



From Policy to Practice: Tracing the Development and
Implementation of Placement and Diagnostic Assessments across
States, Systems, and Community Colleges

Lessons from Florida and Virginia Community Colleges – Phase 2 Report

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Prepared by Research for Action

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About Research for Action

Research for Action (RFA) is a Philadelphia-based nonprofit organization. We seek to use research as the basis for the improvement of educational opportunities and outcomes for traditionally underserved students. Our work is designed to strengthen public schools and postsecondary institutions; provide research-based recommendations to policymakers, practitioners and the public at the local, state and national levels; and enrich the civic and community dialogue about public education. For more information, please visit our website at www.researchforaction.org.

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Lessons from Florida and Virginia Community Colleges – Phase 2 Executive Summary

August 1, 2013

Introduction and Summary of Findings

National initiatives to raise K-12 standards and align them to postsecondary entrance requirements have prompted states and/or state postsecondary systems to enact policies to improve alignment among postsecondary readiness standards, postsecondary placement and diagnostic exams, and developmental education curricula.

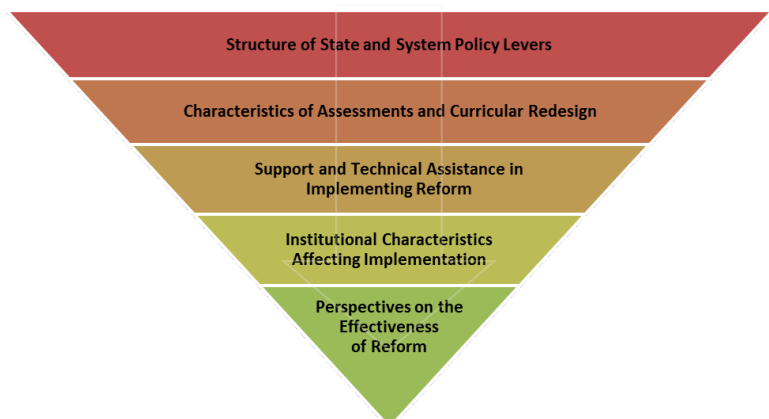
This report examines how six community colleges—three each in the states of Florida and Virginia—responded to the state-wide reform of college placement and diagnostic testing. It is a companion piece to *From Policy to Practice: Tracing the Development and Implementation of Placement and Diagnostic Assessments across States, Systems and Community Colleges – Analysis of Policy Reform in Five States* that provided an analysis of how five states commissioned vendors to develop new placement tests that include a diagnostic component.

Our analysis in this report provides a comprehensive picture of state policy reform by tracing implementation through multiple levels—beginning most broadly at the state level and progressing through increasingly granular levels of implementation.

Figure ES-1 depicts the levels of implementation examined in the report.

Diagnostic assessments are designed to provide more specific information than traditional placement tests about students' knowledge of a particular topic, or capacity and skill level in non-cognitive areas. The goal is that these assessments will provide data on student strengths and weaknesses relative to key college readiness competencies and based on that data, students can access the specific supports they need to complete developmental education courses more quickly or avoid remediation altogether.

Figure ES-1: Factors Influencing Implementation of Placement and Diagnostic Assessment Reforms



Summary of Key Findings

Table ES-1 identifies the most significant elements of the state policy reforms, and identifies the most notable institutional and faculty/administrator responses to them.

Table ES-1: State Policy Decisions and Institutional Responses

INSTITUTIONAL RESPONSE	FACULTY/ADMINISTRATOR RESPONSE
State Policy Decision: Is the assessment reform optional or mandatory?	
<ul style="list-style-type: none"> Mandatory adoption led to high levels of integration and scale up across the community college system. 	<ul style="list-style-type: none"> Faculty and administrators may chafe at the rigidity of the requirements, and may create workarounds to retain autonomy.
<ul style="list-style-type: none"> Optional adoption led to more limited reform across subsets of students and community colleges. 	<ul style="list-style-type: none"> Faculty and administrators had the flexibility to customize their approaches to adoption which led to less resistance to reforms.
State Policy Decision: How transparent is student placement and diagnostic data?	
<ul style="list-style-type: none"> Limited data transparency may hinder the ability of colleges to customize student supports and developmental pacing. 	<ul style="list-style-type: none"> Faculty preferred previous placement tests when they included more actionable student score data. Faculty implemented their own diagnostic tests in class to identify individual student needs and verify placement results.
<ul style="list-style-type: none"> The transparency of diagnostic data allows institutions to offer curricular support programs with multiple pathways for students to complete their developmental education courses. 	<ul style="list-style-type: none"> Faculty created developmental education bridge courses and reported more effective placement advising when data transparency allowed for it.
State Policy Decision: Has the state developed placement test cut scores below which students cannot enroll in developmental education courses?	
<ul style="list-style-type: none"> As is the case in Virginia, the creation of a “floor” for developmental education eligibility challenged the open-access mission of community colleges and has been met with resistance across colleges in the state. 	<ul style="list-style-type: none"> Faculty resist perceived de-professionalization through the reduction of their role in student placement advising. Faculty in two colleges developed “workarounds” to allow students below the cut score to receive instruction at the college.
State Policy Decision: To what degree are new tests aligned with specific developmental education curricular tools?	
<ul style="list-style-type: none"> Strong alignment allows colleges to provide a clear path for student progression through developmental education based on assessment results. Lack of alignment increases barriers to ensuring a “seamless” process of using test results to place students into curricular supports that will allow them to complete the developmental education sequence quickly. 	<ul style="list-style-type: none"> Faculty members prefer diagnostic assessments aligned with specific curricular tools, whether they are developed by the state or existing vendors, because they allow students to access services that address the specific areas where they need assistance.
State Policy Decision: Is the policy change accompanied by adequate implementation support?	
<ul style="list-style-type: none"> College administrators in both Virginia and Florida reported lack of system-level guidance as a challenge to successful implementation. 	<ul style="list-style-type: none"> Faculty engagement in peer-to-peer collaboration was generally seen as very valuable.

Lessons from the Field

Our examination of college-level responses to placement and diagnostic reform in Florida and Virginia clearly illustrate that successful implementation of state policy hinges upon a number of conditions and factors. Below, we provide a set of recommendations for states to consider as they move towards enacting similar reforms.

Before deciding whether to make testing and diagnostic reform mandatory or optional, carefully consider the potential upsides and pitfalls of each. The comparison of Florida’s optional adoption policy and Virginia’s mandatory policy provides a clear picture of the pros and cons of each approach. State and system policymakers need to weigh their priorities before determining which policy direction to embark upon—and develop plans for addressing its challenges.

Ensure that diagnostic and placement data is as transparent and accessible as possible. It makes little sense to enact a large-scale reform in this arena without also ensuring that the data generated from the new tests is available to those who are held responsible for serving students—faculty and other college staff.

Align assessment results with existing student data systems. Beyond placement and diagnostic purposes, integrating diagnostic data with other college level data systems can be useful for evaluation and analyses within developmental education as well as across the college.

Carefully consider the degree of autonomy that will be granted to institutions and faculty in terms of student placement. From a state or system policy perspective, it is more efficient to enact across-the-board decisions regarding cut scores and student placement. Yet the efficiencies gained must be carefully weighed against the barriers that can be erected when there is inadequate flexibility or input from colleges. Rigid placement policies can challenge the open-access mission of the community college sector, and could well be met with resistance.

Invest adequate time and resources to provide the technical assistance and support needed for colleges to enact placement and diagnostic testing reforms effectively. As is the case when implementing any large-scale reform, accurate information about the reform, and assistance for colleges as they implement the policy, can go a long way towards reducing the barriers to reform implementation. Creating opportunities for peer-to-peer collaboration could be a particularly effective, and relatively low-cost, form of implementation support.



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Lessons from Florida and Virginia Community Colleges – Phase 2 Report

August 1, 2013

Introduction

Economists have projected the need for an additional 20 million college-educated workers to meet future labor market needs.¹ In response, President Obama has placed community colleges at the center of his education agenda. National foundations have followed suit with efforts to raise K-12 standards and align these to postsecondary entrance requirements.

These initiatives have prompted states and/or state postsecondary systems to enact policies to improve alignment between postsecondary readiness standards, diagnostic assessment, postsecondary placement, and developmental education curricula. Yet the fidelity of implementation of these policies can be variable at the institutional level. The purpose of this study is to examine how community colleges in two states – Florida and Virginia – are responding to new assessment and curriculum redesign policies, and to provide a preliminary analysis of the perceived effectiveness of the assessment and curricular reforms on placement accuracy and developmental education completion.

Diagnostic assessments are designed to provide more specific information than traditional placement tests about students' knowledge of a particular topic, or capacity and skill level in non-cognitive areas. The goal is that these assessments will provide data on student strengths and weaknesses relative to key college readiness competencies and based on that data, students can access the specific supports they need to complete developmental education courses more quickly or avoid remediation altogether.

Research Design and Report Overview

This report provides findings on the second phase of a two-part research project conducted from September 2012 to June 2013:

Phase I (September 2012 to January 2013): During this phase, Research for Action (RFA) explored how five states (California, Florida, North Carolina, Texas, and Virginia) reformed placement and diagnostic assessments and curricular redesign to increase developmental education completion

¹ Carnevale, A. P., & Rose, S. (2011). *The Undereducated American*. Washington DC: Georgetown University, Center for Education and the Workforce.

rates. Multiple sources of data were used to develop a picture of these reforms, including a review of state requests for proposals (RFPs), document analysis and interviews with state postsecondary leaders. Findings from this phase included the following:

- In most states, the influence of national initiatives and strong state-level leadership, such as innovative postsecondary system administrators, came together to spark reform.
- There was significant overlap across states in terms of assessment design: new tests are to be aligned with established academic standards and developmental education curricula; online, adaptive delivery is emphasized; and accommodations for special needs students are envisioned.
- Study states also corresponded in terms of involving faculty in assessment redesign and implementation; in requesting ongoing technical support and training from the successful assessment vendor; and in the broad strategies associated with complementary developmental education reform. Modularization, multiple pathways, and integration of reading and writing content into one course are especially prominent.
- Differences could be found in the length of the tests; timelines for implementation; whether the tests were required or offered to institutions for optional administration; and the design framework used: college readiness standards-driven assessment design or developmental education curriculum-driven assessment design.

Phase 2 (January to June 2013): Building on Phase 1, we examine the implementation of diagnostic assessments in two of the states, Florida and Virginia, by studying how state context, policy parameters, and institutional factors affect implementation of reforms. However, it is important to recognize that this research was conducted during the early phase of reform implementation, and so additional research will be needed as implementation progresses to determine whether a comprehensive set of policy goals were achieved. This phase has been guided by the following research questions:

- **State and system policy impact at the community college level**
 - How do external calls for assessment and curricular alignment (*e.g.*, state postsecondary readiness standards) affect institutional offerings?
 - What is the role of additional training and support—from states, coordinating boards, K-12, workforce partners, and other stakeholders—provided to institutions?
- **Institutional perspectives on the implementation and effectiveness of reforms**
 - How tightly coupled are institutional programs and diagnostic assessments? In what ways do institutions incorporate diagnostic assessment data in student-level data systems?
 - Do implementation challenges differ when state-developed diagnostic tests are used versus those purchased from national vendors? Along what dimensions, and why?
 - What are the perspectives of administration, faculty, and students concerning the effectiveness of diagnostic assessment systems? What factors do institution stakeholders cite as barriers to successful implementation?

This report is based on a set of cross-site comparative case studies on six community colleges in Florida and Virginia (see Appendix A for case studies). Site visits were conducted during the spring 2013 semester (see Table 1, below). Florida and Virginia were selected as sites because they were the only two of the five states from phase 1 that had implemented state-developed diagnostic assessment reforms by the spring of 2013. The six community colleges included in this study were selected based on the following criteria:

- Current implementation of the state-developed diagnostic assessment test;

- History of developmental education reform with the Achieving the Dream initiative; and
- Variation in student size and demographics as compared to the other research sites.

Table 1: Community College Study Sites

Community College Study Site	Date of Site Visit
FLORIDA	
St. Petersburg College (SPC)	March 26-27, 2013
Tallahassee Community College (TCC)	March 26-27, 2013
Valencia College (VC)	March 20-21, 2013
VIRGINIA	
Danville Community College (DCC)	March 18-19, 2013
Northern Virginia Community College (NOVA)	April 8-9, 2013
Patrick Henry Community College (PHCC)	February 25-26, 2013

More detailed descriptive information on each institution can be found in Appendix B.

Interviews and focus groups included faculty, institution administrators, and students, and were conducted at the college research sites with protocols developed in consultation with multiple external consultants (see Table 2, below). The case studies were reviewed by our primary campus points of contact, and each provided feedback to RFA to ensure accuracy and clarity of the community college data.

Table 2: Phase 2 Research Elements

DATA SOURCES		
	FL	VA
Institutional Case Studies	3	3
Interviews or Focus Groups with Developmental Education Faculty	7	14
Interviews with Institutional Administrators	5	9
Classroom Observations	4	²
Focus Groups with Developmental Education Students	4	7

² Classroom observations were not a part of the research design but were conducted at one Florida college at the suggestion of the college point of contact.

State and System Policy Context

This section provides critically important background on state policy and test characteristics relevant to our analyses, including the design of the tests, optional or required nature of the assessments, the level of data transparency and the competencies or curricula to which the diagnostic tests are aligned (see Table 3).

Table 3: State Assessment Policy

Vendor Selected	State-Developed Placement & Diagnostic Assessment	Assessment Required or Optional	Data & Cut Score Transparency	Diagnostic Assessment Alignment
FLORIDA				
McCann Associates	Postsecondary Education Readiness Test (P.E.R.T. Placement & Diagnostic)	Optional	Yes	Developmental Education Competencies
VIRGINIA				
McCann Associates	Virginia Placement Tests (V.P.T.) for Math & English	Required	No	Developmental Education Curriculum Redesign*

*The redesign changed the developmental mathematics curriculum so that content was organized into nine units while the developmental English curriculum was restructured as an integrated system of reading and writing courses. See discussion below for further detail.

Florida's Postsecondary Education Readiness Test (P.E.R.T.)

In order to measure student skills against the state's Postsecondary Readiness Competencies (PRCs) as they enter the Florida College System, the Postsecondary Education Readiness Test (P.E.R.T.) system was developed as Florida's new "preferred" placement test. Florida College System institutions began administering the P.E.R.T. in October 2010. The P.E.R.T. Diagnostic is also included as another component of the assessment system. While the placement test determines appropriate course assignments, the P.E.R.T. Diagnostic identifies, by competency, where skill deficiencies exist. The P.E.R.T. Diagnostic has been developed to align with the Developmental Education Competencies that are the basis for developmental education courses offered at all Florida College System institutions. The goal of the P.E.R.T. Diagnostic is to allow faculty to target the areas in which students need additional work. The P.E.R.T. Diagnostic is voluntary for Florida colleges and is not computer-adaptive. This means that all students are assessed on the same content because questions do not change based on previous responses. Optional developmental education modules have also been developed by the Florida Department of Education.

The P.E.R.T. Placement test includes three computer-adaptive components in reading, writing, and mathematics. The P.E.R.T. Diagnostic is a separate component of the assessment system that identifies skill deficiencies for students who do not meet the cut scores making them eligible for credit-bearing coursework; this element—which is optional for the state's community colleges—has been developed to align with Florida's Developmental Education Competencies. Unlike the placement assessment, the diagnostic tests are not computer-adaptive; every student receives the same questions, regardless of previous answers. There are six tests: one for each subject (reading, writing, and math) at two competency levels. The reports generated from the P.E.R.T. Diagnostic include a student's score for each test item so that faculty and students can see which skills require additional instruction.

Virginia Placement Test (V.P.T.) for Math and English

The Developmental Education Task Force (DETF) was convened in 2008 to review the system's developmental education policies and increase student progress through their courses towards graduation; the initiative was supported by involvement in the *Developmental Education Initiative*. The DETF provided recommendations in the report *The Turning Point: Developmental Education in Virginia's Community Colleges* the following year. In 2010, the Developmental Mathematics Redesign Team (DMRT) released recommendations for developmental mathematics courses across the Virginia Community College System (VCCS), proposing that the content of the developmental mathematics curriculum be revised, with different pathways contingent on a student's program of study; that content be organized into nine pre-college units of study; and that the VCCS develop new placement and diagnostic instruments. The Developmental English Redesign Team (DERT) proposed that developmental English be restructured as an integrated reading and writing system, with three direct pathways to credit-bearing English determined by a student's placement test score and performance against specific learning outcomes.

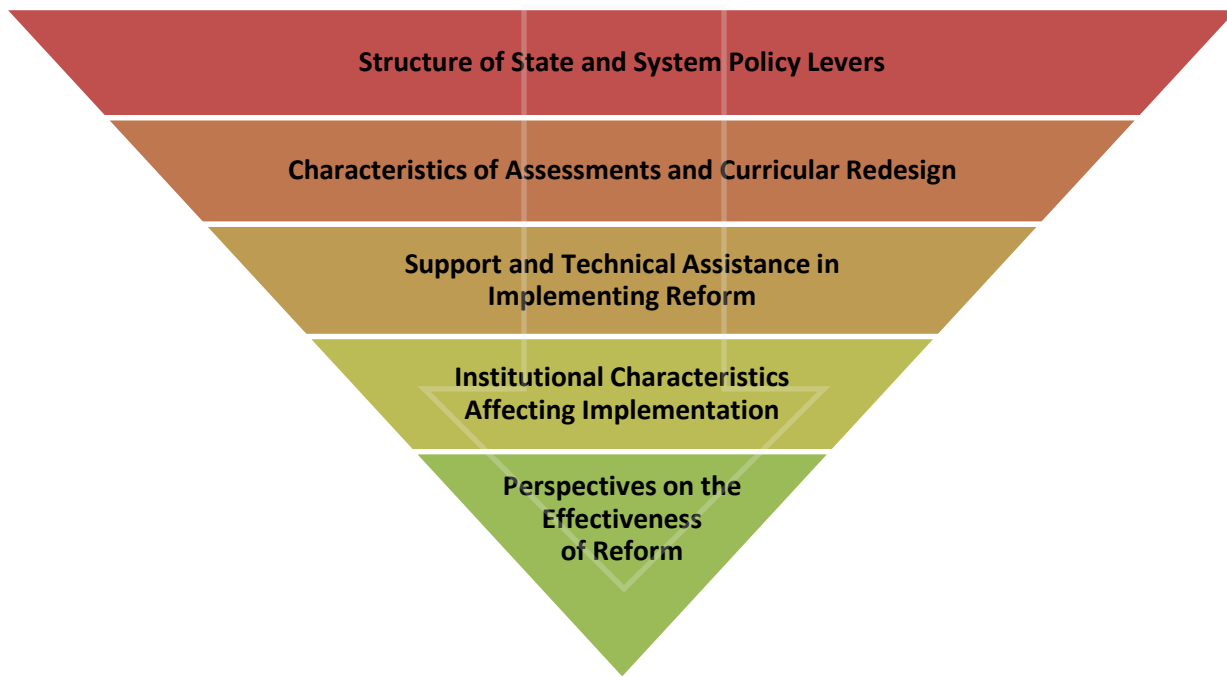
The **V.P.T. in Math** has two, interwoven components: 1) computer-adaptive placement to determine whether a student is ready for credit-bearing courses; and 2) non-computer-adaptive for students not yet ready for credit-level courses. This second component determines the areas in which a student requires additional instruction, and the corresponding developmental education module(s) to which they should be directed. When taking the test, students are unaware of when one component ends and the next begins.

The **V.P.T. in English** likewise consists of two parts: 1) essay; and 2) computer-adaptive placement addressing reading and writing. Reading selections are followed by multiple-choice questions to evaluate comprehension. Results of the assessment place students in credit-bearing courses, in one of three developmental education levels, or require completion of adult basic education before taking developmental education courses. The placement results available from the tests do not include numeric test scores. The V.P.T. is required across the state.

Factors Influencing the Implementation of Reforms

Beyond state context, a number of factors influence the implementation of state-developed diagnostic assessments at the community college level. Understanding these factors may help to inform similar implementation strategies as the use of diagnostic assessments and aligned curricular reforms spreads to other states and systems. Our analysis traces implementation through five levels, beginning most broadly at the state level and progressing through increasingly granular levels of implementation; each level impacts those below it and can result in responses at the institutional and faculty levels. Taken together, they provide a comprehensive picture of how state-level policy rolls out. Figure 1 provides a depiction of these levels of implementation.

Figure 1: Factors Influencing Implementation of Placement and Diagnostic Assessment Reforms



Below, we provide our analysis of each of these five levels of implementation.

I. Structure of state and system policy levers

High-level policy decisions made during the design of the initiative reverberate through multiple levels of implementation. Across our phase 2 study states, three policy decisions related to the creation of diagnostic assessments were especially salient: 1) whether the reform was mandatory or optional; 2) the level of data transparency; and 3) developmental education cut scores.

Mandatory or Optional Reform: State policy decisions regarding whether to make the use of a diagnostic assessment mandatory or optional affects the **degree and pace of reform in the state**. The level of scale-up and the speed with which the diagnostic assessments were implemented were determined, in part, by the mandatory or optional nature of the policies.

VIRGINIA

In Virginia, mandatory, state-driven reform led to high levels of integration and scale up across all 23 community colleges in the state with the V.P.T. in math during 2011 and the V.P.T. in English during 2012.

FLORIDA

Florida's optional, incentive-driven P.E.R.T. Diagnostic strategy has led to slower and more incremental reform since it became available in 2012. To date, Florida colleges use the P.E.R.T. Diagnostic with a subset of student cohorts and subjects as part of the Florida Developmental Initiative Grant from the state department of education.

Moreover, under legislation passed in the Florida legislature in May 2013 (SB 1720), colleges will no longer be able to require students who entered 9th grade in a Florida public school in 2003-2004 or thereafter and who earned a standard Florida high school diploma or active-duty members of the United States military to take the state's placement test or enroll in developmental education courses, although the option will be available to them. Older students will not be exempt from placement tests, however; if they demonstrate that they need remediation, community colleges will be required to offer them a choice between several developmental education options, including "co-requisite"

courses in which remedial students get extra help or do additional work in traditional, credit-bearing courses.³

Whether the reforms were mandatory or optional also determines the **degree to which colleges can customize adoption**. Table 4 provides an overview of how the individual colleges in each state responded to the mandatory versus optional approach, using the level of state- and vendor-developed assessment implementation across subjects and students as an indicator of the degree of reform integration. We define P.E.R.T. and V.P.T. as state-developed tests because they were created as a result of state policy. In contrast, we use the term “vendor developed” to refer to tests developed solely by vendors such as Pearson and McGraw-Hill, apart from state policy requirements. As can be seen below, the mandatory nature of Virginia’s policy resulted in V.P.T. as the sole test across campuses, while in Florida the optional testing policy allowed for both state- and vendor-developed tests to remain in play.

Table 4: Level of Assessment Integration in the Study Colleges

	State Developed Diagnostic Test	Math, English, Both	Subset	All	Vendor Developed Diagnostic Test	Math, English, Both	Subset	All
FLORIDA (optional)								
SPC	x	Both	x		x	Both	x	
TCC	x	Math	x		x	Both		x
VC	x	Math	x		-	-	-	-
VIRGINIA (mandatory)								
DCC	x	Both		x	-	-	-	-
NOVA	x	Both		x	-	-	-	-
PHCC	x	Both		x	-	-	-	-

Virginia’s decision to require the implementation of state reforms across community colleges did not allow for the degree of customization that was found in Florida, which allowed individual colleges to use the P.E.R.T. Diagnostic for a variety of purposes that often supplemented rather than replaced existing developmental education initiatives. Specifically:

- St. Petersburg College: The P.E.R.T. Diagnostic tests are only used for students who want to retake the P.E.R.T. Placement exam. Those students take the diagnostic test and must undergo tutoring in the area(s) of weakness before they retake the placement exam.
- Tallahassee Community College: Both the P.E.R.T. and the Assessment and Learning in Knowledge Spaces (ALEKS) diagnostic tests are administered at the beginning of a math bridge program.
- Valencia College: The P.E.R.T. Diagnostic in math is offered to students who have scored close to the cut-off for credit-bearing coursework on the P.E.R.T. Placement.

³ Paul Jain, (June 5, 2013). “Remediation if You Want It.” *Inside Higher Ed* at <http://www.insidehighered.com/news/2013/06/05/florida-law-gives-students-and-colleges-flexibility-remediation>; The Florida Senate at <http://www.flsenate.gov/Committees/BillSummaries/2013/html/501>

Data Transparency: Providing diagnostic data as it relates to cut scores is critical to ensure accurate student placement, support effective teaching, and provide colleges and faculty the ability to individualize support services to students. In Virginia, the V.P.T. was designed to be diagnostic in nature, but has provided only placement results. In contrast, both state- and vendor-developed diagnostic assessments in Florida allow colleges and faculty to design services for students identified through the data.

Virginia's lack of transparent diagnostic data led to the following:

- Faculty reported that the placement-only V.P.T. in English results were a step backwards from the previous placement tests when they provided more detailed feedback on student skills.
- Faculty deem diagnostic data so important that developmental education faculty members in math at DCC and English at PHCC implemented their own diagnostic tests to identify individual student needs in English and verify V.P.T. placement results in math.
- Students also reported that they received limited data on their test results after taking the V.P.T. One student explained that “I really didn’t get a lot of information.” Another said, “I didn’t even know what my score was. They just told me I had to take developmental classes.” Yet a third reportedly was told that s/he would “have to take the brush up English course...that was it.”

Florida's provision of diagnostic data allows for individualized student supports and placement such as the following:

- St. Petersburg College students scoring at the higher developmental education ranges are offered the option to complete an eight-week bridge course or the 16-week developmental education course.
- Valencia College students are provided with the opportunity to take the P.E.R.T. Diagnostic test if they score within a particular range on the P.E.R.T. Placement test, but it is optional; they can then enroll in one- and two-credit developmental education classes aimed at decreasing the time it takes to be eligible for credit-bearing courses.

Cut scores below which students cannot enroll in Developmental Education: Community colleges are mission-driven—faculty and staff strongly believe in open access. The development of placement test cut scores that create a “floor” below which students cannot enroll in developmental education, and therefore cannot access financial aid, puts that mission at risk. In Virginia, this policy decision inspired resistance at the campus level as well as “workarounds” to allow students who placed “below the floor” to access developmental education courses.

Campus Level Resistance:

Administrators and faculty at all three Virginia study sites expressed concern that the new cut score reduced access. One administrator explained:

I do think they [new cut scores] will have negative consequences for the students... before, we did not have a 'floor', and the criteria used to determine if we accepted a student would be, 'does this student have the ability to benefit from college courses?' Well, just about anybody has the ability to benefit. So it means we weren't shutting the door to anybody.

“Workarounds”:

As a result of this resistance, colleges have developed ways to allow students who test below the floor to enroll in college and receive financial aid. For example, DCC faculty sought funding from the community college’s foundation to create short “bridge courses” between semesters to provide extra assistance to prospective students scoring at the adult basic level on the V.P.T. This program has

already seen some success in preparing students to score well enough on the V.P.T. the second time to become eligible for developmental education courses. Similarly, PHCC created a two-credit course which teaches students basic computer instruction and whole numbers and a two-credit course that helps prepare students for the lowest level of developmental English. These courses allow students to access financial aid and avoid adult basic education courses outside of the college. However, since our field work in March 2013, VCCS has mandated that students who test below the floor not be allowed to enroll in any credit-bearing courses.

2. Characteristics of the Assessments and Curricular Redesign

Our analysis also suggested that variations in the specific assessments, and in the scope and nature of the curricular redesign that accompanied them, affected the utility of diagnostic assessment systems in both states. Below we identify the most salient factors and their impact on implementation.

Assessment Design: If the test is considered an improvement over what was used before, it is more likely to be consistently utilized than if it is not. **Test length** (as compared to previous placement and/or diagnostic assessments) and the **integration of placement and diagnostic components** were two aspects of test design that affected implementation.

Test Length:

In both states, community college administrators expressed concern about increased test length, especially relative to test fatigue and the college testing infrastructure. For example:

- The P.E.R.T. Diagnostic is reported by faculty and administrators to be longer than off the shelf diagnostic tests, which respondents cited as a disincentive to implementation. Further, a Valencia College administrator explained that campus testing labs are in high demand; when combined with the length of time needed to complete the assessments, capacity and infrastructure challenges emerge. Students also expressed concern about the length of the test; one stated that, “I thought it would never end,” and another that “it took forever.”
- There was consensus across two of the Virginia college campuses that test length was a problem. All faculty respondents, as well as student focus group participants, felt that both the math and English tests were too long. Administrators concurred; one interviewee stated: “It’s also been challenging because the math test can be really long...upwards of 4 to 5 hours.” An administrator at DCC recalled an instance in which the testing coordinator “called me to say, ‘I have somebody up here crying taking this test because they’re so stressed, because [the V.P.T.] is so long.’ I never had that with COMPASS.”

Placement and Diagnostic Testing Elements as Integrated or Separate:

- **Integrated Assessments:** The V.P.T. in math has two, interwoven components administered as one test that is designed to include both placement and diagnostic elements.
 - **Separate Assessments:** The P.E.R.T. Placement and P.E.R.T. Diagnostic tests were developed and implemented on separate timelines. This factor, coupled with Florida’s optional policy, allowed community colleges to select one assessment without the other and administer them separately, thereby increasing the number of test administrations overall.
-

Degree of Alignment between Diagnostic Assessment and Curricular Redesign:

Diagnostic assessment data, while useful as a resource to teachers in differentiating instruction, becomes more actionable when it feeds into specific curricular strategies to address the skill needs identified through the assessment. Therefore, the design of not only the assessment but also aligned curricular tools and strategies increases the utility of the reform. For example:

FLORIDA

Existing vendor-developed assessments that continue to be used in Florida’s community colleges have been described as more “seamless” than the state-developed P.E.R.T. Diagnostic because they link to curricular tools and structures that operationalize the data. Once a student takes the ALEKS diagnostic test, for example, s/he knows exactly which skill units need to be completed through the online instructional software program aligned with the assessment, and can work independently to cover those skills.

VIRGINIA

Virginia’s state-developed implementation of the V.P.T. in math has found more success to date than the V.P.T. in English because it makes clear connections between skills gaps and specific module assignments; the V.P.T. in English provides no diagnostic information, and leads only to one of three developmental education courses.

More Rigorous Curricular Requirements: State requirements in both Florida and Virginia regarding the content to be covered and the length of time allotted to cover it have presented challenges for faculty and students.

FLORIDA

In Florida, the developmental education curriculum has been standardized by the state department of education; one faculty member explained that “we have to push every class to get through all the material—it is brutal.”

VIRGINIA

In Virginia, the modularization of math instruction into four-week units and the integration of both reading and writing content in the same course can be difficult for faculty members and students alike. Math faculty and campus administrators reported that while successfully completing and testing-out of a module is common, and takes place more quickly than with the traditional semester courses, it often takes six to eight weeks for students to do so, but is scheduled for only four weeks. One faculty member explained: “it might take them six weeks, it might take them eight weeks. On a very rare case, it might take them 12 weeks to finish a unit.” An administrator reported that the “math faculty say students need more than four weeks to get through some of the units, particularly the higher units.”

Students from one college shared this concern about the press for time to complete developmental coursework under the math curriculum redesign.

Four weeks for one module – it is way too quick. Some of these modules are four or five chapters long.

The teacher is so excited that you only have 4 weeks of this and you gotta get it. I’m like who’s going to help me get it because I can’t get math this way. I need someone to come help me.

I’m on module one and it’s going from like... fractions to dividing them ... I’m like ease up. I need some time.

Similarly in English, the combination of reading and writing content in the same course has made covering the content a challenge over the semester. One English faculty member explained: “we are feeling lots of pressure. This has been difficult to do; we have folks who have always been full-time reading faculty, others who had writing specialties, so we’ve had to help people combine those two things.” In describing the integration of reading and writing in the same course, another English faculty member said: “a challenge is an understatement...forcing that much information onto a developmental education student.”

3. Support and Technical Assistance in Implementing Policy

Implementing large-scale reforms in developmental education requires initial training and ongoing technical assistance for both administrators and faculty. State-level research during phase 1 of the project identified “communicating with college staff” and “including faculty in the process” as challenges for reform; our institutional case work and campus interviews confirmed this. Informal collaboration among peers emerged as a promising practice.

In both Florida and Virginia, faculty and administrators from two of the three study colleges reported limited direct support from the state department or system office:

FLORIDA

Due in part to the voluntary nature of the P.E.R.T. Placement and Diagnostic assessments, both faculty and administrators described the information provided by the state department as limited; the Florida Developmental Initiative Grant was a notable exception.

VIRGINIA

One administrator described support from the system office as rote guidance on “a new hard-and-fast rule,” as opposed to meaningful training in support of the initiative. Another claimed the college saw “nothing from the state as far as the diagnostic test is concerned.” The system office communicated with colleges through liaisons but provided them few resources to share with local campuses, such as sample materials or presentations.

Collaboration with peers was identified as a valuable form of training on the curricular implementation. Faculty and administrators at both DCC and NOVA discussed the importance of meeting with peers from across the state to discuss barriers and successes in implementing the new curricular redesign. One administrator at Danville explained: “the highlight of the meeting for us was interacting with everyone else to see ‘how are you managing to teach three units in one classroom?’ Those takeaways are good for us.”

4. Institutional Characteristics Affecting Implementation

State or system-level developmental education reforms are enacted within the context of existing college-level practices and conditions. These factors affect the roll-out of diagnostic assessments. Key institutional-level facilitators and barriers include: 1) relationships with existing vendors, 2) the history of advising and placing students at the college level, and a 3) lack of connection across student data systems.

Relationships with Existing Vendors: The three Florida colleges included in this study already had experience working with, and receiving training from, testing and curriculum vendors such as McGraw-Hill and Pearson at the time of the P.E.R.T. Diagnostic roll-out. These relationships influenced their decisions regarding the level of adoption and implementation. For example:

- McGraw-Hill has worked with Tallahassee Community College for at least five years and consulted with the college to adapt the ALEKS to meet state standards and curricular requirements before the P.E.R.T. Diagnostic was implemented. This history with McGraw-Hill and their willingness to provide technical assistance to address state curricular requirements encouraged college faculty to continue to use the ALEKS diagnostic test and online tools.
- Pearson trained faculty at Valencia in the use of the *Foundations of Math* software, and how to integrate the P.E.R.T Diagnostic results into module assignments.

College History of Advising and Placing Students: College faculty and administrators in Virginia have traditionally made placement decisions at the campus level, informed but not dictated by placement score data. The implementation of the V.P.T. essentially short-circuited this function, since test scores automatically placed students into specific courses. This was true despite the lack of diagnostic data, which has caused concern on college campuses:

- At PHCC, one administrator explained that her inability to understand how close a student tests to the cut score on the V.P.T. prevents her from advising students appropriately. Another explained that the COMPASS had provided scores that allowed advisors to see how close the student was from the cut score, and then work with that student on what resources s/he needed to progress onto college level coursework.
- At NOVA, placement test results had been used to advise students, but the data provided by the V.P.T., especially in English, do not lend themselves to this process. One English faculty member explained that the college “had a good system in place [before the V.P.T.] in looking at multiple measures...to move students into credit-bearing classes when they were ready.”

Lack of Connection across Student Data Systems: Institutions in both states did not link diagnostic assessment results to other student data records at the college level, limiting the potential for data to inform and refine practice beyond the immediate developmental education program (see Table 5, below).

Table 5: Diagnostic Data Collection and Use

Community College	Data identifies individual student learning needs	Diagnostic test results included in student data system	Test data linked to other student records	Data used for additional purposes
FLORIDA				
SPC	Y	N	N	N
TCC	Y	N	N	N
VC	Y	N	N	N
VIRGINIA				
DCC	Math Only	Y	N	N
NOVA	Math Only	Y	N	N
PHCC	Math Only	Y	N	N

Limited potential for analysis and evaluation using diagnostic data:

Without the ability to link student data systems that house diagnostic assessment data with other student records, or across multiple student cohorts, college administrators are unable to look at trends in student performance. None of the colleges in either state linked diagnostic data to other data records. However, it should be acknowledged that the primary purpose of placement tests has traditionally been to accurately assign students to the correct level of coursework—not to conduct longitudinal data analysis or evaluation.

Tracking student data manually:

Interest in such data analysis has led to manual tracking of student progress in multiple Florida sites, despite the difficulties involved. Specifically:

- At SPC, administrators have begun to track students after bridge course completion and tabulate the college success rates.
- At TCC, developmental education faculty members compile individual student data to determine student progress, though the process is reportedly cumbersome.

5. Perceptions of the Effectiveness of Reforms

Buy-in among faculty and administrators is central to the success of reform. Student perceptions and experiences are also an important indicator of a reform’s effectiveness, and can point the way to important improvements. Two indicators of faculty and administrator support were identified as particularly salient: faculty perceptions of the effectiveness of: 1) the new assessments; and 2) the aligned curricular reforms to improve student completion.

Perception of Placement Accuracy: While not a primary focus of state assessment reforms, poor placement has been an ongoing concern with traditional placement testing due to emerging research that questions their accuracy. Faculty perceptions as to whether the new tests improve student placement results are critical to implementation success. Table 6, below, summarizes how faculty members and administrators at each of the six community colleges assess whether the new tests improve placement accuracy.

Table 6: Do faculty and administrators believe P.E.R.T /V.P.T. improved placement accuracy vs. off-the-shelf tests?

FLORIDA STUDY SITES (P.E.R.T)						VIRGINIA STUDY SITES (V.P.T.)					
SPC		TCC		VC		DCC		NOVA		PHCC	
Math	Eng.	Math	Eng.	Math	Eng.	Math	Eng.	Math	Eng.	Math	Eng.
N	N	N	N	TBD	TBD	Y	Mixed	N	N	Y	Mixed

FLORIDA

Generally speaking, no faculty and administrators at the study sites reported that the P.E.R.T. improved placement accuracy. They were either unsure of whether the P.E.R.T. Placement test increased placement accuracy, or felt that the P.E.R.T. had not improved the accuracy of placement results. Placement in support programs, such as bridge courses that target students close to the eligibility for credit-bearing work, was seen as especially problematic:

- At SPC, students nearest to the cut-point for credit-bearing coursework were enrolled in the first semester of the My Bridge to Success program, which offers tailored instruction through the use of online tools in developmental reading, writing, and math to help students reach transfer-level courses. However, since the first semester of the program’s implementation students who place in the upper developmental writing and reading levels have been permitted to self-select the program, regardless of their P.E.R.T. Placement scores, due to the lack of correlation between P.E.R.T. Placement scores and student success in the program.
- At TCC, the rigor of the P.E.R.T. Placement test has been compared with that of the ALEKS test based on the college’s experience with students in the math bridge program. While the number and exact content of the topic areas vary between the ALEKS and P.E.R.T., students placed in the program have scored close to the cut score for credit-bearing coursework on the P.E.R.T. Placement test, but have commonly been found to need considerably more remediation across a larger number of topics based on the ALEKS test.

VIRGINIA

Perceptions of the accuracy of the V.P.T. were mixed across colleges and subjects. The placement and diagnostic components are included in one test, making the accuracy of the V.P.T. central to successful implementation. While respondents at the two more rural southern colleges were generally positive in assessments of test accuracy, faculty at NOVA were more negative. Specifically:

- **Math** faculty at both DCC and PHCC said that the development of nine math modules improved student placement. Faculty at NOVA, however, argued that students were often placed in college-level courses for which they were not prepared. Students enrolled in developmental math modules in Virginia expressed similar concerns. Students at DCC and PHCC reported that they felt they had been placed appropriately, while at NOVA a student explained that “I thought [the V.P.T.] over placed me at first because I had signed up for pre-calculus in high school but I was only in it for two days...so for [the V.P.T.] to come back and say I was placed in pre-calculus just didn’t seem right.”

- **English** faculty members were less favorable in their assessment, and expressed widespread skepticism about test accuracy. Multiple respondents felt that students were being placed above their ability levels. Students had mixed reviews--some felt that they were placed appropriately and others did not.

Perception of the Effectiveness of Accompanying Curricular Reforms: The purpose of the diagnostic assessments is to provide data to target and improve learning and instruction, which has been operationalized through curricular redesign. Therefore, perceptions of the effectiveness of the curricular redesign are connected to the success of test implementation.

MATH:

In both states and across all but one college, there was consensus that math modularization has been effective in allowing students to move through developmental math more quickly. For example:

FLORIDA

Study colleges continued to implement vendor-developed (i.e., McGraw-Hill, Pearson) online curricular tools in math in which students found success. At SPC, students reported their approval of the modularized approach, and expressed a desire to continue using curricular software moving forward into college-level coursework. There was consensus at TCC that the ALEKS program has been effective in moving students through developmental education courses in math more quickly, and both faculty and administrators reported that the data clearly show that students who complete developmental education with ALEKS show stronger fundamental math skills than students who do not. At Valencia, students reported that the software motivated them to stay on top of their work, and that they preferred the modular approach over the traditional, in-person, classroom-based approach. These responses provide evidence that existing curricular tools may already address the outcomes to which states and systems aspire, and that the creation of additional state-developed curricular tools may not be necessary in all cases.

VIRGINIA

Redesign of the developmental math curriculum created nine modules that focus on discrete, key skills. The module(s) a student takes depends on their academic goals and V.P.T. results. For instance, liberal arts students are only required to prove mastery in modules 1 through 5, while science and math students are required to complete all 9 modules successfully. There was consensus among faculty at DCC that the process of completing the developmental education requirements is “much faster than it was” and in some cases “students just blaze through these [math] modules.” NOVA respondents recognized that redesign established different exit points for students and allowed for more customized course-taking. At PHCC, however, because of the high passing rates before the redesign, the college has experienced a decrease in the percentage of students passing developmental education modules.

Student perceptions about the effectiveness of the math modules were mixed as well. With the appropriate level of self-motivation, they worked well:

I like it, because even though some people might be behind, I can still move forward. You just have to have the motivation to do it. That's probably the main problem. I'm ahead of where I'm supposed to be, so I like it.

The developmental class is very helpful. It is very effective – if you are dedicated enough you can just power through the units one at a time and don't have to spend a lot of time reviewing.

Yet those who reported a lack of discipline or the need for additional help found the modular format more problematic:

I don't like it because I procrastinate a lot, and that gives me a chance to procrastinate, because you have to do it yourself. And she'll tell you that you need to work on this, but I don't do it. Outside of class, I don't work on it.

The last module I'm kind of stuck on right now. I'm getting ready to take my last one over. It's kind of frustrating. I don't like the self-paced without enough help. I need to get right there face to face.

ENGLISH:

Available data on the implementation of developmental education redesign was more limited due to the focus on implementation of the P.E.R.T. Diagnostic in math, and the more recent implementation of the V.P.T. in English.

FLORIDA

Only one college provided information on developmental education redesign in English. At SPC, students who self-select into the modular developmental courses complete a diagnostic exam offered through the course's computer software (i.e., Pearson's MyWritingLab and MyReadingLab). Faculty, as well as students, shared enthusiasm for the modularized approach, but cautioned that students must be motivated and have the ability to work independently. Administrators provided data demonstrating higher pass and lower withdraw rates compared to the traditional developmental courses.

VIRGINIA

The redesign integrated reading and writing courses into three placement levels. With implementation starting just this year, it is too early to report on whether students' progress more quickly than under previous curricula.

Lessons from the Field

Our examination of college-level responses to placement and diagnostic reform in Florida and Virginia clearly illustrate that successful implementation of state policy hinges upon a number of conditions and factors. Below, we provide a set of recommendations for states to consider as they move towards enacting similar reforms.

- **Before deciding whether to make testing and diagnostic reform mandatory or optional, carefully consider the potential upsides and pitfalls of each.** The comparison of Florida's optional adoption policy and Virginia's mandatory policy provides a clear picture of the pros and cons of each approach. State and system policymakers need to weigh their priorities before determining which policy direction to embark upon—and develop plans for addressing its challenges.

- **Align assessment results with existing student data systems.** Beyond placement and diagnostic purposes, integrating diagnostic data with other college level data systems can be useful for evaluation and analyses within developmental education as well as across the college.
- **Ensure that diagnostic and placement data is as transparent and accessible as possible.** It makes little sense to enact a large-scale reform in this arena without also ensuring that the data generated from the new tests is available to those who are held responsible for serving students—faculty and other college staff.
- **Carefully consider the degree of autonomy that will be granted to institutions and faculty in terms of student placement.** From a state or system policy perspective, it is more efficient to enact across-the-board decisions regarding cut scores and student placement. Yet the efficiencies gained must be carefully weighed against the barriers that can be erected when there is inadequate flexibility or input from colleges. Rigid placement policies can challenge the open-access mission of the community college sector, and could well be met with resistance.
- **Invest adequate time and resources to provide the technical assistance and support needed for colleges to enact placement and diagnostic testing reforms effectively.** As is the case when implementing any large-scale reform, accurate information about the reform, and assistance for colleges as they implement the policy, can go a long way towards reducing the barriers to reform implementation. Creating opportunities for peer-to-peer collaboration could be a particularly effective, and relatively low-cost, form of implementation support.

Next Steps for Research

These early findings provide important feedback to a range of stakeholders and interested parties as they implement, or contemplate implementing, broad-scale assessment and placement reforms. The findings also strongly suggest that tracking policy implementation requires examining the process through multiple lenses and units of analysis, including state, institution, staff and student perspectives. Yet it is too early to know whether initial challenges identified will be addressed moving forward; and how variation in state approaches and contexts will play out over time.

As reforms move towards full implementation, it will be critical to continue tracking the following factors, which this initial research suggests play a critical part in the rollout of developmental education and assessment and placement reforms. The following addresses each of the factors identified and pose continuing questions for the research moving forward:

Structure of State and System Policy Levers

- How does the pace and degree of reform change over time in states where these initiatives are mandatory versus optional?
- How do community colleges address issues of data transparency in order to access the information they need to provide specific instructional supports for students?
- Will states continue to create cut scores below which students cannot enroll in developmental education and expand options for students to avoid developmental education; if so, how do colleges address access?
- What is the relationship between K12 Common Core State Standards and assessments introduced 2012-2014 and college-level assessment and placement policies?

Characteristics of Assessment and Curricular Redesign

- How do new, state-developed diagnostic assessments compare in design to off-the-shelf tests, and how has design impacted the adoption of reforms and implementation decisions?
- How are states, vendors, and community colleges addressing the need for alignment among K12 Common Core State Standards and related assessments, college-level diagnostic assessments, developmental education curricular tools, and college-level curricula? How have curricular requirements at the state and system levels changed, and how do they impact implementation of curricular redesign?

Support and Technical Assistance in Implementing Reform

- What supports are states providing community colleges to assist in implementing new assessment systems and curricular reforms? Do colleges find them to be effective?
- What types of supports would community college administrators and faculty find most helpful in supporting the work?
- What information and supports will increase awareness and help students prepare for and successfully navigate the changing requirements for college assessment and placement?

Institutional Characteristics Affecting Implementation

- How can, and do, states allow colleges to include existing practices, assessments and curricular tools to address emerging policy requirements?
- How do existing college practices support and hinder the adoption of reforms? How do both college structures and state policies change over time as a result?
- How can assessment data become integrated with other data systems to inform both developmental education and wider college practice?

Perceptions of the Effectiveness of Reforms

- How have placement results from new assessment systems impacted the experiences of students in both developmental education and credit-bearing courses?
- How have faculty members used diagnostic information to differentiate instruction? How have community colleges used it to provide curricular resources and support services to address student needs?
- What have been the results of curricular reforms on the ability of students to complete the developmental education sequence and be successful in credit-bearing classes?

Answers to these and other questions can provide a more definitive measure on the success of large-scale assessment and curricular reforms at the system, institution, and student levels.

Appendix A. Case Studies



Developmental Education and Diagnostic Assessment Reform Community College Case Study: St. Petersburg College (SPC)

The following profile has been developed to outline the local context and implementation of developmental education and diagnostic assessment reform at St. Petersburg College. The profile was verified by the point of contact at the college; data included in the profile offers a stand-alone summary and will be used for cross-site analyses. The profile addresses six areas: 1) local and community college context, 2) overview of the research, 3) integration of placement and diagnostic assessment, 4) placement and diagnostic assessment data use, 5) perceptions of the effectiveness of the assessment system and developmental education program, and 6) challenges to implementation. The following research questions guided the site visits at the community college:

- How do external calls for assessment and curricular alignment (*e.g.*, state postsecondary readiness standards) affect institutional offerings?
- What is the role of additional training and support—from states, coordinating boards, K-12, workforce partners, and other stakeholders—provided to institutions?
- How tightly coupled are institutional programs and diagnostic assessments? In what ways do institutions incorporate diagnostic assessment data in student-level data systems?
- Do implementation challenges differ when state-developed diagnostic tests are used versus those purchased from national vendors? Along what dimensions, and why?
- What are the perspectives of administration, faculty, and students concerning the effectiveness of diagnostic assessment systems? What factors do institution stakeholders cite as barriers to successful implementation?

Florida State Context

In order to measure student skills against the state's Postsecondary Readiness Competencies (PRCs) as they enter the Florida College System, the Postsecondary Education Readiness Test (P.E.R.T.) system was developed as Florida's new "preferred" placement test. Florida College System institutions began administering the P.E.R.T. in October 2010. In addition to P.E.R.T. Placement, the P.E.R.T. Diagnostic is another component of the assessment system. While the placement test determines appropriate course assignments, the P.E.R.T. Diagnostic identifies, by competency, where skill deficiencies exist. The P.E.R.T. Diagnostic has been developed to align with the Developmental Education Competencies that are the basis for developmental education courses offered at all Florida College System institutions. The goal of the P.E.R.T. Diagnostic is to allow faculty to target the areas in which students need additional work. The P.E.R.T. Diagnostic is voluntary for Florida colleges and is not computer-adaptive, so that all students are assessed on the same content as questions do not change based on previous responses. Optional developmental education course modules have also been developed by the Florida Department of Education.

I. Local and Community College Context

Local Context

St. Petersburg College is based in St. Petersburg, in Pinellas County, Florida. St. Petersburg and Clearwater are adjacent to Tampa, home of the University of South Florida, and are part of the Tampa Bay Area, the second-largest metropolitan statistical area in Florida. The health care, retail, tourism, and manufacturing sectors are the largest employers in the area. Table 1 shows that the 2012 estimated population of Pinellas County is over 920,000, primarily white (76.5%), with African Americans (10.7%) and Hispanic/Latino(a)s (8.3%) as the largest minority populations. The majority of residents have high school diplomas, but fewer than 30% have four-year degrees.

Table 1: Population and Demographics

POPULATION	
Total Population	921,319
Percentage of Population with High School Diploma	88.3%
Percentage of Population with Four-Year Degree	27.0%
Average Household Income	\$45,891
DEMOGRAPHICS	
Percentage White	76.5%
Percentage African American	10.7%
Percentage Hispanic	8.3%
Percentage Asian	3.1%
Percentage Other	2.3%

Source: U.S Census Bureau *State & County Quick Facts* at <http://quickfacts.census.gov/qfd/states/12/12103.html>

Community College Context

St. Petersburg College was opened in 1927 and currently has 11 campuses/sites in Pinellas County. The college serves the postsecondary education needs of students from Pinellas County and the greater Tampa Bay Area. In 2002, SPC began offering baccalaureate degrees and was the first of Florida's community colleges to expand into the four-year sector, enrolling over 5,000 students in 22 programs by 2010.

The majority of students enroll in Associate of Arts (53%) or Associate in Science (24%) degree programs, with just over 4% seeking a certificate; 76% of St. Petersburg College students who transfer to state universities in Florida have earned an Associate of Arts degree. In total, SPC is a large, multi-campus college serving over 50,000 students annually with over 370 instructional staff. SPC is an Achieving the Dream Participating Institution and has focused on improving student outcomes and increasing access for low-income, first-generation, disabled, and underrepresented students. In its efforts to improve outcomes and course completion rates, SPC sought and secured funding from the Florida Developmental Initiative Grant in spring 2010 to develop the My Bridge to Success program. My Bridge to Success offers individually tailored instruction through the use of media-based tools in developmental reading, writing and math to help students reach transfer-level courses. While the My Bridge courses are offered on five SPC campuses, this study was conducted on the Clearwater Campus with faculty and staff from multiple campus locations participating.

Table 2: Student Characteristics and Academic Programs, 2011-12

STUDENT CHARACTERISTICS	
Unduplicated Headcount	58,759
Total Full-Time Equivalent (FTE) Enrollment	22,407
Percentage White Students	68%
Percentage African-American Students	14%
Percentage Hispanic Students	8%
Percentage Other Students	10%
Full-Time Beginning Undergraduates Receiving Financial Aid	86%
ACADEMIC PROGRAMS*	
Number of Bachelor's Degree Programs (and Graduates)	22 (1,033)
Number of Associate Degree Programs (and Graduates)	42 (3,624)
Number of Certificate Programs (and Graduates)	66 (518)
Number of Diploma Programs (and Graduates)	2 (96)

*Data for academic programs and graduates are from 2010-2011

Sources: St. Petersburg Community College Fact Book (http://www.spcollege.edu/central/ir/Web_Factbook_11-12.pdf) and Florida Department of Education Community College Fact Book (<http://www.fldoehub.org/CCTCMIS/c/Documents/Fact%20Books/fb2012.pdf>)

II. Overview of the Research

Research for Action (RFA) contracted with three representatives from Florida State University to conduct a field work site visit (see Table 3) in the spring semester of 2013 to explore the implementation and impact of the My Bridge program and the use of the P.E.R.T. Placement and Diagnostic assessments on math, reading, and writing developmental education instruction.

Table 3: Research Conducted

DATA SOURCES	
Interviews with Administrators	1
Developmental Education Mixed-Faculty Focus Groups	2
Math Developmental Education Student Focus Groups	2
Writing Developmental Education Student Focus Groups	1
Math Classes Observed	2
Writing Classes Observed	1
Reading Classes Observed	1

In addition, we conducted background research using institutional websites, documents, and phone and email conversations with college administrators.

III. Integration of Placement and Diagnostic Assessment at the Community College

Both vendor-developed (“off the shelf”) and state-developed assessment instruments have been used to varying degrees across the college, and are discussed below (see Table 4):










Key for Table 4 through Table 6	
 YES	 NO

Table 4: Level of Diagnostic Assessment Integration within the Community College

STATE-DEVELOPED DIAGNOSTIC ASSESSMENT (P.E.R.T. DIAGNOSTIC)	
Administered in Math?	 *
Administered in English?	 *
Fully Implemented with All Students?	
VENDOR-DEVELOPED DIAGNOSTIC ASSESSMENT	
Administered at the Community College?	
Administered in Math?	
Administered in English?	
Fully Implemented with All Students?	 **

*Students who desire to retake the P.E.R.T. Placement test are required to first take the P.E.R.T. Diagnostic. These are the only students to whom the P.E.R.T. Diagnostic is administered.

**While only students near the cut-point for developmental education were enrolled in the first semester of My Bridge courses (spring 2011), students who place in the upper developmental writing and reading levels have been permitted to self-select (regardless of P.E.R.T. scores) since fall 2011.

Integration across Subjects and Students:

- **P.E.R.T.:**
 - **Placement:** The placement tests are implemented college-wide. SPC requires all entering students to take the P.E.R.T. Placement tests in math, reading, and writing unless the students provide: qualifying SAT or ACT scores; other placement scores not older than two years; or evidence of college-level course credit in the respective subject area with a grade of “D” or better. Students scoring in the higher-level developmental education ranges are offered the option to complete the 8-week bridge course or the 16-week developmental courses.
 - **Diagnostic:** The P.E.R.T. Diagnostic is only used for students who want to retake the P.E.R.T. Placement exam. Those students take the Diagnostic and must undergo tutoring (generally administered through the learning center) in the areas of weakness before they retake the placement exam. SPC does not use the P.E.R.T. Diagnostic within the modular classes because they developed My Bridge prior to the release of the P.E.R.T. Diagnostic exams. SPC administrators also expressed concern that the P.E.R.T. Diagnostic exams are linear, paper and pencil exams, as opposed to adaptive computer-based exams.

- **Vendor-Developed Assessments and Software Tools:** Students who self-select into the modular developmental courses complete a diagnostic exam offered through the course’s computer software (Pearson’s MyWritingLab and MyReadingLab and McGraw-Hill’s ALEKS). The vendor diagnostics are completed on the first day of the course and allow the software to tailor class modules to the students’ specific areas of need.

Impact on College Policy and Practice: The use of the P.E.R.T. Placement and Diagnostic tests has fundamentally altered developmental education at SPC. Administrators indicated that after receiving the Florida Developmental Initiative Grant, they made the choice to implement diagnostic assessments and the modularized curricula in all three developmental areas (reading, writing, and math). Since the initial implementation, SPC has continued to draw down the number of 16-week courses to drive student enrollment into the 8-week modularized courses.

Impact on Instruction: The use of the diagnostic exams and the modularized course approach has influenced change in classroom instruction and pedagogy. The modularized approach has led to faculty reducing or even eliminating lectures, and instead using class time to monitor student progress through modules and offer individual and/or group assistance to students.

IV. Assessment Data Use

The use of diagnostic test data from both the P.E.R.T Diagnostic and other, vendor-developed diagnostic tests is outlined in Table 5 below and explores the extent to which the data informs developmental education as well as other college programs.

Table 5: Use of Diagnostic Assessment Data

STATE-DEVELOPED DIAGNOSTIC ASSESSMENT (P.E.R.T. DIAGNOSTIC)	MATH	ENGLISH
Are the diagnostic test results included in the college student data system?	N	N
Is the test providing data that can be used to identify individual student learning needs?	Y	Y
Are the test data linked to other student records?	N	N
Are the data being used outside of student placement and diagnostic decisions in developmental education?	N	N
VENDOR-DEVELOPED DIAGNOSTIC ASSESSMENT		
Are the diagnostic test results included in the college student data system?	N	N
Is the test providing data that can be used to identify individual student learning needs?	Y	Y
Are the test data linked to other student records?	N	N
Are the data being used outside of student placement and diagnostic decisions in developmental education?	N	N

Inclusion in the Student Data System: Diagnostic data is not incorporated into the college data system. Despite the widespread use of diagnostic assessment data in SPC’s developmental education programs, it is not included in the institution’s data warehouse.

Identification of Individual Student Learning Needs: Both the state- and vendor-developed assessments provide data on individualized student learning needs, disaggregated by subtopics included on the assessment.

Linkage to Other Student Data: Diagnostic data is not incorporated into data reports on other student characteristics at this time. SPC has, however, undertaken an ongoing project to manually track students completing the bridge courses.

Data Use outside of Developmental Education: Diagnostic data is not used outside of the developmental education program. SPC’s data warehouse does not store diagnostic data, so any reporting of diagnostic data and student records is done manually by campus administrators. The course software tools do offer reporting on individual students within courses, but connecting these data to existing institutional records must be done by hand. SPC administrators have begun a project to track My Bridge students after course completion and tabulate their college success rates.

V. Effectiveness of the Assessment System and Developmental Education Program

The reported level of effectiveness varied among the different placement and diagnostic assessments used at SPC:

Table 6: Respondent Perceptions of the Effectiveness of Assessments and Curriculum Redesign

STATE-DEVELOPED ASSESSMENT (P.E.R.T.)	MATH	ENGLISH
Is the test placing students more accurately in the developmental education sequence?	N	N
Is the curriculum redesign allowing students to complete the developmental education sequence more quickly?	N/A	N/A
VENDOR-DEVELOPED DIAGNOSTIC ASSESSMENT		
Is the test placing students more accurately in the developmental education sequence?	Y	Y
Is the curriculum redesign allowing students to complete the developmental education sequence more quickly?	Y	Y

Student Placement: The P.E.R.T. Placement test alone has had little impact on developmental reading, writing, or math placement. P.E.R.T., like Accuplacer before it, simply placed students into developmental education; the combination of diagnostic assessments and a modularized approach through software, which is provided only by the vendor-developed assessments, seems to have had the greatest impact on student success. Additionally, administrators and faculty were not entirely pleased with the P.E.R.T. Placement test. Administrators shared that they found no correlation between P.E.R.T. Placement scores and student success in the bridge courses, leading them to open the bridge courses to all students in the higher development levels as opposed to only the top scorers. Faculty also expressed concern that they were seeing more unprepared students in college-level courses as a result of P.E.R.T., as compared to Accuplacer, with one faculty member commenting that placement accuracy is “not even close to what it used to be.”

Diagnostic Assessment: SPC implemented “off the shelf” diagnostic exams on a large scale and saw largely positive results; the P.E.R.T. Diagnostics are used on a limited basis. Students generally felt the diagnostics from Pearson and McGraw-Hill provided an accurate assessment of their skills and

deficiencies. Faculty tended to agree, indicating that the diagnostics offer “validation” for the students in areas they excel and a “realization that they need to pay attention” in areas where they are weak.

Developmental Course Completion: Students complete the semi-self-paced developmental education program through the use of the course’s computer software and under the tutelage of a faculty member. Students completing the bridge courses are permitted to exit early and enroll in college-level coursework in the same term. Students are required to attend a twice-per-week, in-person class. Students from all three subject areas shared their unanimous approval of the modularized approach, and expressed their desires to continue using software moving forward into college-level coursework. One student remarked that using the software and completing modules was “as addictive as gambling.” Faculty shared similar enthusiasm, although they cautioned that students must be motivated and have the ability to work on their own to be successful. Administrators also indicated their support, and provided data demonstrating higher pass rates and lower withdrawal rates for the bridge courses compared to the traditional developmental courses.

Supports to Increase Effectiveness

- Both McGraw-Hill and Pearson have worked with SPC in designing the course competencies and in training faculty to use the software. Faculty in particular expressed great appreciation of the support from vendors and their campus representatives in addressing faculty needs, including having flexibility with the use of software access codes for students using financial aid.
- College administrators have supported the initiative. SPC’s former president had expressed concern about pass rates for students, leading other administrators to seek methods for improvement, and SPC’s current president has led the charge for SPC to become an Achieving the Dream Participating Institution. The administration also matched the \$30,000 funding from the initiative.

VI. Challenges to Implementation

A number of issues were raised as barriers to implementation of the P.E.R.T. Placement and Diagnostic systems:

The P.E.R.T. Placement test is not placing students as accurately as Accuplacer.

Although students generally felt they had been adequately placed, faculty expressed concern that the P.E.R.T. Placement tests were placing students who would have previously been placed in developmental education into college-level courses.

Students do not always understand the options available to them, and many are intimidated by the modularized approach. Student focus group participants recalled seeing classmates leave on the first day of class when they learned of the class format with the self-paced modules. Faculty also identified that communication and advertising to students is a challenge, and that the length of the diagnostic exams may intimidate some students.

The reliance on computers for instruction discourages some students from completing the bridge courses. Faculty identified technology literacy as being a challenge, both for older students who have limited experience using a computer and for students coming out of high school where technology access may not have been satisfactory. One faculty member characterized some older students as being “terrified” when they learned about the course approach.

Diagnostic data have not been implemented into the college data warehouse.

The diagnostic assessment data also cannot be used to generate reports across departments or the college overall. They can only generate reports on an individual-student basis. Any analysis and reporting beyond individual students must be done manually.

SPC is challenged to make bridge courses with early exit and transition to college-level courses work within the current credit hour and financial aid framework.

Administrators identified working closely with the financial aid office to ensure that the My Bridge model with the college-level transition would work for students while also protecting their financial aid. Some instructors seemed unaware of how to move a student from one course into another course mid-semester if the student had completed all of the requirements of the first course early.

Faculty members were concerned about the idea of broadening the effort beyond those who tested close to the placement cut-off. They seemed to feel that students needed to be self-motivated to benefit from the modular, self-paced approach. They felt that they would lose lots of students who lacked the self-discipline to stay on top of their work.

There is still a need for some level of traditional education. Students appreciated the weekly in-class meetings. They felt that this time was important because it allowed them to ask specific questions and get general instruction, and it held them accountable. They were unsure about the idea of moving the courses entirely online.

Conclusions

The site visit to SPC provided an example of how a college has implemented placement exams, diagnostic assessments, and modularized course work for its entire developmental education program. Although SPC has not implemented the P.E.R.T. Diagnostics in the way they were intended, the vendors it has selected have designed their products around the P.E.R.T. competencies. While students, faculty, and administrators openly shared some challenges moving forward, the overall feeling around SPC's developmental education and the My Bridge Program was very positive. Students expressed clear approval of the modularized courses, and faculty echoed the students in sharing that the courses and the online tools were effective for instruction. As the administrators identified at the onset of the visit, SPC has more work to do to design qualitative and quantitative assessment models to evaluate the program's effectiveness, making the linking of diagnostic data to institutional student records even more imperative.

Developmental Education and Diagnostic Assessment Reform Community College Case Study: Tallahassee Community College (TCC)

The following profile has been developed to outline the local context and implementation of developmental education and diagnostic assessment reform at Tallahassee Community College. The profile was verified by the point of contact at the college; data included in the profile offers a stand-alone summary and will be used for cross-site analyses. The profile addresses six areas: 1) local and community college context, 2) overview of the research, 3) integration of placement and diagnostic assessment, 4) placement and diagnostic assessment data use, 5) perceptions of the effectiveness of the assessment system and developmental education program, and 6) challenges to implementation. The following research questions guided the site visits at the community college:

- How do external calls for assessment and curricular alignment (*e.g.*, state postsecondary readiness standards) affect institutional offerings?
- What is the role of additional training and support—from states, coordinating boards, K-12, workforce partners, and other stakeholders—provided to institutions?
- How tightly coupled are institutional programs and diagnostic assessments? In what ways do institutions incorporate diagnostic assessment data in student-level data systems?
- Do implementation challenges differ when state-developed diagnostic tests are used versus those purchased from national vendors? Along what dimensions, and why?
- What are the perspectives of administration, faculty, and students concerning the effectiveness of diagnostic assessment systems? What factors do institution stakeholders cite as barriers to successful implementation?

Florida State Context

In order to measure student skills against the state's Postsecondary Readiness Competencies (PRCs) as they enter the Florida College System, the Postsecondary Education Readiness Test (P.E.R.T.) system was developed as Florida's new "preferred" placement test. Florida College System institutions began administering the P.E.R.T. in October 2010. In addition to P.E.R.T. Placement, the P.E.R.T. Diagnostic is another component of the assessment system. While the placement test determines appropriate course assignments, the P.E.R.T. Diagnostic identifies, by competency, where skill deficiencies exist. The P.E.R.T. Diagnostic has been developed to align with the Developmental Education Competencies that are the basis for developmental education courses offered at all Florida College System institutions. The goal of the P.E.R.T. Diagnostic is to allow faculty to target the areas in which students need additional work. The P.E.R.T. Diagnostic is voluntary for Florida colleges and is not computer-adaptive, so that all students are assessed on the same content as questions do not change based on previous responses. Optional developmental education course modules have also been developed by the Florida Department of Education.

I. Local and Community College Context

Local Context

Tallahassee is located in the Florida panhandle, is the state capital, and is the location of Florida State University and Florida A&M University. The State of Florida and educational institutions, including Tallahassee Community College, are the primary employers in the city. Table 1 shows that the population is over 180,000, primarily white (57.4%) and African American (35%), and that the vast majority of residents have high school diplomas, but fewer than half have four-year degrees.

Table 1: Populations and Demographics

POPULATION	
Total Population	182,965
Percentage of Population with High School Diploma	91.6%
Percentage of Population with Four-Year Degree	46.5%
Average Household Income	\$38,972
DEMOGRAPHICS	
Percentage White	57.4%
Percentage African American	35%
Percentage Hispanic	6.3%
Percentage Asian	3.7%
Percentage Other	2.6%

Source: U.S Census Bureau *State & County Quick Facts* at <http://quickfacts.census.gov/qfd/states/12/1270600.html>

Community College Context

Tallahassee Community College was opened in 1966 and currently has one main campus along with five centers. The college serves the postsecondary education needs of students from a district comprised of Gadsden, Leon, and Wakulla Counties. The majority of students apply for Associate of Arts degrees (73%) or Associate in Science or Applied Science degrees (13%) with just over one percent seeking a certificate; nearly 75 percent of Associate of Arts graduates go on to study at state universities in Florida. TCC is a large campus with over 20,000 students and over 400 instructional FTE staff. TCC is an Achieving the Dream Leader College and has focused on interventions in developmental education, including new, mandatory student orientation and a revamped academic advising program since 2007.

Table 2: Student Characteristics and Academic Programs

STUDENT CHARACTERISTICS	
Unduplicated Headcount	21,243
Total Full-Time Equivalent (FTE) Enrollment	12,219
Percentage White Students	49%
Percentage African-American Students	34%
Percentage Hispanic Students	9%
Percentage Other Students	8%
Full-Time Beginning Undergraduates Receiving Financial Aid	82% ⁴
ACADEMIC PROGRAMS*	
Number of Bachelor's Degree Programs (and Graduates)	0
Number of Associate Degree Programs (and Graduates)	31 (3,298)
Number of Certificate Programs (and Graduates)	57 (489)
Number of Diploma Programs (and Graduates)	0

Source: Tallahassee Community College and other sources as referenced (see footnotes)

II. Overview of the Research

Research for Action (RFA) conducted a field work visit (see Table 3) in the spring semester of 2013 to explore the implementation and impact of the Assessment and Learning in Knowledge Spaces (ALEKS) program and the P.E.R.T. Placement and P.E.R.T. Diagnostic assessments on math developmental education instruction, and to compare student experiences at the college with each.

Table 3: Research Conducted

DATA SOURCES	
Interviews with Administrators	2
Interviews with Developmental Education Math Faculty	3
Math Developmental Education Faculty Focus Groups	1
Math Developmental Education Student Focus Groups	1

In addition, we conducted background research using institutional websites, documents, and phone and email conversations with college administrators.

⁴ Integrated Postsecondary Education Data System (IPEDS) Data Center at <http://nces.ed.gov/ipeds/datacenter/>

III. Integration of Placement and Diagnostic Assessment at the Community College

All three of the assessment instruments (P.E.R.T. Placement, P.E.R.T. Diagnostic, and ALEKS) have been used to varying degrees across the college, and are discussed below (see Table 4):









Key for Table 4 through Table 6	
 YES	 NO

Table 4: Level of Diagnostic Assessment Integration within the Community College

STATE-DEVELOPED DIAGNOSTIC ASSESSMENT (P.E.R.T. DIAGNOSTIC)	
Administered in Math?	
Administered in English?	
Fully Implemented with all Students?	
VENDOR-DEVELOPED DIAGNOSTIC ASSESSMENT	
Administered at the Community College?	
Administered in Math?	
Administered in English?	N/A
Fully Implemented with all Students?	

Integration across Subjects and Students: The focus of the site visit was on the comparison between the P.E.R.T. and ALEKS diagnostic assessments as they are both used in math; additional diagnostic tests and curricular tools are also used in developmental English.

- **P.E.R.T.:** The placement test is administered campus-wide to all students as they enter the college. The diagnostic test has been field-tested in a subset of accelerated developmental education math courses. Separate from the P.E.R.T. Placement test, the P.E.R.T. Diagnostic test and the ALEKS diagnostic test were both administered at the beginning of the math bridge program, a two-week course for students identified by the P.E.R.T. Placement test as being very close to eligible for credit-bearing math coursework. The use of the P.E.R.T. Diagnostic was part of a grant program funded by the Florida Department of Education to encourage the use of the diagnostic test as part of one- and two-credit developmental education classes aimed at decreasing the time it takes for students to finish developmental education and enroll in credit-bearing courses.
- **Vendor-Developed Assessments and Software Tools:** TCC has been using the ALEKS diagnostic test and online modules across courses in the math developmental education program for at least five years. ALEKS is a web-based assessment and learning system that uses adaptive questioning to determine what skills each student knows and does not know in developmental math content. The ALEKS diagnostic assessment is given once students are placed in a developmental education math course (0018 or 0028) to determine the areas in which students need additional instruction through the ALEKS online instructional modules, which are completed outside of traditional classroom instructional time.

Impact on College Policy and Practice: The use of the P.E.R.T. Placement and P.E.R.T. Diagnostic have become common but have not influenced college policy overall. When asked about the impact of the P.E.R.T. Placement and P.E.R.T. Diagnostic tests on college policy and practice, administrators stated that they had not changed any major policy at the college. The P.E.R.T. Placement test has simply replaced the Accuplacer assessment system that had been used prior to the state initiative, and the P.E.R.T. Diagnostic has only been used with a small cohort of students to date. The use of the ALEKS diagnostic test over a period of years, and the success faculty have found with ALEKS overall, have led them to believe that they may continue to use it as opposed to shifting to the P.E.R.T. Diagnostic.

Impact on Instruction: Data from the ALEKS diagnostic test determines the areas of online tutoring modules, but does not influence traditional classroom instruction. The developmental education curriculum in math has been standardized by the state department of education and requires the faculty to stay focused on covering the course content, and does not allow for differentiation. One faculty member explained that “we have to push every class to get through all of the material; it is brutal.”

IV. Assessment Data Use

The use of diagnostic test data from both the P.E.R.T Diagnostic and other, vendor-developed diagnostic tests is outlined in Table 5 below and explores the extent to which the data informs developmental education as well as other college programs. As mentioned previously, the focus of the site visit was the math diagnostic assessment.

Table 5: Use of Diagnostic Assessment Data

STATE-DEVELOPED DIAGNOSTIC ASSESSMENT (P.E.R.T. DIAGNOSTIC)	MATH	ENGLISH
Are the diagnostic test results included in the college student data system?	(N)	(N)
Is the test providing data that can be used to identify individual student learning needs?	(Y)	(Y)
Are the test data linked to other student records?	(N)	N/A
Are the data being used outside of student placement and diagnostic decisions in developmental education?	(N)	N/A
VENDOR-DEVELOPED DIAGNOSTIC ASSESSMENT		
Are the diagnostic test results included in the college student data system?	(N)	(N)
Is the test providing data that can be used to identify individual student learning needs?	(Y)	N/A
Are the test data linked to other student records?	(N)	N/A
Are the data being used outside of student placement and diagnostic decisions in developmental education?	(N)	N/A

Inclusion in the Student Data System: Diagnostic data is not incorporated into the college data warehouse, despite the widespread use of diagnostic assessment data in TCC’s developmental education program.

Identification of Individual Student Learning Needs: Both the P.E.R.T. Diagnostic and the ALEKS diagnostic assessment produce individual student data broken down by subtopic and/or question so

faculty and students can see exactly where there are needs for additional instruction.

Linkage to Other Student Data: Diagnostic data is not incorporated in data reports on other student characteristics. Further, ALEKS and P.E.R.T. diagnostic assessment data has not been used to generate reports across departments or the college overall, but only generates reports on an individual student basis.

Data Use outside of Developmental Education: Diagnostic data is not used outside of the developmental education program. In part because ALEKS and P.E.R.T. diagnostic assessment data cannot be used to generate reports across departments or the college overall, but only generates reports on an individual student basis, the data has not been used for larger college evaluation. Developmental education faculty members compile individual student data to determine program progress, but the process is cumbersome and has not allowed for wider data use.

V. Effectiveness of the Assessment System and Developmental Education Program

The reported level of effectiveness varied among the placement assessments and curricular tools used at TCC (see Table 6):

Table 6: Respondent Perceptions of the Effectiveness of Assessments and Curriculum Redesign

STATE-DEVELOPED ASSESSMENT (P.E.R.T.)	MATH	ENGLISH
Is the test placing students more accurately in the developmental education sequence?	N	N
Is the curriculum redesign allowing students to complete the developmental education sequence more quickly?	N/A	N/A
VENDOR-DEVELOPED DIAGNOSTIC ASSESSMENT		
Is the test placing students more accurately in the developmental education sequence?	Y	N/A
Is the curriculum redesign allowing students to complete the developmental education sequence more quickly?	Y	N/A

Student Placement:

- **Math:** The P.E.R.T. Placement test has had little impact on developmental education math placement. Perhaps because of the similar content covered in math developmental education programs, the college has seen little change in the way students are placed in developmental math courses as a result of the switch from the Accuplacer to the P.E.R.T. Placement test. However, the rigor of the test as compared to the ALEKS has been an issue based on the experience of students in the bridge program. Students placed in the program have been determined to be only a few points away from eligibility for credit-bearing coursework in math according to the P.E.R.T., but have commonly been found to need considerable remediation across a large portion of topics based on the ALEKS diagnostic test. One faculty member explained, “the P.E.R.T. is about broader competencies and the ALEKS is more fine-grained,” while another said that “the P.E.R.T. does not assess all of the individualized skills that that ALEKS covers.”

- **English:** In contrast, placement in reading has changed dramatically as a result of the P.E.R.T. Placement test. The P.E.R.T. Placement tests in reading have placed many more students in credit-bearing courses than the Accuplacer did previously. Consequently, the developmental education program in English has lost multiple sections. As a result, there has been talk around the state regarding the changes in results, and adjustments have been made to the cut-off scores. It is too early to tell how well students recently placed in credit-bearing English courses based on the P.E.R.T. Placement test are faring as compared to those placed by the Accuplacer.

Diagnostic Assessment: The P.E.R.T. Diagnostic assessment has been used with only a small cohort of students, but faculty respondents' early impressions are that the test is less effective than the ALEKS diagnostic test used more widely at TCC. While the P.E.R.T. is aligned to the state postsecondary readiness competencies and reports on how the students score on each of those competencies, the ALEKS provides more detail about what students know, and translates “seamlessly” into the online curricula students use to address the areas in which they need additional instruction. The connection between the test and the online instructional tools makes the test data more actionable than data from the P.E.R.T. Diagnostic.

Developmental Course Completion: There was consensus across respondents that the ALEKS program has been effective in moving students through developmental education courses in math more quickly than before it was in place. Faculty and administrators also reported that the data clearly show that students who complete developmental education with ALEKS are stronger in their fundamental math skills than students who do not.

Supports to Increase Effectiveness

- McGraw-Hill has worked with TCC to customize the ALEKS program to fit the college's needs. With the development of the state's Postsecondary Readiness Competencies (PRCs) and the current expectations to modularize instruction, McGraw-Hill has worked with TCC over time to adapt the ALEKS to meet its changing standards and curricular reforms. Most recently, a team from TCC met with McGraw-Hill staff to restructure the way in which the ALEKS math skills are organized to align with the new course modules TCC is developing to meet the state's expectations for developmental education reform.
- College administrators and faculty provide annual training on the use of ALEKS. Each fall, developmental math faculty members are provided with training from the program chair on how to implement the ALEKS modules and diagnostic assessment. Faculty reported that they were familiar with the ALEKS and found it accessible to students.

VI. Challenges to Implementation

A number of issues were raised as barriers to implementation of the P.E.R.T. Placement and Diagnostic systems:

There has been a lack of emphasis from the state on implementing the P.E.R.T. tests. Both the placement and diagnostic versions of the new assessment are voluntary in the state. Information about the assessments from the Florida Department of Education was described by faculty and administrators as limited.

TCC has a history of implementation with other diagnostic assessments. The college has been using the ALEKS program in math, as well as Plato and MyCompLab in reading and writing for a number of years. Each of these not only provides a diagnostic assessment, but also provides interactive online instruction, monitoring and tracking capabilities, progress reports, and feedback that a diagnostic assessment alone does not provide.

Diagnostic data use has been a challenge. While the P.E.R.T. Placement test data is housed in the college's data warehouse, diagnostic data is not housed centrally and "are very disconnected" from other data sources. The ALEKS and P.E.R.T. diagnostic assessment data also cannot be used to generate reports across departments or the college overall, but only generates reports on an individual student basis.

The P.E.R.T. Diagnostic test takes longer to administer than the ALEKS test. Faculty reported that the P.E.R.T. Diagnostic test takes on average about 15 minutes longer to administer than the ALEKS test. With the P.E.R.T. Diagnostics separate from P.E.R.T. Placement test, the extra time it takes to administer becomes a disincentive for implementation.

Students are often unprepared to take the P.E.R.T. Placement test. Despite the development at TCC of a mandatory orientation program supported by Achieving the Dream, students are often unaware that they are required to take the P.E.R.T. Placement test until the day when it is administered to them. While review materials and a practice test are available to students, faculty and administration respondents reported that few students use these resources prior to taking the test.

Conclusions

The site visit to TCC allowed for the comparison of an "off the shelf" vendor-developed diagnostic assessment and developmental math instructional tool (ALEKS) with a state-developed diagnostic test aligned to the state's postsecondary standards (P.E.R.T.). With the college's history of successful implementation of the ALEKS and the vendor's willingness to customize their product to fit the needs of the college in response to state requirements, the P.E.R.T. Diagnostic was seen as "redundant" in many ways. The college's experience with the P.E.R.T. Placement test has been mixed: results were similar to the previous system in math placement, but were troubling in reading due to the sharp increase in the percentage of students being placed in credit-bearing courses, which has led to concerns about the rigor of the test and adjustments to the cut-off scores in the state. The diagnostic data from both the P.E.R.T. Diagnostic and ALEKS have not been integrated into the college's larger data warehouse, and have therefore not been used to inform larger issues at TCC. Overall, the P.E.R.T. Placement and Diagnostic tests have not proved game changers at the college or increased the existing efficiency in developmental education.

Developmental Education and Diagnostic Assessment Reform Community College Case Study: Valencia College

The following profile has been developed to outline the local context and implementation of developmental education and diagnostic assessment reform at Valencia College. The profile was verified by the point of contact at the college; data included in the profile offers a stand-alone summary and will be used for cross-site analyses. The profile addresses six areas: 1) local and community college context, 2) overview of the research, 3) integration of placement and diagnostic assessment, 4) placement and diagnostic assessment data use, 5) perceptions of the effectiveness of the assessment system and developmental education program, and 6) challenges to implementation. The following research questions guided the site visits at the community college:

- How do external calls for assessment and curricular alignment (*e.g.*, state postsecondary readiness standards) affect institutional offerings?
- What is the role of additional training and support—from states, coordinating boards, K-12, workforce partners, and other stakeholders—provided to institutions?
- How tightly coupled are institutional programs and diagnostic assessments? In what ways do institutions incorporate diagnostic assessment data in student-level data systems?
- Do implementation challenges differ when state-developed diagnostic tests are used versus those purchased from national vendors? Along what dimensions, and why?
- What are the perspectives of administration, faculty, and students concerning the effectiveness of diagnostic assessment systems? What factors do institution stakeholders cite as barriers to successful implementation?

Florida State Context

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I. Local and Community College Context

Local Context

Valencia has multiple campuses in the Orlando area, which is home to some of the nation’s most famous tourist attractions such as Walt Disney World, Universal Studios, and SeaWorld. Orlando is also home to the University of Central Florida and the third-largest metro area in the state of Florida. The largest source of employment in the Orlando area is the tourism and entertainment industry, with Walt Disney World Resorts being the largest individual employer. Table 1 shows that the population is over 240,000, primarily white (41.3%) but with substantial populations of African Americans (28.1%) and Hispanics (25.4%). Although the vast majority of residents have high school diplomas, less than a third of the population has a four-year degree or higher.

Table 1: Orlando Area Populations and Demographics

POPULATION	
Total Population	243,195
Percentage of Population with High School Diploma	86.7%
Percentage of Population with Four-Year Degree	31.9%
Average Household Income	\$42,755
DEMOGRAPHICS	
Percentage White	41.3%
Percentage African American	28.1%
Percentage Hispanic	25.4%
Percentage Asian	3.8%
Percentage Other	3.9%

Source: U.S Census Bureau *State & County Quick Facts* at <http://quickfacts.census.gov/qfd/states/12/1253000.html>

Community College Context

Valencia Junior College was opened in the fall of 1967, in a few small portable buildings. The name was changed to Valencia Community College in 1971, and then renamed again to Valencia College in December of 2010 when the institution’s mission was expanded to allow the offering of bachelor’s degrees. The campus currently includes five campuses (West, East, Osceola, Winter Park, and Lake Nova), one center (Downtown Center), and one institute (Criminal Justice Institute). The majority of students come from Orange County, with significant numbers coming from Osceola County.

The majority of students apply for Associate of Arts degrees (54%) or technical certificates (31.9%). Associate in Science or Associate in Applied Science degrees make up a mere 11.8%, followed by career and EPI certificates at 2.3%. Of those who earn an Associate of Arts degree and continue their studies in the state college system, over 89% do so at the University of Central Florida.

Valencia enrolls almost 65,000 students annually and employs over 480 full-time faculty members. Valencia is an Achieving the Dream Leader College and has focused on retention rates. They utilized the Developmental Education Redesign and Modularization Mini-Grant offered by the Florida College System to initiate new interventions in developmental education.

Table 2: Student Characteristics and Academic Programs

STUDENT CHARACTERISTICS	
Unduplicated Headcount	64,912
Total Full-Time Equivalent (FTE) Enrollment	32,256
Percentage White Students	36%
Percentage African-American Students	17%
Percentage Hispanic Students	30.5%
Percentage Other Students	16.2%
Full-Time Beginning Undergraduates Receiving Financial Aid	85%
ACADEMIC PROGRAMS	
Number of Bachelor’s Degree Programs (and Graduates)	2 (0)
Number of Associate Degree Programs (and Graduates)	36 (7,810)
Number of Certificate Programs (and Graduates)	85 (4,062)
Number of Diploma Programs (and Graduates)	0

Source: Valencia College

II. Overview of the Research

Research for Action (RFA) contracted with three representatives from Florida State University to conduct field work visits (see Table 3) in the spring semester of 2013. The field work explored the implementation and impact of the Foundations of Math program, the P.E.R.T. Placement exam, and the use of diagnostic assessments on math developmental education. Site visits were conducted at the West Campus of Valencia College.

Table 3: Research Conducted

DATA SOURCES	
Interviews with Administrators	1
Interviews with Developmental Education Math Faculty	1
Math Developmental Education Student Focus Groups	1

In addition, we conducted background research using institutional websites, documents, and phone and email conversations with college administrators.

III. Integration of Placement and Diagnostic Assessment at the Community College

Table 4 summarizes where and how the diagnostic testing is utilized and integrated into Valencia College’s system. The use of placement tests, diagnostic assessments, and developmental math courses is discussed within the context of the West Campus of Valencia. Valencia uses the P.E.R.T. upper level math diagnostic test with the modularized developmental math courses for those who scored in the 110 to 112 range on the P.E.R.T. Placement exam in math, indicating the student falls just short of the ability to enter college credit-bearing math courses. Students who select this modularized approach utilize the Pearson *Foundations of Math* software, which allowed the state competencies to be integrated into the modules.







Key for Table 4 through Table 6	
 YES	 NO

Table 4: Level of Diagnostic Assessment Integration within the Community College

STATE-DEVELOPED DIAGNOSTIC ASSESSMENT (P.E.R.T. DIAGNOSTIC)	
Administered in Math?	
Administered in English?	
Fully Implemented with All Students?	 *
VENDOR-DEVELOPED DIAGNOSTIC ASSESSMENT	
Administered at the Community College?	
Administered in Math?	N/A
Administered in English?	N/A
Fully Implemented with All Students?	N/A

*Only students near the cut-off for developmental education are able to self-select into the modular course, which includes the diagnostic.

Integration across Subjects and Students:

- **P.E.R.T.:**
 - **Placement:** The placement tests are implemented campus-wide. Valencia requires all students to take the P.E.R.T. Placement test unless they can provide other approved test scores or transcripts demonstrating college-level English or mathematics coursework with a grade of “C” or higher from a regionally accredited institution. The P.E.R.T. Placement is the preferred, but not required, placement test in Florida, and replaced the Accuplacer test that was used previously.
 - **Diagnostic:** The P.E.R.T. Upper Level Math Diagnostic test is then offered to students who have scored within the range of 110 to 112 on the P.E.R.T. in math. The P.E.R.T. Diagnostic was implemented as part of the grant program funded by the Florida Department of Education to encourage the use of the diagnostic test as part of one- and two-credit developmental education classes aimed at decreasing the time it takes for students to finish developmental education and enroll in credit-bearing courses.
- **Vendor-Developed Assessments and Software Tools:** The Pearson *Foundations of Math* software was selected because the college had been using the software for some time, and because it included an option that would allow the state competency standards to be matched to the modules. Although it is a separate system from the P.E.R.T. Diagnostic test, the results of the Diagnostic are entered into the Pearson software to assign specified modules to students based on their diagnostic results. *Foundations of Math* is a web-based learning system that uses self-paced modules covering: (1) exponents and polynomials, (2) factoring, (3) linear equations, (4) radicals, and (5) graphing.

Impact on College Policy and Practice:

- **P.E.R.T. Placement and Diagnostic Tests:** While the tests have become commonly used, they have not brought about substantial changes to college policy. Prior to the implementation of the P.E.R.T. Placement tests two years ago, the Accuplacer was the college’s placement test of choice, with options for exemption which still included the SAT or ACT exams. The state’s initiatives, and especially the Developmental Education Redesign and Modularization Mini-Grant, propelled the implementation of the P.E.R.T. Placement and P.E.R.T. Diagnostic.
- **Pearson Foundations of Math:** The software was selected because the college had been using it for some time and it included an option that would allow the state competency standards to be matched to the modules.

Impact on Instruction: The Pearson module delivery system has influenced the delivery of classroom instruction, but only for the early developmental courses. The expected student competencies have been standardized by the Florida Department of Education. To ensure that students have what they need for entrance into credit-bearing courses, the diagnostics combined with modular delivery has allowed instructors to facilitate accelerated but self-paced instruction for students. However, this mode of delivery is only specific to the two developmental math courses.

IV. Assessment Data Use

The use of diagnostic test data from both the P.E.R.T Diagnostic and other, vendor-developed diagnostic tests is outlined in Table 5 below and explores the extent to which the data informs developmental education as well as other college programs. As mentioned previously, the focus of the site visit was the math diagnostic assessment.

Table 5: Use of Diagnostic Assessment Data

STATE-DEVELOPED DIAGNOSTIC ASSESSMENT (P.E.R.T. DIAGNOSTIC)	MATH	ENGLISH
Are the diagnostic test results included in the college student data system?	N	N/A
Is the test providing data that can be used to identify individual student learning needs?	Y	N/A
Are the test data linked to other student records?	N	N/A
Are the data being used outside of student placement and diagnostic decisions in developmental education?	N	N/A
VENDOR-DEVELOPED DIAGNOSTIC ASSESSMENT		
Are the diagnostic test results included in the college student data system?	N/A	N/A
Is the test providing data that can be used to identify individual student learning needs?	N/A	N/A
Are the test data linked to other student records?	N/A	N/A
Are the data being used outside of student placement and diagnostic decisions in developmental education?	N/A	N/A

Inclusion in the Student Data System: P.E.R.T. Placement and Diagnostic data are not incorporated into the college data system. All the current placement and diagnostic data are housed within one office and available to faculty as needed. Although the administration indicated that P.E.R.T. Placement and Diagnostic data can be integrated via their institutional research department, and that this was done in the past with CPT and Accuplacer, the current system has not been integrated to include the new P.E.R.T. results.

Identification of Individual Student Learning Needs: The P.E.R.T. Diagnostic reports student test results for each of the questions included on the test so that faculty can see where students are struggling.

Linkage to other Student Data: The implementation of the diagnostic tool has been recent, and the diagnostic data are not incorporated into the school-wide data systems, so the use of the diagnostic data has been limited to the math program and is not linked to other student data.

Data use outside of Developmental Education: Diagnostic data are not used outside of the developmental education program. There has been discussion about widening its use to help assign more or less independent work for students based on diagnostic scores. The discussions have not gone beyond course design.

V. Effectiveness of the Assessment System and Developmental Education Program

Table 6, provided below, summarizes findings of effectiveness and accuracy of assessment and diagnostic testing results as it relates to Valencia.

Table 6: Respondent Perceptions of the Effectiveness of Assessments and Curriculum Redesign

STATE-DEVELOPED ASSESSMENT (P.E.R.T.)	MATH	ENGLISH
Is the test placing students more accurately in the developmental education sequence?	Unknown	N/A
Is the curriculum redesign allowing students to complete the developmental education sequence more quickly?	N/A	N/A
VENDOR-DEVELOPED DIAGNOSTIC ASSESSMENT		
Is the test placing students more accurately in the developmental education sequence?	N/A	N/A
Is the curriculum redesign allowing students to complete the developmental education sequence more quickly?	Y	N/A

Student Placement: The respondents gave no indication of any belief that the P.E.R.T. Placement was more or less accurate than the prior placement test (Accuplacer), at least outside of the increased duration required for administering the test. Because the implementation of the P.E.R.T. Placement is so recent, there is not enough information yet to determine if the test is placing students correctly. However, the Director of Standardized Testing described the P.E.R.T. Placement as very similar to other placement tools, with the exception of length.

Diagnostic Assessment: Students that were interviewed felt that the P.E.R.T. Diagnostic adequately gauged their needs but was very long and time-consuming to take. Faculty also agreed that the diagnostic test does an effective job of identifying student needs. However, the number of students who have entered the accelerated course options has been so small that results are preliminary. The faculty and administration felt that the program would be of much higher quality if the diagnostic test were more fully integrated with the state competencies and into the modular software. As of now, the connection between the diagnostic test and the modules is not seamless.

Developmental Course Completion: Students and faculty felt that the mix of online and modularized course delivery through the Pearson *Foundations of Math* online instructional modules, along with set class time where an instructor was available, was a very beneficial mix. It allowed students to pace themselves, and instructors to monitor how much time students were applying themselves to completing the course materials. Additionally, because the Pearson software does not provide the flexibility to integrate additional activities or information resources, the faculty members are able to use the in-class time to provide those tools. Students are able to ask the instructors for assistance in completing mathematical procedures that they did not understand from the software instruction. Students felt that the software motivated them to stay on top of their work, and preferred the modular approach over the traditional in-person, classroom-based approach.

Supports to Increase Effectiveness: Pearson trained faculty members in the use of the *Foundations of Math* software and in methods for integrating the P.E.R.T. Diagnostic results into the assignment of modules for students. The faculty and administration indicated that they had a long-standing relationship with Pearson, so it was natural for them to implement the software and integrate it with the use of the P.E.R.T. Diagnostic. Although the P.E.R.T. Diagnostic, developed by McCann, was not directly connected with the Pearson product, they were given some foundational instruction on how to proceed.

VI. Challenges to Implementation

A number of barriers and challenges to implementation of the P.E.R.T. Placement and Diagnostic Systems were discussed:

Funding was not initially allocated for the P.E.R.T. Diagnostic. Funding was initially allocated toward the P.E.R.T. Placement for every student to take the test once. Additional retakes were allowed once per year at a cost of \$10 per sub-test, but the student could take the first one without a fee. In contrast, when the P.E.R.T. Diagnostic was implemented, the cost per student to take the Diagnostic was not included. The administration agreed to use their budget surplus to cover the cost per student until the grant funding kicked in to “reimburse” the testing center for the costs of the diagnostic.

The P.E.R.T. Diagnostic and the state competencies were not integrated and did not use the same coding. Faculty members had to take a significant amount of time to read each of the diagnostic descriptions and each of the state competency descriptions and attempt to match them up. Furthermore, one of the competencies was missing from the diagnostic (rational expressions), which forced all developmental education math students to take the associated module. The faculty felt that this content is important and should have been addressed.

There was limited information sharing from the state on the P.E.R.T. tests. Both the placement and diagnostic versions of the new assessment, although voluntary in Florida, were highly encouraged through the grant. But the information about the assessments from the Florida Department of Education was limited. Furthermore, the amount of time available for transitioning from grant application to full implementation was short, and the administration and faculty felt very rushed in the process.

The P.E.R.T. Placement and Diagnostic tests require a substantial amount of time to take. There are limited testing labs on campus, and when combined with the length of time needed to complete the P.E.R.T. Placement and Diagnostic, the infrastructure is not ready to handle a scale-up of the diagnostic testing and new modular delivery of courses. The Director of Standardized Testing was also concerned with the tests contributing to testing fatigue.

Students are unaware of the options available to them. The current system of recruiting students requires a great time commitment from the administration. Students are selected based on their scores in the P.E.R.T. Placement test. These students are then emailed (followed up by individual phone calls) to inform them of the option to take the accelerated courses after the taking of the additional P.E.R.T. Diagnostic. Because the initial mode of contact was email, which students may not have gotten or may have left unread, many seemed to be unaware of the option until the Dean of Mathematics called the students directly. Even then, few opted to enroll in the course.

Conclusions

This site visit to Valencia College provided an example of how a college has taken the state-developed diagnostic test aligned to the state postsecondary standards (P.E.R.T.) and used that information to assign modules of an “off the shelf” developmental math instructional tool (Pearson’s *Foundations of Math*). The resulting effects on the first few students to take the modularized courses after taking the diagnostic assessment seem to be very positive, with the students passing a post-instruction test with exemplary scores. These results, however, are based on only five students who have complete data, so they must also be taken with some reservation. Furthermore, until the data from the P.E.R.T. Placement and Diagnostic tests are fully integrated with the college’s data warehouse system, use of the results outside of the Developmental Math department is nonexistent, and the data are unavailable for use in studying wider issues at Valencia.

Developmental Education and Diagnostic Assessment Reform Community College Case Study: Danville Community College (DCC)

The following profile has been developed to outline the local context and implementation of developmental education and diagnostic assessment reform at Danville Community College. The profile was verified by the point of contact at the college; data included in the profile offer a stand-alone summary and will be used for cross-site analyses. The profile addresses six areas: 1) local and community college context, 2) overview of the research, 3) integration of placement and diagnostic assessment, 4) placement and diagnostic assessment data use, 5) perceptions of the effectiveness of the assessment system and developmental education program, and 6) challenges to implementation. The following research questions guided the site visits at the community college:

- How do external calls for assessment and curricular alignment (*e.g.*, state postsecondary readiness standards) affect institutional offerings?
- What is the role of additional training and support—from states, coordinating boards, K-12, workforce partners, and other stakeholders—provided to institutions?
- How tightly coupled are institutional programs and diagnostic assessments? In what ways do institutions incorporate diagnostic assessment data in student-level data systems?
- Do implementation challenges differ when state-developed diagnostic tests are used versus those purchased from national vendors? Along what dimensions, and why?
- What are the perspectives of administration, faculty, and students concerning the effectiveness of diagnostic assessment systems? What factors do institution stakeholders cite as barriers to successful implementation?

Virginia State Context

The Developmental Education Task Force (DETF) was convened in 2008 to review the system's developmental education policies and increase student progress through their courses towards graduation; the initiative was supported by involvement in the *Developmental Education Initiative*. The DETF provided recommendations in the report *The Turning Point: Developmental Education in Virginia's Community Colleges* the following year. In 2010, the Developmental Mathematics Redesign Team (DMRT) released recommendations for developmental mathematics courses across the Virginia Community College System (VCCS), proposing that the content of the developmental mathematics curriculum be revised, with different pathways contingent on a student's program of study; that content be organized into nine pre-college units of study; and that the VCCS develop new placement and diagnostic instruments. The Developmental English Redesign Team (DERT) proposed that developmental English be restructured as an integrated reading and writing system, with three direct pathways to credit-bearing English determined by a student's placement test score and performance against specific learning outcomes.

I. Local and Community College Context

Local Context

Danville is a moderately sized city near Virginia’s Southwestern border with North Carolina. With a population of over 140,000 among the three areas served by DCC, over three-quarters of the population has a high school diploma, while only 14 percent holds a four-year degree, less than half the rate in the state overall. The region is primarily white, while African Americans compose the second highest racial/ethnic group at just over a third (see Table 1).

Table 1: Aggregate Populations & Demographics for the City of Danville, Pittsylvania County, & Halifax County

POPULATION	
Total Population	141,652
Percentage of Population with High School Diploma	76.2%
Percentage of Population with Four-Year Degree	14.3%
Average Household Income	\$35,971.36
DEMOGRAPHICS	
Percentage White	64.1%
Percentage African American	33.9%
Percentage Hispanic	2.3%
Percentage Asian	0.5%

Source: U.S Census Bureau *State & County Quick Facts* at http://quickfacts.census.gov/qfd/maps/virginia_map.html

Economically, Danville has experienced a decrease of 18 percent in private employment (nonfarm) from 2000-2012, in part due to the loss of tobacco and textile industry jobs in the area, resulting in more people looking to come back to school to receive job training.⁵ However, the area has managed to attract new employment opportunities, such as Macerata Wheels LLC, which is going to move its plant to Danville and hire 100 people "due to its proximity to the machining and tool program at Danville Community College."⁶

Community College Context

Founded in 1966 through a merger of the Danville Technical Institute and the Danville Division of the Virginia Polytechnic Institute, DCC offers a mix of associate degree, diploma, and certificate granting programs.⁷ Danville Community College has two campuses and serves the City of Danville and communities within Pittsylvania and Halifax Counties. Their main campus offers the college’s core services while the Regional Center for Applied Technology and Training focuses on technical and trade-based classes; 90 percent of graduates have been employed within trade industries (e.g. air conditioning and refrigeration, automotive analysis and repair, precision machining technology, etc.).⁸

Table 2, below, shows DCC’s 2011-12 enrollment numbers and academic programs offered. With nearly 3,000 full time students, DCC is below the state average of about 5,600 in terms of the size of the

⁵ U.S Census Bureau *State & County QuickFacts*. Retrieved from: http://quickfacts.census.gov/qfd/maps/virginia_map.html

⁶ Braun, A.D. (March, 2013). Custom wheel maker adding 100 jobs in Danville. *The Business Journal*. Retrieved from: <http://www.bizjournals.com/triad/news/2013/03/18/custom-wheel-maker-adding-100-jobs-in.html>

⁷ Danville Community College (2013). DCC program of study. Retrieved from: <http://www.dcc.vccs.edu/Academics/Programs.htm>

⁸ Danville Community College (2013). Fast facts. Retrieved from: <http://www.dcc.vccs.edu/IR/ResearchFiles09/FastFacts.pdf>

student body.⁹ Almost all students are white (57%) or African American (40%), with a few other ethnic groups represented (3%).

Table 2: Student Characteristics and Academic Programs

STUDENT CHARACTERISTICS	
Unduplicated Headcount	6,493
Total Full-Time Equivalent (FTE) Enrollment	2,782
Percentage White Students	57%
Percentage African-American Students	40%
Percentage Other Minority	3%
Full-Time Beginning Undergraduates Receiving Financial Aid	79%
ACADEMIC PROGRAMS	
Number of Bachelor's Degree Programs (and Graduates)	0
Number of Associate Degree Programs (and Graduates)	19 (353)
Number of Certificate Programs (and Graduates)	19 (452)
Number of Diploma Programs (and Graduates)	8 (82)

Sources: Danville Community College Fast Facts; Virginia Community Colleges: Institutional Research Information

DCC also has a number of state and national partners such as the Institute for Advanced Learning and Research, Southern Virginia Higher Education Center, and the University of Richmond. Since 2004, they have been working with Achieving the Dream (ATD) on initiatives focused on helping more community college students, particularly low-income students and students of color, to stay in school and earn a college certificate or degree.¹⁰ DCC has implemented a free two-week math bridge program targeted at first-year students; its curriculum helps students prepare for the Virginia Placement Test (VPT). As of fall 2012, the college saw dramatic increases in the movement of both minority and low-income students into higher levels of developmental math courses or directly into college-level math courses.¹¹

II. Overview of the Research

Research for Action (RFA) conducted field work in the spring of 2013 to explore the implementation and impact of the VPT on developmental education instruction and completion. Through interviews with math and English developmental education faculty and administrators, and focus groups with current developmental education students, researchers were able to gather data on the successes and challenges faced by the college as it implements the VPT and newly designed developmental courses (see Table 3).

⁹ Virginia Community Colleges Annual Report: 2011-12

¹⁰Achieving the Dream (2013). Enrolling in a developmental math summer bridge program at danville community college. Retrieved from: http://www.achievingthedream.org/resource/enrolling_in_a_developmental_math_summer_bridge_program_at_danville_community_college

¹¹ Achieving the Dream (2012).

Table 3: Research Conducted

DATA SOURCES	
Interviews with Administrators	3
Interviews with Developmental Education Math Faculty	3
Interviews with Developmental Education English Faculty	3
Developmental Education Students Focus Groups	2

III. Integration of Placement and Diagnostic Assessment at the Community College

Danville Community College administers only the Virginia Placement Test (VPT) in math and English for both placement and diagnostic purposes, as required by the Virginia Community College System (see Table 4). Further findings regarding integration of the VPT are outlined below:






Key for Table 4 through Table 6	
 YES	 NO

Table 4: Level of Diagnostic Assessment Integration within the Community College

STATE-DEVELOPED ASSESSMENT (VPT)	
Administered in Math?	
Administered in English?	
Fully Implemented with All Students?	

Integration across Subjects and Students: The VPT has been fully implemented across the college and informs curriculum in both math and English developmental education courses. The assessment is used with all students as they enter the college. In math, the results determine which of the nine math modules students will be required to complete, if any. In English, the VPT places students into one of three levels of developmental English: ENF 1, ENF 2, or ENF 3 (in which students are also enrolled in the introductory, credit-bearing English course).

Impact on College Policy and Practice: The VPT and aligned curricula have considerably altered the practices of DCC. The developmental education curricula have been changed to nine online modules in math without the use of a traditional lecture format, and three courses in English with reading and writing skills combined into one course. The VPT also has a “floor,” or score beneath which a student is considered in need of Adult Basic Education and is ineligible for developmental education coursework. Further, it eliminated what had been a common practice with the COMPASS placement test of allowing students close to the upper cut score to be placed in the level above; this is no longer the case as the scores themselves are not available. One faculty member explained that often an advisor might say, “Oh, you were kind of close, so we’re going to go ahead and place you into the next level up;” faculty interviewed agreed that this was a common practice.

Impact on Instruction: Due to the limited data available to faculty, the diagnostic aspect of the test has not influenced instruction. Faculty members are not able to use the data to inform their pedagogical strategies or differentiate their instruction for particular students.

IV. Assessment Data Use

The VPT was designed as both a placement and diagnostic assessment system to determine whether students are eligible for credit-bearing courses and, if not, at what level of developmental education they should be placed. Our findings regarding the use of the assessment data follow (see Table 5):

Table 5: Use of Assessment Data

STATE-DEVELOPED ASSESSMENT (VPT)	MATH	ENGLISH
Are the test results included in the college student data system?	Y	Y
Is the test providing data that can be used to identify individual student learning needs?	Y	N
Are the test data linked to other student records?	N	N
Are the data being used outside of student placement and diagnostic decisions in developmental education?	N	N

Inclusion in the Student Data System: Placement results are automatically uploaded to the college’s student record system, PeopleSoft. After a student takes the math or English VPT, typically within 12 to 24 hours, those scores are in the system. Students then meet with a counselor who explains the scores and what they will mean for the student, and what developmental education courses are needed.

Identification of Individual Student Learning Needs: Faculty and students do not receive diagnostic information from the VPT on the subtopics covered in the math modules or English courses in which students have been placed (see Table 5). While the test in math provides more specific information on areas of student need by placing them in content-based modules instead of larger math courses, the VPT report only lists whether or not a student has been “exempted” from a module, but does not provide a test score for each module or outline the skills in the modules that students do or do not know. One math faculty member stated that the [VPT results are] “not fine-grained at all...[students] either exempted a module, or they didn’t, and if they exempted a module, it’s not broken down to individual objectives under that module.” The results in English are even vaguer, reporting only the English course where the student is being placed.

Linkage to Other Student Data: The VPT is not integrated with other student data, so analyses to determine the connections between placement scores and other student indicators not captured on the VPT are difficult.

Data Use outside of Developmental Education: The VPT data is not being used for purposes outside of placement presently. While administrators recognized the need for further analysis, the VPT results are not being used by the college for larger analytic or evaluative purposes (see Table 5). One administrator explained that the college is “just trying to get it to work for placement. If we can get it to work well for placement, then we can look at other ways we can use the information that’s available.”

V. Effectiveness of the Assessment System and Developmental Education Program

The effectiveness of both the assessment system and the reforms in developmental education instruction as compared to the systems in place prior to these initiatives provide the basis for evaluating success (see Table 6). Our discussion of the findings on that score follows:

Table 6: Respondent Perceptions of the Effectiveness of Assessments and Curriculum Redesign

STATE-DEVELOPED ASSESSMENT (VPT)	MATH	ENGLISH
Is the test placing students more accurately in the developmental education sequence?	Y	Mixed
Is the curriculum redesign allowing students to complete the developmental education sequence more quickly?	Y	Unknown

Student Placement

- **Math:** There has been improvement in the placement of students in developmental math, as evidenced by the pre-tests faculty give to students once enrolled in their modules to verify the VPT placement results. Faculty found that the VPT is “placing [students] well.” All three math faculty members interviewed reported that students have been properly placed in the correct modules based on the pre-test given to students at the beginning of the module. One faculty member explained that:

We offer the same test that we give them at the end of the module at the very beginning of a module, the student takes that test, just to verify that in fact they do not know that material, or they need help with that material and it’s very rare that we have a student pass that test...it’s a good check.

Further, all of the students involved in the developmental math focus group felt that they were accurately placed in developmental math and were not surprised by the modules they were required to complete.

- **English:** While interview and focus group respondents in English felt that the new assessment is somewhat improved over the COMPASS, it is still early in the process as the VPT in English was first administered at DCC in the fall of 2012. One English professor explained that the VPT is aligned with the student learning outcomes and therefore with what they are being taught in the classroom in preparation for college-level English. The effectiveness of the test in placing students, however, is not confirmed by a pre-test in English as in math; the department is in the process of developing such a test. However, all of the students in the developmental English focus group felt that they had been properly placed and that the developmental English courses they were taking had value for them.

Developmental Course Completion

- **Math:** Students can move through the math modules more quickly and successfully than they did when the developmental education curriculum required an entire semester to complete because they can exempt out of the topics in which they are already proficient. There was consensus among faculty members that the process of completing the developmental education requirements is “much faster than it was” and in some cases “students just blaze through these

modules.” A faculty member explained that:

What I think is great for the students is that they are allowed to exempt out of material that they already know...in our old system, they may have had two semesters of developmental math. Now, they can do one unit of math in four or eight weeks...instead of having to spend a year to a year and a half in developmental math, they can be done in a semester and just get those core topics.

Further, faculty members reported that students who complete the modules tend to successfully pass the required test at the end of the module as well, with one reporting that “students who finish their unit typically pass their test...it’s very rare for me to have a student not. They eventually finish that unit and typically test right out of it...they typically complete.”

- English: It is too early in the reform in English to report on whether students move through developmental English more quickly.

Supports to Increase Effectiveness

- Collaboration with similar community colleges was found to be the most valuable type of support to faculty and administrators in implementing new curricula. During convenings in support of the initiative, once the formal program ended, the big takeaways for college faculty and administrators came in conversations with colleagues about how the test and modules were being implemented on other campuses. One administrator explained that “the highlight of the meeting for us was interacting with everyone else to see ‘how are you managing to teach three units in one classroom?’ Those takeaways are good for us.” One faculty member said that “all the developmental math people [get] together and it typically turns into, ‘Okay, what are you doing? How is your college handling this?’” Another remarked that “faculty...would actually gather...and hash [things] out...the state did a great job of getting us together...that was great.”
- Bedford/St. Martins, a publisher of educational resources, worked with the college to customize their online curricular tools and materials to align with the state’s student learning objectives (SLOs) in developmental English. Developmental English courses have integrated reading and writing, but needed to develop curricula. One member of the English faculty explained the process the college went through with Bedford/St. Martin to develop appropriate instructional resources:

Bedford/St. Martins allowed us to put together a custom text that we could use with our students that used reading and writing, because we didn’t have a good combined text yet available...they were willing to take the computer program they have...and our SLOs for the VCCS English curriculum and tailor the program so that we have activities in their Writing Class program that fits with each of our SLOs, so that we know that we’re covering them all.

VI. Challenges to Implementation

With the implementation of any new reform, challenges and unintended consequences exist. Faculty members and administrators identified a number of barriers in using the assessment. Our findings related to these challenges follow:

Faculty members are not provided with diagnostic VPT data on the areas of proficiency within each of the nine math modules and three English courses. As mentioned previously, the scores from the VPT simply list whether students are “exempt” from a math module or English course, but do not provide any further data on how well the students performed on the learning outcomes included in each. Faculty are therefore not able to use the data to help them focus on the needs of individual students, but are simply informed as to which of the modules or courses students will be required to pass in order to enroll in credit-bearing courses. One developmental math faculty member explained that “it would be very interesting to see...like fractions, maybe they knew how to do everything except add and subtract fractions...that particular piece of information would be helpful. I would know how to work with them when they got there.”

Without training on the new form of instruction, math faculty struggled with shifting instructional styles from lecture to online module facilitation with students working on multiple modules in the same classroom. Using an “emporium style” in which students from many module levels are in the same classroom, as opposed to more traditional lectures to students at the same level, has been a challenging transition for faculty members. One faculty member explained that, “when I have students who are doing modules 1, 2 and 3 [in the same classroom]...it’s very difficult.” Another faculty member said:

The way we decided to approach it was the emporium style, where everyone’s in the same classroom working on different units, different sections, at the same time and basically I’m the facilitator. I go around and individually tutor and help them...and I’ll be honest, I hated it...I wanted to make sure that I was showing them what they needed and [felt like I was] not a teacher anymore.

This differentiation of instruction requires that faculty “adapt on the fly” and “really get a feel for your students, and...connect with where they are.” As a result of having students from multiple modules in the same classroom, “it’s not uncommon for [faculty] to go from teaching factoring to teaching...decimals.” Despite this shift, the faculty did not receive training in this new form of instruction. According to one faculty member, “we really didn’t receive any particular kind of training...it was almost like they said, ‘here are your new modules. We’re not going to tell you how you have to teach them.’”

Students and faculty often have difficulty covering all of the content included in the math modules and English courses in the timeframe recommended by the system office. Math faculty and campus administrators reported that while successfully completing and testing out of a module is common and takes place more quickly than with the traditional semester courses, it often takes six to eight weeks for students to do so. One faculty member explained that “it might take them 6 weeks, it might take them 8 weeks. On a very rare case, it might take them 12 weeks to finish a unit.” An administrator reported that the “math faculty say students need more than four weeks to get through some of the units, particularly the higher units.” Similarly in English, the combination of reading and writing content in the same course has made covering the content a challenge over the semester. One English faculty member explained that “we are feeling lots of pressure. This has been difficult to do; we have folks who have always been full-time reading faculty, others who had writing specialties, so we’ve had to help people combine those two things.” In describing the integration of reading and writing in the same course, another English faculty member said that “a challenge is an understatement...forcing that much information onto a developmental education student.”

The community college system office has provided limited direct support to the college on the implementation and use of the VPT, instead working through campus liaisons that were responsible for campus-level training. While the state has provided opportunities for professional development through webinars and developmental education symposia, administrators and faculty reported that the system office primarily provided guidance on “new hard and fast rule[s]” as opposed to training in support of the initiative. Campus liaisons who were more closely involved with the development of the curriculum and test served as the primary line of communication from the state to the college, but were given few resources to use in training faculty members. “The folks that we have as our liaisons with the VCCS come back to campus and take the lead,” said one administrator. Another administrator stated that, “I think we could have gotten more training from the VCCS, because we were training about something that we didn’t know that much about at that point.”

The role of the community college as an open-access institution has been challenged by the “floor” created with a cut score below which students are not eligible for developmental education courses and cannot receive financial aid. Until the implementation of the VPT, all high school graduates or students with GEDs were eligible to enroll at DCC. Now, students scoring below the developmental education cut scores on the VPT must take adult basic education classes before entering the college as students. To address this issue, faculty at DCC sought out funding to create short “bridge courses” between semesters to provide extra assistance to prospective students scoring at the adult basic level on the VPT, and have found success in preparing students to score well enough on the VPT the second time to become eligible for developmental education courses.

Conclusions

The site visit to DCC allowed researchers to look at the implementation of the VPT through the lens of a mid-sized campus with students looking primarily for workplace skills, as opposed to those seeking to transfer to four-year institutions. The college has implemented the assessment and aligned curricular reforms across both subjects and all classes. While the assessment and curricular reforms in math seem to be bearing fruit in terms of improvements in placement accuracy and completion, the story in English is still developing and more questions remain. Further, instructional challenges for faculty and students in content coverage along with concerns around student access since the creation of the “floor” have meant that the college has needed to adapt to the new policies and practices they face. Additional support from the system office moving forward may be helpful as challenges continue in the implementation of the reform.

Developmental Education and Diagnostic Assessment Reform Community College Case Study: Northern Virginia Community College (NOVA)

The following profile has been developed to outline the local context and implementation of developmental education and diagnostic assessment reform at Northern Virginia Community College. The profile was verified by the point of contact at the college; data included in the profile offers a stand-alone summary and will be used for cross-site analyses. The profile addresses six areas: 1) local and community college context, 2) overview of the research, 3) integration of placement and diagnostic assessment, 4) diagnostic assessment data use, 5) perceptions of the effectiveness of the assessment system and developmental education program, and 6) challenges to implementation. The following research questions guided the site visits at the community college:

- How do external calls for assessment and curricular alignment (*e.g.*, state postsecondary readiness standards) affect institutional offerings?
- What is the role of additional training and support—from states, coordinating boards, K-12, workforce partners, and other stakeholders—provided to institutions?
- How tightly coupled are institutional programs and diagnostic assessments? In what ways do institutions incorporate diagnostic assessment data in student-level data systems?
- Do implementation challenges differ when state-developed diagnostic tests are used versus those purchased from national vendors? Along what dimensions, and why?
- What are the perspectives of administration, faculty, and students concerning the effectiveness of diagnostic assessment systems? What factors do institution stakeholders cite as barriers to successful implementation?

Virginia State Context

The Developmental Education Task Force (DETF) was convened in 2008 to review the system's developmental education policies and increase student progress through their courses towards graduation; the initiative was supported by involvement in the *Developmental Education Initiative*. The DETF provided recommendations in the report *The Turning Point: Developmental Education in Virginia's Community Colleges* the following year. In 2010, the Developmental Mathematics Redesign Team (DMRT) released recommendations for developmental mathematics courses across the Virginia Community College System (VCCS), proposing that the content of developmental mathematics curriculum be revised with different pathways contingent on a student's program of study, that content be organized into nine pre-college units of study, and that the VCCS develop new placement and diagnostic instruments. The Developmental English Redesign Team (DERT) proposed that developmental English be restructured as an integrated reading and writing system, with three direct pathways to credit-bearing English determined by a student's placement test score and performance against specific learning outcomes.

I. Local and Community College Context

Local Context

Northern Virginia Community College (NOVA) serves the far Northeast region of Virginia that borders Washington D.C. Among a population of 2.3 million people, 91.3 percent have graduated high school while over 50 percent hold a 4-year degree. The population in the region is primarily white (68.8 percent) while the other three minority groups range from 12.5 to 16.5 percent of the population. Economically, the region has a high average household income of \$96,272, which exceeds the state average of \$63,302 (see Table 1).

Table 1: Aggregate Population & Demographics served at NOVA Campuses

POPULATION	
Total Population	2,309,342
Percentage of Population with High School Diploma	91.3%
Percentage of Population with Four-Year Degree	54.8%
Average Household Income	\$96,272
DEMOGRAPHICS	
Percentage White	68.1%
Percentage African American	12.4%
Percentage Hispanic	16.5%
Percentage Asian	13.9%

Source: U.S Census Bureau *State & County Quick Facts* at http://quickfacts.census.gov/qfd/maps/virginia_map.html

Community College Context

Founded in 1964, NOVA has grown to be the largest educational institutional in Virginia and the second largest in the United States.¹² The college includes a total of six campuses and four educational centers that stretch throughout Northeast Virginia. Within those campuses, students have access to 77 two-year degree programs and 76 certificate programs (15 Certificate and 61 Career Studies Certificate).

Table 2, below, shows NOVA's enrollment data and the academic programs offered. The 35,601 full-time students are less than half the total student body of 76,552 students. Within the population, 47.6 percent of the student body is white, while 34.6 percent are minority non-African American. Additionally, nearly 50% of full-time beginning students receive financial aid.

¹² About NOVA: <https://www.nvcc.edu/about-nova/index.html>

Table 2: Student Characteristics and Academic Programs

STUDENT CHARACTERISTICS	
Unduplicated Headcount	76,552
Total Full-Time Equivalent (FTE) Enrollment	35,601
Percentage White Students	47.6%
Percentage African-American Students	17.8%
Percentage Other Minority	34.6%
Full-Time Beginning Undergraduates Receiving Financial Aid	47%
ACADEMIC PROGRAMS	
Number of Bachelor's Degree Programs (and Graduates)	0
Number of Associate Degree Programs (and Graduates)	77 (5452)
Number of Certificate Programs (and Graduates)	76 (2524)
Number of Diploma Programs (and Graduates)	0

Sources: NOVA - Facts about NOVA; Virginia Community Colleges: Institutional Research Information and National Center for Education Statistics at <http://nces.ed.gov/collegenavigator/?id=232946#finaid>

NOVA has several partnerships focusing on workforce development, SySTEMic Solutions, (STEM) and NoVaHealthyFORCE (health workers).¹³ The college has also partnered with Achieving the Dream (ATD) since 2007. Through their work with ATD, NOVA has improved retention rates through new student orientation, advising, and registration programs. In addition to improving a “student’s entering experience,” ATD has also helped with redesigning the developmental math curriculum with support from the National Center for Academic Transformation.¹⁴

II. Overview of the Research

Research for Action (RFA) conducted a field work visit at the NOVA Manassas Campus in the spring semester of 2013 to explore the implementation and impact of the Virginia Placement Test on developmental education instruction and completion. Through a mix of interviews with developmental education faculty in math and English, college administrators, and focus groups with current NOVA students at the Manassas Campus, we were able to explore the successes and challenges faced by the college as it implements the VPT and newly designed developmental courses.

Table 3 below breaks down the number of interviews and focus groups that informed the analysis highlighted throughout this report.

Table 3: Research Conducted

DATA SOURCES	
Interviews with Administrators	1
Interviews with Developmental Education Math Faculty	2
Interviews with Developmental Education English Faculty	4
Developmental Education Student Focus Groups	2

¹³ NOVA Partnerships: <https://www.nvcc.edu/about-nova/partnerships/index.html>

¹⁴ Achieving the Dream: Northern Virginia Community College
http://www.achievingthedream.org/college_profile/northern_virginia_community_college

III. Integration of Placement and Diagnostic Assessment at the Community College

NOVA only administers the Virginia Placement Test (VPT) in math and English, as required by the Virginia Community College System (see Table 4). At NOVA, the VPT replaced COMPASS. Our findings regarding the integration of the reform at NOVA are outlined below:






Key for Table 4 through Table 6	
 YES	 NO

Table 4: Level of Diagnostic Assessment Integration within the Community College

STATE-DEVELOPED ASSESSMENT (VPT)	
Administered in Math?	
Administered in English?	
Fully Implemented with All Students?	

Integration across Subjects and Students: The VPT is required across the VCCS system and so is implemented with all native English-speaking students as they enter the college to place them in both math and English.

Impact on College Policy and Practice:

- **English:** Two changes were identified regarding curricular practice in developmental English: 1) the reduction of the number of credit hours, especially at ENF2 (four credits) as a result of the integration of reading and writing courses and 2) elimination of the placement mechanism for the English Honors course.
 - 1) Many faculty mentioned ENF2 as the biggest challenge because they have to cover reading and writing all in a shortened period of time. One English faculty member explained that she has less time to help her ENF2 students individually:

With the ENF 2, I have less time to spend individually hands on with my students. For some students, that's okay, and for others, that personal contact that they have with that faculty member is so valuable to motivating them and helping them understand the value of what they're learning and to develop as a student. So that's been a big change.

The redesign condensed a five to 10 credit class (some students would take five credit reading and five credit writing and some would take only one) to a four credit class that combines both reading and writing.

- 2) Students were placed in the Honors English class based on their COMPASS scores. Since the COMPASS test has been replaced by the VPT, there is no placement mechanism for Honors English placement. NOVA faculty members are considering placing students who scored high in ENG111 in Honors.

- **Math:** Due to the size of the college, NOVA implemented the math modular approach in an MTT4 format, meaning that four different modules may be covered in one semester.

Impact on Instruction: English faculty expressed concerns about the lack of diagnostic information on VPT and the impact it has on instructional practice. One English faculty member explained that the community college system office “sold” McCann and the VPT to the faculty by explaining that it would provide great diagnostic information. However, this was not the case:

The Chancellor, when he announced that they were going with McCann and Associates said that one of the great things about this new test was it was going to give us...a good way to see exactly where the students’ strengths and weaknesses were. In other words, we were promised good diagnostics. We did not get good diagnostics. If you’ve looked at the test, if you see what is printed out, it’s a general rubric.

Faculty stated that they want the students’ strengths and weaknesses “broken down as much as possible,” and a copy of the essay so they can see how the student writes.

IV. Assessment Data Use

The VPT was designed as both a placement and diagnostic assessment system to determine whether students are eligible for credit-bearing courses and if not, at what level of developmental education they should be placed. Our findings regarding the use of the assessment data follow:

Table 5: Use of Assessment Data

STATE-DEVELOPED ASSESSMENT (VPT)	MATH	ENGLISH
Are the test results included in the college student data system?	Y	Y
Is the test providing data that can be used to identify individual student learning needs?	Y	N
Are the test data linked to other student records?	N	N
Are the data being used outside of student placement and diagnostic decisions in developmental education?	N	N

Inclusion in the Student Data System: Testing information is automatically uploaded to the colleges’ student record system, but faculty only see placement results. The reporting system for the VPT in English provides students with a printout of their English score and their essay score. The English score is presented as a simple score of a student’s multiple choice answers, and the essay score is broken down into five components outlining a student’s strengths and weaknesses. However, when it is loaded in PeopleSoft, the scores are combined and reported only as placement decisions: “below the floor”, “ENF1”, “ENF2”, “ENF3”, and “on-level.” In math, the VPT reports which of the nine skill-based modules students are required to complete and the placement directly corresponds to the modules.

Identification of Individual Student Learning Needs: Faculty stated that if they want to see individual students’ reports, they would request that from the testing center as it is not available through their student record system. The VPT in English does not provide diagnostic information for the identification of student academic needs. Although the VPT in math provides some diagnostic information, math professors are hesitant to trust that information as the scoring system is not

transparent. Faculty and staff don't know the score ranges or the cut scores that are used to place students into courses. The determination of cut scores, in one professor's words, "was a huge mystery."

Linkage to other Student Data: VPT data is not linked to other student data records and so cannot be used for larger analyses with other student information.

Data use Outside of Developmental Education: At this point, the VPT is only used to place students. While in the past, placement test results were used for advising students, these data do not lend themselves to that process, particularly in English because faculty and counselors don't receive any diagnostic information on the student.

V. Effectiveness of the Assessment System and Developmental Education Program

Faculty, student and administrative perspectives on the effectiveness of the VPT assessment system and curricular redesign are summarized below. As shown in Table 6, faculty and administrators were mixed as to the effectiveness of the VPT and aligned curricular redesign.

Table 6: Respondent Perceptions of the Effectiveness of Assessments and Curriculum Redesign

STATE-DEVELOPED ASSESSMENT (VPT)	MATH	ENGLISH
Is the test placing students more accurately in the developmental education sequence?	N	N
Is the curriculum redesign allowing students to complete the developmental education sequence more quickly?	Y	Mixed

Student Placement: Overall, math and English faculty as well as the administrators indicated that "a disproportionately high percentage of students are placing into college level courses." Further, math and English faculty members often stated that they'd like to return to the COMPASS, not because it was a better test but because they had local control over the placement of students.

- **Math:** One math faculty member explained that their teaching practice changed because students are misplaced. Particularly for students who place in the upper levels, math faculty explained that students appear to not have the necessary math foundation. For example, a faculty member explained that in his Pre-Calculus class, he was shocked at how little students knew:

"I went back and looked up every single student to ensure that they did actually take the placement test. And they did, either they passed the placement test, or they took a placement test and went to MTT and came out of the MTT. And it's just letting students in that can't do the most basic things."

- **English:** A large number of students are placing into credit-bearing English despite the common belief among faculty interviewed that the VPT is a more difficult test than COMPASS:

"The thing that was really shocking about the test, after we took it we were like, oh my goodness, this is difficult, the students aren't going to be able to pass, we're going to have so many students in developmental English. But then when the students started taking the test, everybody was getting into ENG 111 after taking the test."

Similarly, an English faculty member stated that, “I look at the ENF2 entry-level competencies; I have to teach most of those, because the students aren’t bringing that knowledge.” Another faculty member added that the VPT has “impacted my teaching because you think you’re going to come in one way and do something, but in reality you have to bring it down a few notches to get to where they need to be. They need the basic, basic, basics.”

Developmental Course Completion: The redesign reduced the time it takes students to enroll in credit bearing courses in both math and English (provided, of course, that the students pass these developmental courses in a timely fashion.) The English redesign combined both reading and writing courses into three placement levels, ENF1, ENF2, and ENF3. ENF1 is offered as eight credits, ENF2 is four credits, and ENF3 is two credits but taken in conjunction with the introductory credit-bearing English course which is three credits. However, concerns over placement accuracy and the recent implementation of the redesign led to mixed responses as to whether students will be able to complete developmental English more quickly. The math redesign eliminated core content and pre-requisites, and established different exit points. Whereas STEM majors have to pass out of all nine modules, liberal arts majors only need up to module 5 and applied majors only need modules 1 through 3.

Supports to Increase Effectiveness

- The VCCS has provided limited support in terms of VPT implementation. The VPT is mandated by the VCCS as the placement test for all Virginia community colleges. Despite this, administrators and faculty report that they were not provided with sufficient information to read and utilize the results; some claim they were provided with “nothing from the state as far as the diagnostic test is concerned.” The testing center is in communication with a state liaison for technical issues or other concerns, but there was no faculty mention of direct state contact.
- The NOVA administration has created a system of supports on each campus. One English and one math faculty member is designated on each campus as the Campus Implementation Leads (CILs) and acts as a resource for other faculty members. Professional development is planned by the CILs to address faculty issues and concerns. Multiple English developmental faculty members also reported that they served on the Developmental English Redesign Advisory Committee at NOVA. This committee also includes deans, vice presidents, ESL faculty, and credit English faculty.

VI. Challenges to Implementation

With the implementation of any new reform, challenges and unintended consequences exist. Faculty members and administrators identified a number of barriers in using the assessment. Our findings related to these issues follow:

There is widespread dissatisfaction at NOVA with the VPT as compared to the COMPASS placement test. Comments from faculty and administrators ranged from “I’d like to see the VPT scrapped or significantly changed” to “I think the VPT could be better if it had more work. The COMPASS was a better test, but only because we had more control over it, we could make it fit our needs better.” Math faculty members felt that the diagnostic element of the VPT is not yet fully realized and that the test questions can be adjusted to better diagnose student needs’ and place them in the correct modules or courses.

The VPT removed any local control over the placement of students due to the lack of test scores. An English faculty member expressed this concern by stating that, “I think we had a good system in place in looking at multiple measures and looking at other factors, to try to move students into credit classes when they were ready.” While the VPT was advertised as a customized assessment, it resulted in less customization and flexibility at the local level. Another faculty member stated:

COMPASS is more effective because it gave me scores; it gave me a range...so I would say COMPASS helped us to know which areas [students] were weak in, because it gave a score. With the VPT it doesn't tell us anything except [placement]. No more moving. Now, once they're placed they're stuck.

The increased length of time to take the practice VPT as well as the test itself has made the administration less efficient. Personnel at NOVA stated that the VPT is less efficient than the former placement system because it takes longer to administer. As one interviewee stated “It’s also been challenging because the math test can be really long... upwards of four to five hours.” Students also complained about the length of the VPT online practice materials. “The problem is it gives you all the material from the equivalency of the starting point all the way up to the highest point you could take. You never really knew what you should be studying.” Similarly, an English faculty member related that a long process is involved in gaining access to the online practice materials and ended by saying “if I were a student I don’t know if I would go through all this rigmarole to do that.”

The quality of the VPT itself was sharply criticized. Most of the interview respondents took parts of the VPT and cited a number of problems, including typos, poorly written items, ambiguous answers, formatting problems, archaic language and outdated reading passages. In addition, system glitches were identified. An administrator explained that “our testing centers are constantly adjusting the instructions they give to students so they can add things like, don’t hit the tab key because the system won’t read it and thinks you’re writing in a foreign language and won’t score your essay.”

Conclusions

The individuals interviewed at NOVA were sharply critical of the VPT in both English and math. The English faculty members were particularly troubled by the lack of diagnostic information in the assessment and by the curriculum redesign. Math faculty members were less concerned by the new curricula but shared their colleagues’ misgivings about the VPT. However, all had serious reservations about the changes, believing that the new system is less effective and efficient than the former system. Although most acknowledge that the changes are still very new and thus can’t be completely evaluated, they are acutely aware of the problems and concerned that students are being harmed. One faculty member said “I wake up [at night] thinking about these students, and what’s going to happen to them, and the fact that so many of them are not doing well, and they’re not going to be ready to move on.” Whether the new system helps or hinders students and at what scale is a question that remains to be answered.

Developmental Education and Diagnostic Assessment Reform Community College Case Study: Patrick Henry Community College (PHCC)

The following profile has been developed to outline the local context and implementation of developmental education and diagnostic assessment reform at Patrick Henry Community College. The profile was verified by the point of contact at the college; data included in the profile offer a stand-alone summary and will be used for cross-site analyses. The profile addresses six areas: 1) local and community college context, 2) overview of the research, 3) integration of placement and diagnostic assessment, 4) diagnostic assessment data use, 5) perceptions of the effectiveness of the assessment system and developmental education program, and 6) challenges to implementation. The following research questions guided the site visits at the community college:

- How do external calls for assessment and curricular alignment (*e.g.*, state postsecondary readiness standards) affect institutional offerings?
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- How tightly coupled are institutional programs and diagnostic assessments? In what ways do institutions incorporate diagnostic assessment data in student-level data systems?
- Do implementation challenges differ when state-developed diagnostic tests are used versus those purchased from national vendors? Along what dimensions, and why?
- What are the perspectives of administration, faculty, and students concerning the effectiveness of diagnostic assessment systems? What factors do institution stakeholders cite as barriers to successful implementation?

Virginia State Context

The Developmental Education Task Force (DETF) was convened in 2008 to review the system's developmental education policies and increase student progress through their courses towards graduation; the initiative was supported by involvement in the *Developmental Education Initiative*. The DETF provided recommendations in the report *The Turning Point: Developmental Education in Virginia's Community Colleges* the following year. In 2010, the Developmental Mathematics Redesign Team (DMRT) released recommendations for developmental mathematics courses across the Virginia Community College System (VCCS), proposing that the content of the developmental mathematics curriculum be revised, with different pathways contingent on a student's program of study; that content be organized into nine pre-college units of study; and that the VCCS develop new placement and diagnostic instruments. The Developmental English Redesign Team (DERT) proposed that developmental English be restructured as an integrated reading and writing system, with three direct pathways to credit-bearing English determined by a student's placement test score and performance against specific learning outcomes.

I. Local and Community College Context

Local Context

Patrick Henry is located in Martinsville, Virginia, and serves students from Martinsville, Henry County, Patrick County, and the southern portion of Franklin County. Martinsville once used to be considered the sweatshirt capital of the world, with a large agricultural middle class. The city's main industries for many years were large textiles and the furniture industry. Beginning in the mid-to-late 1990s, however, the textile and furniture industries were vacated as manufacturing became economically unsustainable. Currently, Martinsville has approximately a 15% unemployment rate,¹⁵ with about 24% of the population below poverty level.¹⁶ The main employment drivers of the community are medical, service, manufacturing, and social service sectors. Table 1 provides an aggregate overview of the economic conditions and the population of Martinsville, Henry County, Patrick County, and Franklin County.

Table 1: Average Population & Demographics for the City of Martinsville, Henry County, Patrick County, and Franklin County

POPULATION	
Total Population	141,564
Percentage of Population with High School Diploma	77%
Percentage of Population with Four-Year Degree	15%
Average Household Income	\$37,450
DEMOGRAPHICS	
Percentage White	77%
Percentage African American	20%
Percentage Hispanic	3%
Percentage Asian	0.6%

Source: U.S Census Bureau *State & County Quick Facts* at <http://quickfacts.census.gov/>

Community College Context

Patrick Henry Community College is a small two-year institution that serves approximately 3,000 students. It offers 29 associate degree programs, 12 certificate programs, and 38 career studies certificate programs. Serving a variety of community members, Patrick Henry also offers a variety of nontraditional programs such as customized workforce development training and industry-recognized certifications. The college has a long-standing history of developmental reform, as a high percentage of their students go through developmental education.

Patrick Henry Community College was founded in 1962 as a branch of the University of Virginia's School of General Studies, and became part of the Virginia Community College System in 1971. One of Patrick Henry's stated goals includes identifying, meeting, and integrating the needs of the community it serves, as well as meeting the workforce needs of the community. In addition to serving students aspiring to transfer to a four-year institution, Patrick Henry serves those who may be seeking trade-specific certificates or associate degrees. Therefore, they offer "an extensive curriculum of credit and non-credit technology, business, and professional development programs."¹⁷

Table 2: Student Characteristics and Academic Programs

¹⁵ <http://www.bls.gov/ro3/valaus.htm>

¹⁶ <http://quickfacts.census.gov/qfd/states/51/51690.html>

¹⁷ <http://www.ph.vccs.edu/about>

STUDENT CHARACTERISTICS	
Unduplicated Headcount	4,714
Total Full-Time Equivalent (FTE) Enrollment	2,512
Percentage White Students	70%
Percentage African-American Students	25%
Percentage Hispanic Students	2%
Percentage Other Minority	3%
Full-Time Beginning Undergraduates Receiving Financial Aid	87%
ACADEMIC PROGRAMS	
Number of Bachelor's Degree Programs (and Graduates)	0
Number of Associate Degree Programs (and Graduates)	29 (457)
Number of Certificate Programs (and Graduates)	50 (33)
Number of Diploma Programs (and Graduates)	0

Source: VCCS Institutional Research: <http://myfuture.vccs.edu/Research/index.html>

Patrick Henry has a history in community college education reform, particularly with developmental education. Since 2004, Patrick Henry has been part of the Achieving the Dream Network (ATD), a national reform network dedicated to community college student success and completion. Through the ATD grant, the college piloted Cooperative Learning, which focuses on student engagement and critical thinking, and found successes in the form of improved graduation rates.¹⁸ In 2009, Patrick Henry, along with 26 community colleges in the nation, was chosen to receive the Developmental Education Initiative grant, which it has used to implement two different strategies: Fast Track math, which allows students to progress through developmental math courses more quickly; and the Accelerated Learning Program,¹⁹ which allows students who place in the upper level developmental writing course to concurrently register for ENG 111, the on-level English course.²⁰ Accelerating students' progress through developmental education has been the focus of the college since then, and it has in many ways positioned the college well for the math and English developmental education curriculum redesign. Finally, in 2012, Patrick Henry was one of four community colleges nationwide chosen to participate in ATD's Catalyst Fund grant program, to scale their cooperative learning strategies across the institution and to assist other ATD institutions in their efforts at promoting cooperative learning.²¹

¹⁸ <http://www.martinsvillebulletin.com/article.cfm?ID=35581>

¹⁹ <http://alp-deved.org/about-alp/what-is-alp-exactly/>

²⁰ <http://deionline.blogspot.com/2012/05/patrick-henry-community-college.html>

²¹ <http://www.martinsvillebulletin.com/article.cfm?ID=35581>

II. Overview of the Research

Research for Action (RFA) conducted a field work visit in the spring semester of 2013 to explore the implementation and impact of the Virginia Placement Test (VPT) on developmental education instruction and completion. Through a mix of interviews with math and English developmental education faculty and college administrators, and focus groups with current Patrick Henry students, our researchers were able to gain an insight into the successes and challenges faced by the college as they implement the VPT and newly designed remedial courses.

Table 3, below, lists the number of interviews and focus groups that informed the analyses throughout this report.

Table 3: Research Conducted

DATA SOURCES	
Interviews with Administrators	3
Interviews with Developmental Education Math Faculty	3
Interviews with Developmental Education English Faculty	2
Developmental Education Student Focus Groups	3

III. Integration of Placement and Diagnostic Assessment at the Community College

Patrick Henry Community College (PHCC) administers only the VPT in math and English for both placement and diagnostic purposes, as required by the Virginia Community College System (see Table 4). Our findings regarding the integration of the reform at Patrick Henry follow:






Key for Table 4 through Table 6	
 YES	 NO

Table 4: Level of Diagnostic Assessment Integration within the Community College

STATE-DEVELOPED ASSESSMENT (VPT)	
Administered in Math?	
Administered in English?	
Fully Implemented with All Students?	

Integration across Subjects and Students: The VPT is used across both English and math and administered to all students upon entry to the college.

Impact on College Policy and Practice: The VPT and curricular redesign have had considerable impact on the developmental education practices at Patrick Henry. Integrating both reading and writing is a new approach to teaching developmental English. With the redesign, English faculty spoke of being more involved with all aspects of developmental English than they were prior to the reforms, when one faculty member would teach writing and another would teach reading. One faculty member explained that s/he has “to acknowledge the link, which is good, because the link between reading and

writing is so strong that I think it would be better served to teach both, interlocking them.” Moreover, to ensure that each student is ready to progress to the next level, Patrick Henry uses a portfolio system to chart developmental students’ progress so that instructors can see previous student work. In math, faculty reported less flexibility in determining content and pedagogical strategies due to the modularization of math instruction through online tools.

Impact on Instruction: Without the test score data, faculty members are not able to differentiate instruction based on the placement of students in developmental education modules or courses. To compensate for the lack of diagnostic data, faculty in ENF 1 and 2 “give a diagnostic test the first week of class to understand students’ strengths and weaknesses.” The ENF3 instructor was also considering a move to a diagnostic tool: “I previously thought that there was no need for a diagnostic for ENF3 because they’re already in English 111. I’m definitely rethinking that next semester because I still need to know where their strengths and weaknesses are, even though they’re supposed to be almost college-ready.”

IV. Assessment Data Use

The VPT was designed as both a placement and diagnostic assessment system to determine whether students are eligible for credit-bearing courses and, if not, at what level of developmental education they should be placed. Our findings regarding the use of the assessment data follow:

Table 5: Use of Assessment Data

STATE-DEVELOPED ASSESSMENT (VPT)	MATH	ENGLISH
Are the test results included in the college student data system?	Y	Y
Is the test providing data that can be used to identify individual student learning needs?	Y	N
Are the test data linked to other student records?	N	N
Are the data being used outside of student placement and diagnostic decisions in developmental education?	N	N

Inclusion in the Student Data System: Testing information is automatically uploaded to the college’s student record system, PeopleSoft, but English faculty only see placement results of “below the floor,” “ENF1,” “ENF2,” “ENF3,” and “on-level” in English. Students receive a more detailed report of their test results, which include a printout of their multiple-choice English score and a general breakdown of their essay score based on five components outlining strengths and weaknesses. In math, the VPT reports which modules students are required to complete and the placement directly corresponds to the modules.

Identification of Individual Student Learning Needs: The VPT in math provides diagnostic information on student learning needs and is aligned with the math curriculum. This yields a “laser-like focus on students’ needs.” The VPT in English does not yield usable or accessible information related to the diagnostic identification of student learning needs. English faculty members use Pearson’s My Skills Lab Plus to gather diagnostic information that isn’t provided from the VPT. My Skills Lab Plus is used to group students together in such a way that they can help each other and reveal students’ strengths and weaknesses.

Linkage to Other Student Data: VPT data is not linked to other student data records, and so cannot be used for larger analyses involving other student information.

Data Use outside of Developmental Education: At this point, the VPT is only used to place students. While in the past, placement test results were used for advising students, these data do not lend themselves to that process, particularly in English because faculty and counselors don't receive any diagnostic information on students.

V. Effectiveness of the Assessment System and Developmental Education Program

The effectiveness of both the assessment system and the reforms in developmental education instruction, as compared to the systems in place prior to these initiatives, provide the basis for evaluating success (see Table 6). Our discussion of the findings on that score follows:

Table 6: Respondent Perceptions of the Effectiveness of Assessments and Curriculum Redesign

STATE-DEVELOPED ASSESSMENT (VPT)	MATH	ENGLISH
Is the test placing students more accurately in the developmental education sequence?	Y	Mixed
Is the curriculum redesign allowing students to complete the developmental education sequence more quickly?	Mixed	Unknown

Student Placement

- **Math:** The VPT in math is seen generally as a more-accurate placement assessment than the previous COMPASS test, in that it places students into one of nine modules based on content knowledge. Faculty members agreed that “the assessment [VPT] more effectively measures students’ math levels... because it aligns with the curriculum.” However, there remain concerns about why students often test out of modules at higher levels than those they fail; one member of the math faculty explained that module 5 is the most difficult module, and yet it is one of the easiest on the VPT, so many students can easily test out of it while failing module 4.
- **English:** Due to the considerable drop in developmental education student enrollment as a result of VPT, several instructors were skeptical of the placement. Though the ENF 1 and ENF2 English instructors felt that students were accurately placed, this was not the case with ENF3. One English faculty member explained that she has students who should have been placed lower. Another said that students need to be provided with more support than they were in the past:

I think it really has changed the types of students I got...I mean, it shouldn't, because it's still the same class that it used to be, the material that we cover, what we do and everything...but I am having to do more. 'You need to study harder, you need to go to the writing center, you need to bring a pencil...get out your notebook, we're going to take notes now.'

Developmental Course Completion:

- **Math:** The curricular redesign with the implementation of modularization reduced the time it might take students to enroll in credit-bearing courses, but also has resulted in declining passing rates. While STEM majors have to pass out of all 9 modules, liberal arts majors only need to complete up to module 5, and applied majors only need modules 1-3. Students may select whether to enroll in the self-paced “emporium” environment, in which students in multiple modules are in the same classes and work only through the online modules, or in a more traditional class-based environment. Offering both types is unique to Patrick Henry, as some other community colleges offer only “emporium” style classes.

However, math faculty stated that their pass rates declined after the redesign as well, so the developmental math program has shifted practices to compensate in hopes of improving the pass rates. One math faculty member stated:

“We were in good shape before the redesign. We would have sometimes 75-80 percent pass rates in some of our classes, especially what we called fast-track classes, where we would do algebra 1 in 8 weeks, and then algebra 2 in 8 weeks. We were always running over 70% pass rates. And then we were suddenly getting 50-60% pass rates with the new redesign. And so we’re like, don’t mess with us, we were okay! But we think we’re finding reasons why we’re trying to do some different things.”

- **English:** The integration of reading and writing reduced the time it takes for students to reach credit-bearing English courses, but there is not enough data to determine if students will be as well-prepared for credit-level courses as they were before the redesign. Only time will tell whether the VPT and the redesign will yield better success rates in developmental and credit-level English classes. As one instructor put it “we won’t know a whole lot until we’re down the road and we’re seeing how these students do once they get out of developmental classes.”

Supports to Increase Effectiveness: Several faculty members discussed the importance of meeting their peers across the state and discussing developmental education methods and strategies in general, along with the new tests and curricula in particular. In addition, the faculty and administrators at PHCC described excellent professional-personal relationships as a crucial support factor during the creation and implementation of the VPT and the redesign.

VI. Challenges to Implementation

With the implementation of any new reform, challenges and unintended consequences exist. Faculty members and administrators identified a number of barriers to using the assessment. Our findings related to these challenges follow:

There was consensus across all interview respondents that the length of the tests is a problem.

The math and the English tests are taken in two separate sessions and require a minimum of 2 hours per session. Students in the focus group felt that the math and the English tests were both very long and complicated. Faculty and administrators worried that having separate sessions for the two subject areas would prove to be a barrier for students. However, as one interviewee said, “It’s not more efficient, but it may be more effective in understanding their needs and placing them in the right place.”

PHCC staff voiced challenges in advising students due to the inability to see student scores.

An administrator explained that her inability to understand how close a student tests related to the cut score prevents her from advising students appropriately. Similarly, training faculty advisors on what to look at to determine students' needs based on the VPT scores has been difficult. An administrator explained that with the COMPASS test, the College received a certain score which allowed advisors to see how close the student was to the cut score, and could work with the student on figuring out what resources s/he needed to progress into college-level courses.

Patrick Henry discontinued established developmental education tools as a result of the curricular redesign.

A case-management database PHCC used to determine whether a student was a good candidate for fast-track developmental math education or regular courses is no longer used on campus. It asked a series of questions such as whether the student took math labs, how many times they accessed tutoring, and what their COMPASS assessment score was, to assess whether the student would be successful in fast-track math courses. Counselors and faculty used it as an advising tool to refer students to certain courses as well as resources. However, due to the redesign, this tool is no longer used.

The VPT and the redesign have impacted how the college provides for students placed “below the floor.”

For students who can't place into math module 1 or ENF1, they are not able to use their financial aid to take courses adult education courses. It was reported that approximately 75 to 85 percent of the students are on Pell Grants at Patrick Henry, so this policy affects many students' access to the institution. As a result, Patrick Henry decided to combine adult basic education courses with other coursework (e.g., include developmental education math skills in a computer class) so that they can receive financial aid. PHCC created a 2-credit course for math called the ITE95, which teaches students basic computer instruction and whole numbers; and a 2-credit course for English called the English 95, which prepares students for ENF1. This way, students can receive their financial aid money and take courses at Patrick Henry as opposed to having to take Adult Basic Education courses at the Juvenile Detention Center. When describing this policy, an administrator stated:

We are no longer an open-door institution; the VCCS is no longer an open-door system, because they created a floor. We have changed the mission; modified what a community college is. We have always said we'll take you regardless. Now we are, locally, still taking students regardless, because we got creative, but there are colleges in the state saying we can't serve you; you're below the floor. . . there is a strong belief that if you're way down [below] this floor, are you really going to get them out the door? Especially now that with Pell Grant for 12 semesters...are you ever really going to get them through? My thinking is if we don't get them out the door, who will?

Conclusions

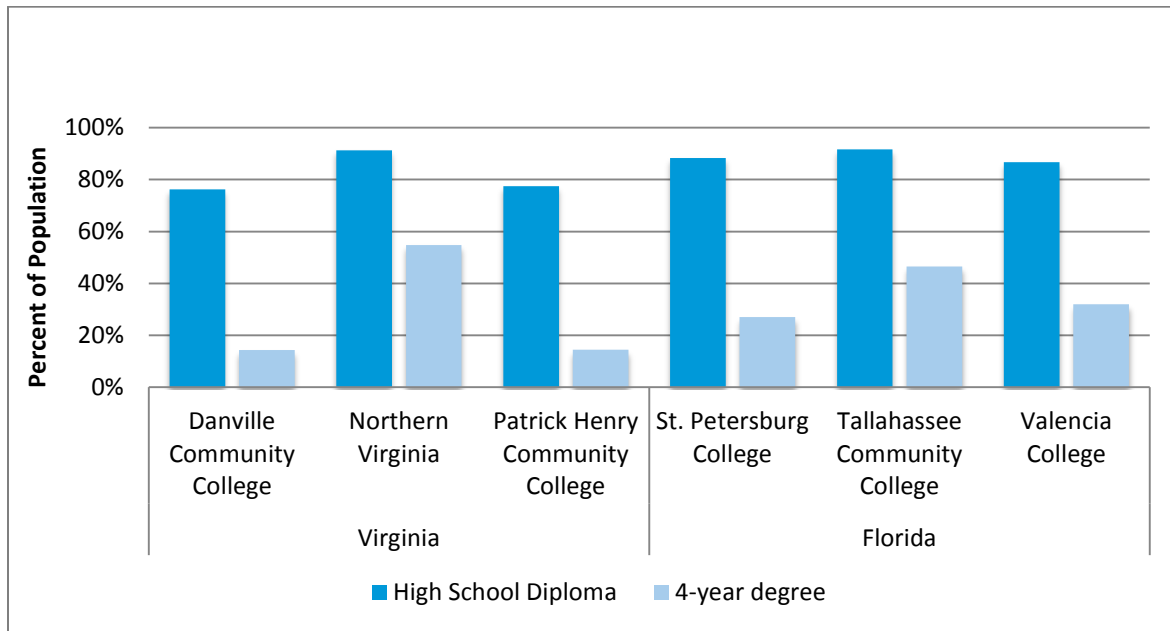
The VPT in Math and English and the respective curricular redesigns carry benefits and constraints for students, faculty members, and administrators at PHCC. The benefit of a uniform state-wide placement test and course structure is countered by the constraints placed on PHCC faculty and administrators' ability to customize placement for individual students. The benefit of more accurate placement in math is counterbalanced by the reduced efficiency of the testing sessions and lower pass rates since the redesign. Whether the benefits of the VPT and redesign will outweigh the constraints at PHCC, a college that had excellent success rates before these changes, is a question that will be determined over time through the examination of student outcomes in credit-level math and English.

Appendix B. Local and Community College Characteristics

Local Context

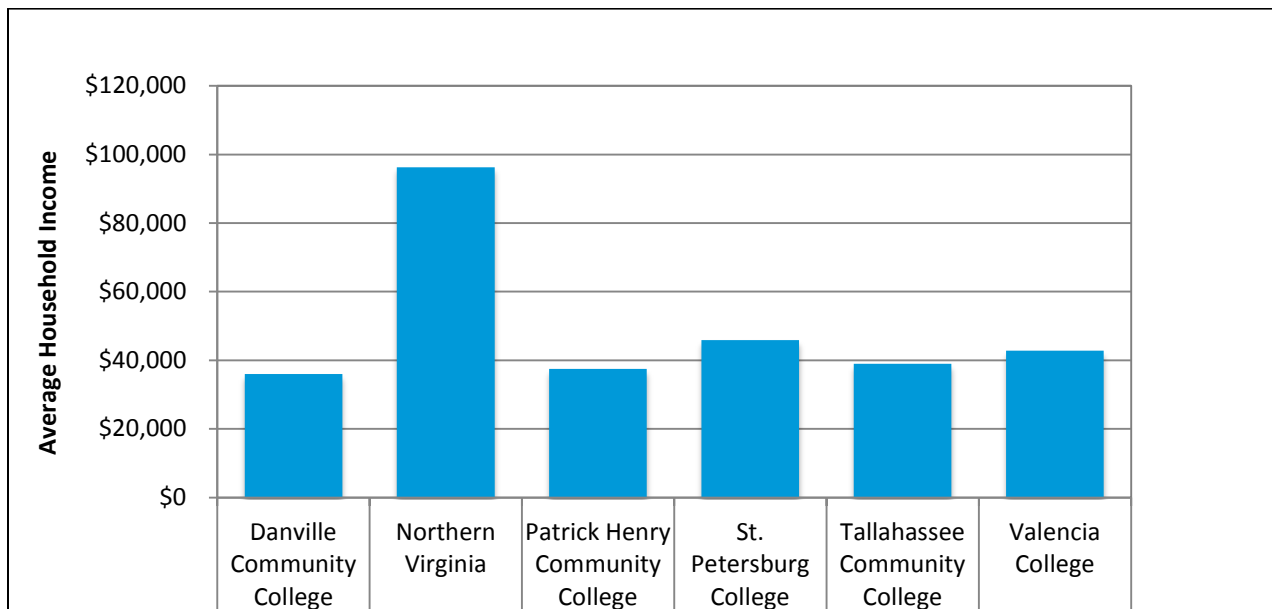
Less than 15 percent of the individuals occupying the areas served by Danville Community College (14.3 percent) and Patrick Henry Community College (14.4 percent) have a four-year degree, which is the lowest out of the six colleges in our study. Northern Virginia has the highest percent of four-year degree attainment (55 percent). All three of the study colleges in Florida have rates greater than 25 percent with Tallahassee having the highest rate (46.5 percent). See Figure 1B.

Figure 1B: Percent of Population with a High School Diploma for Four-Year Degree



The area around Northern Virginia, which borders Washington D.C., boasts the highest average household income. Of the five remaining schools, the average income ranges from \$35,971 (Danville Community College) to \$45,891 (St. Petersburg College). See Figure 2B.

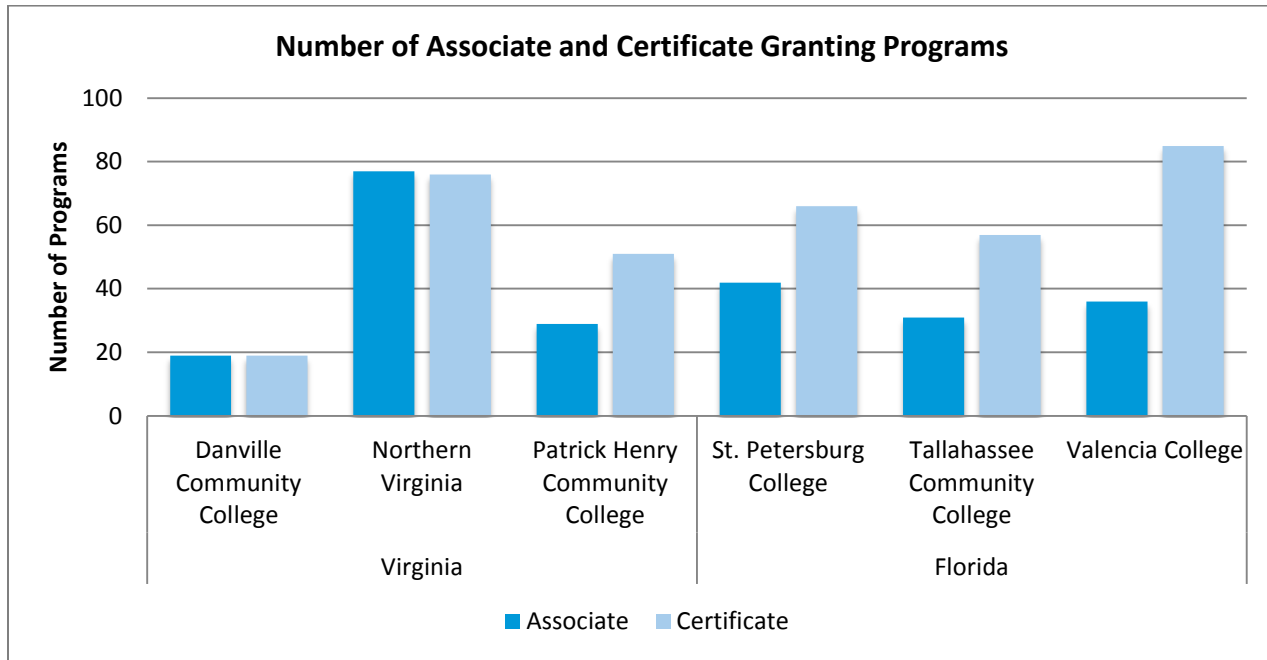
Figure 2B: Average Household Income



School Context

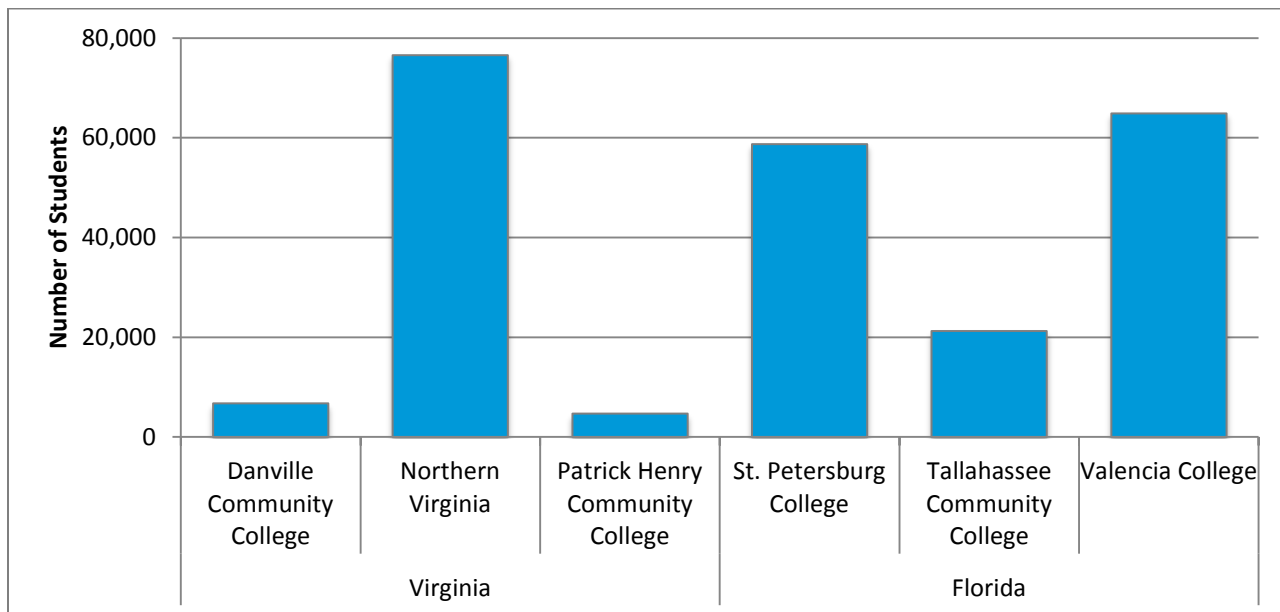
All six colleges have a mix of certificate and associate degree offerings. Northern Virginia has the greatest number of overall programs and associate programs. Valencia College, in Florida, provides students with the largest number of certificate program choices. See Figure 3B.

Figure 3B: Number of Associate and Certificate Granting Programs



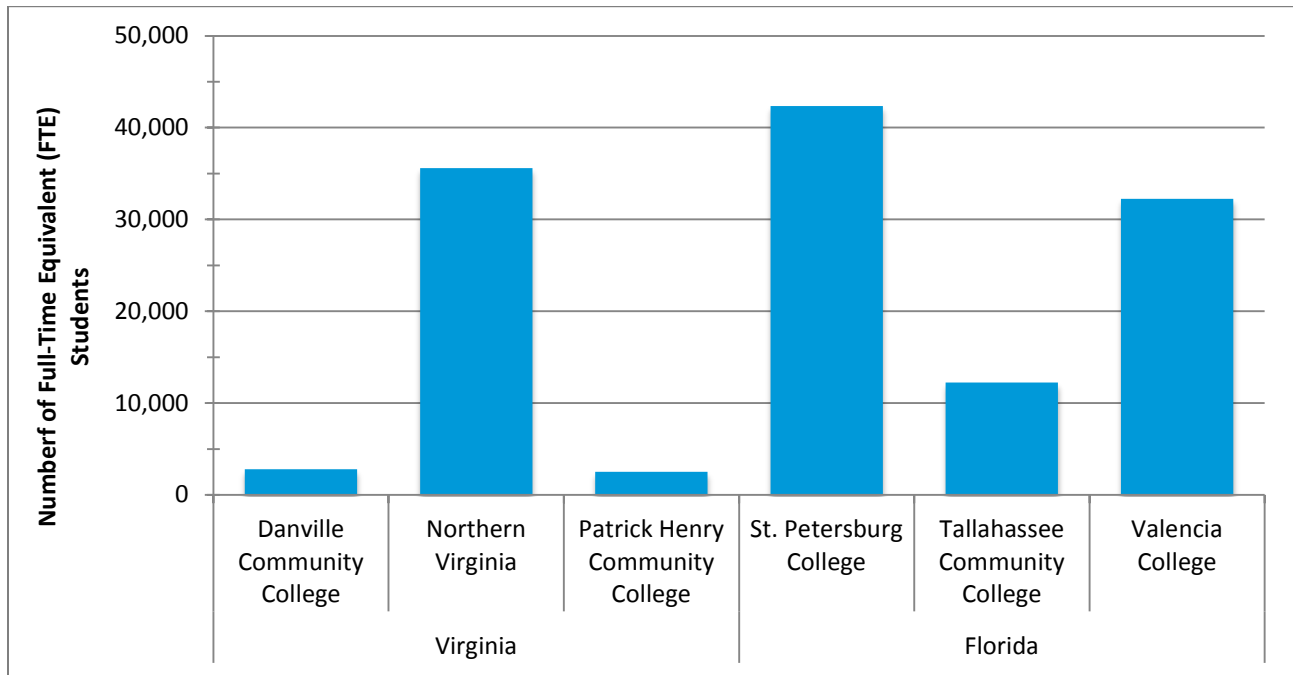
Following similar trends as the program offering chart, Danville and Patrick Henry community colleges have the smallest student bodies, 6,493 and 4,714 students, respectively. Northern Virginia has the highest unduplicated headcount of 76,552 followed by Valencia College, 64,912. See Figure 4B.

Figure 4B: Unduplicated Headcount



As for full-time equivalent students, while Northern Virginia has the largest unduplicated headcount, St. Petersburg College is comprised mostly of FTE students, 42,342. Around 50 percent of Northern Virginia, Valencia College and Patrick Henry Community College's headcount is attributed to FTE students. See Figure 5B.

Figure 5B: Full-Time Equivalent (FTE) Enrollment



For all six colleges Caucasian students comprise the largest percent of the student body ranging from 36 percent to 70 percent of the student population. African Americans are the second largest student group in five colleges while Hispanic students comprise the second highest percent for Valencia College. See Figure 6B.

Figure 6B: Student Body Demographics: Percent of Total Enrollment

