute of Education Sciences, 2017). The only significant performance differential was for part-time, first-time students who performed far below other categories. It is far more important, however, to note that in all categories, the best that students at this first generation, low-income surviving institution performed was only one out of four graduating in 150% of normal time. This cost students more money to complete a degree, limited

their earning potential, held back economic development, and hurt the reputation of the college. These comparisons can be seen in Table 3.

Table 3.

Degree Attainment Rate for 150% of Normal Time at WVUP for student beginning Fall 2009

Student Type	Attained Associate Degree	Attained Bachelor's Degree
First-Time, Full-Time	24%	11%
Part-Time, First-Time	9%	4%
Full-Time, Non-First Time	25%	21%
Part-Time, Non-First Time	25%	17%

From "Find Your College" by Integrated Postsecondary Education Data System, retrieved on June 3, 2019, <https://nces.ed.gov/ipeds/find-your-college>

Enrollment and Funding Disparities in Community Colleges and Open Enrollment

Institutions

Research showed that states routinely as a matter of policy have spent more money on funding elite research institutions than on either regional four-year or open enrollment community and technical colleges (Garcia, 2018). When faced with making state-level budget cuts to higher education, the burden of those cuts also fell disproportionately on those same four-year or open enrollment community and technical institutions (Marcus, 2017). These disproportional budget cuts created a situation where those students who arguably needed the most acculturation to higher education and who were most underprepared received the least amount of resources from the public purse. As this was a political issue, its resolution was not a predictable factor or rational assumption in the management of an institution of higher education. Colleges and universities must explore ways to source more funding outside of public funding channels or to use best practices research to provide the benefits of student success to those populations in the most need, within the limitations of low-resource usage.

Defining and Committing to Student Success

The funding disparities and enrollment shortfalls were not altogether surprising given the prejudicial view of open enrollment institutions, even by those who worked and taught at community and technical colleges. With nearly half of all undergraduates in the United States enrolled in two-year institutions, even more scrutiny, if not funding, was being turned to the success of those students (Ross, 2014). While leading researchers, associations and foundations such as the American Association of Community Colleges, Complete College America, the Lumina and the Gates foundations focused on developing pathways to legitimate credential completion, there was a lingering attitude in academia that held if students were not “college-ready” on their first day of class, then they should not be allowed into college; a view that counterintuitively includes open enrollment institutions.

In their book *Community Colleges and the Access Effect* (2014), authors Scherer and Anson concluded that many students admitted to community and technical colleges were operating at an elementary level of knowledge despite holding “standard” secondary diplomas, which had given them full access to open enrollment institutions. This resulted in students’ being forced to endure cascading remedial classwork before courses toward graduation could begin. Scherer and Anson saw this as significantly misleading and essentially abusing the student, as either the students wasted financial aid resources on a path they could not finish or paid for those classes out of their own pocket at institutions where such classes were not eligible for financial aid. Their proposed solution was to create an interstitial process between secondary and post-secondary institutions that focused on English and mathematics literacy. They proposed barring students who did not meet English and mathematics literacy standards from open

enrollment institutions, perhaps forgetting the mission of said institutions (Scherer & Anson, 2014).

While Scherer and Anson argued that admissions policies at open enrollment institutions led to the degradation of academic standards, a national alliance of researchers, state higher educational authorities, and individual higher education institutions was building momentum for deploying proven methods to increase college student success and credential attainment. Complete College America (CCA) was founded in 2009, dedicated to working collaboratively with its alliance members to determine well-researched, benchmarked best practices for student success and helping localities tailor those solutions for individual student cultures and institutions (Complete College America, 2018a).

CCA research recommended four strategies to “provide a strong start” for first-time college students. The first of those strategies was called “15 to finish.” To graduate on time, undergraduate students must have taken at least 15 credits hours per semester or 30 per academic year. This is something on which students, especially students without a family history of higher education success, must be intentionally counseled, as federal financial aid considers full time for an undergraduate student to be 12 credit hours per semester. Students could be fully compliant with federal full-time standards and still not graduate on time, generating extra debt and causing lost income. Despite the data showing that students did better academically when they take at least 15 credit hours per semester, only 12% of two-year students did so, with 31% of four-year students and 45% of those attending four-year research institutions doing the same (Complete College America, 2018b). This was a specific point of concern for low-income students, as having a full course load (i.e., 15 credit hours) in their first semester was found in 90% of first-generation, low-income students who persisted through graduation (Yizar, 2010).

The impact of enrollment levels on student success indicated that it was both an indicator of academic success (along with the standard, self-evident measures of grade point average and retention/persistence), and that it was significantly underutilized as a strategy for first-year success at all types of public undergraduate institutions, especially at open enrollment, two-year institutions.

Lack of Retention and Graduation Success in Community Colleges and Open Enrollment Institutions

The National Center for Education Statistics (NCES) reported that the retention rate for first-time, full-time degree-seeking undergraduates retained at two-year degree-granting institutions was only 62% for the period of 2015 to 2016. While this statistic was skewed due to looking only at the first-time, full-time students when only 12% of open enrollment institution students registered for 15 or more credit hours per semester, it indicated that even for that population, nearly two of every five community or technical college students do not continue their post-secondary education beyond the first year (NCES, 2018). A more comprehensive measure would include all first-time students regardless of their enrollment level.

States such as West Virginia, where this study was located, published such statistics measuring all two-year/open enrollment, first-time students who remain enrolled at any West Virginia public institution on a year-to-year basis to arrive at a retention rate. Being more comprehensive in its measure, it provided a more troubling picture. Retention at West Virginia community and technical colleges for 2015, the most recent measure, was only 50.9% system-wide (West Virginia Higher Education Policy Commission [WVHEPC], 2018). Can a system be said to meet the most basic of higher education missions if it can retain more than one of every two students beyond their freshman year?

While members of the academy like Scherer and Anson (2014) sought to solve the problem by removing underprepared students from open enrollment institutions, it could be argued that this is no solution at all. For open enrollment institutions to meet their mission, they must find ways to stop being filters, excluding those who cannot conform to the traditional and arbitrary standards of higher education, and develop academically and culturally appropriate ways to be pumps, allowing every citizen with baseline cognitive abilities to access post-secondary credentials.

Challenges of Bringing FYS to Appalachian, Open Enrollment Institutions

Extensive research has demonstrated that first-generation college students had significant disadvantages in attaining higher education success compared to their peers. First-generation students were less likely to receive assistance from their parents in the technical process of applying for college and financial aid, and they reported a lower level of expectations for educational attainment (Choy, 2001). First-generation students were retained at a lower rate than peers and were less likely to earn a degree (Choy, 2001). The probability that a student would enroll in college at all was influenced significantly by the educational experience and expectation of that student's parents (Choy 2001; Dyk & Wilson, 1999). When controlling for factors such as the student's academic achievement level and college performance, parents' education attainment, and thus first-generation status, was still a determining factor in persistence, retention and academic success (Warburton, Bugarin & Nunez, 2001; Sauvage, 2015).

The effects of low-education attainment of parents upon the prospects for success of their children became cyclical and compounded, requiring purposeful intervention from outside of the system. Nationally, 95% of eighth grade students who had a parent that attended college went on to attend college themselves, while only 56% of eighth grade students without a parent having

completed college went on to complete college (Ingels, Curtin, Kaufman, Alt, & Chen, 2002). First-generation students were also 4.4 times more likely to drop out of college by their second year and 19% less likely to graduate within five years (Ishitani, 2003). This implied that college completion by first-generation students was critical in the transformation of both individuals and in economic development, and that a poor start to college that did not address these unique first-generation issues had long-lasting cascading effects.

Even with such attempts to ameliorate issues of financial stability in higher education access as grant-based financial aid and work-study, Appalachian students from low-SES families were still more likely to not be retained and fail to graduate when compared with peers (Haaga 2004; Stinebrickner & Stinebrickner, 2003; Sauvage, 2015). This suggested that real cultural barriers to college completion exist in the Appalachian community as well as the possibility that institutions were not doing all they could structurally to support success for these students.

Appalachian Cultural Barriers to Post-Secondary Student Success

Culturally, Appalachia had extensive countervailing and interlinked influences that hobbled college completion. Few Appalachia communities offered higher education institutions, requiring students to leave the community, make long commutes or use poor internet connections, if such were even available. This created insular environments where students were most familiar with people in their own communities, many if not most of whom were caught in the cycle of low educational attainment, low employment, and low quality of life. Research demonstrated that when students lived in a culture dominated by adults who have low levels of post-secondary degree attainment and low professional aspirations, the educational progress of those students is degraded (Beaulieu, Israel, & Wimberley, 2003).

Should an Appalachian student have completed a college degree, there was still the cultural trepidation of a successful student leaving the community and never coming back, due to either a lack of professional opportunities or a new-found disassociation with rural Appalachian culture. This fear was borne out as such graduates generally did not return to their rural hometowns after college completion (Sherman, 2009). This, plus a cultural heritage that believed post-secondary employment success did not require post-secondary completion so long as one was willing to “work hard,” created a cultural and thus internal resistance to college success (Sherman, 2009; Willis, 1981; Erikson, 2006). This negative consequence of college success being a “confirmed fear” acted as a deterrent to the aspirations of students and their families from either attempting college or acting as a force to draw students “back home” and away from their college studies (Bryan & Simmons, 2009; Bradbury & Mather, 2009).

Recent studies supported that initial attendance at a higher education institution was often supported by immediate family, and that this support was of an emotional and general aspirational variety. Parents of Appalachian first-generation students, however, even when they were shown to be supportive, were shown to lack the technical knowledge of student success or “instrumental support” such as tutoring, financial aid, and academic advising. Both parents and students assumed that someone at the institution like a high school guidance counselor would assume this role but did not find this to be true (Sauvage, 2015).

This combination of cyclical poverty, low-post-secondary educational attainment, and cultural unfamiliarity or antipathy to higher education suggested the need for intervention. While residential higher education institutions had the unique ability to physically separate students from unsupportive environments and construct interventions around that disassociation, non-residential institutions must address the same issues on a larger percentage of their population

without the advantage of physical distance from the student's culture. This created a strong imperative for FYS programs in such institutions.

The countervailing challenges of first-generation culture and an institutional lack of resources to separate students from that culture presented the open enrollment institution with a curricular and organizational challenge. Research strongly suggested that curriculum-based cultural intervention in the student's first year of college-level academic study had a positive effect on academic performance indicators such as course load, GPA and retention/persistence.

There were, however, some unique challenges in bringing this model to non-residential, open-enrollment and community colleges in rural areas such as Appalachia that touch on cultural identity, social capital, and cultural integration. A 2017 qualitative study of rural, Appalachian community college students in Kentucky indicated three specific barriers to first-year student success (Hlinka, 2017). The first significant barrier was having "community and family values of education to provide support and push" (Hlinka, 2017, p. 150). Social capital in the form of family members and community members, such as high school teachers, was the most heavily cited positive influence in a student's initial enrollment and retention. Therefore, creating a stock of social capital could provide to the rural Appalachian student, who is from a culture that is heavily dependent on social capital derived from family approval, should be an effective element in an FYS program (Erikson, 2006).

The second was that "possession of the cultural capital to overcome the pull of family obligations" (Hlinka, 2017, p. 152). As powerful as family and community encouragement and support could be, it was discovered that the student's culture itself was determinative. Extended family groups, traditional sex and gender roles, emotional maturity, a lack of understanding as to the professional decision-making necessary to be a successful student, unplanned pregnancy, and

other events for which the student's planning and reaction were strongly controlled by the culture that had been constructed drastically altered a student's path to success.

At community colleges which often served so-called non-traditional populations and populations for whom being a college student was just one of their identities, coursework in the form of FYS may have been seen as unnecessary and as a negative reinforcement, as its connection to their future careers and the development of professional skills could have been seen as marginal. Additionally, colleges and universities in states such as West Virginia and Texas were being required to limit the number of credit hours a student must complete for a degree to a figure that was less than or equal to predetermined limits (often 60 credit hours for an associate's degree and 120 for a bachelor's degree) (Series 11, 2011; Texas Higher Education Coordinating Board, 2017). Additionally, non-traditional or rural students worked, had family commitments, excessive drive times, and other barriers that often prohibit the establishment of a traditional, standalone first-year experience course. These limits, seen as guards against excessive tuition and contracting time-to-workforce-entry, made the additional classwork for the purposes of FYS a challenging if not prohibitive choice for college curriculum designers.

A possible solution to this issue was pre-professional or discipline linked (PPDL) FYS courses which, according to the National Resource Center (NRC), made up only 4.4% of first-year seminars at four-year institutions and only 2% at two-year institutions nationwide (Keup, 2014, Keup & Young, 2016;). The amalgamation of introductory, subject-based classes with common high-impact practices of first-year seminars offered students, especially non-traditional students, a purpose-based transfer of college survival skills and affirmed Tinto's theory of social integration and academic integration (Tinto, 1993), which suggested that students must be

integrated into the culture of a college or an academic profession before they could become integrated and successful from an academic point of view (Guiffrida, 2006).

The idea of the socio-economic group's being a strong determinant of college success was a well-researched conclusion, beginning with some of Tinto's earliest work (Tinto, 1975). Tinto's work on student success and socio-economic status became foundational to this research area (Kuh, Bridges, & Hayek, 2006). Tinto's core argument was that students must go through a process that separated them from their initial cultural or SES group, and then transitioned to interacting with their world in new ways that indicated a desire to be accepted into a new group, one that is supportive of college success and the norms of higher education. Tinto therefore defines college failure as a student's inability to disconnect their primary identity from their family, community, or low-SES cultural dominion or to connect with the culture of the college (Kuh, et al., 2006; Tinto, 1993).

In researching the impact of social class on student success within the French public-school system, Bourdieu (1986) coined the term "habitus" to indicate the personal, socially constructed lens through which individual persons and institutions perceived the world in which they participated. Bourdieu attempted to bridge the impact of the socio-economic group with the agency of the individual. Here we acknowledged that cultural capital -- the opinions, preferences, prejudices, attitudes and behaviors of a defined social group -- was passed down primarily by parents, and so to a degree seemed deterministic. This became a reinforcing cycle, as people with the same values and goals as determined by social capital tended to socialize together, which created a homogenizing socio-economic group that created parents who passed the values on to their children, values that were correlated with significant performance differences between low-SES students and high-SES students (Bourdieu, 1977; Walpole, 2003).

Walpole's 2003 study confirmed those behavior and performance differences between low- and high-SES college students. High-SES students were more likely to visit a professor's home (35% to 21%), less likely to stay away from student clubs (34% to 48%), less likely to work 16 hours or more per week (24% to 34%), more likely to study 16 hours or more per week (35% to 25%), and more likely to have a college GPA of a "B+" or higher (40% to 21%) (Walpole, 2003). This indicated not only did low-SES students start college with low levels of success-oriented cultural capital, but once in college that deficit continued to widen as they either could not or would not invest the time necessary to accrue more of that capital.

While research such as Walpole's indicated the divide in performance between low- and high-SES was both real and sustained, the writings of Tinto and Paulo Freire indicated there was a psychological opening wherein a properly constructed experience could allow the individual to become reflexive about their own initial, culturally-induced limited self-image, as theorized by Freire in *Pedagogy of the Oppressed* (1988). In summary, Freire concluded to educate members of a population that have been oppressed as a "colonized society," the educator had to embed ideas of liberation from that oppression across the curriculum. The instruction itself must have as its goal the liberation and uplift of its students. This seemed to pair well with Tinto's (1975) proposition that students must surrender their allegiance to the oppressed population and seek a new affinity, not as one of the "oppressors," but as one who both understood their oppression, and that the tools by which their oppression was created could, in the hands of the oppressed become tools of liberation (Freire, 1988). In short, they must have come to see themselves neither as oppressed nor as joining the oppressors, but as becoming liberators. First, of themselves, then of their fellows.

Adverse Childhood Experience and Educational Success

The most important factors to first-generation college student success in Appalachia as identified in the Hand and Payne study (2008) and those barriers identified in the Hlinka study (2017) not only mirror each other but were linked to a greater problem in a much larger study. Adverse Childhood Experiences (ACE) have long been theorized to have wide ranging, long lasting effects on individuals in a wide swath of life experiences, including physical health, mental wellness, and education.

From 1995 to 1997, the Center for Disease Control (CDC), in partnership with Kaiser Permanente, collected ACE-related data on over 17,000 insurance organization members (Felitti, et al., 1998). The study concluded that the higher the number of ACEs in a patient's background, the more likely the patient would suffer lifetime illness and social limitations that affect quality of life. This study grouped adverse childhood experiences into three categories:

- Abuse
 - emotional abuse
 - physical abuse
 - sexual abuse
- Household Challenges
 - mother treated violently
 - household substance abuse
 - household mental illness
 - parental separation or divorce
 - incarcerated household member
- Neglect

- emotional neglect
- physical neglect

ACEs were experienced by two-thirds of the participants in the study, and one out of five participants suffered three or more ACEs. Effects that were correlated with ACE exposure were

- alcoholism and alcohol abuse
- chronic obstructive pulmonary disease
- depression
- fetal death
- health-related quality of life
- illicit drug use
- ischemic heart disease
- liver disease
- poor work performance
- financial stress
- risk for intimate partner violence
- sexually transmitted diseases
- smoking
- suicide attempts
- unintended pregnancies
- early initiation of smoking
- early initiation of sexual activity
- adolescent pregnancy
- risk for sexual violence
- poor academic achievement

All or any of these effects could directly affect an individual's ability to be successful in an academic or professional environment (Felitti, et al., 1998).

Case Study: Intervention in an Appalachian Community

The Lincoln County (WV) Girls' Resiliency Program (GRP), which began in 1996 and lasted into the early 2000s, was an excellent example of how a community-based program could intervene successfully to address the impact of ACEs for a short period of time, but had difficulty in sustaining that success due to cultural limitations. Lincoln County, though physically close to the state capital and public and private universities, was largely poor, undereducated, and ravaged by unemployment and the types of negative adult experiences indicated in the CDC study (Felitti, et al., 1998). It began as a successful program that placed young women into post-secondary education and garnered funding from national foundations, but in the long-run, it failed.

The program, which the researchers categorized as community-based youth development, was led by people embedded in the culture and sought to help “girls identify strengths, become active decision makers, and advocate for social change” (Spatig & Amerikaner, 2014). Throughout the program, those girls most involved found ways to both express themselves and influence their community and fellow participants. They wrote, produced and published original songs, poetry, and plays. They showed their entrepreneurial spirit by opening and running a coffee shop. They conducted action research projects in their own communities and held political rallies at their state capitol. Ultimately, losing institutional focus and trying to do too many things played a part in the fall of this program, but the program's challenge to the entrenched patriarchal, white, straight cultural structure of this community, an avatar for so much of rural Appalachia, all but sealed its fate. As detailed in the study, this program was seen by local cultural influencers as an attack on traditional cultural values, on the role of women in the

culture, and on the viability of the community as young persons were lured away to higher education and better careers.

Is it possible as necessary as the goals of this intervention were, its prospects for success were limited so long as it targeted minors who could be regulated by doubtful parents, and was dependent on the goodwill of those who perceived that they would lose cultural power through the program, and of a community that felt attacked by the very goals of the program? This literature suggested a national-scale problem in the impact of Adverse Childhood Experiences on the adult lives and opportunities of those affected, and those effects clearly served as ACEs to the following generations, perpetuating the cycle.

As of 2015, 49% of all adults in West Virginia had suffered at least one ACE, with 28.8% having been exposed to substance abuse as a child being the most common experience. The risk of being exposed to such experiences was 6% higher for women in West Virginia than men, and was correlated to family income (Christy, 2015). Combined with the well documented effect of poverty on mental and physical health, educational attainment, and the concentration of poverty in rural Appalachia, this represented a concentration of barriers and a cultural capital deficit that was unique among the industrially advanced nations of the early 21st century.

Since it was difficult to directly address the underlying issues in the communities so affected, due to the nature of such power structures to defend their hegemony and the inability of public secondary institutions to mitigate the effects of culture, habitus and ACEs, did it not become the mission of higher education institutions in Appalachia to mitigate these effects? Research into first-generation college success and retention suggested that this mitigation could work to a certain degree, but much of the research into mitigation had been done with selective institutions within Appalachia or been focused on barriers. Due to the newness of the West

Virginia Community and Technical College System, founded in 2008, little research had been conducted on positive mitigation of pre-enrollment cultural and environmental factors on persistence, course load and GPA. First-Year Seminars (FYS) and those attendant High Impact Practices (HIP) as benchmarked in other higher education settings offered an avenue of amelioration for institutions such as the community college with a high proportion of first-generation students from low-SES backgrounds where the exposure to ACEs was likely greater.

High Impact Practices for Student Success

The American Association of Colleges and Universities identified first-year seminars and experiences as a high-impact educational practice (American Association of Colleges and Universities [AACU], 2011). It was not, however, the mere presence of a FYS that proved to be a panacea, but those seminars which were “implemented well and continually evaluated” that had measurable impact (Brownell & Swaner, 2009). What is the definition of a well implemented FYS? Much of the attached research had been completed for traditional, residential, selective colleges. With nearly 45% of traditional-age students beginning their college careers in a community college, however, any investigation into the efficacy of orientation programs must have included how those students were oriented to their community college experience (Hlinka, 2017). A comprehensive FYS evaluation and program must have included how open-enrollment colleges addressed the demands of FYS research.

Using high-impact practices (HIP) for successful first-year seminars as identified by the American Association of Colleges and Universities Liberal Education and America's Promise (LEAP) project, the National Resource Center for the First-Year Experience and Students in Transition [NRC] had surveyed institutional practitioners to identify those HIPs which were most

commonly embedded in a First-Year Seminar. The most common hallmarks of high impact practices for college FYS programs were identified as:

- collaborative assignments and projects - teaching to solve problems as a team and listening to the insights of others;
- diversity and global learning - addressing the diversity of cultures and experiences outside of the student's culture;
- writing intensiveness - the writing, sharing and revising of different types of writing for different audiences;
- service or community-based learning - providing the student with an opportunity to experience real-world examples of the classroom curriculum;
- learning community - linking two or more concurrent classes so the student can research and understand "big picture" ideas that crossed professional disciplines;
- common reading experience - also called a "common intellectual experience," this allows for discussion of broad intellectual themes as they related to individual student experiences, and provided a common touchstone for the exchange of differing ideas; and
- undergraduate research - the goal is to teach students how to think scientifically, regardless of discipline when confronting important questions.

Further, 62.8% of community colleges reported having two or more HIPs "connected or integrated" into their FYS courses (Young & Keup, 2016). The most frequently reported HIPs in use were:

- collaborative assignments and projects (70.2%);
- diversity or global learning (46.8%); and
- learning communities (32.8%).

These HIPs addressed methods of content delivery or learning. While no doubt effective in those terms, the concept of HIPs did not address the cultural factors of learning or higher education assimilation.

Factors in College Success for Appalachian Students

The rural Appalachian's "habitus" (Bourdieu, 1986) seemed as indelible as that of any other population which had suffered through historic economic predation and had sought, instinctively, to find ways of insulating itself from the resulting economic displacements, and address the need to have some control over forces too large to comprehend or to which they feel enthralled, with at best mixed results in confronting the continuing nature of such oppression. Tinto's (1975, 1988, 1993, 2007, and 2012) research, like that spearheaded by the NRC, focused primarily on four-year institutions, but this signaled a significant opportunity for meaningful research given the number of baccalaureate degree-seeking students who began their degrees at community colleges or similar open enrollment institutions. It could also address the lack of said research being focused on the students of Appalachia.

This pull of culture versus professional and academic success was especially sharp in Appalachian communities due to factors: cultural differences and the profound physical loss of the culture's best and brightest, who all too often had to physically leave to find appropriate careers. This double loss, from both the culture and the physical, geographic community, was chronicled through the investigative journalism and sociological research surrounding the Buffalo Creek flood disaster of 1972. The resistance to any action, even self-improving ones, was significant in Appalachian communities, where those steps were perceived as detrimental to the cohesion of the family; the last institution that poor Appalachians felt they had any control over (Erickson, 1972).

In counterpart to these barriers were the primary resources needed by first-time, first-generation Appalachian students, in a sort of negative impression of the cultural limitations identified by Erickson 36 years previously. In this study, 16 first-generation students from a major Appalachian university in West Virginia were interviewed with open-ended questions grouped into three categories: “making the decision to go to college, persistence in college, and the significance or essence of being Appalachian” (Hand & Payne, 2008). Hand and Payne concluded there were five important factors in college success for their sample of students.

The first factor was the importance of home and family. Students who either could not integrate their perceptions of home and family with higher education study or felt alienated from their homes and families were challenged to achieve success in college and reflected Tinto’s conclusions and research (1975, 2012). While some students expressed broad support from families for their education, others expressed their parents’ cautionary experiences as unskilled workers as their reasons in culturally identifying with higher education.

The second factor was financial concerns. This was a concern for many communities, but the combination of being first-generation and Appalachian, which all students in the survey were, made this concern a pronounced factor. This childhood concern of rarely, if ever, feeling that their families or anyone they knew had “enough money” created a view of higher education as primarily instrumental – a method to earn as much money as possible, which was reinforced by policymakers when laws were enacted to predicate faculty, program and institutional review on such performance indicators. This exclusive focus on earning potential offered a false and career-distorting motivator for success, as monetary awards had minimal impact as a motivator for cognitive skill development beyond the attainment of security (Pink, 2009). For first-generation students who were trained to see wealth as a reward for learning, a potential for a second stage

social alienation was created when, much like Kierkegaard, they discovered wealth did not provide meaning (Kierkegaard, 1992).

Internal locus of control serves as the third factor. Successful first-generation college students, as perhaps most who were professionally successful, accepted personal responsibility for their success and achievement. This is not to adopt a whitewashed version of their personal history where their opportunities were not affected by the choices of others or societal priorities, but it was the internalized idea that the only true driving force to correct external adverse forces was personal agency; the determination that we were responsible for not just our own actions, but how we responded to the unavoidable challenges of life. This was a view presaged by Frankl in his therapy and research with fellow Holocaust survivors (Frankl, 1984).

Relationships and emotional support constituted the fourth factor of Hand and Payne's (2008) list of college success influencers. Tinto (1993) and later researchers (Wallace, Abel, & Ropers-Huilman, 2000), reaffirmed the necessity to form both peer groups and non-academic, mentorship-like relationships with faculty as a bulwark against the social and cultural forces that continually pull at first-generation students, but most acutely at the rural poor and working class. Non-traditional students amongst those interviewed indicated an intense difficulty in being involved in either student groups or mentoring relationships due to a perceived lack of time or availability. Given their institutional mission to serve first-generation and low-income students through open admissions policies, it seemed that community, technical and open enrollment colleges would strive to provide exceptional opportunities for this type of support.

The final factor in college success involved communication of information. First-generation students entering higher education were strangers in a strange land. They were expected to follow the same rules as those from experienced and professional families, but with

little access to the same cultural or social capital (Pascarella, Pierson, Wolniak, & Terenzini, 2004). While colleges attempted to inform students from this population via an “informational firehose” in limited sittings, a possible solution for being cast into such a sea with either little assistance, or too much in too short a time, was the provision of a regular meeting of peers and trained mentors at regular, required intervals. In higher education, a lack of information was limiting both in and out of the classroom, and rural, Appalachian, first-generation students would often start at a “zero” level where this type of insider information was concerned. FYS courses had been specifically created for this function.

Conflicting Tensions Between Home Culture and Student Success

The ongoing cultural challenges to Appalachian student success could be viewed as a collection of conflicting tensions that forced the student to make life-altering decisions as they entered and completed their first year of higher education. Each of these decision-points of tension offered the chance for the institution to intervene. A 2015 qualitative study conducted in the central Appalachian region of central Kentucky identified those tensions (Hlinka, Mobelini, & Giltner, 2015): coddling vs. cutting the apron strings, the push of encouragement vs. the pull of family, and staying vs. leaving.

The question at the heart of this tension asked whether secondary and community college-type post-secondary institutions were infantilizing students by accommodating and leading them by the hand through the process of beginning college or whether this accommodation was necessary to effect retention; coddling students verses cutting the apron strings. When interviewing administrators and guidance counselors from secondary schools in eastern Kentucky, researchers found they preferred underprepared and first-generation students attend the local community college not as an effort to limit their horizons, but to act as an

accelerant to their acclimation to higher education (Hlinka, et al., 2015). They saw community colleges as being able and willing to provide the type of personal, one-on-one assistance necessary to allay the fears and lack of knowledge that challenged students and families from this culture. Additionally, in terms of academic acclimation, students at community colleges identified how a transition period was necessary to be in an environment with the demands of college course work, but with the small classes and direct access to instructors typically afforded in a community college environment. In short, the interviews indicated that the cutting of the “apron strings” was a misconception and that community college faculty and personnel should use the student’s experience to transition them into a state of self-reliance, self-confidence and improved analytical thinking skills, rather than abruptly cutting off all support as if trying to teach a child to swim by throwing them into a deep pool.

An additional tension that the student had to resolve was the push of encouragement vs. the pull of family responsibilities. In the eastern Kentucky study (Hlinka, et al., 2015), the students interviewed uniformly expressed the goal of obtaining a “good job” as the key motivating factor in attending college. A common narrative from these students was watching their parents’ experience, working long or physical hours to provide for their families, an experience with two effects: to inculcate the value of such work and to encourage students to find careers that did not necessitate being away from family as much as their parents. Students reported being “pushed” consistently by parents to go to college for a better job, as well as from their teachers and other educators. Though adults and other populations may have perceived “push” in a negative way, these rural Appalachian First-generation students who managed to navigate their way to college recall being “pushed” as positive experience. For students who

made it to this point, this pushing was directly equated with college being a necessity to find the best possible job.

Secondary school educators identified college failure as a product of non-academic personal issues: “This is what my personal opinion is, that students who were unsuccessful were not unsuccessful near as often because of anything at college. It is because of their personal life . . . Any little thing can throw them off. And we laugh and joke amongst ourselves about things like, well, ‘So-and-so wasn’t in class today because his aunt’s boyfriend’s daughter’s husband’s dog had to be put down.’ And it’s about the truth” (Hlinka, Mobelini, & Giltner, 2015). In a more serious tone, family illness, job loss or dislocation could cause an immediate drive to return to the family unit. In those cases, it was not necessary financially for the student to leave college and return to give “support” to the family but felt like an obligation that was either above all others or as the excuse to give up the hard work of transformation. These students, in addition to being first generation, may have appeared to be part of the “traditional” population – under 24 years of age, not married, without children, not a veteran, etc. They had, however, assumed adult responsibilities, even if no one had asked them to do so.

Finally, students had to confront the tension of the future action implied by the act of education as a question of “Should I Stay” vs. “Should I Leave”? This tension was a forward-thinking one, not concerning itself with the leaving of college, but with the leaving of the student’s home region and culture. Students indicated they had several reasons to stay in their homeplaces: a responsibility to their immediate and extended family units, a historical connection to the land and culture, and obligations to play a part in solving their region’s economic and community problems. Some concerns were more personal, such as a fear of the homesickness that could come in leaving the community, and especially for the connections they

had made to romantic interests. While those were post-completion concerns, they were persistent concerns, and may have both intervened negatively in career decisions and in decisions that affected completion.

Assisting Students to Mitigate Conflicting Tensions

Hlinka, Mobelini, and Giltner (2015) proposed several ameliorative practices to assist rural Appalachian students in resolving those tensions in positive ways. To address the gradual process of moving a student from the assistance necessary to start college to the self-agency necessary to be a successful college student, the researchers recommended creating an environment that built social networks (Hlinka, et al., 2015). Such processes as peer mentors or regular academic advising that led to interpersonal, professional relationships between faculty and students could give students a level of confidence in attaining self-driven success. Institutions had to take direct responsibility for guiding the intellectual and professional development of their students in a purposeful and intentional way that not only addressed academic success, but social “fit.” The writers specifically pointed to the transition from rote memorization to analytical and synthetic thought that was indicative of college-level readiness.

Finally, institutions had to prepare their students culturally to enter baccalaureate courses of study. This should be accomplished by instruction and expectations in goal setting and providing for opportunities for community college students to build new academically based social networks with faculty and staff from four-year institutions.

Community colleges were advised to develop methods to formally explore these competing drives of “push” and “pull” in the curricular setting, guided by a knowledgeable faculty member. Classroom exercises that helped students confront these contradictions had to be integrated with student services that could continue the search for a solution into the “real

world.” Specifically, Hlinka, et al. (2015) directed that “ [s]tudents should be guided in acknowledging that it is possible to be a good son or daughter even when it is necessary to prioritize the meeting of long-term career goals over the daily responsibilities generated by the close family ties that they honor” (p.12).

Colleges should have encouraged events and curricula that focused on providing narrative and stories of people from the same and local culture who have experienced academic and professional success. While alumni would seem particularly effective, anyone who had successfully made that journey could provide a powerful story of empowerment and part of the student social network. Additionally, students should be frequently rewarded and recognized publicly for hard work and perseverance, which honors the best elements of their culture and connects it to higher education success.

The decision to either stay or leave one’s native culture could be a determining factor in higher education success. Generational poverty, combined with strong familial and cultural attachments, could make it nearly impossible for a student to leave their home culture. As community colleges were tasked to address the career and personal development of students who were underprepared academically and socially, and those who were place bound by circumstance, they must have directly and openly addressed this issue, even before enrollment.

Career counseling services should be required early in a student’s career and should be focused on practical, realistic, mini-goals (Hlinka, et al., 2015) that aligned and added up to the accomplishment of major goals. Career offices should have coordinated with enrollment and academic advising to assist students in aligning the place-bound elements of the student’s situation with the academic program selection process and with a strategy for obtaining an advanced degree without the need to physically leave the area.

Community colleges were encouraged to inculcate a sense of civic duty, directly and clearly connecting having a degree and attendant career with creating the type of security and quality of life these place bound students say is important to them. This should be done not just through recruitment, public relations and advising, but be embedded directly into appropriate curriculum.

Validation from Other Environments

While much of the research on the success of rural Appalachian students had been conducted at the rural Appalachian institutions that served them, similar research of those students in an urban environment indicated what factors were independent of attending a rural or at least Appalachian institution, and what factors were present even when students were enrolled geographically distant from their culture.

A 2015 study at the University of Louisville indicated that those rural Appalachian students who found academic success at a large urban university shared some common traits with their successful counterparts who completed their studies closer to home (Phillips, 2015). These rural students at an urban university supported their success by building social networks on campus. Emotional support from friends and family back home was not enough, as those supporters did not have inside information about higher education or the ability to advocate for the student knowledgably from within (Phillips, 2015). A successful first-generation, rural student's social network at college was made up of co-located peers and mentors to have practical value. These types of social networks were often generated through extra and cocurricular engagement outside the classroom. Yet, it was just this population of first-generation students who engaged at lower levels who tended to have negative perceptions of higher education, despite their ongoing attempt to attain a degree (Pike & Kuh, 2005). This

unease first-generation students expressed toward the college experience came from a strong separation anxiety from family and friends and the familiar rhythms of home (London, 1992; Phillips, 2015). All too often “for working class and poor students, success in school often signals their distance and difference from those who love them” (Van Galen, 2000).

Peers had an especially significant role in forming positive social networks and forming the bulk of a student’s network. Campus peer groups have shown to be the most influential element of a student’s academic development and success (Astin, 1993), so much so that having a social network of friends and family outside of the campus made a student less likely to be integrated into the college or university (Hertel, 2002). Phillips (2015) found this to be particularly true for first-generation students from low-income rural backgrounds, as these on-campus peer groups allowed such students the opportunity to have included both students similar to themselves in background and students from more diverse backgrounds. First-generation students from low-income rural communities did not have the cultural capital to support college success in their families or original community friend groups.

This lack of cultural capital is not to declare that support from families and home communities was not valuable or should have been completely rejected. It was a balance. Even Tinto’s views have evolved on this issue. For example, research during the 1970s and 1980s indicated that part of the conflict between the rural community and higher education was the perception that college students tended to become more secular in their outlook, a process at odds with the role of religious socialization present in many rural areas and low-income cultures (Astin 1977; Tinto, 1988). More recent scholarship has argued while the primacy of off-campus relationships was not conducive to academic success, that the emotional support that was derived

from friends and family outside the campus context was important to a student's success (Tinto, 2007; Phillips, 2015).

As in the 2015 rural, Appalachian community-college-based study by Hlinka, et al., the Phillips study (2015) encouraged institutions to make use of this dichotomy by engaging with family and friends back home, or at least the student's feelings for such, while creating environments on campus that were conducive to the creation and maintenance of on-campus social networks with both peers and mentors. The first-year seminar approach had been a method to accomplish this purpose.

Success of First-Year Seminar Programs

There was extensive research which concluded that one of the most effective methods to mitigate the negative influences of first-generation status, low-SES and acculturation issues in a higher education setting was a mandatory, well-designed and implemented first-year seminar (FYS). "In short, the weight of evidence indicates that FYS participation had statistically significant and substantial, positive effects on a student's successful transition to college and the likelihood of persistence into the second year as well as on academic performance while in college and on a considerable array of other college experiences known to be related directly and indirectly to bachelor's degree completion" (Pascarella & Terenzini, 2005).

From 1973 to 1996, participants in a first-year seminar were between 7% and 13% more likely to enroll in their sophomore years (Goodman & Pascarella, 2006). In their meta-analysis of "more than 40" additional studies, FYS participants were found to be 5% to 15% more likely to have graduated with a bachelor's degree within four years. Those benefits were found across a wide selection of populations. "Evidence indicates that students who have benefited from participation in first-year seminars include both males and females; both minority and majority

students; students of various ages; students from various majors; students living on or off campus; and regularly admitted students and at-risk students” (Goodman & Pascarella, 2006, p. 27).

This left us understanding that we had a significant population of adults who came from a low socio-economic class with little or no familiarity with the type of personal habits or professional skills that would empower them with the technical skills and the cultural insight to become active agents in determining the best course for their own lives. In addition, the very nature of this habitus was self-reinforcing and required external intervention. While external intervention within the low-SES habitus was a laudable project, the experiences highlighted by Hlinka (2017), Spatig and Amerikaner (2014), Tinto (1993), Felitti, et al. (1998), and Freire (1988) showed that intervention in situ was at best a momentary success, as the cultural influence of the habitus were too strong when allowed to play on its home field.

Therefore, colleges – and most especially open-enrollment / community colleges -- which did not require students to be well-prepared for admission to post-secondary education, offered a significant (if not the only) chance to remove the adult from their negatively reinforcing habitus and, as Tinto (1988, 1993) and Freire (1988) recommended, to have provided them with a competing habitus that was supportive of self-determination and personal development that allowed them to transition their allegiance in a progressive and peer-enabled way. The dominant initial process to facilitate this shift in allegiance had been the first-year seminar at the four-year level (Goodman & Pascarella, 2006). While Goodman and Pascarella (2006) noted that mandatory FYs had been implemented in a variety of ways at 95% of four-year institutions, the perceived nature of community colleges and open enrollment institutions and forced credit hour limitations had made this a rare effort in institutions of the West Virginia

Community and Technical College System. In fact, in an informal survey of these institutions in September of 2017, only one had managed to make FYS a mandatory step toward graduation: West Virginia University at Parkersburg (WVUP).

While some academic programs at WVUP found room in their curriculum for a standalone FYS, others chose to address the need by pledging to embed FYS content and objectives into pre-existing, 100-level introductory courses. Thus, not only was this a possible solution for other open-enrollment institutions, it presented a natural quasi-experiment to have compared the three types of delivery methods (including exclusively online sections) to very similar homogeneous populations.

Given the growing credit hour restraints evident across the United States and consumer demand for shorter timelines to graduation, if the embedded method of FYS delivery was successful versus a control group without the FYS treatment, and at least of similar efficacy versus the stand alone FYS method, it could suggest a way forward given that the embedded method was used by so few institutions (Keup, 2014, Young & Keup, 2016;).

Summary

The challenges to academic success that faced low-income and first-generation students, populations that decidedly overlap, were well documented. These students not only experienced such challenges as navigating the path to apply and enroll in higher education in the first place, but in finding success once they did. These students disproportionately failed to commit to be college students, which led to college failure and dropping out at a higher rate than peers from more affluent or higher education-experienced backgrounds. This had the effect of essentially consigning people to specific lives and life-long limitations based exclusively upon who their parents were and the zip code in which they grew up. As arbitrariness was the core of injustice,

this fact alone demanded action by any government, agency or citizenry dedicated to the public good.

The bedrock of these challenges was cultural and socio-economic class. The literature defined clear methods for understanding the challenges as differentiating the worldview of low-income and first-generation students from their peers; the two groups simply did not see the world as the same place. For these students, the complete lack of family cultural capital in terms of education and professional development, the low levels of academic preparation, and the very reasons they had for attending college were all too often below the horizons of possibility, much less those of their more experienced fellow students.

Students who were low-income and first-generation had a distorted view of what a college career consists of and how to successfully complete a college degree. Students from this population believed that working significant hours at a job unrelated to their educational goals was unlikely to interfere with their college success and was ethically and financially necessary. They do not study sufficiently, and even when those practices began to fail them, they do not avail themselves of the support offices provided by the institution to address their problems.

While these issues were broadly experienced by low-income and first-generation students across cultures, there was a unique concentration of these issues, along with culture-specific elements, in the Appalachian region. Appalachian region students who were low-income and first-generation experienced a culture-based tension among their aspirations, their resources, and their “back home” culture. These young adults were challenged with reconciling a working-class / low employment, family-centered, interdependent culture that was predominantly influenced by church affiliation, a lack of critical thought toward social foundations with a culture in a higher education realm that was predicated on professional standing, independence of personal action,

self-development and an intense questioning of cultural assumptions. This was not an equal contest. College success, in this model, demanded that to be successful, a low-income and first-generation student from Appalachia must make a transition from their home culture to one that would likely lead to a profession whose practice was far away from home and family.

This historic model of tension if not outright conflict may have had elements of truth, but it serves only a fraction of these students in transition. Those that failed to make the transition were all too often sent back to their home communities which reinforced and concentrated the negative view toward higher education in those places. This literature demonstrated that even when controlled for variables like academic preparedness, low-income and first-generation students still underperformed compared to equally prepared students from non-first-generation backgrounds (Phillips, 2015). This performance differential reinforced the idea that it was culture that was the defining roadblock to success for students who come from cultures not in alignment with the traditional values of higher education.

The review of literature demonstrated the need for curriculum-based intervention to mitigate cultural influences on college success, lack of usage of the PPDL FYS format, a minimal amount of research on the efficacy of such in resource poor rural institutions acted as a strong recommendation of research in this field. The way forward was not to disconnect these students from their cultures, as was once advocated by the leading theorists in the field, but to use their values and home culture connections to create and internalize the values of higher education. The example issue was that of economic security. Most low-income and first-generation students from Appalachia indicated economic security was a primary motivator for attending college. They have observed the high number of hours their parents have endured in physically taxing, low paying or unstable jobs to provide the basics for their families, and they

wished to have a life that would allow them to provide for their families without that time commitment or the instability. Both they and their home culture supporters saw a college degree or post-secondary certification as a pathway to that goal. The literature recommended for students who were motivated by such concerns that the institution should have built a student's academic identity around the accomplishment of this goal (Hlinka, 2017). Economic instability concerns could have also meant a fear of not finding a way to live in the home culture after graduation. For these students, the institution should have encouraged or required that they merged their professional interests with regional economic demands and connected them to mentorship opportunities in that community, introducing them to how entrepreneurial ventures could lead them to creating a place for themselves where none may have existed. The question for institutions who served this population was how these challenges could best be addressed.

Since the 1970s a growing number of institutions and supporting research literature had come to see curriculum-based first year seminars (FYS) as an at least partial answer to navigating these cultural transitions. The FYS had taken a wide variety of forms, mutating to fit the goals and resources available to institutions. FYS programs exhibited clear increases in performance from participating students and thus suggested that not only should they be available to low-income and first-generation Appalachian students, but given the documented reluctance of such students to use support facilities regardless of benefit, the participation in FYS should be mandatory, much as clinical medical trials were stopped when a treatment was discovered to be clearly helpful, and was thus provided to everyone in the study as a matter of ethics. (Phillips, 2015). Political and curricular design pressures, however, have acted against this potential requirement and best practice.

Current political trends in the management of higher education required that academic programs and graduation requirements justify their academic content and length through the codified limits of no more than 60 credit hours for an associate degree and 120 credit hours for a bachelor's degree, unless required by an accrediting agency. Credit hour limits clearly challenged any attempt to add an FYS to the student's mandatory academic program requirements. While some institutions have straddled the intent of such laws and policies by claiming that FYS was needed for graduation, but was not a degree requirement, others have explored using PPDL courses, where FYS information was embedded with an introductory course for a particular academic program. This was an attractive arrangement from the point-of-view of resource management: FYS in this method did not take up extra space on the schedule, did not take up extra classrooms, nor did it create additional class load. Despite these positive attributes, it was rarely used by institutions in the United States. It is possible that a fear that PPDL FYS courses would not be as effective as standalone coursework prevented their implementation.

This intervention was nonetheless legitimized not simply as a financial benefit to the college but as a personal benefit to the student's goal of academic and professional success. The Adverse Childhood Experiences (ACE) study by the Center for Disease Control in partnership with Kaiser Permanente (Felitti, et al., 1998) indicated that the "abuse, household challenges, and neglect" were widespread and concentrated in people under the age of 18 from low-income populations. Further, the study showed that the trauma created by these experiences had long term negative impacts on educational achievement and personal health. State specific research showed that large numbers of West Virginia residents suffered from these experiences (Christy, 2015). The inherent nature of the experiences was that too often children experience

them in ways which made it difficult for outside processes or people to intervene until the experience had happened, and the impact made. Therefore, when it came to a public policy response to the widespread effects of ACE, it was a question of rehabilitation rather than prevention in most cases.

There were programs that sought to intervene in both consideration of ACE and in response to the cultural issues of low-income and first-generation children as they considered a transition to higher education. As exemplified by the Lincoln County (WV) Girls' Resiliency Program (GRP), there was a significant challenge for intervention programs that sought to directly challenge the primacy of a student's home culture on that home culture's geographic base (Spatig & Amerikaner, 2014). In those situations, while intervention that linked in some way to the home culture's aspirations may have had a chance at effectiveness, a program such as the GRP that so directly challenged the male-led, traditional working-class culture of Lincoln County (WV) in its own back yard would always be resisted by the pre-existing power structure. This cultural resistance indicated that interventions at the secondary level should focus on college access and linking degrees with economic security and development.

In general, FYS has proven effective at improving college student success. If a method of providing this benefit could be applied without violating either budgetary or resource concerns, with little history of being used in the current landscape of FYS curriculum, significant benefit could accrue to these students as a result of this research.

CHAPTER THREE

Method

The purpose of this study was to determine the effects of first-year seminars (FYS) on the standard performance indicators for college student success in an initial semester of study. The study examined all of the FYS at one specific Appalachian public open enrollment college for two consecutive semesters to observe whether the institution was able to advance in its ability to address benchmarked high-impact practices and success factors, and whether this had any effect on student performance.

Population and Sample

Those students who were required to enroll in an FYS course for the semester of Spring 2017 and Fall 2017, as well as students from analogous semesters in 2015 and 2016 who would have been required to take an FYS had it been implemented, were part of the data used for this study. This study was conducted at the West Virginia University at Parkersburg (WVUP), located in Parkersburg, WV. At WVUP, beginning in the Spring 2017 all newly enrolled freshman students, excepting those who had completed an early college course of study while in high school, and all transfer students with fewer than 30 credit hours transferred were required to take a one-credit-hour FYS. This FYS had been designed in multiple “start-stop” processes, some broad-based with input from national experts, faculty, and staff, and others insular creations of executive level administrators. The process that was put into place in Spring 2017 as a mandatory requirement was the result of a largely administratively insular process that transformed over the intervening summer into a more inclusive and benchmarked process.

Though this population was derived, by convenience, from a single institution, the descriptive factors were broadly shared among Appalachian, rural and first-generation students.

WVUP was a non-residential, open-enrollment public institution located in central Appalachia. Though it was independently accredited to offer certificates, associate and bachelor's degrees, it was governed by the West Virginia Community and Technical College system.

As outlined in chapter two of this study, Appalachian students were disproportionately disconnected from the academic and cultural demands of higher education. This disconnect was due to differing cultural values, the primacy of family life, the suspicion of influence from outside the culture, and any process that would lead a family member to exit the region permanently, of which the opportunity represented by a post-secondary degree was a primary cause. The region suffered from historic and significant economic dislocation and poverty, which added additional layers of challenge to post-secondary success.

For the FYS implementation at WVUP, each academic program was allowed to choose how best to fit the FYS into its curricular structure given the statewide limitations on coursework credit-hours to degree discussed above. Programs required either a standalone FYS course with a non-guided assignment of students or embedding FYS course material into pre-existing pre-professional or discipline linked (PPDL) courses. Three academic programs chose PPDL coursework for their FYS requirement (Elementary Education, Early Childhood Education and Business, which included all programs under that banner), while all other academic programs directed students to take Introduction to College, a one-hour standalone course. Control groups, consisting of students who were required to take a FYS course but received a waiver to not do so, or groups of students from previous academic years who would have been required to take a FYS course had it been implemented at the time were also measured. Control groups for years before FYS implementation were significantly larger, and that group shrinks noticeably as control over waiver eligibility was tightened by academic administration. Average first semester

GPA (i.e., the semester the FYS treatment was delivered), first-to-second semester retention, and the average course load for this population of students in the following semester for those students who were retained, were measured for each group. Group population data may be seen in Tables 4 and 5.

Table 4

Participants in Study During Spring Semesters

Year	Course/Group	Participants (N)
2015	Child Development 105	20
	Control	54
	General Business 101	120
	Education 100	29
2016	Child Development 105	18
	Control	41
	General Business 101	108
	Education 100	25
2017	Child Development 105	20
	Control	23
	General Business 101	85
	Education 100	35

Table 5 provides population data for the fall semesters.

Table 5

Participants in Study During Fall Semesters

Year	Course/Group	Participants (N)
2015	Child Development 105	23
	Control	230
	General Business 101	85
	Education 100	65
2016	Child Development 105	29
	Control	184
	General Business 101	163
	Education 100	80
2017	Child Development 105	32
	Control	28
	General Business 101	139
	Education 100	71

Design and Data Collection

This study utilized a non-experimental approach commonly associated with social science research where experimentation was impossible or unethical. While non-experimental research was perceived to be less strong than its experimental counterpart, its utility could still provide valuable data in the appropriate context and methods (Campbell & Stanley, 1963).

The purpose of this study was to determine the relationship, if any, between the dependent variables that measure student performance (i.e., first semester GPA, semester to semester retention, and second semester course load) and the independent variables of FYS participation and the inclusion of FYS high impact practices (HIP), and Appalachian success factors (ASF). (Hand & Payne, 2008). As discussed in chapter two, ASF have been defined as

five specific cultural elements that must have been addressed to ensure the academic success of Appalachian students:

1. home and family;
2. financial concerns;
3. internal locus of control;
4. relationships and emotional support; and
5. communication of information (for navigating the institution)

It was suggested that FYS courses which embedded more ASF into coursework should foster high measures of student success. (Hand & Payne, 2008).

WVUP granted access to student data for the purposes of this study, with the understanding that personal, identifiable student data would not be published. The researcher worked closely with the WVUP Office of Information Technology to develop reports that provided direct access to student data from the official student information system. Data supplied conformed to the following:

- the individual data records of all first-time (at WVUP) college students for the Spring and Fall semesters of 2015-17 inclusive.
- for each record, an indication as to what FYS course was taken if it was available, and
- for each record, first semester GPA, grade in the FYS course, EFC, persistence to the following semester and course load for the following semester.

Working in tandem with the academic leadership of WVUP, the researcher was given access to all syllabi for FYS courses for Spring 2017 and Fall 2017, the first two semesters of implementation. The assignments in those course syllabi, Childhood Development 105, College

101, Education 100, General Business 101, were then analyzed and coded to determine how many assignments represented a HIP and how many represented an ASF. This analysis was done on a section by section basis. Sections taught by the same instructors, using the same delivery method, with identical syllabi were counted only once. This coding process generated a raw HIP and ASF score for each FYS course section. For Spring 2017 there were nine distinct syllabi and for Fall 2017 there were 14.

Research Questions

The questions to be addressed by this study were:

1. To what extent did participation in a semester-long, first-year experience course have an effect on student academic performance indicators, as measured by first semester grade point average, following semester persistence, and following semester enrollment level for first semester students at an open enrollment Appalachian institution?
2. To what extent did the use of High Impact Practices in first-year seminar classes result in higher student academic performance indicators, as measured by first semester grade point average, following semester persistence and following semester enrollment level for first semester students at an open enrollment Appalachian institution?
3. To what extent did the inclusion of Appalachian-specific success factors in the curriculum of First-year seminar classes result in higher student academic performance indicators, as measured by first semester grade point average, following semester persistence and following semester enrollment level for first semester students at an open enrollment Appalachian institution?
4. Among students who participated in a semester-long, first-year experience course, is there a relationship between Expected Family Contribution and first semester GPA?

Instrumentation

Measurable increases in student success was the natural desired outcome of FYS programs. Student success was measured in three ways. First, grade point average for the first semester and congruent with participation in an FYS course, as calculated and reported by the institution, would be determined. GPA was by its definition a measure of student academic success, as it was the measure of record for academic mastery and transfer of knowledge. Second, persistence from one semester to the next was used as both a measure of academic success (as the student must have maintained academic eligibility and motivation to have done so) and the student's personal capacity for perseverance. Even if a student suffered a difficult first semester and was placed on a form of academic probation, a student who had a high level of perseverance would return for a second semester. Third, the study also measured the effectiveness of FYS courses by the following semester's course load. As referenced in Chapter Two, course load, especially in the first year of study, was a positive indicator of student success and maintaining progress to timely graduation. FYS, if effective, demonstrated a measurable, significant, and positive change in these common and well-established student success indicators, an intention stated widely in FYS literature.

To answer research question one, the researcher compared the above student performance indicators for those semesters with an FYS course in place to the congruent control group and against the two previous years, between like semesters. This comparison provided a picture of performance differentials, if any, between similarly defined populations of students with the FYS treatment being the only difference. For the second research question, the student success indicators for each course were compared to the rate of HIP to determine whether there was a relationship between embedding HIP into FYS courses and student first semester GPA. If so, the

more HIP related assignments present in a course, the better students should have performed. This comparison was also true of the third research question, which provided a similar measure focused on the previously identified Appalachian success factors. The fourth research question focused on the relationship between EFC and FYS student success, by determining whether the effectiveness of FYS differs between students of differing socio-economic groups. The literature clearly supported the proposal that family income had a direct relationship with academic performance.

Data Analysis

Academic performance data was compiled through WVUP's Banner student information system, Argos reporting software and analyzed using the Microsoft analytical statistical package extension for Microsoft Excel. Data analyses relied primarily on measures of central tendency (e.g., ANOVA, t-tests), descriptive measures (e.g., frequencies, crosstabs), and bivariate analyses to explore any potential relationships between and among the dependent and independent variables. Analysis for HIP and ASF inclusion were completed through an analysis of individual course section syllabi academic assignments, wherein assignments were coded for each of the HIP and ASF categories.

Summary

The study analyzed the efficacy of an FYS curricular program at an open-enrollment public college in West Virginia, a service area fully contained within the federally defined Appalachian Region. This program offered a unique opportunity to evaluate varied FYS delivery systems and curricular best-practices, as academic programs could provide either standalone or PPDL versions of the same FYS content to students whose only difference was their stated academic program preference, while a population of similar students did not receive either of the

FYS treatments. The study utilized three common student success indicators and the inclusion of HIPs and ASFs to provide evidence of possible relationship among these variables.

CHAPTER FOUR

Results

The purpose of this study was to determine the effects of first-year seminars, by mode of delivery, on student success indicators of first semester grade point average, following semester course load, and first semester to second semester persistence, as recommended by the literature and specifically for open-enrollment institutions in an Appalachian cultural environment. Specifically, standalone FYS courses were compared to pre-professional or discipline linked (PPDL) FYS courses. Modes were compared to performance of non-FYS students who were otherwise qualified and nominally required to take an FYS course in their first semester, but were given permission by their advisors to not comply, a decision not supported by the process but decided on the grounds of “professional judgement.” This authority was largely removed for Fall 2017. Finally, syllabi for all FYS courses were analyzed and coded to quantify how each included High Impact Practices (HIP) and Appalachian Success Factors (ASF) in course assignments as defined by the literature. This content analysis was used to compare the change in student success indicators between the first and second semesters of implementation to the change in recommended course content.

Data Collection

West Virginia University at Parkersburg (WVUP) granted access to student data for the purposes of this study, with the understanding that personal, identifiable student data would not be published. The researcher worked closely with the WVUP Office of Information Technology to develop reports that provided direct access to student data from the official student information system. Data supplied conformed to the following:

- the individual data records of all first-time (at WVUP) college students for the Spring and Fall semesters of 2015-17 inclusive.
- for each record, an indication as to what FYS course they took if it was available; and
- for each record, first semester GPA, grade in the FYS course, EFC, retention to the following semester and course load for the following semester.

Working in tandem with the academic leadership of WVUP, the researcher was given access to all syllabi for FYS courses for Spring 2017 and Fall 2017, the first two semesters of implementation. These assignments in those course syllabi – Childhood Development 105, College 101, Education 100, and General Business 101 – were then analyzed to determine how many assignments represented HIPs and how many represented ASFs. This analysis was done on a section-by-section basis. Sections taught by the same instructors, using the same delivery method, with identical syllabi were counted only once. This analysis generated a raw HIP and ASF score for each FYS course section. For Spring 2017 there were nine distinct syllabi and for Fall 2017 there were 12.

Participant Characteristics

Table 6 described the size of the populations of non-FYS course taking students, which significantly decreased in the year of implementation (Spring 2017 to Fall 2017). While required of first-time freshmen and transfer students with fewer than 30 transferable hours, professional advisors were given some degree of latitude to exempt some otherwise required students until a later semester. This exception usually concerned part-time students with limited class taking opportunities.

Table 6

Population Size for Non-FYS Students

Year	Semester	Size of Population
2015	Spring	54
2016	Spring	41
2017	Spring	23
2015	Fall	230
2016	Fall	184
2017	Fall	28

Table 7 describes the population of Childhood Development (CDEV) students. This program was offered completely online, targeting those already working in the field, and offered only to majors.

Table 7

Population Size for Childhood Development (CDEV) 105 Students

Year	Semester	Size of Population
2015	Spring	20
2016	Spring	18
2017	Spring	20
2015	Fall	23
2016	Fall	29
2017	Fall	32

Table 8 presents the population of Education 100 students, a course used for introductory purposes to the teacher education major.

Table 8

Population Size for Education 100 Students

Year	Semester	Size of Population
2015	Spring	29
2016	Spring	25
2017	Spring	35
2015	Fall	65
2016	Fall	80
2017	Fall	71

Table 9 provides the population for General Business 101 (GBUS) in the two years leading up to FYS implementation and the year of implementation.

Table 9

Population Size for General Business (GBUS) 101

Year	Semester	Size of Population
2015	Spring	120
2016	Spring	108
2017	Spring	85
2015	Fall	163
2016	Fall	139

Major Findings

Major findings of this study generally indicated a measurable effect on some student success performance indicators, primarily persistence and following semester course load and to a lesser extent GPA, for the second semester of implementation. These results were presented by research question.

In general, the data from WVUP from 2015 through 2017 generally supported the literature which indicates a positive impact on first-year student academic performance indicators when students were concurrently enrolled in first year seminar (FYS) programs. In Spring 2017, WVUP began staged implementation of mandatory FYS for all generally admitted, newly- enrolled students and for transfer students with fewer than 30 transferable credit hours. The performance of students in both the standalone FYS course (College 101) and the embedded FYS/introductory courses outpaced the performance of those in the non-FYS group in the Fall 2017 semester, when mandatory implementation was fully realized. Spring 2017 semester performance did not provide as clear cut a performance difference.

Three major indicators of student performance were compared. The average GPA of the student population's first semester of college, those students' persistence in the following fall or spring semester, and those students' course loads in that following semester. Theoretically, based on prior studies cited in the review of the literature, participation in FYS should have increased GPA performance in all other classes taken concurrently. Note that for the purposes of calculation, a withdraw was calculated as a "0" GPA. "Persistence" was defined as the continuation of enrollment from one fall or spring semester to the next. "Following semester course load" for those students who persisted was an important measure to college success, as the literature demonstrated that an average freshman semester enrollment of 15 credit hours

culminating in 30 credit hours for the initial academic year was a strong indicator of student success.

For the spring semesters, it was indicated in Tables 1, 2, and 3 by measures of first semester GPA, persistence, and following semester course load that the initial implementation of FYS at this institution was at best inconclusive when the initial standalone College 101 in Spring 2017 was compared to both the non-FYS group, which consisted of students who would have been enrolled in a College 101 course had it existed in prior semesters and prior academic years, and the PDDL group. The non-FYS group for Spring 2017 was small ($N = 23$) and indicated that while mandatory, the requirement was temporarily waived on an individual basis.

It was possible this exemption practice may have been due to the way the initial College 101 curriculum was created. Initially, the college created a large multidisciplinary curriculum development committee, which completed on-campus training led onsite by the National Center for the First-Year Experience. Shortly before the committee was to officially finalize its work in Fall 2016, the President of the College disbanded the committee without comment. The new Vice President for Academic Affairs created a curriculum for College 101 that was disconnected from the work of the committee, thus its basis in both the specific needs of the college and national best practice was at best unknown. The inconclusive results of the initial implementation of WVUP College 101 course in the Spring 2017 semester may have had something to do with the fact that this represented the initial implementation of the curriculum design.

Research Question One

The first research question asked, “Did the participation in a semester-long, first-year experience course have a positive effect on student academic performance indicators, as measured by first semester grade point average, following semester persistence, and following

semester enrollment level for first semester students at an open enrollment Appalachian institution?” The following findings indicated that while the effect on first semester GPA was modest and not uniform, the positive effects of FYS on following semester course load and persistence was more significant once the implementation had been retooled for the second semester, and the second set of students. Additionally, the positive effects of FYS on student performance showed no difference between PPDL and standalone methods.

Finding: first-year seminars had a modest effect on first semester GPA. For the initial semester of deployment (Spring 2017), the First Year Seminar class options (treatments) offered four variations for statistical testing. Three – Childhood Development 105 (CDEV 105), Education 100 (EDUC 100) and General Business 101 (GBUS 101) – were pre-professional or discipline linked (PPDL) courses. while all other programs used a standalone and purposefully designed FYS course, College 101 (COLL 101). As detailed above, the initial design of the FYS at WVUP was administratively difficult and was the result of a top-down, directive planning process. Statistical analysis on the three key student performance indicators reflected the nature of this process. Considering the possible effect of the Spring 2017 FYS classes on students, the researcher used an ANOVA test with a confidence interval of $p = 0.05$ to determine whether the first semester GPA of FYS participants had any relationship to the mode of delivery (PPDL or standalone). The ANOVA indicated a positive relationship among the four treatment types with a p value of 0.04.

Table 10

Anova: Single Factor, First Semester GPA, Spring 2017

<i>Source of Variation</i>	<i>SS</i>	<i>Df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	16.16	3	5.39	2.84	0.40**	2.65
Within Groups	365.75	193	1.90			
Total	381.93	196				

**p < .05

The researcher then used a series of *t*-tests to compare each permutation of treatment sets to identify the location of the relationship. The only statistically significant difference in GPA was between COLL (*M* = 1.96) and GBUS (*M*=2.63) classes, with *p* = .01.

Table 11

t-Test: Two-Sample Assuming Unequal Variances, COLL 101 v. GBUS 101, Spring 2017

	College 101		General Business 101		<i>t</i> -test
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
GPA	1.96	1.36	2.63	1.31	.01**

**p < .05

When GPA performance for each group was compared to the group of students who qualified to be placed into FYS course but were not required to do so (Non FYS), using a series of *t*-tests, there was no statistically significant difference, excepting between COLL (*M*=1.96) and Non-FYS students (*M*=2.64) with a *p* value of .05. However, this difference was in favor of the non-FYS participating students, reflective the ineffectiveness of the Spring FYS standalone course.

Table 12

t-Test: Two-Sample Assuming Unequal Variances, Non-FYS vs. COLL 101, Spring 2017

	Non-FYS		College 101		<i>t</i> -test
	M	SD	M	SD	
GPA	2.64	1.70	1.96	1.36	.05**

**p < .05

Table 13 presented the overall first semester GPA performance for the spring semester in which the FYS course was taken, comparing performance with previous spring semesters (2015, 2016) before FYS implementation. The results seem mixed, or non-conclusive at best. The first-semester GPA for non-FYS students increased significantly compared to the same group's performance in Spring 2016. General Business 101 in its 2017 FYS form was better than its Spring 2016 performance, while both Childhood Development 105 and Education 100 were worse, and College 101 for Spring 2017 performed worse than non-FYS students for Spring 2015 and 2016. These series of tests were indicative of a lack of clear or measurable relationship between either type of FYS delivery, or between FYS participating students and those students who did not participate in the initial semester of Spring 2017. Spring 2017 FYS showed no measurable benefit to student GPA.

Table 13

Average First Semester GPA - Spring 2017 Compared to Previous Semesters

Avg. 1 st Semester GPA	NON-FYS	General Business 101	Childhood Development 105	Education 100	College 101
2015	1.98	2.48	3.06	2.93	N/A
2016	1.68	2.20	3.108	2.72	N/A
2017	2.63	2.61	2.33	2.19	1.97

FYS redesign and improvement. During the summer between the Spring 2017 semester and the Fall 2017 semester, the college revisited the College 101 and other FYS courses, looking back to the initial recommendations of the first FYS committee, and attempted to reconnect the college’s courses back to the student population and the benchmarked practices of National Center for the First-Year Experience. Individual faculty of FYS PPDL courses were encouraged to improve the quality and uniformity of their offerings, provide an online presence and resource for each class, seated and online, and instructors in standalone COLL 101 courses were provided additional materials and syllabi direction. Additionally, the discipline-based introductory courses were offered assistance by the college’s Online Learning Office to create the online “shells” that the college now required every College 101 or related course to use. Based on an interview with a lead instructional designer from the college’s Online Learning Office, the Division of Business, Accounting and Public Service was the most proactive of the academic divisions in coordinating their discipline-based introductory course (General Business 101) with the redesign of the College 101 course.

This redesign and return to benchmarked practices had a modest positive effect on the first semester GPA performance of those students in an FYS course in Fall 2017. While the non-FYS group demonstrated a significant decline in performance in first semester GPA, ($N = 28$) signs of progress were indicated in the other student populations. Table 10 reported the General Business 101 and College 101 both improved when compared to previous fall semesters (comparing College 101 to non-FYS students in 2015 and 2016 before implementation). Education 100 also reported a decline in GPA performance from Fall 2016 to Fall 2017 of .09 GPA points. Childhood Development 105 presented as an anomaly, its average GPA falling .96 GPA point from Fall 2016 to Fall 2017. After following a line of general improvement similar to Education 100 and General Business 101, in both Spring and Fall 2017, student performance fell off sharply. During the academic year between 2016-17 the Childhood Development Program, which was provided completely online, underwent a change in academic leadership, exacerbated by a time of inconsistent leadership in the college's Academic Affairs Office as well. It was possible that this leadership flux uncertainty was problematic and likely affected student success.

Table 14

Average First Semester GPA - Fall 2017 Compared to Previous Semesters

Avg. 1 st Semester GPA	NON-FYS	General Business 101	Childhood Development 105	Education 100	College 101
2015	2.22	2.17	2.74	2.47	N/A
2016	2.22	2.45	2.85	2.55	N/A
2017	1.58	2.60	1.89	2.46	2.30

The ANOVA test for Fall 2017 first semester GPA demonstrated a more significant p value than Spring 2017 ($p = 0.03$) thus showing stronger effect on GPA in Fall than Spring.

Table 15

Anova: Single Factor, First Semester GPA, Spring 2017

ANOVA						
<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	16.15	3	5.38	3.137	0.03	2.62
Within Groups	818.06	476	1.72			
Total	834.21	479				

The subsequent series of t-tests which identified the nature of the significant differences, however, was more telling. Childhood Development course students (a class restricted to Childhood Development majors) demonstrated a significant or nearly significant performance deficit with every other mode of FYS delivery, underperforming all other groups. General Business, the only FYS program that had used the summer interval to work closely with an on-campus instructional designer, also saw significant positive performance differences versus COLL 101, the only other FYS program to do so. For the Fall 2017 semester General Business FYS GPA had $M=2.60$ and COLL $M=2.30$, with a $P=0.01$. When compared to the Non-FYS students in Fall 2017 there was a dramatic result in the difference between Spring 2017 and Fall 2017. During Fall 2017 non-FYS students performed worse in the first semester GPA than students who enrolled in a FYS course, with all comparisons exhibiting significance except non-FYS vs. CDEV, continuing the pattern of systemic underperformance for CDEV classes. In Table 16, Education 100 student average first semester GPA exceeded non-FYS GPA by an entire GPA point.

Table 16

t-Test: Two-Sample Assuming Unequal Variances, Non-FYS v. EDUC, Fall 2017

	Non-FYS		EDUC		<i>t</i> -test
	M	SD	M	SD	
GPA	1.46	1.49	2.46	1.34	.01**

***p* < .05

Similarly, General Business 101 students had a higher first-semester GPA than non-FYS students, by more than a GPA point.

Table 17

t-Test: Two-Sample Assuming Unequal Variances, Non-FYS v. GBUS, Fall 2017

	Non-FYS		GBUS		<i>t</i> -test
	M	SD	M	SD	
GPA	1.46	1.49	2.60	1.24	.001**

***p* < .05

Below, student completing the College 101 FYS course also outperformed non-FYS students, however by a smaller margin than the GBUS and EDUC students.

Table 18

t-Test: Two-Sample Assuming Unequal Variances, Non-FYS v. COLL 101, Fall 2017

	Non-FYS		COLL		<i>t</i> -test
	M	SD	M	SD	
GPA	1.46	1.49	2.30	1.28	.01

***p* < .05

GPA did seem to have a modest positive relationship with WVUP FYS courses once the FYS program had been given until its second semester of deployment to improve. There was no indication that in terms of first semester GPA a pattern of statistical testing to indicate that PPDL or standalone classes had any significant performance advantage over the other. Additionally, CDEV FYS performance was uniformly problematic and thus may have indicated an issue within the program or its FYS course content delivery outside the scope of this study.

Finding: first-year seminars had a significant effect on following semester course load for first to second semester. With a p value of .07, the ANOVA test did not indicate a significant difference or relationship between any of the modes of FYS delivery at WVUP on the student's following semester course load in the Spring 2017 semester. There were no statistically significant relationships or differences between Non-FYS students and those students who completed an FYS course at WVUP in Spring 2017. This lack of relationships may indicate a failure of initial FYS design to have addressed this key student success performance indicator.

Effect of FYS on following semester course load, Fall 2017. All student populations, including those who did not take an FYS class, found improvement in first semester course load in Fall 2017 versus 2015 and 2016 Fall semesters.

Table 19

First Semester Course Load - Fall 2017

Following Semester Course Load	NON-FYS	General Business 101	Childhood Development 105	Education 100	College 101
2015	11.22695	11.25243	11.94118	12.54348	N/A
2016	12.584	11.57	10.2	12.59016	N/A
2017	12.8125	12.81905	12.58824	13.55357	13.6455

Again, there was a strong statistical difference between FYS performance in Fall 2017 vs. Spring 2017 as indicated by the following semester course loads. The ANOVA test indicated a strong set of relationships with a p value of .01.

Table 20

Anova: Single Factor, Following Semester Course Load, Fall 2017

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	502.64	3	167.55	4.365	.01**	2.62
Within Groups	18251.35	476	38.34			
Total	18753.99	479				

** $p < .05$

T-Tests for this data set revealed that the entirety of this effect was attributable to the underperformance of the CDEV FYS students versus all other courses, as noted above and demonstrated in the following results. Table 21 reported the relationship between CDEV and EDUC courses performance for following semester course load.

Table 21

t-Test: Two-Sample Assuming Unequal Variances, CDEV v. EDUC, Fall 2017

	CDEV		EDUC		<i>t</i> -test
	M	SD	M	SD	
Following semester course load	6.69	6.86	10.96	6.05	.01**

***p* < .05

Table 22 demonstrated the relationship between General Business 101 (GBUS) and Child Development 105 (CDEV), wherein, GBUS students took significantly more credit hours in the following semester than CDEV students.

Table 22

t-Test: Two-Sample Assuming Unequal Variances, Following Semester Course Load, CDEV v. GBUS, Fall 2017

	CDEV		GBUS		<i>t</i> -test
	M	SD	M	SD	
Following semester course load	6.69	6.86	9.82	6.21	.01**

***p* < .05

Students completing the College 101 standalone FYS also fared better versus the CDEV course students as seen in Table 23.

Table 23

t-Test: Two-Sample Assuming Unequal Variances, Following Semester Course Load, CDEV v.

COLL, Fall 2017

	CDEV		COLL		<i>t</i> -test
	M	SD	M	SD	
Following semester course load	6.69	6.86	10.75	6.13	.002**

***p* < .05

This data and analysis showed no significant difference in the performance of FYS students in PPDL style courses and standalone courses, excluding CDEV, suggesting the two delivery methods have little difference in student success performance results, despite their difference in credit hours and commitment of college resources. The obvious exception to this negative trend in the Childhood Development Program was in the following semester course load indicator for Fall 2017. For that semester, all student groups demonstrated growth for this indicator. This growth in following semester course load could be indicative of the fact that at WVUP starting in the Fall semester of 2016, all new students and current freshmen (under 30 earned credit hours) were required to be academically advised in the new Professional Advising Center (PAC). The PAC was staffed initially by reassigned personnel from the Tutoring Center with four advisors, a support position, and were supervised by the Dean of Academic Affairs, the newly created “number two” position in Academic Affairs. The growth in following semester course load could be attributed in part to the actions and growing abilities of the Professional Advising Center, and to the comprehensive redesign of the WVUP schedule to maximize enrollment under the Complete College America initiative. In this redesign, the college made the commitment that except for academic programs with specialized schedules (such as teacher education and nursing)

all programs could be completed with either a morning, afternoon or a combined evening and online schedule.

Finding: first-year seminars had a significant effect on persistence for first to second semester. Persistence, a student completing at least one credit hour in a following semester, was a key success indicator. For the purposes of statistical test and analysis, this was indicated by a binary value of “1” for persistence and “0” for failure to persist. For the Spring semester of 2017, with a p value of .13, the ANOVA test did not indicate a significant relationship or difference in the FYS delivery modes used at that time at WVUP, although persistence was somewhat improved for some courses.

Table 24

Persistence - Spring 2017 Compared to Previous Semesters

Persistence	NON-FYS	General Business 101	Childhood Development 105	Education 100	College 101
2015	40.74%	56.67%	70.00%	79.31%	N/A
2016	39.02%	50.9259%	64.71%	88.00%	N/A
2017	60.87%	61.18%	35.00%	51.43%	48.15%

When comparing the persistence performance of Spring 2017 FYS students to Non-FYS students, there also was no statistically significant impact, except for the comparison between CDEV (M = .35) and Non-FYS (M= .61) with a p = .05, wherein Non-FYS students fared better than their CDEV FYS counterparts. This performance by student who did not receive the FYS treatment in Spring 2017, again, indicates a problematic design in the initial Spring 2017 FYS, wherein the treatment was worse for the student than non-treatment.

Table 25

t-Test: Two-Sample Assuming Unequal Variances, Persistence, Non-FYS v. CDEV, Spring 2017

	Non-FYS		CDEV		<i>t</i> -test
	M	SD	M	SD	
Persistence	.61	.50	.35	.49	.047**

***p* < .05

Effects of FYS on persistence for Fall 2017. Much like the other student success performance indicators for this study, persistence for Fall 2017 FYS courses showed significant improvement over past fall semesters (2015 and 2016) as well as over the Spring 2017 semester. While it was predicted that non-FYS students would underperform versus treatment, Childhood Development again proved the anomaly by having a worse performance than other courses, modes and compared to previous semesters.

Table 26

Persistence - Fall 2017 vs. Previous Semesters

Persistence	NON-FYS	General Business 101	Childhood Development 105	Education 100	College 101
2015	61.30%	63.19%	78.26%	70.77%	N/A
2016	67.93%	64.75%	68.97%	76.25%	N/A
2017	57.14%	76.64%	48.86%	78.87%	78.75%

The ANOVA analysis for persistence in Fall 2017, unlike Spring 2017, showed a strong difference or relationship was present between FYS delivery options, with a *p* value of .01.

Table 27

Anova: Single Factor, Semester to Semester Persistence, Fall 2017

<i>Source of Variation</i>	<i>SS</i>	<i>df</i>	<i>MS</i>	<i>F</i>	<i>P-value</i>	<i>F crit</i>
Between Groups	1.91	3	0.64	3.59	.01**	2.62
Within Groups	84.49	476	0.18			
Total	86.40	479				

**p < .05

Additional t-Test analysis of the data demonstrated the exclusive source of this performance differential was between the significant lower persistence of students in CDEV FYS classes as compared to all other forms of FYS at WVUP. There was no statistically significant difference between the PPDL model and the standalone model.

Table 28

t-Test: Two-Sample Assuming Unequal Variances, Persistence, Non-FYS v. CDEV, Spring 2017

	<u>Non-FYS</u>		<u>CDEV</u>		<i>t-test</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Persistence	.61	.50	.35	.49	.047**

**p < .05

Table 29 shows the comparison between CDEV and EDUC for Fall 2017 wherein Education 100 students persisted at a much higher rate.

Table 29

t-Test: Two-Sample Assuming Unequal Variances, Persistence, CDEV v. EDUC, Fall 2017

	<u>CDEV</u>		<u>EDUC</u>		<i>t-test</i>
	<i>M</i>	<i>SD</i>	<i>M</i>	<i>SD</i>	
Persistence	.53	.51	.79	.41	.01**

**p < .05

GBUS students persisted at a higher rate than CDEV students in Fall 2017, as indicated in Table 30.

Table 30

t-Test: two-Sample Assuming Unequal Variances, Persistence, CDEV v. GBUS, Fall 2017

	CDEV		GBUS		<i>t</i> -test
	M	SD	M	SD	
Persistence	.53	.51	.77	.42	.01**

***p* < .05

Students in the standalone FYS College 101 also persisted with a similar, higher differential when compared to CDEV.

Table 31

t-Test: Two-Sample Assuming Unequal Variances, Persistence, CDEV v. COLL, Fall 2017

	CDEV		COLL		<i>t</i> -test
	M	SD	M	SD	
Persistence	.53	.51	.79	.41	.01**

***p* < .05

When compared to those students who were qualified to be enrolled in an FYS but were not, all delivery models, excepting CDEV, performed better than the non—FYS group, demonstrating the potential effectiveness of FYS course to increase persistence. Table 32 showed the significantly higher persistence rate for Education 100 students versus those students who did not take a FYS course in Fall 2017.

Table 32

t-Test: Two-Sample Assuming Unequal Variances, Persistence, Non-FYS v. EDUC, Fall 2017

	Non-FYS		EDUC		<i>t</i> -test
	M	SD	M	SD	
Persistence	.57	.50	.79	.41	.03**

***p* < .05

General Business 101 students also significantly outperformed non-FYS students in Fall 2017 retention as reported in Table 33.

Table 33

t-Test: Two-Sample Assuming Unequal Variances, Persistence, Non-FYS v. GBUS, Fall 2017

	Non-FYS		GBUS		<i>t</i> -test
	M	SD	M	SD	
Persistence	.57	.50	.79	.42	.03**

***p* < .05

In Table 34, non-FYS students were outpaced by College 101 students in terms of persistence, by more than 20%.

Table 34

t-Test: Two-Sample Assuming Unequal Variances, Persistence, Non-FYS v. COLL, Fall 2017

	Non-FYS		COLL		<i>t</i> -test
	M	SD	M	SD	
	.57	.50	.79	.41	.02**

***p* < .05

The results above indicated that in general, having a well-structured FYS program, as represented by the Fall 2017 version at WVUP, had a positive effect on a first-time student's

semester-to-semester persistence, both in comparison with prior semester performance before FYS implementation, and in directed contemporaneous comparison with students who did not experience the FYS.

Research Question Two

The second research question asked, “Did the use of High Impact Practices in First-Year Seminar classes result in higher student academic performance indicators, as measured by first semester grade point average, following semester persistence and following semester enrollment level for first semester students at an open enrollment Appalachian institution?” Use of HIPs did increase from Spring 2017 to Fall 2017, and such increase was in tandem with increases in student success indicators over the same period. As use of HIPs were narrow in category and focus, it was not clear if a more diverse set of HIPs would have had an increase in effect.

Finding: increased inclusion of high impact practices for first-year seminars correlates with increased first semester GPA. The second research question asked to what extent did the use of High Impact Practices, as indicated by their inclusion in assignments listed in the course syllabi, in first-year seminar classes result in higher student academic performance indicators, as measured by first semester grade point average, following semester persistence and following semester enrollment level for first semester students at an open enrollment Appalachian institution? The syllabi for all FYS courses offered at WVUP for Spring and Fall 2017 were analyzed on their gradable course requirements and were coded to their alignment with the most commonly used FYS high impact practices (HIP) as identified by the American Association of Colleges and Universities Liberal Education and America's Promise (LEAP) project, the National Resource Center for the First-Year Experience and Students in Transition and referenced in chapter two. Those HIP categories were collaborative learning, diversity,

writing intensive, service learning, learning community (LearningCom), common reading or intellectual experience (Com EXP), and research.

FYS coursework for the initial implementation semester of Spring 2017 indicated a lower commitment to embedding FYS HIPs in courses than the following Fall 2017 semester, as well as an over commitment to writing assignments and a neglect or lack of time for other types of assignments that could have diversified instruction to address learning style concerns. Table 35 describes the frequency of occurrence for HIPs in Spring 2017 FYS syllabi.

Table 35

Average Occurrence of High-Impact Practices per FYS Syllabi, Spring 2017

Spring 2017	Occurrence	Average per Syllabi
Collaborative	5	0.56
Diversity	2	0.23
Writing	13	1.44
Service	1	0.11
LearningCom	0	0
Com EXP	0	0
Research	4	0.45
Average		2.78

Table 36 reports the increased commitment to HIPs in the Fall 2017 semester.

Table 36

Average Occurrence of High-Impact Practices per FYS Syllabi, Fall 2017

Fall 2017	Occurrence	Average per Syllabi
Collaborative	3	.25
Diversity	2	.17
Writing	25	2.08
Service	1	.083
LearningCom	0	0
Com EXP	2	.17
Research	3	.25
Average		3.00

Table 37 shows when breaking down average HIP inclusion between PPDL FYS courses and the standalone COLL 101 course, there was no difference in the average HIP assignment occurrence between the modes of delivery in Spring 2017 as the averages were separated by one hundredth of a point.

Table 37

Comparison of High-Impact Practices, PPDL vs. Standalone Courses, Spring 2017

Spring 2017 – PPDL (6 sections)	Occurrence	Average per Syllabi	Spring 2017- COLL 101 (3 sections)	Occurrence	Average per Syllabi
Collaborative	3	0.5	Collaborative	2	0.68
Diversity	1	.17	Diversity	0	0
Writing	7	1.18	Writing	6	2
Service	1	.17	Service	0	0
LearningCom	0	0	LearningCom	0	0
Com EXP	0	0	Com EXP	0	0
Research	4	.67	Research	0	0
AVERAGE		2.68	AVERAGE		2.67

In Fall of 2017 the occurrence of HIP assignments increased for both PPDL and standalone FYS courses, with the greater increase in the College 101 standalone course, which while only a one credit hour class, had the luxury of focusing only on FYS topics.

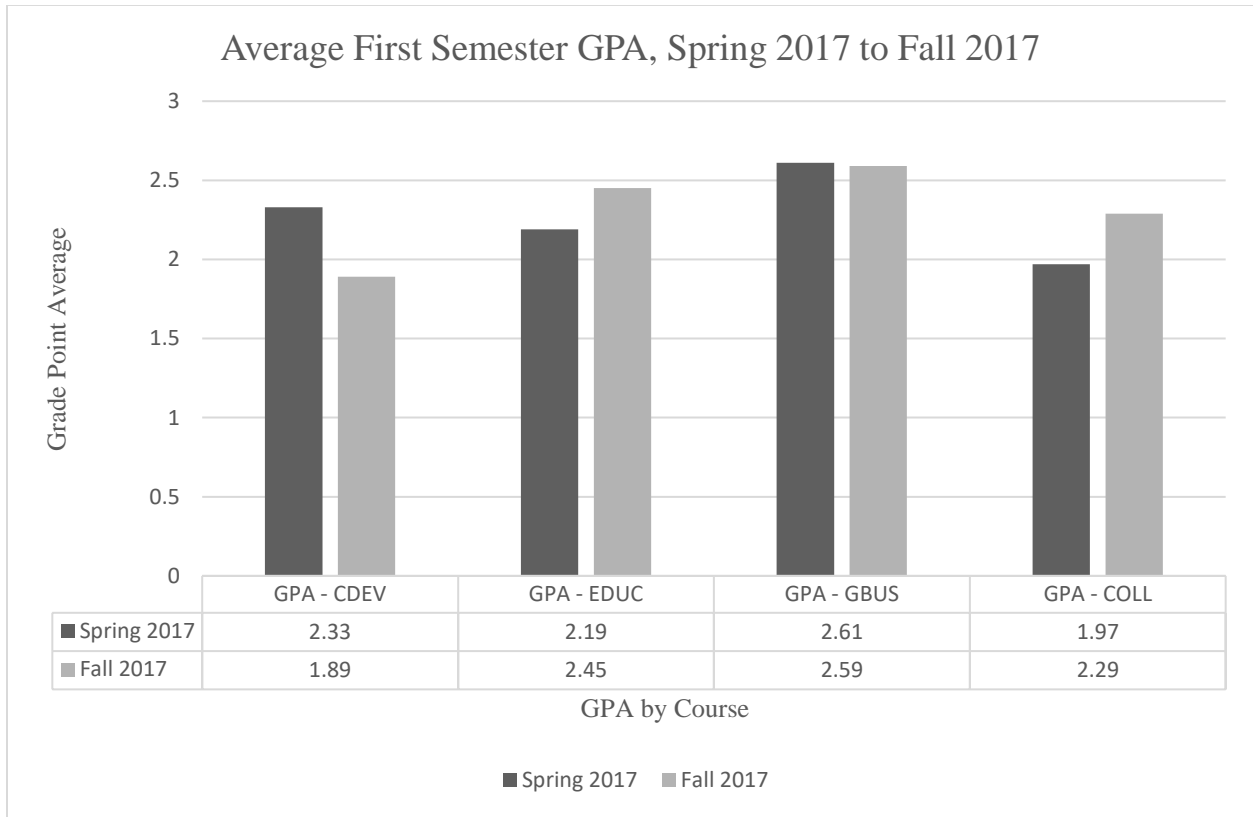
Table 38

Comparison of High-Impact Practices, PPDL vs. Standalone Courses, Fall 2017

Fall 2017 – PPDL	Count	Average per Syllabi	Fall 2017- COLL 101	Count	Average per Syllabi
Collaborative	1	.17	Collaborative	2	.40
Diversity	2	.34	Diversity	0	0
Writing	12	2	Writing	13	2.60
Service	1	.17	Service	0	0
LearningCom	0	0	LearningCom	0	0
Com EXP	0	0	Com EXP	2	.40
Research	3	.50	Research	0	0
AVERAGE		3.17	AVERAGE		3.4

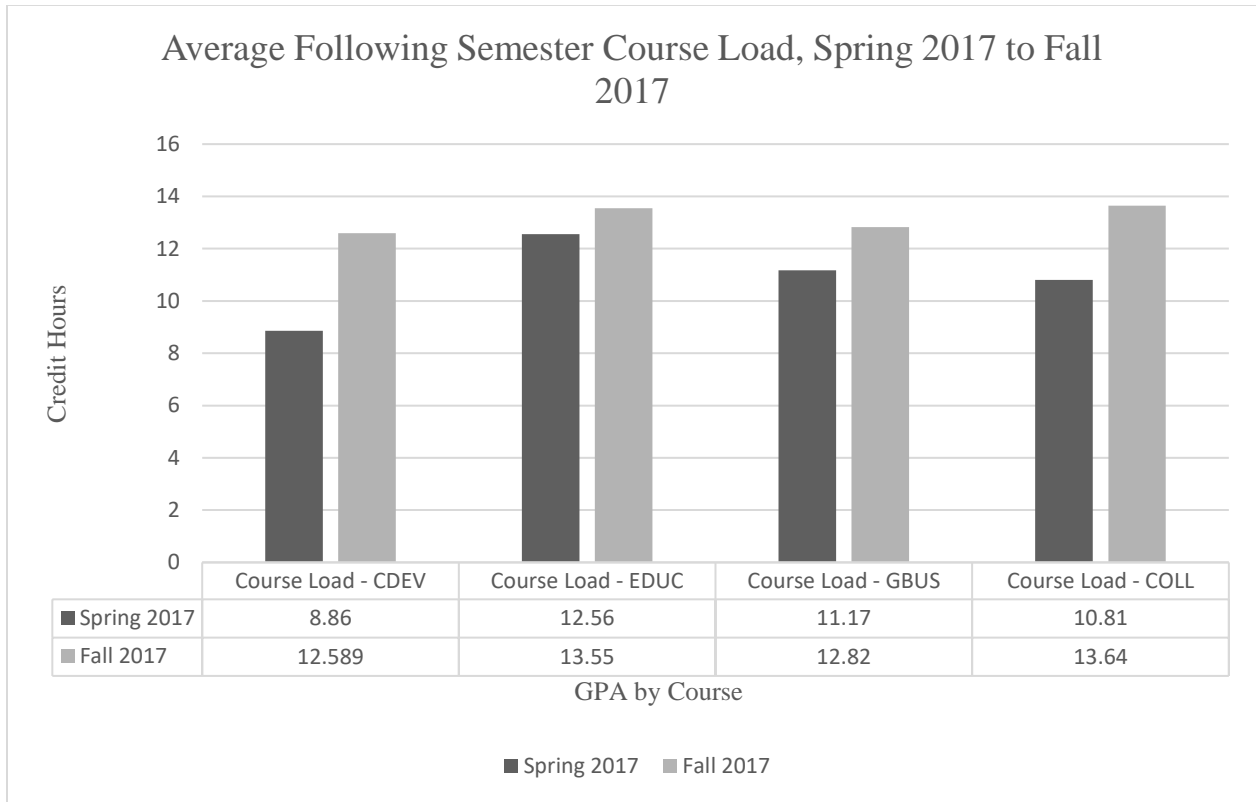
The increase in HIP inclusion in FYS syllabi tracks positively with the general improvement in GPA (Figure 1), following semester course load (Figure 2), and persistence (Figure 3) from Spring 2017 to Fall 2017. Course load and persistence increased uniformly in all categories of FYS delivery mode while GPA lagged in CDEV and was marginally lower in GBUS. (Figure 1.) This uniform increase suggested a lack of performance difference between the more traditional and more expensive standalone method of FYS delivery and the less costly and less organizationally challenging PPDL method.

Figure 1. Average First Semester GPA, Spring 2017 v. Fall 2017, FYS Courses



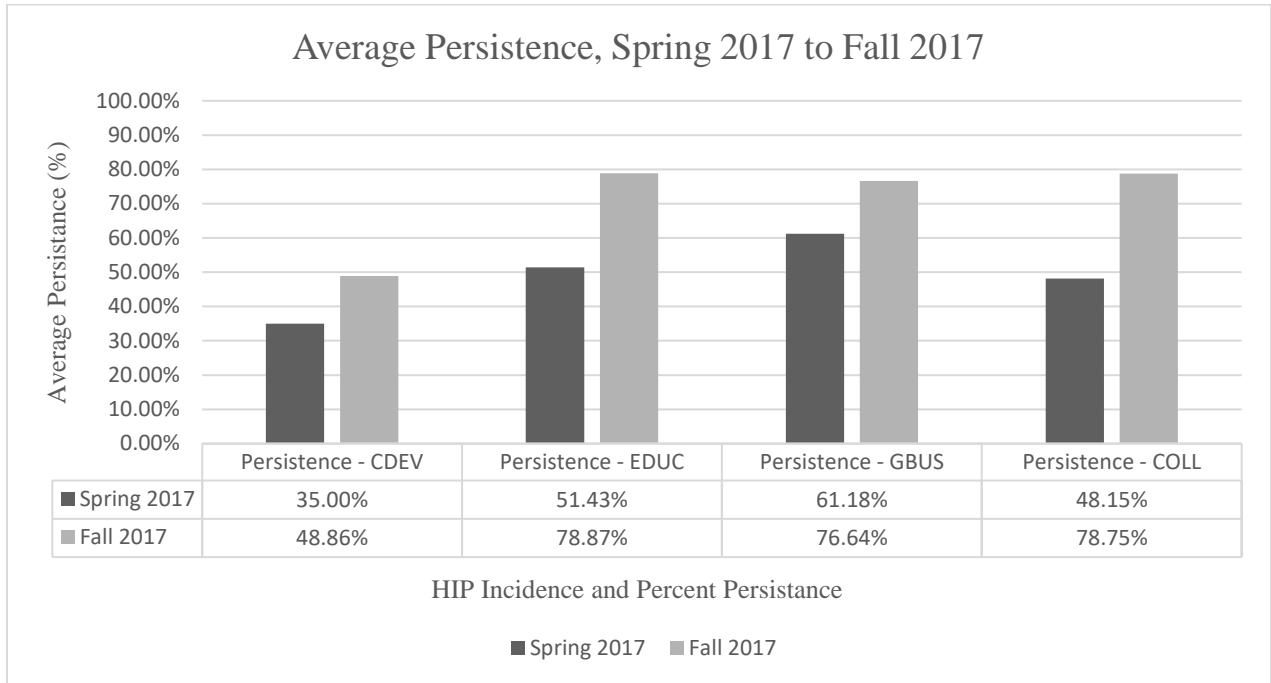
Average following semester course load increased in all categories of FYS delivery, possibly indicating an area of uniform positive effect.

Figure 2. Average Following Semester Course Load, Spring 2017 v. Fall 2017, FYS Courses



Persistence also exhibited significant increase among all modes of FYS delivery from Spring to Fall 2017.

Figure 3. Average Semester to Semester Persistence, Spring 2017 to Fall 2017, Compared between FYS Courses



Thus, there was a basic correlation between the increase of use of HIPs in FYS courses and the student success performance indicators identified by literature and this study. In a series of t-Tests comparing the increase in HIP occurrence from Spring 2017 to Fall 2017 to the increase in student success indicators between those same semesters, except for first semester GPA for CDEV, which did not increase. First semester GPA increase for EDUC and COLL indicated a positive relationship with HIP occurrence increase. Growth in following semester course load held a positive relationship with all FYS courses except for CDEV and while semester to semester persistence increased in every FYS course, only for GBUS was that a significant relationship with HIP occurrence.

Table 39

*t-Test p values** for increase in high impact practices and increase in student success indicators, Spring 2017 to Fall 2017*

	CDEV	EDUC	GBUS	COLL
GPA p Value	N/A	.04	.57	.03
Course Load p Value	.07	.02	.01	.05
Persistence p Value	.06	.07	.01	.08

** $p < .05$

National benchmarking and the literature review indicated a positive relationship between the inclusion of HIPs and student success indicators. This positive relationship was reflected in the second semester of implementation at WVUP as increases in the use of HIP had a significant and positive relationship with some indicators. The fact that this was not uniform, and that mere participation in FYS courses seemed to have a slightly more statistically significant relationship with those indicators than an increase in HIP inclusion, may hint at a need for greater HIP inclusion, or the inclusion of a more diverse set of HIPs.

Research Question Three

The third research question asked, “Did the inclusion of Appalachian-specific success factors in the curriculum of First-Year Seminar classes result in higher student academic performance indicators, as measured by first semester grade point average, following semester persistence and following semester enrollment level for first semester students at an open enrollment Appalachian institution?” ASF inclusion rates fell from Spring 2017 to Fall 2017 despite the general increase in student performance. This may have been due to ASF inclusion being at a much higher rate than HIP inclusion and perhaps ASF inclusion was already having an impact at the top of its range.

Finding: effect of inclusion of Appalachian success factors was inconclusive. As reviewed above, Appalachian success factors (ASF) were additional categories of recommended instructional content for new higher education students which addressed culturally specific concerns of students in Appalachia. Those factors were Home and Family, Financial Considerations, Internal locus of control (LOC), Relationships, and Communication of Information.

Each syllabus for FYS courses at WVUP for Spring 2017 and Fall 2017 was evaluated for its ASF related assignments, and coded. The data show an overall decrease in the use of ASF from Spring to Fall, essentially if not intentionally transferring focus from ASF material and assignments to the less culturally specific HIPs. Table 40 provides the Spring 2017 baseline for ASF inclusion. Note that the volume of ASF inclusion was much higher than HIPs, which may have been due to the nature of HIPs and ASFs or due to the Appalachian background of most of the faculty and staff.

Table 40

Occurrence of Appalachian Success Factor Assignments in FYS Courses, Spring 2017

Spring 2017	Occurrence	Average
Home and Family	5	0.56
Financial Concerns	0	0
Internal LOC	51	5.67
Relationships	13	1.44
Communication of Information	18	2
Average		9.67

Table 41 breaks down the Spring 2017 ASF inclusion baseline between PPDL courses and the standalone College 101 course. Note the standalone course included a higher average number of ASF related assignments than the PPDL courses.

Table 41

Occurrence of Appalachian Success Factor Assignments in FYS Courses, Comparing PPDL and Standalone Courses, Spring 2017

Spring 2017- PPDL	Occurrence	Average	Spring 2017- COLL 101	Occurrence	Average
Home and Family	5	.71	Home and Family	0	0
Financial Concerns	0	0	Financial Concerns	0	0
Internal LOC	31	4.43	Internal LOC	20	10
Relationships	11	1.57	Relationships	2	1
Communication of Information	14	2	Communication of Information	4	2
AVERAGE		8.71	AVERAGE		13

Unlike the increase in HIP inclusion from Spring 2017 to Fall 2017, WVUP FYS courses reduced the occurrence of ASFs in Fall 2017, as listed in their syllabi, on average by over 3 occurrences, as indicated in Table 42.

Table 42

Occurrence of Appalachian Success Factor Assignments in FYS Courses, Fall 2017

Fall 2017	Occurrence	Average
Home and Family	5	.42
Financial Concerns	0	0
Internal LOC	53	4.42
Relationships	13	1.08
Communication of Information	3	.25
Average		6.17

Table 43 indicates this reduction in ASFs was not limited to either PPDL or the standalone course.

Table 43

Occurrence of Appalachian Success Factor Assignments in FYS Courses, Comparing PPDL and Standalone Courses, Fall 2017

Fall 2017-PPDL	Occurrence	Average	Fall 2017-COLL 101	Occurrence	Average
Home and Family	5	.71	Home and Family	0	0
Financial Concerns	0	0	Financial Concerns	0	0
Internal LOC	19	2.71	Internal LOC	34	4.8
Relationships	5	.71	Relationships	8	1.14
Communication of Information	1	.14	Communication of Information	2	.28
AVERAGE		4.29	AVERAGE		8.8

While this data indicated that GPA, course load, and persistence increased by varying degrees from Spring 2017 to Fall 2017 with fewer ASF related assignments, it may speak to the overall power of HIP inclusion to affect change in student behavior and may have represented a significant opportunity to increase student performance should this type of assignment be made a priority. Alternatively, it could indicate that the volume of ASFs was already at a sufficient level and that reducing them did not impact the quality of the FYS courses.

Research Question Four

The fourth research question asked, “Among students who participated in a semester-long, first-year experience course, was there a relationship between Expected Family Contribution and first semester GPA?” While supported by much research and literature, this was inconclusive for the population of the study.

Finding: effect of expected family contribution on first semester GPA was inconclusive for this population. This final research question asked if among students who participate in a semester-long, first-year experience course, was there a relationship between Expected Family Contribution and first semester GPA? There were extensive research findings that a student’s socio-economic status had a positive correlation with college success as defined by GPA. Correlation tests between first semester GPA of students at WVUP who completed an FYS showed a lack of correlation between expected family contribution (EFC, as determined by the U.S. Department of Education through the Free Application for Federal Student Aid process) and first semester GPA for the Spring and Fall 2017 semesters. Additionally, students in the Non-FYS groups for both semesters did not have a correlation between EFC and first semester GPA. This lack of correlation in the untreated group, against all well-established research, may indicate that the student population of WVUP may have been disproportionately made up of too

homogenous a group to show correlation or a gradient of experience; that was they may have been too uniformly disadvantaged when compared to the national norm. The research question could not be answered definitively.

Summary of Findings

FYS Course Type Effect on Grade Point Average

By using a combination of ANOVA and t-tests, this study was able to analyze the possible effects of FYS at WVUP and on first time freshmen and transfer students with fewer than 30 transferable hours during their first semester of study at WVUP in terms of GPA, following semester course load and persistence (student success indicators). ANOVA was used to determine the presence of an effect, and t-tests were used to locate and determine the nature of the effect if one existed. First ANOVA was used for each of the three student success indicators to compare the four types of FYS delivery (three PPDL courses and one standalone course). If an effect within the confidence interval of .05 was identified, t-tests were used to compare each possible FYS course pairing. This t-test comparison was done for both the Spring 2017 semester, which was the first semester of implementation of FYS at WVUP and for the following Fall 2017 semester which occurred after a summer of revision for FYS classes at WVUP.

The effect of Spring 2017 FYS on GPA was minimal and unfocused. While ANOVA detected an effect, it was restricted to only one of the course pairs, GBUS v. COLL. When GPA performance was compared between FYS courses and non-FYS students, the only significant effect was between Non-FYS students and COLL FYS students, with non-FYS students performing markedly better in terms of first semester GPA.

The effect of FYS on first semester GPA was more pronounced in the Fall 2017 semester. With a p value of .03, the ANOVA for this semester's GPA comparison indicated a stronger

relationship. This relationship was primarily due to the statistically significant differences between GBUS and CDEV, and GBUS and COLL. While GPA generally rose from Spring 2017 to Fall 2017, the real indicator in level of impact of FYS on first semester GPA were the t-tests between non-FYS students and other FYS participating students. Non-FYS students in Fall 2017 had statistically significant lower first semester GPA (M) than students who completed a FYS course, other than CDEV, which had a higher GPA (M) than non-FYS but was not statistically significant. There was no significant difference of any kind between PPDL FYS courses and the standalone FYS course for Fall 2017 and both were better than no FYS course at all in terms of first semester GPA.

FYS course type effect on course load.

In terms of following semester course load, Spring 2017 had no significant effect, either in term of the ANOVA measure ($p = .07$) or in terms of t-tests for comparing non-FYS students to FYS course students. The first iteration of FYS at WVUP simply did not have a measurable effect on students choosing the amount of credit hours they would take in the following semesters.

For Fall 2017, there was a significant change. With a p value of .01, the ANOVA test for students' following semester course load indicated a significant relationship. Individual t-tests for each possible pair of FYS courses indicated a significant difference only between the CDEV FYS and all other FYS options. There were no significant differences between the other PPDL FYS courses and the FYS standalone course, all of which demonstrated significant improvement in their mean from the previous semester. The quality of FYS in Fall of 2017 in terms of affecting the course load for students in their second semester of college seemed clear and positive.

FYS course type effect on persistence.

With a p value of .13, the ANOVA test for student persistence from first to second semester displayed no significant relationship between the FYS courses or methods of delivery for Spring of 2017. When comparing non-FYS students and FYS course students for Spring 2017, the only significant difference was between the CDEV FYS (M = .35) and the Non-FYS (M = .61) students, confirming the outlying nature of the CDEV course.

The Fall 2017 semester continued a pattern of difference, with ANOVA testing yielding a $p = .01$ for persistence. t-test pairings indicated a strong difference between CDEV (M = .53) and GBUS (.77) with a P value of .01, between CDEV (M = .53) and EDUC (M = .79), with a P value of .01, and between CDEV (M = .53) and COLL (M = .79) with a P value of .01. This statistically significant difference not only cemented the outside nature of the CDEV FYS and lack of effectiveness in both Spring and Fall 2017 (which may have indicated other variables outside of this study), but gave evidence to the proposition that in terms of the three student success indicators examined in this study, there was no difference between PDDL FYS and the standalone method of delivery, while FYS courses in general were better than not having a FYS course.

High-impact practices for FYS.

The inclusion of High-Impact Practices for FYS was at a low average rate across all FYS syllabi of the initial implementation semester of Spring 2017. On average Spring 2017 FYS included only an average of 2.78 HIP related assignments per FYS syllabi. During the summer FYS review and improvement process between Spring 2017 and Fall 2017, there may have been

an effort to increase the inclusion of HIP in the college's FYS courses. Fall 2017 FYS courses had an average of 3.00 HIP related assignments per FYS syllabi.

The increase in use of HIP mirrored an increase in average first semester GPA, following semester course load, and semester-to-semester persistence in some, but not all, FYS courses at WVUP from Spring 2017 to Fall 2017. Even with the exclusion of CDEV, for which performance was largely suppressed across almost all data categories, there was not a uniform increase of student success indicators, though many demonstrated measurable and statistically significant increases, most notably in following semester course load.

Appalachian success factors.

The use of Appalachian Success Factors (ASF) decreased significantly from the Spring 2017 to Fall 2017 semester. Whether intentional, or an ancillary effect of a shifting focus on increasing HIP-based assignments, fewer ASF centered assignments were offered in the second semester of FYS implementation at WVUP.

Relationship between first semester GPA and expected family contribution.

As demonstrated in the literature reviewed in chapter two, while national research showed there was often a relationship between a student's or their family's income or socio-economic status, this was not indicated for FYS course participants at WVUP in the Spring 2017 and Fall 2017 semesters. As no statistically significant relationship could be established, it was possible, given the significant levels of financial need prevalent in the WVUP service area that there was not a sufficient distinction in participants to observe a relationship.

CHAPTER FIVE

Conclusions and Recommendations

Purpose of the Study

This study explored the effect of First-Year Seminar (FYS) courses on the standard student success indicators of first semester GPA, following semester course load, and semester to semester persistence for first time freshmen and transfer students with less than 30 transferable hours. The study further determined the differential of these effects between differing types of FYS delivery models, the Pre-Professional or Discipline Linked (PPDL) course, and the standalone FYS course. The relative application of High-Impact Practices (HIP) for FYS as indicated by research and literature review were evaluated to determine the effect of HIP on student success indicators. West Virginia University at Parkersburg (WVUP) FYS syllabi were also evaluated for the occurrence of assignments that supported Appalachia Success Factors (ASF) as defined by literature. The rate of ASF occurrence was compared to the change in student success factors from initial semester of FYS deployment to second to detect a possible relationship. The study measured a possible relationship between a student's financial resources, as represented by the federal measure of expected family contribution (EFC) to the performance of FYS students as measured by first semester GPA.

The further and ultimate purpose of the study was to determine if the little used, yet more affordable PPDL delivery method for FYS course work was as effective for this population as standalone FYS course work. PPDL courses incorporated FYS course work, HIP, and ASF into pre-existing, academic program specific three-credit hour courses that were required for degree completion. Other than possible instructor training and curriculum design, PPDL courses

required no additional resource commitment from the institution. Standalone FYS courses, though more popular with FYS programs in the United States, required more resource commitment such as additional instructors or course load dedication, training, placement in an academic schedule, and placement in mandatory course work in an environment that discourages academic program credit hour expansion. If the little used PPDL method of FYS was as effective as standalone FYS, it would provide a pathway, especially for open enrollment, community and technical colleges to offer the benefits of FYS to student populations in the most need of the benefits without needing significantly more resources or operating outside of enforced credit hour limits for academic programs.

Data Collection

The necessary data for this study, which required access to demographic, financial and academic information of individual students between Spring 2015 and Fall 2017 at WVUP, was retrieved via the WVUP official student data base system with the cooperation of the WVUP Office of Information Technology (OIT), the Chief Information Officer, and staff. Successive college presidents provided approval of the research as the results were to be shared with the administration of the college with an aim to improving FYS.

OIT provided access to individual student data for those students enrolled in a FYS course in Spring 2017 or Fall 2017 semester, those students who should have been in a FYS course during those semesters but were not, as well as for students for fall and spring semesters of 2015 and 2016 who would have qualified for FYS enrollment had the program existed at the time. This data included name, WVUP identification number, contact information, first semester GPA, high school GPA, FYS course grade, following semester course load, EFC and gender.

Data was tested for accuracy and was provided via a report to which the researcher was granted access from June 1, 2017 until August 23, 2018. All data remains in a secure file.

Summary of Findings

Effectiveness of FYS on Student Success Measures

When student success indicators of first semester GPA, following semester course load and semester to semester persistence of students who enrolled in FYS courses in Spring 2017 were analyzed, the only statistically significant performance difference was between the GBUS 101 PDDL FYS course and the standalone COLL 101, wherein the GPA mean for GBUS indicated a stronger performance ($M=2.63$) than COLL 101 ($M=1.96$). When a comparison was made between FYS courses of the Spring 2017 semester and the Non-FYS student group, there was no statistically meaningful difference between the performance between FYS enrolled students and those students who qualified to take an FYS course but did not, excepting between COLL 101 ($M=1.96$) and Non-FYS students ($M=2.64$) with a $p = .05$. In terms of first semester GPA, Spring 2017 FYS courses did not have the impact desired, a potential indicator of a program still being developed.

The Fall 2017 semester offered a better case for effectiveness and was part of an institutional narrative, where a change in academic leadership prior to Spring 2017 FYS implementation resulted in an insular decision by the Vice President of Academic Affairs (VPAA) to disregard the research and preparation of the FYS development committee in favor of his own plan, which ignored peer research and national best practices. Over the interstitial summer between the Spring 2017 and Fall 2017 semesters, a new VPAA restored the original research and best practices FYS plan and encouraged FYS courses to work with the instructional

designer of the WVUP Online Education office to create appropriate course assignments and materials for all types of FYS courses.

While student success indicators were improved in Fall 2017 versus Spring 2017, first semester GPA was the least improved. Of the four FYS course student groups, (College 101, Child Development 105, Education 100, and General Business 101) and Non-FYS taking students (who were otherwise required to do so) only College 101 (the one credit-hour standalone course), and Education 100 (a three credit-hour PPDL course) saw GPA improvement. While it was expected to see Non-FYS students GPA decrease from Spring 2017 to Fall 2017 (M=2.63, M=1.57, respectively) students in FYS courses General Business (GBUS) and Childhood Development (CDEV) also saw a decrease, although GBUS was marginal (M=2.61 to M=2.60) and the GPA decline for CDEV (M=2.33 to M=1.89) was part of an overall decline in academic performance from that program.

The change in the following semester course load success measure was much more positive. All FYS course option student groups showed a statistically significant increase in credit-hour registration at the beginning of their respective terms, Spring 2017 to Fall 2017. Only those students in the Non-FYS group showed a decline in course load, all of which were statistically significant except for CDEV. This lack of performance in following semester course load not only confirms the outlying nature of CDEV, but the lack of significant difference between a standalone FYS course and a PPDL FYS course in the improvement of following semester course load indicated that the two methods of FYS course delivery have parity in terms of effectiveness over those who did not participate.

Similarly, semester-to-semester enrollment persistence showed a significant improvement for all groups for the semesters of Spring 2017 to Fall 2017 (chapter four, figure 3). At initial

deployment, FYS courses showed no significant effect on persistence, with Non-FYS students performing as well, or even better than FYS students. As with following semester course load (chapter four, figure 2), this indicator changed significantly in Fall 2017. Fall 2017 persistence rates evidenced a statistically significant differences between all FYS courses versus Non-FYS students, excepting CDEV (which Non-FYS students continued to best).

These three standard student success indicators demonstrated in general FYS course work had a salutary effect upon student performance within their first semester in higher education at WVUP, and perhaps similar open enrollment institutions. This effect was concentrated primarily in a student's self-confidence and higher education acculturation than in their academic performance, as indicated in persistence and following semester coursework; however a positive effect on first semester GPA was not ruled out. A student's decision to increase their course load from their first semester to second, and to persist in enrollment from first to second semester were indicators of confidence in self and the high education enterprise that occurred separately from improvement in GPA, as evidenced by the differential of performance indicators in this study. A positive influence in FYS students in this environment was indicated.

Effectiveness of FYS PPDL and Standalone Courses

While ANOVA testing showed a strong relationship between FYS courses in the Fall 2017 semester, t-test pair testing demonstrated this difference in performance was not between standalone and PPDL courses of FYS, but between all FYS courses (save CDEV) and those who did not participate in FYS. While the effect on GPA was not as universal among delivery methods, persistence and following semester credit hour enrollment were clearly and positively impacted, with FYS at minimum one of the most likely variables. If only for these two factors,

colleges and universities must strongly consider mandating FYS participation for all students, save advanced transfers.

High Impact Practices

While reasonable efforts were made to include HIPs into the curriculum and syllabi, there was an over reliance on the writing practice and the complete ignoring over other practices such as learning communities, and in some semesters research, community experience, diversity, and public service. While an increase in HIP usage was evidenced from Spring 2017 to Fall 2017, it was not a balanced approach. An element of this unbalanced record could have been the limiting of the time available to teach and interact with students. College 101, the standalone course, was only one-credit hour and PPDL courses had to blend HIP with pre-existing course content. While the overall effect in Fall 2017 was positive, it was important to consider how much more positive the results could have been if more time was available, or if a more systematic approach was taken to including HIPs in the curriculum.

Appalachian Success Factors

As detailed in the literature review, specific cultures had unique factors that had to be addressed if a process was to change a member of the culture, in this case through the attainment of a degree. As this study was placed in the Appalachian region, PPDL and standalone FYS course syllabi were reviewed and coded for specific success factors as underpinned by research. These courses did address these factors, and at a higher rate than HIPs. However, in the transition from Spring 2017 to Fall 2017, the use of ASFs was reduced by more than one-third. Much of the focus for ASF was on creating an internal locus of control, with little attention on

such factors as financial concerns or home and family life. As with HIPs, a more systematic approach to ASF inclusion may have yielded increased student success results.

Expected Family Contribution and First Semester GPA

National research indicated that there was often an inverse relationship between a student's socio-economic status (SES) and academic performance. It was expected that this relationship would be present in the populations studied for this research, with an opportunity to see if the benefit of FYS courses was more pronounced for varying SES. No statistically significant relationship could be established. It was possible, given the significant levels of financial need prevalent in the WVUP service area that there was not a sufficient distinction in participants to have observed a relationship.

Conclusions

Student Participation in FYS was positive for success. While GPA increases were not uniform, persistence and following semester course load measures increased significantly for all treatment groups. While the use of high impact practices and (culturally specific) Appalachian success factors were key, foundational parts of all FYS courses and delivery modes, the application of these practices and factors seemed uneven. The overall success of the Fall 2017 implementation of the FYS courses at WVUP, significantly based on HIP and ASF inclusion, strongly recommended those elements be included in Appalachian institutions of similar profile.

Importantly, the increase in student performance in Fall 2017 was not differentiated between types of FYS course delivery, but only between those students who took an FYS course and those who did not. Especially in terms of persistence and following semester course load FYS students had a significant and measurable advantage over students who did not participate.

Not only did this speak to the overall positive impact of FYS courses, a proposition well founded throughout the literature, it strongly indicated that there was no difference in positive impact between PPDL FYS course work, and the more expensive standalone FYS courses. This equality of efficacy placed the FYS experience within the fiscal and resource reach of institutions either suffered from budgetary stress, operated under credit hour to degree restrictions, or both. That PPDL was used by so very few institutions only makes the results of this study more significant.

As discussed above, expected family contribution does not correlate with first semester GPA in this study despite its well-documented history of doing so nationally. The student body of WVUP, like many small rural or suburban Appalachian campuses served a disproportionate number of students who were first-generation, underprepared, and from lower SES. Thus, the population of the study may not have had sufficient differentiation to exhibit a performance differential based on family financial resources. This lack of population differentiation does not abrogate the need for FYS course content to address financial literacy, which WVUP FYS did not do in any significant way.

Recommendations for Further Research

Effects of FYS Courses on Student Success Factors in Multiple Following Semesters

This study could be longitudinally extended to discover the effects on the three identified student success measures as a student matures and advances. Additionally, graduation rate and time to graduation can be added to the measures.

Faculty Training

The impact of faculty training to provide FYS curriculum both from the point of curriculum development and in actual instruction could be an important area of study. How an

instructor relates to Appalachian students and uses high impact practices or Appalachian success factors would provide a window into how instructor preconceptions impact success. Direct classroom observation could expand the depth and accuracy of research in to those factors.

Faculty Perceptions of FYS Effectiveness Compared to Actual Effectiveness

Researching how faculty perceive FYS effectiveness, especially if broken out between disciplines, genders, experience levels, and academic rank, could reveal much about the support FYS in general and the differing methods of FYS delivery has within the academy. This research could inform the need to share successes to maintain political support for something that may be incorrectly seen as a distraction.

A Longitudinal Study of Appalachian Cultural Factors in FYS Design

A greater focus on how specific Appalachian cultural factors impact the design of FYS across the Appalachian region could provide data to refine the design of regionally specific FYS, leading to a greater positive impact. Researching at multiple Appalachian institutions in multiple states, the study could clarify how FYS courses in different institutional settings approach similar cultural challenges to higher education success, looking for both common successful solutions and effective anomalies that should be more widely exploited.

Comparative Study of FYS Programs With and Without Credit-Hour Limitations

Comparing systems that allow for FYS courses to add additional required credit hours to academic program requirements beyond the rising standard of either 60 (associate degrees) or 120 (baccalaureate degrees) credit hours to those who did not have such flexibility, may demonstrate if FYS programs with more credit hour flexibility, or a greater number of credit hours, were more effective in supporting student success.

Concluding Remarks

First-year seminars as a practice sat at the intersection of opposing forces: the need to apply best practices to persistence and retention in order to have served our most vulnerable students well, and the public policy demands that student tuition remained as low as possible and the credit-hours for a degree kept to a minimum while retaining academic credibility, so that educational debt and time to career were minimized.

If this were simply an issue of resource allocation, then institutions could simply shift dollars from less successful student success initiatives to FYS with its long and well-established history of success. Yet, in addition to the demand of fungible resources FYS, as often employed through standalone courses, would require unique resources to implement, specifically instructor course load, student tuition, and space on the course schedule. If the benefits of FYS could be delivered via pre-existing pre-professional or disciplined linked courses which were already required for graduation, the benefit would be two-fold. In addition to the resource efficacies of such a practice, this would highlight a specific practice that was significantly underused nationally, and make the benefits of first-year seminars available to a wider population, and to those who needed them the most, in the case of underfunded, open enrollment institutions in geographic and cultural areas most challenged by the transition to a more skilled labor-based economy which demanded credentials and more sophisticated knowledge.

Students did not “do” optional, even if it was in their best interests. With the benefits of FYS so clear, and the efficacy of the low-cost PPDL option presented in this study, it was recommended that institutions make FYS coursework mandatory within the first semester of attendance for first-time freshmen and transfer students with less than 30 transferable credit hours. Given the nature of the students involved, especially low income and first-generation

students from Appalachia, and their propensity to have simultaneously overestimated their abilities while having low agency, this FYS intervention must be mandatory. This mandatory FYS experience then becomes a springboard for addressing related issues such as refusing to engage with offices and practices meant to help them on an otherwise voluntary basis.

When an institution admitted a student, the college or university took on an ethical obligation to support and assist that student towards their end goal of graduation or certification. This obligation to support success was not a retreat of the point of view that claimed every student has a “right-to-fail” wherein every person deserved a chance at a college degree, but without any obligation on the part of the institution to have supported student success. Such was the academic equivalent of “sink or swim” approaches to swim instruction. Rather FYS, especially mandatory FYS, was part of a philosophy that declared students have the right-to-succeed, by not only having been given the opportunity to study, but through the institution consciously, and comprehensively having created an ecology of support, monitoring, and mandatory processes that transform a student into a professional adult with full agency, prepared to survive the vicissitudes of a career, and to thrive with a life of meaning.

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APPENDIX A: APPROVAL LETTER



Office of Research Integrity

April 21, 2020

Anthony Underwood
6 Ashwood Dr.
Vienna, WV 26105

Dear Mr. Underwood:

This letter is in response to the submitted dissertation abstract entitled "*First-Year Seminar Delivery Method Effect on Student Success at an Appalachian Open-Enrollment Institution.*" After assessing the abstract it has been deemed not to be human subject research and therefore exempt from oversight of the Marshall University Institutional Review Board (IRB). The Code of Federal Regulations (45CFR46) has set forth the criteria utilized in making this determination. Since the study does not involve human subjects as defined in DHHS regulation 45 CFR §46.102(e) it is not considered human subject research. If there are any changes to the abstract you provided then you would need to resubmit that information to the Office of Research Integrity for review and determination.

I appreciate your willingness to submit the abstract for determination. Please feel free to contact the Office of Research Integrity if you have any questions regarding future protocols that may require IRB review.

Sincerely,



Bruce F. Day, ThD, CIP
Director

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