

# Increasing Student Success: Structural Recommendations for Community Colleges

By Sim Barhoum

**ABSTRACT:** Structural practices used by community colleges to assess, place, and teach students are undergoing transformation. Many recent changes have been shaped by the idea that barriers to success, combined with traditional policies, work against helping students pass through the developmental writing pathway. This article's purpose was to investigate the most promising structural practices by community college developmental writing programs. The article first looks at the challenges faced by developmental writing students. Then, a synthesis of relevant literature takes place, followed by a nationwide study of 42 successful developmental writing faculty. From this survey, an empirical framework emerged and is presented for the structural domain. Finally, this article offers specific and practical practices that administrators and educators can use to improve their developmental writing programs.

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Students enter college with dreams of academic and financial enrichment. During the enrollment process, students face the barriers of registration, cost, and transportation. Other, more hidden challenges include cultural, gender, racial, and other adjustments. One substantial structural barrier is the placement and testing process, which 90% of community colleges employ (Parsad, Lewis, & Greene, 2003). Although standardized placement tests (e.g., Accuplacer and Compass) have been used as common practice for decades at colleges, recent research has shown significant problems with these instruments. For example, a study that analyzed 42,000 first-time students entering large, urban community colleges found that using multiple measures instead of traditional placement tests was a far better predictor of college success (Scott-Clayton, 2012).

A California study by Belfield and Crosta (2012) has found high school GPA to be a 50% better predictor of college success than placement testing. Both studies support a growing body of research that shows placement tests can have significant errors, and when using multiple placement methods more students enter into transfer courses and a greater number of students are passing classes, attaining degrees, and transferring. Poor empirical data, combined with dwindling support, resulted in a phasing out of Compass by ACT (Fain, 2015).

Recent developmental pipeline changes include a methodical phasing out of old practices because of the disadvantage they can force upon students, especially on the most racially and culturally diverse. Many hopeful college students, with dreams of employment and life enrichment, have had their lives significantly altered for the worse because of these traditional, and in some cases discriminatory, practices that implement academic segregation. These studies, and others that support similar multiple measure conclusions, have invigorated the academic community with making more equitable changes. For example, developmental writing programs across the country have been looking at ways to help students succeed in unprecedented ways. Shortening pathways, accelerating courses, and using other progressive techniques have become more common in developmental programs nationwide. This is important because 50% to 80% of students are required to take developmental courses in community colleges (Bailey, Jeong, & Cho, 2010; CCCCO, 2015; Complete College America, 2012; Hodara, 2015). Besides empirical research showing that placement tests may be ineffective predictors of success (Mourad & Hong, 2017), a report of an education longitudinal study has shown that 28% of developmental students attained a degree within 8.5 years (Attewell, Lavin, Domina, & Levey, 2006). Administrators and researchers have come to recognize the importance of developmental programs in the higher education system (Boylan & Bonham, 2007). Because a large percentage of college students who enter college are deemed underprepared to succeed in college-level courses and because there is such a low success rate in developmental education classes, understanding the structural challenges that students face is important.

## Purpose and Research Question

Barhoum's (2017b) nationwide study of successful developmental writing faculty examined the main barriers to student success (see Figure 1). Barriers to student success were identified by faculty members with a proven record of success. Success was defined as professors' students who succeeded at a level higher than the department average in the subsequent college-level writing course. The most salient barriers were identified and separated into four domains: (a) structural, (b) curricular, (c) andragogical, and (d) relational.

Sim Barhoum  
Professor of English  
Writing Center Coordinator  
San Diego Mesa College  
7250 Mesa College Drive  
San Diego, CA 92111  
sbarhoum@sdccd.edu

Domain	Main Challenges/Barriers	% of Respondents
Structural	<ul style="list-style-type: none"> <li>Long developmental pathways lead to high attrition rates</li> <li>Classes lack specific support for the needs of developmental students</li> </ul>	15
Curricular	<ul style="list-style-type: none"> <li>Assignments are not applicable to daily life</li> <li>Students have problems comprehending arguments and readings</li> </ul>	10
Andragogical	<ul style="list-style-type: none"> <li>Professors have not been trained how to teach developmental students</li> <li>Students have not been prepared to be college students</li> </ul>	30
Relational	<ul style="list-style-type: none"> <li>Students have significant affective domain issues (life, emotional, financial, maturity, confidence) that are not being addressed</li> </ul>	45

**Figure 1. A nationwide study of the main challenges for community college developmental writing students. Reprinted with permission from "The Challenges of Community College Students in Developmental Writing and Four Ways to Help," by S. Barhoum, 2017, *Journal of Applied Research in the Community College*, 24, 43-52.**

Of those surveyed, 15% of the educators stressed that certain structural challenges were a more significant barrier for developmental writing students. The two main structural barriers identified were the high attrition rates of students because of lengthy pathways and the lack of support for the specific needs of developmental writing students (Barhoum, 2017b). Because these challenges are vitally important to changing the developmental paradigm, this article focuses on the structural domain only.

Although there are many studies on the deficits of students entering college, there is little understanding of the most promising practices for teaching community college developmental writing students to succeed in the classroom. As a result, this article focuses on what enhancements and reforms faculty members with a proven track record of success recommend for developmental writing practices within the structural domain. This study is guided by the following research question: What are the current structural techniques employed by effective professors for teaching developmental writing students? The findings from this study can be used to better inform best practices about the developmental writing pathway and can be used to augment community college efforts (currently in placement and co-requisite models). Ultimately, the information derived from this study can be used to facilitate positive change.

## Relevant Literature

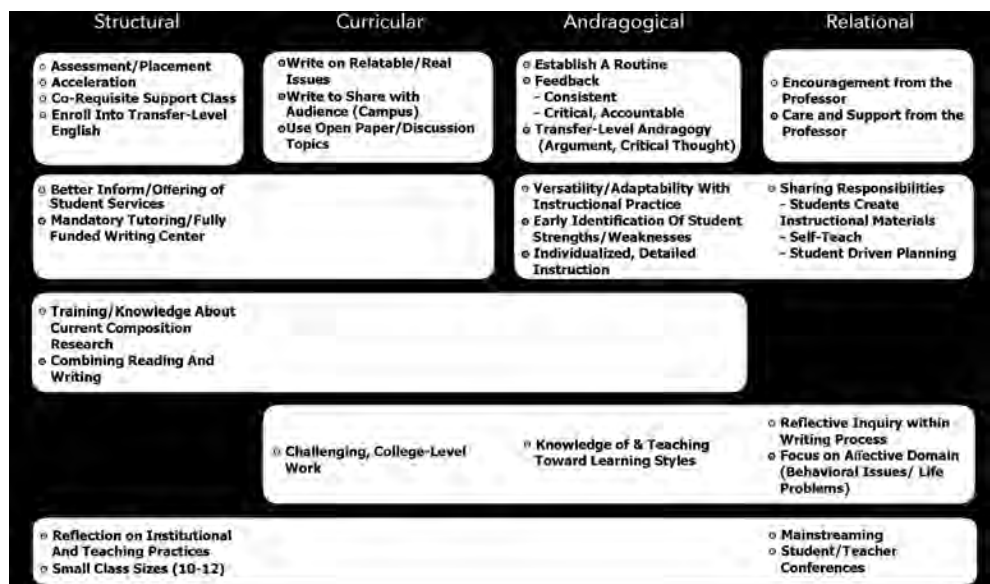
As one of the main approaches for effectively teaching students in developmental courses, Smittle (2003) argued that educators needed to commit to

teaching this diverse population of students. Part of that commitment included the necessity to change practices. Edgecombe, Jaggars, Xu, and Barragan (2014) reflected on developmental education program operations and suggested three areas of developmental writing reforms: (a) structural, (b) curricular, and (c) pedagogical. The researchers recommended "that structural changes to remedial courses must

be accompanied by thoughtful modifications to curriculum and pedagogy if colleges are to substantially improve outcomes for developmental students" (p. 23). Because structural changes are the most common, Edgecombe, Cormier, Bickerstaff, and Barragan (2013) indicated that these reforms have the least push back, politically and collegially, and are the easiest to implement. Barhoum (2017a) furthered their research by altering the pedagogical domain to andragogical, adding a fourth domain (relational), and synthesizing existing research with only validated studies of the most promising practice techniques within developmental writing programs. Barhoum's conceptual model (see Figure 2) was developed from synthesizing the research for all four domains (structural, curricular, andragogical, and relational), finding themes within them, and only including techniques that had recurrent and independent validation.

The structural domain signifies how courses are set up structurally: "how many units the courses are, how many hours they meet per day/week, how long the semester is, how one English class bridges to another as a pre-requisite or a co-requisite, and how developmental writing classes look organizationally" (Barhoum, 2017a, p. 795). These factors have been repeatedly cited by scholars as having an integral influence on student success (Adams, Gearhart, Miller, & Roberts, 2009; Coleman, 2014; Edgecombe, 2011; Henson & Hern, 2014). Many

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**Figure 2. Conceptual model of most promising practice techniques within developmental writing domains (structural, curricular, andragogical, and relational). The techniques in the first row are only applicable to one domain, whereas each subsequent row contains techniques that associated to other areas as well. Reprinted with permission from "Community College Developmental Writing Programs Most Promising Practices: What the Research Tells Educators," by S. Barhoum, 2017, *Community College Journal of Research and Practice*, 41, 791-808.**

## Methods

current developmental initiatives focus on two main structural reforms: changing assessment/placement practices and using accelerated course pathways (e.g., Bailey, 2009; Hern, 2012; Schwartz & Jenkins, 2007). In a decade-long study of a California college, Hern (2011) found that many students had more successful outcomes when self-placing into accelerated courses than when using college placement test recommendations. In that same analysis, Hern (2011) found that a significantly higher number of students who would have placed in developmental writing but instead enrolled in accelerated courses passed college English in comparison to the traditional track of developmental students.

In fact, the streamlining and shortening of course sequences meaningfully benefits developmental students because several exit points are removed from the pathway (Adams, Gearhart, Miller, & Roberts, 2009; Coleman, 2014; Edgcombe, 2011; Henson & Hern, 2014). Also, instead of using the traditional prerequisite design, corequisite courses have been indicated to significantly improve outcomes because of the learning assistance that happens alongside the transfer-level course as students need the help (Adams, Gearhart, Miller, & Roberts, 2009).

Remarkably, structural reform has been recommended as far back at 1968. For example, a study of 73 randomly selected students, compared with an experimental group of 461 students, showed that developmentally-assessed students succeeded at the same rate (70%) in transfer-level English when skipping the developmental course (Losak, 1968). Roksa, Jenkins, Jaggars, Zeidenberg, and Cho (2009) contend that students succeed at the same rates of all students when they ignore their developmental assessment and enroll into transfer-level writing classes.

I conducted a nationwide study of community college developmental writing faculty. The purpose was to investigate the most promising practices for developmental writing programs. Specifically, this study elicited the responses of professors on student success, with an emphasis on the structural domain. To get the most effective recommendations for practice, this study used extreme case sampling, also known as deviant sampling, and only used faculty members with a proven track record of success. Identifying professors that were exemplary teachers was a purposeful part of the study, and this extreme case collection included professors whose students did better on average in the course after their developmental course in comparison to other professor's students. The intention was to explore the reasons why and how some professors helped students achieve significantly better results than the norm. The overall goal was to investigate and share the most promising practices and techniques for other educators to adopt.

### Participants

To achieve the best possible responses, I contacted chairs, cochairs, deans, and directors of departments (e.g., English, humanities, writing, composition, pretransfer, basic skills, etc.) throughout the country. These contacts were asked to validate participants for this investigation and forward the survey to them. To participate in this study, participants must have taught more than 3 years and must have had a demonstrated track record of success in teaching developmental/remedial writing students based on measurable outcomes. In terms of measurable outcomes, this study is most interested in educators whose students succeed at a higher rate than their department average in the writing course after their own.

## Procedure

Nominated exemplar professors were given a voluntary online questionnaire with six multiple choice/fill-in inquiries and five open-ended essay questions. Only completed surveys from the anonymous participants were used for this study (see Table 1). Survey respondents consisted of 42 community college participants from 21 different states. The survey's 11 questions were intended to elicit demographic information combined with qualitative experiences.

This study uses all the demographic information and only the narrative responses from the question focusing on the structural domain: What are the structural practices you use to help developmental writing students succeed? Structural practices refer to the delivery of the courses: how many units in the courses, how many hours they meet per day/week, how long the semester is, how one English class bridges to another as a prerequisite or a corequisite, and how developmental writing classes look organizationally.

The narrative answers from 42 professors included over 15,000 words of text that were coded for meaning. All the responses were read without making judgements on how they fit into any models or domains. The responses were then filtered for understanding, and the responses were coded with a subsequent reading. I used the online application Saturate to code the text and read the narratives numerous times after the initial reading to add precision and clarity throughout the coding process. Eighteen main codes emerged from the narratives.

### Analysis

This study combined two theoretical approaches to create its own empirical model and can be called a constructivist grounded theory qualitative analysis. Widespread research offers coherent procedures for qualitative frameworks resulting from data (Glaser & Strauss, 2009; Miles & Huberman, 1994); however,

the methodical approach to build the conceptual framework is dependent on the researcher as the tool, combined with the intention of the study. Agreeing with the principles of this elasticity, Charmaz (2014) argues that "constructivist grounded theory highlights the flexibility of the method and resists mechanical applications of it" (p. 13).

To get the most effective results, I applied a constructionist

**Table 1**  
**Developmental Writing Survey Participant Characteristics**

Number of Participants	States with Participants	Years Teaching	Age	Employment Status	Gender	Race/Ethnicity
42	AK, AZ, CA, CO, CT, FL, GA, HI, ID, IL, IN, MD, MI, NY, NC, PA, SC, TN, TX, WA, WY	13.5 (Average)	47 (Average)	35 Full Time (83%) 6 Part Time/One Campus (14%) 1 Part Time/Multiple Campuses (2%)	37 Female (88%) 5 Male (12%)	1 American Indian or Alaska Native (2%) 3 Black or African American (7%) 2 Hispanic or Latino (5%) 2 Middle Eastern (5%) 32 European/White (78%) 1 Mixed (2%)

From the

# National Center for Developmental Education's DevEd Press



***What Works: Research-Based Best Practices in Developmental Education*** provides a guide to the best models and techniques available for the professional developmental educator.



The text describes each best practice in detail, along with its supporting research, and includes an example of a college or university applying that practice. Following every example is a list of tips for implementation. The contents focus on research regarding how to design, implement, and evaluate developmental education and learning assistance programs.

***Attaining Excellence in Developmental Education: Research-Based Recommendations for Administrators*** is designed to provide recommendations to administrators that will contribute to excellence in the developmental education classroom.

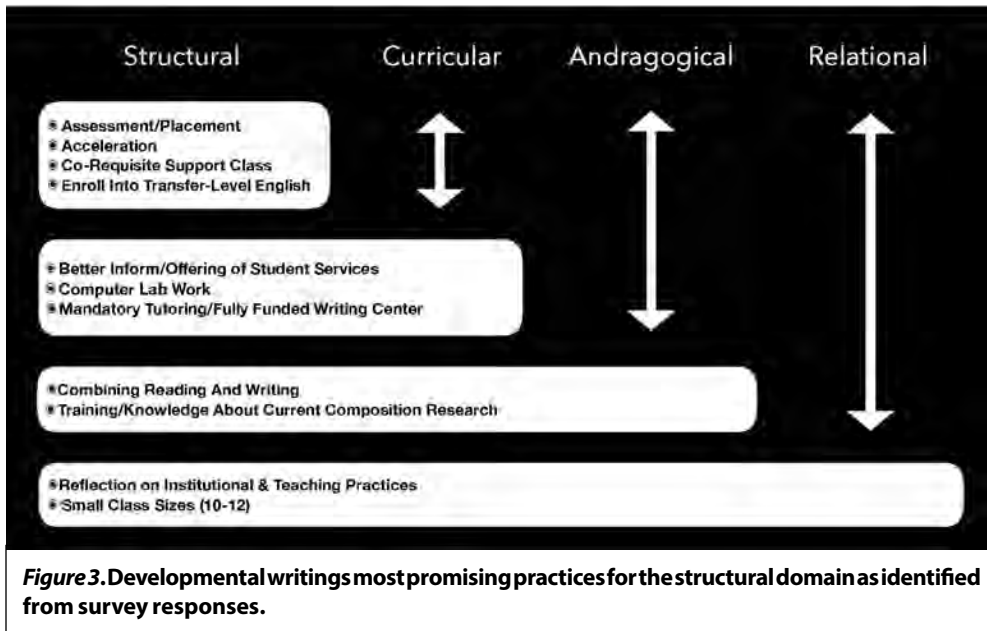
It is organized into two sections. Section One recommends actions that cost little or nothing to implement. Section Two recommends actions that involve the expenditure of resources and provides justification for doing so. Appendices include noncognitive assessment instruments, recommended readings, and more.



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**Figure 3. Developmental writings most promising practices for the structural domain as identified from survey responses.**

perspective to the grounded theory study. Constructionist epistemology looks at ways in which sense is formed in a shared experience (Arminio & Hultgren, 2002). Because I was the research tool, I acknowledge my part in the process of sense making of the data. Understanding emerges between the participants and the research tool because of the

collective involvement (Arminio & Hultgren, 2002). Another framework applied to how constructionist theory shapes the world is that findings of studies are just one part of multiple realities (Broido & Manning, 2002). Member checking and triangulation with an extensive collection of faculty was employed to remove bias from the data.

This study was deductive rather than inductive. I anticipated that some data may not align with Barhoum's (2017a) conceptual model (see Figure 2, page 19). I used it as a guide while refraining from being restricted by it. During the coding process, I looked to add more categories, reaffirm information that was already there, and drop practices that were not confirmed. This was an important part of the study because gathering new insights needs open awareness. A new conceptual model emerged from the data.

## Findings

Barhoum's (2017a, 2017b) conceptual framework about the most promising practice techniques within developmental writing domains (see Figure 2, page 19) was used as an initial guide for this study. Although four domains are included in the framework, this paper only focused on the structural domain, due to the detail of analysis needed for each domain. The findings confirm all the categories of the original model and add one more: computer lab work. During the coding process, I imagined leaving some categories out for the new model, but all of the structural techniques were validated by the study. In addition, the findings indicated a new technique be added; therefore, a new model was developed (see Figure 3).

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The new model shows all structural practice techniques, as depicted by each row. All techniques are primarily structural; however, each column represents a separate domain in which the techniques can also be applied. For example, the new added technique in the second row, computer lab work, is a structural technique that also contains curricular practices. Although all the techniques were validated to some extent because the participants of this study commented on them, not all were major and minor themes.

I attempted to capture codes and responses that represented the narrative data's content and essence. When analyzing the data, the developmental writing's most promising practices for the structural domain model (see Figure 3, page 21) was formulated from themes that arose from the participant's responses. At first, the coding was a domain specific task: the responses were read and filtered. During the subsequent readings of the narratives, I noticed that some answers from one domain question fit into other domain categories; therefore, the codes were kept and put into the appropriate domain. This was done for consistency and clarity.

Two major themes and three minor themes emerged from the coding. The most salient themes found in the survey were: (a) offer a corequisite support class and (b) have mandatory tutoring in a fully funded writing center. The minor themes that emerged from the coding included: (a) computer

lab work, (b) small class sizes (10 to 12), and (c) acceleration. As noted earlier, computer lab work was the only technique that added to the structural domain in Barhoum's (2017a) conceptual model of most promising practice techniques within developmental writing domains. Table 2 shows the major and minor themes that developed from the analysis along with the percentage of coded narratives about that technique. As seen in the Table 2, the two most salient themes were commented on in approximately half of all coded responses.

## Discussion

### Corequisite Support Class

The first theme—corequisite support class—has surfaced as the most dominant in this study. This technique refers to noncredit classes that are taught concurrently with credit courses, instead of beforehand as a prerequisite. Because of this simple, yet important, structural change, a corequisite course is a place where students work

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*Everyone is required to use the writing center for each paper so it connects them to a tutor.*

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on skills and receive additional help to succeed in and pass the transfer-level course during the same semester (Adams, Gearhart, Miller, & Roberts, 2009; Brothen & Wambach, 2004). A significant number of the respondents indicate that their college uses corequisite developmental writing courses and the structural strategy is working. Besides being proponents of this model, professors have stated how they used the time in the corequisite course: "Since I teach a corequisite course, I have learned that students are more engaged when time is spent helping them understand the paper expectations."

According to a different professor, "We use a 2-hour corequisite that meets twice a week. The course is paired with the first-year composition course, and it is designed to cover material that is either not covered or not covered in an in-depth way in composition." Another professor echoed this ability: "The 3-unit developmental course is meant to fill in any skillset gaps that students need to succeed in their transfer-level course." Another response notes that students "get an additional 3 hours of instruction a week focusing on scaffolding assignments for the credit-bearing English course and on non-cognitive skills."

Researchers have learned that the ability to spend time on the noncognitive, as indicated in the relational domain, is paramount in helping this

student population succeed. The idea that students benefit from having class time to work on the class materials also has been offered by the participants as a necessary feature for success. One of the more salient characteristics of a corequisite support class is the teacher can use the extra time in the course to address students in ways that are attentive to their needs. A major benefit of this support class is to allow for individualized instruction, time for affective domain help, and other areas of need specific to the students in each class.

### Mandatory Tutoring/Fully-Funded Writing Center

Tutoring has been used as support for under-prepared students via numerous tutoring and supplemental instruction (SI) programs around the country. Although most of the SI programs are implemented in disciplines besides writing, students can benefit from practices that use effective writing centers combined with mandatory individual tutoring. Participants of this study use tutoring as a support for the students. But unlike most other tutoring practices, these professors recommend that the tutoring be mandatory. One participant asserts, "We also integrate our Writing Center into the curricula by requiring them to attend. This usually proves most helpful. Everyone is required to use the writing center for each paper so it connects them to a tutor."

This technique—requiring tutoring—supports the research on students of color, in particular men of color, in community colleges (Wood, Harris, & White, 2015). Another participant of our study shares, "I also get students into our writing center in the first week of class." The respondents understand how writing centers can be used as a place of community and welcoming: "The philosophy of the center is very based in the concept of a kind of oasis." Likewise, another professor agrees, "When we redesigned it, the atmosphere was a large piece." Some participants have stated that sense of belonging represents an important component of mandatory tutoring in a writing center. "We also maintain a very friendly place to write with fresh coffee, tea, soft music and free printing."

The structural practice of offering writing support is a common one; however, mandatory visits to the writing center is an intrusive technique that the most successful developmental writing educators suggest. Another benefit is that students will be connecting with tutors who are usually peers. The building of relationships with peers and other academically-focused individuals is an important component of successful student traits. Additionally, students that use writing centers are often shown to have increased grades, attendance, and retention in the courses they take (McDonald, 2017). Utilizing a campus resource that helps amplify benefits also allows students to see the campus as a safe place

**Table 2**  
**Major and Minor Themes**

Themes	Percentage of Coded Narratives
<b>Major Themes</b>	
Corequisite Support Class	25%
Mandatory Tutoring/ Fully-Funded Writing Center	22%
<b>Minor Themes</b>	
Computer Lab Work	15%
Small Class Sizes (10 to 12)	8%
Acceleration	8%

that offers support in ways beyond what they are accustomed to using. This normalization can be an important component of helping students feel that they are not alone and that college is a place they belong and where they can flourish.

### Computer Lab Work

A minor theme of this study—computer lab work—represents the only theme added to the structural domain within Barhoum's (2017a) conceptual model of most promising practice techniques within developmental writing domains. Computer labs vary for each campus. Some colleges "offer a 1-hour lab in connection with their writing course (taught by the same instructor)," and others have a lab that "is required for students with low placement scores, but is available as an opt-in for any interested student. The lab meets 1 hour/week and is one credit." Regardless of the set-up, respondents are adamant about the usefulness of being able to have students work on campus, with computers, in class or in a lab setting, and with their professor as part of their classload. The consistent feature with this category is that students work on assignments using computers. This category brings up the notion that categories are tied to each other in ways that future research should clarify. For example, how significant is computer lab work compared to the learning assistance provided in these settings?

Participant survey responses reflect their thoughts about how students need time in conjunction with the support of their instructor to go through the writing process and draft their papers. For example, "Students must complete an additional 3 hours of open lab time in order to get all their required lab time in each week. This has been a huge success as it forces students to devote extra time to their developmental writing course work." Similarly, another participant has reported that "the lab experience also allows for more one-on-one and personal contact time." This structural technique supports the notion that more touch time with students and instructors is beneficial for outcomes. When students are placed in a location doing challenging work and attempting the critical steps that are included in the writing process, there is a significant advantage to having individual support there to assist. This allows for tutors, professors, and lab staff to help tailor the help to each student at the time the students need the most help: during the process of writing, reading, working through ideas, and other academically challenging tasks.

### Small Class Sizes

Another theme that emerged from the study was that small class sizes of 10 to 12 students allows for a plethora of benefits. The educators' comments about how smaller classes allow for deeper connections and better assistance include the following: "The small class size means that there is plenty of time for individual attention as well as a comfortable

atmosphere." "I always develop a good relationship with my students because the classes are typically small (10 to 12 people max), and the students are generally very dependent on the instructor/student relationship." "They tend to want to use me as a 'crutch' in the early days of the class and have me correct all of their mistakes. One of the biggest challenges is to help them become more independent."

The respondents believe the significant benefit to "establishing cohorts (capped at 10 to 12 students)" is "to create 'villages' of students who move through general education courses as a group." Research about learning communities and shared experiences show increased persistence and retention. In the literature, the ALP is known to have made these 10 to 12 student support classes popular. In fact, the founder of the ALP asserts, "We have concluded that many of the benefits of ALP derive from this small class size. Students are less prone to behavior problems when they are in a small group" (Adams, Gearhart, Miller, & Roberts, 2009).

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*If colleges can shorten the time it takes for a sequence, the less likely it is for a life situation to get in the way of the student's educational goal.*

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Some advantages of having small class sizes are obvious. There can be more attention from the professor and other students. Each student also gets more time spent on them and their work. However, the less obvious benefits of small class sizes may have just as much, if not more, of an effect on student success. Students are able to be part of a deeper community of peers who have similar goals. The feelings of isolation are less likely to be ignored because students are forced to share more in an intimate setting. Also, students who have mastered the art of hiding due to self-confidence or other affective domain issues may be more willing to open up and develop relationships within a smaller community of students, especially if they develop strong academic relationships based on trust and mutuality.

### Acceleration

In addition to stating that small class sizes benefit developmental writing students, respondents indicate that changing the structure of course sequences significantly impacts student success. The last theme that has emerged in this study is accelerated courses, which represent a compact, abbreviated, intense, condensed, or short-term

delivery of sessions (Scott & Conrad, 1992). This is the most popular structural technique being enacted nationwide because of the abundance of research on the outcomes (Brathwaite & Edgcombe, 2018). Positive reports have led to some states mandating that accelerated pipelines replace traditional developmental pathways statewide. This also hints at why respondents may not have commented on acceleration as much as the other themes; some form of acceleration is occurring or about to occur on most college campuses.

One participant summarizes the common attitude: "Corequisite acceleration and corequisites are the way to go." Although the ALP model is the most dispensed, the way acceleration has appeared on campuses is different for each program. For example, a participant in the study explains, "We meet 4 days a week for 2 hours a day." Another participant discusses the merged approach to their college's sequence: "Our summer classes are overlays (combined), so the lower level can often work up to the higher level in the same semester." Regardless of the way accelerated pathways look, our study's survey responses indicate that acceleration is a model that has had positive results and should be used.

Not only that, but acceleration is statistically a meaningfully more effective way of structuring developmental pathways. It makes logical sense that shorter pathways will increase completion rates. Yet, not as obvious a benefit is that accelerated pathways can save students from the gaps in semesters that often lead to failure. Students have lives, and like all people, their responsibilities are significant. If colleges can shorten the time it takes for a sequence, the less likely it is for a life situation to get in the way of the student's educational goal. There are valid arguments for and against remediation being necessary for some students (Brothen & Wambach, 2004). Acceleration courses seem to be a fair medium because they have college-level expectations, challenge students with demanding curriculum, support the relational domain, and focus on time frames that take the shortest amount of time.

### Limitations

There are a couple of limitations to this national study of successful developmental writing faculty. First, this study is representative of perceptions based upon the professors' empirical knowledge, which can differ from a quasiexperimental design. Secondly, there is an imbalance of faculty employment status for those surveyed in this study from the national data. These narratives represent strategies that are offered a predominantly from full-time faculty. For example, the 42 participants from the nationwide developmental writing survey self-identified as 35 full-time (83%) and seven part-time (17%) faculty. The Community College Instructional Development

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Inventory (CC-IDI) notes that 69% of developmental writing professors are part-time (Community College Equity Assessment Lab, 2016). It is not unusual for there to be fewer responses from part-time faculty given they are often teaching at multiple institutions. This is similar to research that is conducted on community college students: on student surveys, full-time students respond more often as opposed to part-time students.

## Implications for Practice and Future Research

This article focuses on improvements and transformations faculty members with established records of success recommend for developmental writing practices within the structural domain. Most of the narrative responses, after being thoroughly analyzed and coded, validate all of the structural practices found in the research of Barhoum's (2017a) conceptual model of most promising practice techniques within developmental writing domains.

This study confirms prior research that states implementing structural changes, such as acceleration and corequisite support classes, leads to improved student success. Shorter pathways in the developmental pipeline can lead to improved outcomes (Adams, Gearhart, Miller, & Roberts, 2009; Coleman, 2014; Edgecombe, 2011; Henson & Hern, 2014). In fact, some research has found that such alternative structures represent strategies that can lead to developmentally-assessed students passing at the same rate as their college-ready peers (Losak, 1968; Roksa, Jenkins, Jaggars, Zeidenberg, & Cho, 2009).

A confirmed, yet revised, insight from this study is making tutoring mandatory. Prior research shows that this structural practice is effective (Ball, 2014). Likewise, research in a different context validates that tutoring works for students of color, in particular male students of color (Wood, Harris, & White, 2015). Survey responses from this study show that professors use this technique even when not supported by their college; they include tutoring as part of their class structure and make tutoring mandatory. Practitioners at institutions without a tutoring center could consider setting up a peer tutoring system with their classes. The results of this study also show that professors are adamant about having writing centers be welcoming spaces for diverse populations. Because these findings intersect various settings and show significant benefits in them, the results are especially potent. Educators should make efforts to have writing centers in a central location with extended hours to maximize access. A diverse staff who reflect student users of the center is also recommended.

A new insight added by this study includes making computer lab work part of the class.

Professors stated that students' use of computers during class was beneficial due to the ability to work on an assignment independently while personal help is available from the instructor when students needed it. Using computer labs is not a new idea, and most colleges have them. What makes this a new insight from the study is two-fold: There is very little research on community college use of computer labs as part of the structure, in combination with the professor of the class being present in that environment. Additionally, computer lab work has been validated as a benefit with specific cohorts of students. For example, a study of 18 African-American and Latino males in a community college has found that the writing lab supplement to a basic skills course helped the students persist and succeed in developmental writing and also pass transfer writing (Villarreal & García, 2016). Because the original method of finding only recurrent, validated studies for Barhoum's model applied, it would make sense that this new finding be added.

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*There is very little research on community college use of computer labs as part of the structure.*

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Three main potential research questions arose from the findings of this study. The analysis completed for this study refers only to structural practices. Future research could focus on the curricular domain to see what types of assignments and readings are being used inside the classrooms of successful professors. Researchers could also look at the andragogical approaches professors are using. How are educators teaching the material? What techniques are they using inside the classroom? Finally, how are educators focusing on the relational domain? The most current equity efforts and research about students of color is showing that this is the least focused on area, but it could have the most impact. How are professors and colleges relating to students and making them feel like they belong? Developmental students have been shown to be the least confident in their academic abilities; therefore, if the best relational practices are used then the benefits could be significant.

## Conclusion

Dougherty, Lahr, and Morest (2017) state that three reform trends are happening in developmental education nationwide: (a) increasing high school effectiveness so remediation is unnecessary, (b) changing assessment policies, and (c) modernizing teaching. These reform trends overlap with the

analysis and findings of this paper's study. Moreover, it is imperative that the techniques discussed here be applied because the developmental pipeline is filled with social, racial, and economically disadvantaged students. If educators' goal is to make the most effective changes to increase student success, then colleges should take these empirically validated techniques, implement them as soon as possible, and continue to evaluate their impact to make significant positive changes.

This analysis intended to find the most promising structural practices for community college developmental writing programs. Every technique supported in this study points to a rethinking of community college's structural practices. The best possible way to help students succeed is to individualize support for each student and to think of ways to amplify current most promising practices. For example, some students may need mandatory tutoring from a peer and others may need more personal help with a professor. Some students may need help in class while they write, and some may need help in class with life issues. Small class sizes allow for more personalized support, but colleges need to consider building in class time so that educators can assist students in more varied ways. Educators, including advisors, also need to be better trained on how to address students with a much wider range of academic and life challenges. This would lead to a rethinking of how we treat and support students, starting with the assessment process and structural domain.

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