Innovative Developmental Education Programs: A Texas Model

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ABSTRACT: *This article provides insights from a 2-year, cross-site evaluation of state funded developmental education sites and serves as a focus article for response by those sites. Receiving grants from the Texas Higher Education Coordinating Board (THECB), nine sites (5 community colleges and 4 universities) implemented innovative developmental education programs in Texas. The Public Policy Research Institute at Texas A&M University was charged with evaluating the nine sites. A cross-site program evaluation collected quantitative data from the sites to determine success rates for students enrolled in their programs. Qualitative methods were used primarily to interpret the quality indicators present across sites. Data in the form of interviews, focus groups, and self-reports were applied. The successes and challenges were organized into four thematic categories: Curriculum Design and Instructional Strategies, Faculty and Staff Supports, Structures Supporting Learning, and Policy Issues. Findings show that accelerated approaches via redesigned curriculum for shortened, completely or partially self-paced, corequisite, and blended courses helped accelerate student completion or transition to credit bearing courses for the motivated students. Alternative instructional strategies provided a high level of interaction between students and instructors and on-line, on-demand tutoring at the sites. Focused professional development for the DE instructors and administrators was found to be useful in learning to deal with specific student problems.*

This article frames the issues facing developmental education (DE) in Texas where it has been placed front and center with extensive state-level grant funding and program development. In this study, we assessed DE components through a 2-year cross-site evaluation of Texas institutions of higher education that participated in a state funded DE program built on existing, best-practices research. The funding has resulted in a combined effort at four universities and five community colleges impacting more than 4,000 students. The intent is to bring the identified scalable components to the entire state as a model and offer a state model nationally. Funded sites that participated in the cross-site evaluation reported here were asked to respond and to provide specific context to the broad findings.

The term "developmental education" refers to a field of practice and research within higher education with a theoretical foundation in developmental psychology and learning theory. It promotes the cognitive and affective growth of all postsecondary learners at all levels of the learning continuum (Arendale et al., 2007). Developmental education (DE) in Texas is primarily composed of incremental courses designed to bring underprepared students to the level of skill competency expected of entering college freshmen; DE is an increasingly important and utilized component of higher education in the United States (Boylan, Bonham, & Rodriquez, 2000; Calcagno & Long, 2008; Kozeracki & Brooks, 2006). Although some extant research on the effectiveness of DE programs has found that they help students to persist and succeed in DE and credit-bearing courses (Boylan, 2002; Brothen & Wambach, 2004; Grubb et al., 2011), other research has found that DE coursework itself can be a significant barrier or that the impact of DE courses or supports is short-term and does not translate into success in credit-bearing courses (Deil-Amen & Rosenbaum, 2002; Levin & Calcagno, 2008; Rosenbaum, Stephan, & Rosenbaum, 2010).

A common finding in the literature is that DE programs are hard to assess due to, among other things, differences in program components and implementation, a lack of comprehensive evaluation, and data limitations (Boylan, Bonham, & Tafari, 2005; Calcagno & Long, 2008). Thus, our goal is to help fill a gap in the literature by describing which components were considered to be most successful for helping students with developmental needs and DE faculty development across various higher education contexts. This cross-site study also contextualizes the rest of the articles in this special edition of the *Journal of Developmental Education* because they all originate from Texas higher education institutions implementing DE programs.

Developmental Education Interventions

For many years, institutions have supplanted the "remediation-only" DE approach with an assortment of student supports, Supplemental Instruction, and course innovations. The goal of these various components was to improve upon student success rates via diverse services and programs as compared to remediation that was designed and focused on gaps in student learning for prerequisite mastery. Therefore, the move to a components driven DE program was to build student skills and connections that increase the chances of moving students to credit-bearing courses and eventual degree completion (Brothen & Wambach, 2004; Levin & Calcagno, 2008; Tinto, 2003). Koski and Levin (1998) developed a conceptual framework of interventions that scaffold students with developmental needs into becoming successful in DE and credit-bearing courses. These concepts include improving instruction and instructional supports, fostering student connectedness through an array of personal and interpersonal supports, and skill building.

Several factors have influenced DE student outcomes. Students with developmental needs have been shown to benefit from student and instructor learning communities (Tinto, 2003) as well as interventions that enhance communication among students, instructors, and advisors (Boylan, Bliss, & Bonham, 1997). Conflicting evidence has been presented about the quality of instruction, support services, and student outcomes when DE programs were centralized at institutions versus when they were delivered in academic departments (Perin, 2002), thus showing the necessity for internal, ongoing program evaluation (Boylan, 2002).

Developmental Education and the Texas Higher Education Coordinating Board

Improving the academic preparedness of students enrolling in public institutions of higher education is one of the greatest challenges facing higher education in Texas and throughout the nation (Collins, 2010). Currently, about 41% of students who enroll in higher education in Texas require developmental education courses (THECB, 2012). A large gap in persistence and degree attainment exists between students who begin higher education without college-ready skills in reading, writing, and mathematics and those who have the requisite college-ready skills (Feldman & Zimbler, 2012; Parker, Bustillos, & Behringer, 2010). To address the attainment gap issue, Texas' efforts have been guided by the "Closing the Gaps by 2015" plan launched in 2000 (THECB, 2000).

In Texas, most public institutions have offered DE courses to improve academic deficiencies (Bailey, 2009; Illich, Hagan, & McCallister, 2004). The Texas Legislature adopted the Texas Success Initiative that (a) gave higher education institutions more flexibility in determining college readiness and (b) removed barriers for underprepared students (THECB, 2014). It also designated responsibility statewide to the Texas Higher Education Coordinating Board (THECB) for collecting and summarizing DE plans.

In 2009, THECB developed the first statewide DE plan with identifiable goals using research-based best practices to improve the success of students with developmental needs. In 2011, the 82nd Texas Legislature recognized the need for continual improvement of DE delivery. It introduced key legislation, including House Bill (HB) 1244 which passed with the intention of formulating a standard of assessment that would effectively measure student readiness for freshman-level college course work. In addition, Rider 34 provided funding for nonsemester length DE, and Rider 52 appropriated revenue to implement and support demonstration

> *The goal of these DEDPs was to develop a comprehensive model of DE with tangible, stated outcomes.*

projects aimed at improving DE at Texas public community and technical colleges. Additionally, Rider 52 directed the THECB to study the issue of DE focusing on researching best practices to implement statewide (as cited in THECB, 2014).

In recent years, THECB has used these funds for various DE initiatives including research and evaluation efforts to help Texas public institutions of higher education provide more effective programs and services to underprepared students. The goal of these Developmental Education Demonstration Projects (DEDPs) was to develop a comprehensive model of DE with tangible, stated outcomes such as increased completion rates and improved student completion of developmental course sequences. The guidance provided by THECB for DEDP program components was based on the research-based, best practices literature. As a result, an evaluation of these programs provided an important opportunity to assess the success of various DE elements. Two common components across DEDPs were accelerated mathematics interventions and designing and implementing targeted advising services. In addition to these components, each DEDP site could choose to implement a vast array of student supports, professional development activities for instructors (Stearns, Morgan, Capraro, & Capraro, 2012), collaborative learning models, counseling

and advising services, and other strategic instructional and curricular approaches.

Methods

An evaluation design utilizing extant data and qualitative interviews gathered by a trained team was used to identify themes across sites. The data were aggregated across constituent groups (instructors, counselors, students, and administrators) about the relative successes and challenges of various DE program components across sites (Creswell, 2008, 2012; Guba & Lincoln, 1994). For this evaluation all DEDP components were considered in determining the success toward improving DE outcomes and student successes across various contexts. The DEDP program was funded for 2 years, starting in 2010, at five public community/technical colleges (Alamo Colleges, El Paso Community College, Lonestar Colleges, San Jacinto College, Tarrant County College District) and four public universities (University of Texas at Austin, Texas State University, Texas A&M University-Commerce, University of Texas-Pan American).

Participants and Context

These nine universities and community colleges had a high rate of DE participation. Characteristics of these DEDPs and the types of students who participated in them helps to give context to the study findings. Participants included faculty who taught developmental education courses, advisors of students with developmental needs, counselors, administrators, developmental education students, and internal DEDP program evaluators. In total, there were 306 community college (120 students; 186 staff/faculty) and 89 university (50 students; 48 staff/faculty) participants in the study.

Although not all students with developmental needs at these institutions participated in the DEDP funded program, on average, community colleges had about 3,594 students in the program (range: 167-8,315) and university sites had an average of 312 students in the program (range: 55-754). About 64% of students in the DEDP at community colleges were nonwhite (range: 55%-70%), whereas universities had a higher rate of nonwhite student participation in these programs (73%; range: 57%-92%). The percent of students enrolled in the DEDP who passed their DE courses during this study was lower for community colleges (62% passed) than universities (73% passed). Also, the percent of students who withdrew from at least one DE course during the study was higher at community colleges (11%) than universities (5%).

Ultimately success of college students is defined as graduating from either a two-year or a four-year program. However, increasing the numbers of students completing the DE classes with acceptable grades for being eligible for college credit bearing

courses and increasing the numbers who successfully complete credit bearing courses after DE are also used as indicators of success. These indicators are used due to the limited time-frame of the study and the inability to track students across time and institutions. They also reflect a necessary step towards completion of a degree and therefore are relevant to the ultimate measure of success. Besides, we need to keep in mind that earning a degree is not the only reward for a student attending college. Students who can deal with math, reading, and writing at a basic skills level required for college will be better off in jobs than those who fail to do so.

Data Collection

Quantitative data were collected from the sites regarding success (improvement) rates for students enrolled in their programs. Qualitative research was used to gather the experiences and perspectives of key individuals (Guba & Lincoln, 1985; Marshall & Rossman, 2010) associated with the programs. Data were collected from interviews, surveys, and classroom observations (not discussed in this manuscript) during a total of 14 site visits in 2011-2012 across the nine sites. Because all interviews followed the same sequence of questions simplifying the analysis by item was straightforward.

Data Reduction, Validation, and Aggregation

The most common method for collecting qualitative data was through interviews, which occurred either in focus group or individual settings. The spoken or written words of the individuals who participated in at least one of the data collection processes became the data for qualitative analyses (Creswell, 2012). The interview protocol instruments used for collecting data are available from the study team. The data submitted for reduction were interviews and surveys from students, faculty, staff, and administrators at the nine institutions.

Data were coded into small "chunks" of words that had meaning for the six research authors in reference to this study. These coded chunks were then combined into categories with like meaning, followed by aggregating categories into themes (cf., Guba & Lincoln, 1985; Miles & Huberman, 1994; Patton, 2002). The themes were recategorized when a higher level of abstraction was warranted. The next step was reconciling/triangulating interview codes with the surveys that occurred across research teams (Creswell, 2012). This process resulted in the identification of four key themes (a) curriculum design and instructional strategies, (b) faculty and staff supports, (c) structures supporting learning and (d) policy issues.

> *Earning a degree is not the only reward for a student attending college.*

Findings: Success and Challenges in DEDP Implementation

Figure 1 displays the success rates for historically underrepresented students at each of the nine DEDP sites. Five of the nine sites claimed a growth in success rates for historically underrepresented students as measured from the year before the DEDP program began to year 2 of the program. Three of the sites demonstrated decreases in success rates of historically underrepresented students, and one site maintained approximately the same success rate with historically underrepresented students. These results informed the basis for which program components were judged to be successful. In the following sections we will discuss the four themes that arose from the program analysis along with successes and challenges faced at the DEDP sites.
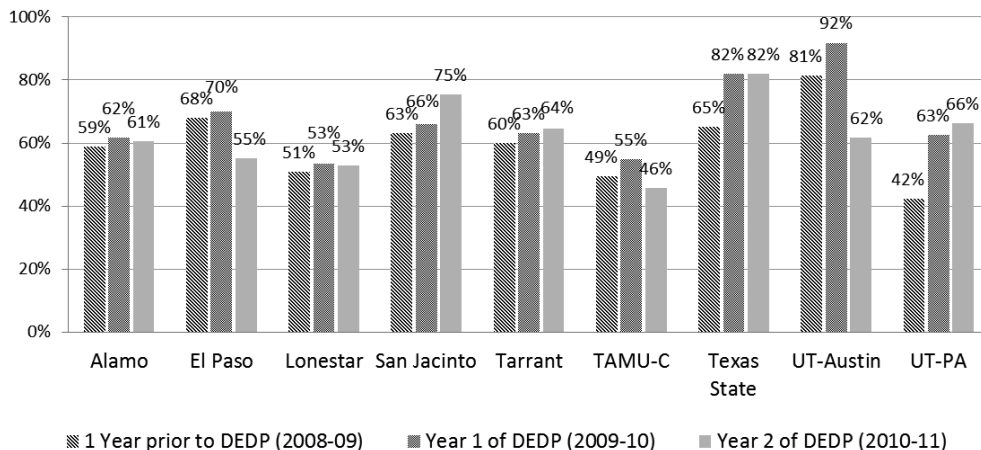
Theme 1: Curriculum Design and Instructional Strategies

Theme 1 is comprised of two components that explicate the findings for the cross-site analysis: acceleration and alternative instructional strategies.

Accelerating student progression. Acceleration is an increasingly popular strategy for students who are underprepared (Edgecombe, 2011). It is defined in the NADE glossary as a process by which "college students with academic weaknesses … simultaneously receive academic enrichment and support as they are enrolled in college-level courses and keep pace with other students towards degree completion" (Arendale et al., 2007, p.13). Colleges can provide opportunities such as supplementary assistance for courses, pairing developmental with credit-bearing courses, lab assistance, and alternative faculty practices and strategies (Koski & Levin, 1998). Community colleges, in particular, have been experimenting with strategies for accelerating the progress of students with developmental needs, particularly those students near the threshold of being prepared for credit-bearing coursework (Bailey, 2009). Research has suggested that the more quickly developmental students progress toward credit-bearing classes, the more likely they are to complete college (Bowen, Chingos, & McPherson, 2009).

In keeping with the trend of improving success rates through acceleration, all nine DEDP institutions implemented innovative curriculum approaches that encouraged reduction in course duration such as, 8- and 12-week course options, completely self-paced courses, or blended courses. Specifically, one administrator commented on the self-paced and flexible mathematics courses: "In math, students can take the completely self-paced modularized math as long as they are doing the homework and testing well. They can possibly get though all three developmental sections and we've had a very high success rate with those that have done this."

It is apparent that the accelerated options do not work for students who lack a higher level of commitment and motivation as was noted by one instructor: "Students come in with deficiencies from high school and for whatever reason lack the requisite motivation." Certain instructors reported that some students were not able to handle the self-paced learning process; instructors, "we tried self-paced math and found that those students coming in at the lowest level needed to be put back into regular developmental courses."

Alternative instructional strategies providing learning assistance. Learning assistance has been defined by the NADE glossary as "supportive activities, supplementary to the regular curriculum, that promote the understanding, learning,

Figure 1. **Success rates at DEDP sites across Texas from 2008 to 2011 for historically underrepresented students.**

and recall of new knowledge" (Arendale et al., 2007, p. 22). Students described such alternate instructional strategies: "Two days a week in our algebra section we have all five of our teachers there and they are spread around the room and we can just call their name or walk over there and they'll just help us right off the bat. It's real helpful when you have access like that." Online tutoring was seen as another learning support. A student at one institution explained that "they have a number you can call and get tutoring at any hour; I've used it. I think like 24 hours. There's also a CD and it's helped a lot."

Another alternative learning strategy was placing students in learning communities. Similar to the findings of Tinto (2003), learning communities worked well in the DEDP institutions where they were implemented as an integral component. A variety of approaches were used to build learning communities, and the successful approaches included formally integrating learning communities with one or more courses, including exercises to build student community, and involving a faculty member or sponsor for the student group. For example, students who were enrolled in common DE courses were placed into the same learning community. These students reported being more successful because they remained in the same learning community and were not placed into a new learning community for each DE class. Learning communities were also used to help instructors collaborate and share knowledge about DE pedagogies and strategies. These communities as defined by NADE are a "curricular approach enrolling a common cohort of students in a restructured learning environment that builds connections among students and curriculum" (Arendale et al., 2007, p. 23). One administrator claimed, "The learning community is a way in which students can help one another and progress more rapidly."

Theme 2: Faculty and Staff Supports

Theme 2 is comprised of two components that explicate the findings from the cross-site analysis: specialized staffing and professional development.

Specialized DE staffing. In several of the sites, advising and counseling had been previously conducted by staff not specializing in DE, and they changed the practice so that specially trained DE personnel assumed advising and counseling responsibilities. These specialists were considered to be "professionals who work in a program designed to enhance the academic and personal growth of students who are underprepared for college-level academic tasks" (Arendale et al., 2007, p. 18). These educators work to improve the advising quality as well as provide instruction with this targeted student population.

Some sites set up early alert/early warning systems that allowed students to receive just-in-time help through appropriate intervention that called for advisor teacher collaborations. Academic advisors explain:

We deal in a more intense advising role than the other counselors. Within Early Alert we try to assist the student with other support services they may need. We do workshops every day and students with specific needs or needed skills can attend. Workshops such as time management, competition, and wellness are offered and students can attend based on their scores on an affective assessment. We work with specific instructors and can provide the workshops during a class or outside the classroom. Only students in the lowest and highest levels of DE are targeted by this program.

Examples of strong DE advising occurred at sites which housed and delivered all DE advising

> *All the sites reported increased institutional support and buy-in from administrators.*

and instruction in the same physical location (and usually in the same location as other student support services on campus were housed). Faculty at some DEDPs felt strongly that they benefitted from having a dedicated DE department that strategically coordinated all the students with developmental needs. This need for coordination was heard in the words of an advisor/instructor,

We are doing the College Success course for first time students in college (FTIC) who test into DE. I teach a class and I am a faculty advisor to everyone in the class, versus them saying I am going to see a counselor, they must see me twice a semester outside of class.

Professional development (PD). Increased PD has been a central feature of the DEDPs. In practice, PD covers a vast array of specific activities. The PDs included highly targeted and sustained work with faculty around specific curricula and teaching practices. It also included short workshops designed to familiarize teachers and administrators with new ideas or interventions. Finally, some of the professional developments were in the form of workshops and conferences designed to provide DE content and academic credit for teachers and administrators. These PD opportunities enhanced instruction as noted by one administrator: "Opening up that opportunity to her DE instructor has produced a really positive

outcome. She's…incorporating service learning by having students write about their service learning experiences, using their lived experiences… rather than just having students pick a topic or write about some abstract persuasive argument." The instructor has now presented her innovative writing projects at a national level. All the sites reported increased institutional support and buy-in from administrators and campus leaders for PD centered on DE best practices and pedagogy as a welcome aspect of the grant.

Most instructors found PD to be helpful and thought the grant had increased opportunities for PD that was previously ignored. Team meetings in which administrators collaborated with instructors and advisors/counselors were also highlighted as an effective form of professional practice. One writing instructor commented on the increased opportunity to work on problems of practice.

We are very close, all the English people working on the project; it is a real collaborative work and we exchange a lot of material. And when we have any question, doubt, or something is really working for us and we want to share, we can at our monthly sessions. So we do not feel alone when we are facing our students.

Most importantly, these DE-oriented PD efforts were perceived as more successful at sites where DE-specific PD committees existed because these committees often did more than just send faculty to seminars or conferences. Instead, they customized PD opportunities to specific needs of the campus by bringing in trainers from state agencies, other universities with special DE training programs, and national associations (cf., Capraro, Capraro, & Cifarelli, 2012; Morgan, Capraro, & Capraro, 2012).

Theme 3: Structures Supporting Learning

Theme 3 is comprised of three components that explicate the findings for the cross-site analysis: supports for student, skills building, and student monitoring.

Supports for students. The nature of the student population exhibiting developmental needs itself has posed challenges for all the DEDPs. Students with developmental needs often have personal factors such as culture-specific needs, financial and family limitations, FTIC backgrounds or returning to college after a long gap, multiple family responsibilities, and parental roles impeding their path to success (Boylan, 1995; McCabe & Day, 1998). An administrator sums up the challenges this way:

Our students need that one-on-one, look-you-in-the-face, you weren't here yesterday,

what happened? … We look at this as a holistic approach, I'm just not here to teach you the math, I can't solve your life problems, but I understand that you have them.

And in most of the cases the failure we see, "in our students is not because of their academic ability or their brain matter, it is the fact that their life got in the way."

Skills building. Academic skill-building programs such as the Student Success, Student Development Course (SDEV) and the Guided Studies Course (GUST) were identified as having positive impacts on students with developmental needs. These programs provided training for students focused on resources needed to succeed in college such as study skills, time management, organization, and cohort bonding and were identified as particularly useful for the FTIC students. In several institutions, students with developmental needs were required to coenroll in a class that covered skill development. Students described the advantages of these skill-building activities, "like when we learned about time management; it helped us learn how to fit the tutoring into our schedules."

Student monitoring. Systems that monitored or tracked student progress and/or risk factors such as the early alert/warning systems identified high-risk students for appropriate interventions, helped improve efficient allocation of student services and resources, improved student persistence and retention rates, helped link instructors with student support staff, and thus helped in the overall coordination of services for students. During a fall visit, an administrator commented, "We follow the students. We know what classes they are taking. We know what classes they need. We know if they pass, we know if they retest." An instructor during an interview said, "I measure success according to how they perform in the subsequent course. If the students do as good or better [than other students in class] , then I succeeded." An internal evaluator in an interview stated, "Based on faculty feedback and student success data, we must make mid-process changes for the good of the students."

A few DEDP sites used Summer Bridge programs as an advance student monitoring technique that helped fill in academic gaps for students and better prepare them for college and placement tests. A few of these sites mentioned that the bridge programs helped students transition into college courses from high school as well as transition into college life. In the words of one student, "The summer program was the best experience. I got to meet new friends, live in the dorms, had a schedule. I had just graduated on Friday and in college by Monday. It served as a reality check." The use of Summer Bridge programs was limited in scope; however,

an administrator commenting on the success of such programs said,

We collaborated with some of the high schools on the Summer Bridge programs so that certain students who could take the shorter classes in the summer and then take their Accuplacer or THEA test and show college readiness would never have to go into a developmental course. So, we did that as part of our plan and had a successful effort just this past summer.

Theme 4: Policy Issues

Several DEDP sites implemented policy changes to improve DE. Administrators at all nine institutions talked about doing business in a way that reached out to the students with developmental needs. The evaluation team identified system-wide policies that resulted from these efforts and also policies that emerged in other realms affecting DE implementation. An internal evaluator during a focus group stated,

> *Systems that monitored or tracked student progress… helped in the overall coordination of services for students.*

We looked at students who registered for a course after the course had already met, having already missed one or two days of class. We noted a 15% gap between students who started on day one and those starting late. The information was presented to the Chancellor and the governing Board who made the decision to eliminate late registration for the Developmental Education students. …We noted an immediate change in the overall success of the students so the Board extended the policy to include all students.

A list of the policy changes included: student success policies such as early registration deadlines 10 days before classes to maximize student enrollment, mandatory student orientation beginning with preadmissions and extending well into the students' first semester of attendance, as well as eligibility test preparation classes to prepare students with placement test material and strategies to ensure better performance. A vice chancellor discussed a late registration policy:

The DE program was not doing what we needed it to do, as 64% of our students were DE, it was not having the level of success for students we wanted, some of that was

problems with coordination, consistency with practice, communication, all of those things that are difficult to do in a huge institution. This spring we changed the coordinator position… elevated from Dean to Associate Vice Chancellor … reports directly to me (Vice Chancellor), … to be sure that we were getting good dissemination of best practices, good robust conversations with faculty, staff, support staff, student services staff, who all have a part in this providing the ability to be more strategic in the role.

A change in polices on academic advising, registration for classes, and individual planning for completion of DE requirements were some additional institutional modifications. Taken together, these new policies provided a comprehensive approach to college readiness and oriented students to the responsibilities, behaviors, expectations, and benefits associated with being a successful college student.

Recommendations for Developmental Education in Texas

The implications locally, for Texas, as well as more broadly, nationally, are closely tied and necessarily linked. Our first premise is that if underprepared postsecondary students were a disease, the Center for Disease Control would declare a public health emergency. The numbers of students being diverted from graduation credit courses into developmental courses is staggering, as much as 29% and growing annually (Audet al., 2012). It is essential to reexamine what postsecondary institutions do and how they do it. They must reform the process and institutions where students matriculate. Creating a DE program takes a great deal of data-based research to bridge gaps, forge new policy, and confront stereotypes. The implications span student success, placement and enrollment, monitoring, alignment of DE courses, and supplemental supports. These became evident across three important phases for building a successful DE program: (a) preimplementation, (b) implementation, and (c) postimplementation.

Preimplementation

During the preimplementation period the DE program should identify and involve all stakeholders to obtain input and buy-in: for example, area school districts, workforce commissions, faculty, advisors, evaluators, day care, employment assistant, and fellow institutions. Decisions should be needs based so that prior to any enacted changes one should study the organization to be reformed through a careful needs assessment. The needs analyses should include teaching staff preparedness for instructing students with developmental needs, addressing advising needs, planning course scheduling and

sequencing, maintaining content/course alignment, and support staff needs. Important baseline data should include stakeholder input and needs. Careful examination of existing policies within the organization that may be contrary to a successful DE program implementation and revising those policies for alignment to potential DE strategies that will be adopted is important.

Implementation

During implementation the program should establish an effective connection among student advising, assessment, and placement. Encourage collaboration between faculty and advisors across campuses. Support faculty and staff through professional development specific to the strategies employed.

Postimplementation

Finally, postimplementation should include important measures of success. For example, the program should monitor the rate of change in (a) students' exiting DE coursework and taking for credit courses; (b) success 1st semester, 2nd semester, and graduation after completion of all DE courses; (c) the number of students earning acceptance into credit bearing courses at a university when transfering from a DE program in a community college; (d) the number of semesters enrolled to either AA or BA graduation; and finally (e) employment after completing an AA or BA.

Implications

The implications for the Texas Innovative Developmental Education Programs Model as a whole is greater than each of the programs alone. The general major implications are that, given what we know from the literature and from the applied research, there are commonalities that should not be ignored. Change is not only hard, it is expensive. There is a common belief that people are generally resistant to change, making innovation difficult. However, without funding and state policy it likely would have been impossible for any of the sites to achieve anywhere near the success they achieved. The state policy changes that made the sites' funding possible also made it possible for them to enact their own policy changes to align with the state and to implement the best practices in a coherent and methodical process. The truth is, all the sites had been struggling with how to improve developmental education, most with little success or unreplicable success and none exhibiting meaningful successes until statewide support. It is clear that, although universities and community colleges can do great work in small, isolated, and idiosyncratic programs, it takes a village to make a difference in the state. The secondary implication in the overall process is that the funding allowed the distinct sites to form a team of educators all working together to achieve a more productive developmental education program.

Conclusion

States struggling with underprepared students can continue to point fingers or they can provide structure and support to those in the best position to make changes and to improve developmental education programs. Curriculum design and instructional strategies in developmental classes need to be revised to help developmental students be successful (Koski & Levin, 1998). All of our Texas sites chose to revise developmental classes in a variety of ways to help the specific needs of their targeted students whether it was supplementary assistance for courses, pairing developmental with credit-bearing courses, or lab assistance. Faculty and staff need necessary supports to effectively work with students having developmental needs (Arendale et al., 2007). Besides professional development for instructors, our sites focused on supports for advisors and counselors, too, which

> *The funding allowed the distinct sites to form a team of educators all working together to achieve a more productive developmental education program.*

they felt would have the most impact on student development. Structures supporting learning (Boylan, 1995; McCabe & Day, 1998) took a variety of forms: our sites implemented a range of skill building programs to support student learning while realizing that close and appropriate student monitoring is necessary for identifying high-risk students. Policy issues at the sites that supported innovative developmental programs included changes in policies on academic advising, course registration, and individual planning for completion of DE requirements.

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Implications for Practice

Regardless of group, the data confirmed that more quality interactions resulted in participants perceiving the interactions with mentor or e-Sponsor as very helpful. The researchers interpret this finding as an important design aspect as learning support professionals plan programs for academically at-risk students. Quality mentoring should occur regularly and throughout one semester or longer. In addition, the positive effects of mentoring also seem connected to selecting knowledgeable mentors along with offering ongoing training and support.

Conclusion

This study adds to the limited empirical literature currently published on mentor programs implemented specifically to support students enrolled in developmental coursework. The study adds insights to assist educators on selecting to use a technology versus face-to-face protocol for this student population. Nationally, getting students into college and retaining them is a growing priority. The results from this study apply to the latter: a persistent and systematic mentoring program with qualified and well-trained mentors tends to improve satisfaction and study skills while helping students to develop their sense of belonging and being situated within a broader academic community of lifelong learners. Students can benefit from having an ongoing relationship with faculty members, professional staff, and graduate students who understand the institution where the students are enrolled and who can provide entre into the academic and personal support programs available.

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