NADE Members Respond

Developmental Education Research Agenda: Survey of Field Professionals, Part 2

By D. Patrick Saxon, Nara M. Martirosyan, Rebecca A. Wentworth, and Hunter R. Boylan

This is the final of a two-part article that provides the results of a qualitative study designed to document ideas and beliefs that professionals have regarding an appropriate research agenda on which the field of developmental education should focus in the near future. The participants of the study were members of the National Association for Developmental Education (NADE). The research methods and four of the resulting research topics were described in Part 1. The remaining results (beginning with the fifth topic) and conclusions are described here.

Results

Faculty Credentials and Training

The importance of having the highest quality instructors working with at-risk students cannot be overstated. Participants exhibited an interest in knowing more about the faculty serving in developmental education. They asked:

- What credentials do developmental faculty have?
- What training and development do faculty receive?
- Are faculty being trained to teach redesigned courses?
- What common characteristics exist among the most effective developmental instructors?
- Do classes taught by full time faculty have greater success than those taught by adjunct faculty?
- What is the relationship between instructor training and student learning outcomes?

The field relies heavily on adjunct faculty… to teach developmental courses.

Shults (2001) reported that the field relies heavily on adjunct faculty (about 65% of the faculty nationally, are adjunct) to teach developmental courses. Zientek, Ozel, Fong, and Griffin (2013) found that students taking developmental mathematics courses from adjunct teachers had significantly lower grades. Datray, Saxon, and Martirosyan (2014) noted the challenges of these instructors and made recommendations for supporting the development of adjunct faculty. These faculty are likely to be less engaged in campus activities. This, in turn, may decrease the access that students have to their teachers outside of class meetings. Furthermore, teachers of this rank may receive less compensation and support for their training and professional development.

Generally, it seems that developmental instructors are well credentialed (Boylan, Shaw, Materniak, Clark-Thayer, & Saxon, 2000). Only about 3% of a sample of faculty in Boylan et al.'s (2000) study held a lesser degree credential than a Master's. However, this may not be sufficient when working with at-risk students. As Boylan (2009) noted, many developmental educators may be content area specialists but lack training in teaching and in knowledge of the challenges faced by disadvantaged and nontraditional students.

Student Characteristics

The protocol for developmental education practice should be understanding students first, and then tailoring instruction and support interventions in order to have the most potential for supporting their accomplishment. Survey respondents obviously understand this and wanted to know:

- What student characteristics would assist in determining which course redesign interventions are best for that student?
- To what extent do reading skills predict success for developmental students?
- How do students perceive developmental education programs on their campuses?
- What do students think about redesigned developmental education course models?
- What factors do students believe have the greatest impact on their success?
- Does student age variance impact the effectiveness of technology-based course instruction?

In her seminal work, Hardin (1988; 1998) described types of students (primarily around life-related circumstances) that participated in developmental education. The point of her work was to more deeply understand students in order to better serve them. Boylan, Bonham, and Bliss (1994) used national data to describe academic and demographic characteristics of developmental students. More recent studies were not found, indicating the need for additional research.

Understanding student characteristics, needs, and preferences is important to providing appropriate learning environments for students from a variety of backgrounds. Zientek, Ozel, Fong, and Griffin (2013) have found that 41% of grade variance is predicted by noncognitive factors such as assertiveness, motivation, and self-regulation. It is therefore essential for teachers to understand and address these variables and their impact on instruction and advising. Student characteristics should also be considered in course and support service placement decisions. It is inappropriate to apply any single type of support service, accelerated or technology-based instruction model, or academic intervention to all students and circumstances and hope to be successful.

Curriculum

The ongoing scrutiny of the success of developmental education courses, and an interest in how secondary education impacts college readiness placed questions associated with the curriculum at the forefront of developmental education professionals' concerns. Survey respondents were interested in the following:

- Will adopting Common Core standards decrease the need for developmental education?
- How can we more effectively align the developmental education curriculum with college-credit classes?
- How does a contextualized curriculum improve retention and completion?
- What type of mathematics do the majority of college students need to be successful?

Boylan and Saxon (2006) wrote of developmental and college-level course curriculum alignment as a best practice associated with high performing programs. In this era of redesigning the delivery of developmental education, some professionals are touting the need to contextualize instruction where possible (Perin, 2011). Furthermore, new proposals regarding developmental mathematics content and the contextualization of math instruction are being presented as well (Strother, Van Campen, & Grunow, 2013). And at the secondary level, the yet unproven Common Core standards (Common Core State Standards Initiative, 2014) are relevant in the hopes that they may improve student college readiness. The "jury is out" however, on the efficacy of these standards.

Technology Use

The postmodern era of computers, software, and Internet connectivity has offered many options for incorporating technology into teaching and learning. Respondents expressed interest in the following technology-associated items:

- Is computer-aided instruction effective in developmental education?
- How has literacy instruction in developmental classrooms changed since broad scale application of computer technology?
- Is online teaching effective and if so, what promotes effectiveness?
- How can we assure student integrity in online instructional situations?
- Do students know how to use technology to better learn literacy concepts?

Administrators and practitioners need to devise methods of applying the theory and recommendations of the scholars on noncognitive student attributes.

Kulik and Kulik (1991) have analyzed the literature from that era to identify technology-based instructional methods; these methods have become foundations for many course redesign initiatives currently being pitched as solutions. Because digital techniques are now being applied in developmental instruction, the next step is to assess the effectiveness of these methods. For example, can technology enable learning by offering a tireless means of "skill and drill" administration of content or as a way to connect instructor and student outside of traditional classroom-based instruction? However, according to research by Jaggars and Xu (2010), caution is advised in applying fully online administration of developmental education.

College Readiness, High School, and Early Intervention

Understanding what criteria constitute college readiness is important. Also, the implementation of interventions at the secondary-school level could impact the future demand for postsecondary developmental education. The following questions were posited:

- What are key college readiness standards students should be required to meet for access to higher education certificate and degree programs of study?
- What high school educational factors influence the need for postsecondary developmental education?
- What factors influence the need for developmental mathematics?
- What factors influence the need for developmental English and writing?
- How can postsecondary institutions better partner with the K-12 system to reduce the underpreparedness of incoming college students?

The high school connection to developmental education seems to be a common interest of the print media as well. In a study of the media coverage of developmental education, Boylan, Carringer, Saxon, and Shiles (2009) have found it was common for media sources to point out inadequacies of public schools and then offer recommendations for reform. Though broad scale mutually beneficial partnerships among colleges and high schools do not seem apparent, dual enrollment programs appear to offer positive results, if only sporadically reported in the literature (An, 2012; Hughes, Rodriguez, Edwards, & Belfield, 2012; Mead, 2009). Boylan and Saxon (2006) have also reported on college and high school articulation. The instances that they have investigated appeared informally structured; however, practices such as curriculum alignment and early college placement testing show promise in the statewide study of high performing developmental programs.

Student Motivation

Finally, respondents expressed an interest in affective factors, specifically motivation, and their impact on student engagement and learning. Practitioners committed to the success of students expressed interest in techniques and strategies that would pique student interest and motivate them to engage more deeply in their developmental studies. Specific questions were:

- What factors most influence student motivation?
- How can factors that influence student motivation be incorporated into course design?
- What are the reasons that students are reluctant to take developmental courses?
- How can intrinsic motivation be developed in students in order to have them engage in challenging tasks associated with learning?
- Can elements of competition and timed-skill assessment be useful for developmental students?

Much classic work on the importance of affective variables in college success has been published (Chickering & Associates, 1981; Sedlacek, 2004). Boylan, Saxon, White, and Erwin (1994) discussed the importance of noncognitive variables in retaining minority students in developmental education programs. Zientek, Ozel, Fong, and Griffin (2013) discussed a few studies that identified motivation and self-efficacy as important to student learning of mathematics. However, they acknowledged that the field has a scarcity of studies of these variables and their association with learning in developmental students. It seems that administrators and practitioners need to devise methods of applying the theory and recommendations of the scholars on noncognitive student attributes (cf., Wernersbach, Crowley, Bates, & Rosenthal, 2014). Then their methods can be studied for efficacy and improvement.

Discussion

The field of developmental education is fertile ground for practical research. The large percentages of entering college students who need developmental courses (Smith Jaggars, Hodara, & Stacey, 2013) make the improvement of practice through research a goal for anyone with an interest in the success of students enrolling in open access institutions. Fortunately the field has evolved into a discipline, with three doctoral programs (at Grambling State

University, Sam Houston State University, and Texas State University) devoted to research and the promotion of scholarship and leadership. Additionally, several journals and professional associations contribute to the learning and development of developmental education practitioners (Saxon, Sullivan, Boylan, & Forrest, 2005). Philanthropy from major foundations and scrutiny from legislators and administrators has raised awareness of the field, and will in turn impact research and advocacy activity. Commercial and political opportunists have seized the attention of policy makers and philanthropic funding resources in attempts to promote reform, innovation, and solutions. With a cohesive research agenda, scholars and practitioners can arm themselves with data and results to not only counter misinformation in the media but also to guide reform in a meaningful, results-oriented manner and secure funding from private sources to implement change-oriented practices to impact student success in meaningful ways. No matter what practices are applied to developmental education programs, professionals will be called on to develop measures to assess success, investigate applications, and validate results.

Conclusion

The findings from this study are intended to guide research and practice in appropriate directions of concern to the scholars, practitioners, and leaders in the field of developmental education. Ten salient areas of interest have been identified by professionals, for professionals. The preceding agenda may guide the efforts of graduate students and scholars who are seeking the most relevant questions to ponder and research. The end result will be research findings that leaders and practitioners can use to the benefit student learning and success.

With a cohesive research agenda, scholars and practitioners can arm themselves with data and results.

References

An, B. P. (2012). The impact of dual enrollment on college degree attainment: Do low-SES students benefit? *Educational Evaluation and Policy Analysis, 35*(1), 57–75.

Boylan, H. R. (2009). The mistakes we make and how we correct them: What I've learned as a consultant. *NADE Digest, 4*(2), 1-8.

Boylan, H. R., Bonham, B. S., & Bliss, L. B. (1994). Who are developmental students? *Research in Developmental Education, 11*(2), 1-4.

Boylan, H. R., Carringer, C., Saxon, D. P., & Shiles, C. (2009). Developmental education: A study of print news reporting. *Research in Developmental Education, 22*(3), 1-4.

Boylan, H. R., & Saxon, D. P. (2006). *Affirmation and discovery: Learning from successful community college developmental programs in Texas*. Retrieved from http://www.ncde.appstate.edu/resources/reports/documents/TACC%20Final%20Report.pdf

Boylan, H. R., Saxon, D. P., White, J. R., & Erwin, A. (1994). Retaining minority students through developmental education. *Research in Developmental Education, 11*(3), 1-4.

Boylan, H. R., Shaw, G., Materniak, G., Clark-Thayer, S., & Saxon, D. P. (2000). What we know about developmental educators: Report of a NADE survey. *Research in Developmental Education, 16*(2), 1-4.

Chickering, A. W., & Associates. (1981). *The modern American college.* San Francisco, CA: Jossey Bass.

Common Core State Standards Initiative. (2014). *Preparing America's students for college and career: Development process*. Retrieved from http://www.corestandards.org/about-the-standards/development-process

Datray, J. L., Saxon, D. P., & Martirosyan, N. M. (2014). Adjunct faculty in developmental education: Best practices, challenges, and recommendations. *Community College Enterprise, 20*(1), 36-49.

Hardin, C. J. (1988). Access to higher education: Who Belongs? *Journal of Developmental Education, 12*(1), 2-6, 19.

Hardin, C. J. (1998). Who belongs in college: A second look. In J. L. Higbee & P. L. Dwinell, (Eds.), *Developmental education: Preparing successful college students* (Monograph Series No. 24; pp. 15-24). Columbia, SC: University of South Carolina.

Hughes, K. L., Rodriguez, O., Edwards, L., & Belfield, C. (2012). *Broadening the benefits of dual enrollment: Reaching underachieving and underrepresented students with career-focused programs*. New York, NY: Community College Research for the James Irving Foundation.

Jaggars, S. S., & Xu, D. (2010). *Online learning in the Virginia Community College System*. New York, NY: Teacher's College, Columbia University, Community College Research Center.

Kulik, J. A., & Kulik, C. L. (1991). *Developmental instruction: An analysis of the research* (Research Report Number 1). Boone, NC: Appalachian State University, National Center for Developmental Education.

Mead, R. A. (2009). *A comparison of enrollment and academic success of dual credit and non-dual credit students at Des Moines Area Community College* (Doctoral Dissertation, Iowa State University). Available from ProQuest Dissertations and Theses database. (UMI No. 3369862)

Perin, D. (2011). *Facilitating student learning through contextualization* (CCRC Working Paper No. 29). Retrieved from http://ccrc.tc.columbia.edu/media/k2/attachments/facilitating-learning-contextualization-working-paper.pdf

Saxon, D. P., Sullivan, M. P., Boylan, H. R., & Forrest, D. F. (2005). Developmental education facts, figures, and resources. *Research in Developmental Education, 19*(4), 1-5.

Sedlacek, W. E. (2004). *Beyond the big test: Noncognitive assessment in higher education*. San Francisco, CA: Jossey-Bass.

Shults, C. (2001). *Remedial education: Practices and policies in community colleges* (Executive summary, Research Brief AACC-RB-00-2). Washington, DC: American Association of Community Colleges.

Smith Jaggars, S., Hodara, M. & Stacey, G. W. (2013). *Designing meaningful developmental reform*. Retrieved from http://ccrc.tc.columbia.edu/media/k2/attachments/designing-meaningful-developmental-reform-research-overview.pdf

Strother, S., Van Campen, J., & Grunow, A. (2013). *Community college pathways: 2011–2012 descriptive report*. Retrieved from http://cdn.carnegiefoundation.org/wp-content/uploads/2014/09/CCP_Descriptive_Report_Year_1.pdf

Wernersbach, B. M., Crowley, S. L., Bates, S. C., & Rosenthal, C. (2014). Study skills course impact on academic self-efficacy, *Journal of Developmental Education, 37*(3), 14-23, 33.

Zientek, L. R., Ozel, Z. E. Y., Fong, C. J., & Griffin, M. (2013). Student success in developmental mathematics courses. *Community College Journal of Research and Practice, 37,* 990–1010.

Acknowledgements: D. Patrick Saxon (dps006@shsu.edu) is an Associate Professor and Doctoral Program Director, and Nara M. Martirosyan and Rebecca A. Wentworth are Assistant Professors at Sam Houston State University in Huntsville, TX 77370. Hunter R. Boylan is a Professor and Director of the National Center for Developmental Education at Appalachian State University in Boone, NC, 28608.