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SPECIAL EDITION | NADE 2015 CONFERENCE ARTICLES

The *NADE Digest* includes articles of interest for developmental education professionals including developmental educators, learning assistance personnel, academic counselors, and tutors who are interested in the discussion of practical issues in post-secondary developmental education.

This special NADE 2015 Conference Edition includes articles from conference presenters that represent a wide variety of topics and perspectives.

We invite you to enjoy reading about the great work being by your colleagues and to consider how their research might inform your own work.

NADE Digest submissions

Articles should relate to issues that inform and broaden our understanding and practice of teaching and learning in developmental education. The subject of the article may emphasize innovative approaches, best practices, how meaningful research effects teaching and learning, or techniques to enhance student performance.

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Benefits of the NADE Certification Process: Self-Knowledge, Informed Choices & Programmatic Strength

Dana Greci, University of Alaska, Fairbanks

Editors' note: The NADE Certification Council thanks Professor Greci for this article in support of the certification process.

Research shows that systematic, ongoing program evaluation is needed to adequately assess the effectiveness of developmental programs (NADE, 2010). Ongoing evaluation provides both (1) validation of programs to educational institutions and legislators and (2) impetus for program improvement. I work in the Developmental Education Department at University of Alaska Fairbanks (UAF), where I recently coordinated our department's National Association of Developmental Education (NADE) certification program evaluation. Becoming NADE certified was an incredible learning process that produced fruits beyond what we ever would have imagined when we were starting out. Both in terms of professional development for faculty and the development of a stronger program for our students, going through the NADE certification process was indispensable.

Applying for certification was a long-term project, and thus daunting at times, but with NADE's untiring assistance, supportive administrators at our university, and a good-sized table in my office, I was able to coordinate this effort. Our study team broke down the certification process into the following steps, according to the NADE application instructions. First, we researched our program's historical background. Second, we described our program's organizational structure and its location within the university. Third, we examined the mission statements of the university, the college in which we were located, and our program. Fourth, we elaborated our program's theoretical foundation. We documented program content, collected and analyzed baseline data, completed a department self-study, and determined the strengths of our program. We identified areas needing improvement, proposed feasible improvements, and chose and implemented the action plan that we would study. Last, we collected and analyzed comparative data after the action plan had had time to take effect.

The key was breaking down the work into these pieces. As the coordinator of our program's program evaluation, I didn't try to do everything at once but approached the work in the order that we needed to present it to NADE in the final document we turned in to them. NADE was so supportive that we felt comfortable checking in with them at any stage of the process, whenever we had questions about what we were supposed to do or the quality of our work.

I. Accumulation of Knowledge

The evaluation process encouraged a prodigious accumulation of self-knowledge. The first project was to write up our program's history for NADE. For us, this involved interviewing a lot of faculty and staff, to pull together a complete picture of what had happened in developmental education at UAF during the previous thirty years.

Our program had its roots in the community colleges and rural education centers located around Interior Alaska during the 1970s. In the 1980s the Cross-Cultural Communications Program was started in response to the needs of those same students. In the 1990s a Developmental Studies Committee was formed to establish more DEV classes and to review DEV curriculum. In 2003 the Department of Developmental Education was founded, and with it, the DEV program accumulated more power within the university hierarchy. All these pieces when looked at together showed clearly why our department was here, and what had

been done to serve our unique and developing student body, which stretched from urban Fairbanks to rural (off the road system) communities.

NADE asked us to provide organizational charts showing the place of our program in the university. Acquiring and presenting the organizational charts helped us gain clarity of the location of our department within our college and of who oversees each part of the system. But with NADE's assistance, this task also helped us to see where information and action were getting stuck in our system, and to see how administrators, teachers, and students shared parallel goals. We were able to put these findings to use as we made future programmatic changes.

We looked closely at our institution's mission statement, which included UAF's priorities as an international research center. We compared the institutional mission statement to the mission of our department to make educational opportunity and success possible for all students. We felt, and still do feel strongly that access without support is not opportunity. Our mission statement and the university's conflicted in these areas. Obviously, it is important for a department's mission statement not to be superseded by its institution's; it became clear that this was an important area of focus for our programmatic work.

Developing the theoretical foundations section of the evaluation is challenging for many programs, but very empowering. Like so many developmental programs, ours was founded most directly on best practices as outlined by NADE. NADE asked us to look more deeply at the specific theories that underlie the way we teach our classes. (When doing reviews of other programs as a Certification Council reviewer, I have found that many programs do not have a clear, well-developed theoretical framework.)

Once again, this became an opportunity to gain greater understanding of our program. During this process, we learned more about the theories that were central to the foundation of our program: in our case, these were Student Personnel Point of View, Democratic Theory, and Constructivism. We now have a well-written elaboration of the theoretical foundation for our program, and this work of other educators and researchers serves as strong support for what we believe and why we do the things we do.

Because we were working on a NADE certification project, we had access to institutional data we had not had access to in the past. In fact, it had been especially frustrating to us that administrators had access to data about our program and misinterpreted it regularly, while we had no opportunity to collect and analyze data about our own program. Assisted by NADE and our Office of Planning, Analysis & Institutional Research, we were able to define for ourselves what data we wanted to see and accumulate a solid body of quantitative data on our program. This data covered a six-year period (Fall 2005–Summer 2011) and helped us study our NADE action plan, the implementation of mandatory placement (which occurred in Fall 2007–Spring 2008). We compared baseline and comparative data on our program and compared our data to similar national data.

The best way to analyze the comparative data was through a team process, assisted by Planning, Analysis and Institutional Research staff. My personal background for coordinating this study included a master's degree in Community Psychology, but it had been years since I had done quantitative research. By working with faculty in each of the areas we were studying, with the help of the research staff who had helped us to gather the data, we were able to look very closely at our findings.

Some data confirmed what we already knew, for example that more students took developmental courses when mandatory placement was in place. Other data

prodded us to ask why surprises were showing up, and that was a very fruitful area for discussion indeed. For example, we still didn't know why many students still were not enrolling in the appropriate courses in spite of mandatory placement. Writing a results section that analyzed baseline and comparative data and their relationship was also a team project, which helped us to identify the important findings and present them in ways that are clear to an audience reading our work. NADE Certification Council review teams often work closely with faculty and staff on this section of the evaluation.

II. Informed Choices

This accumulation of knowledge fostered what might have been the most important benefit of the NADE certification process: it helped us to make more informed choices than we'd been able to make before.

For example, as we studied the mission statements, it became clear that our mission was often buried in the missions of our university and our college, hindering us at times from working more successfully with other departments with whom we needed to collaborate and leaving us unable to receive funding for any but our rural students.

The NADE self-study helped us identify our strengths and our primary goals. Hunter Boylan, David Caverly and Irene Doo came to UAF to do an external study for us early on in our process. The action plan we chose for our NADE study was recommended by them and confirmed by our faculty self-evaluation. This evaluation included looking as a group at baseline data. Boylan's expertise speaks well to this process: he says that most programs fall into the average category, and the point is not to compare ourselves to some "mythical standard," but to identify the strengths and weaknesses of the program.

Working as a study team to identify the areas most needing improvement, proposing solutions, and choosing to work on improvements expanded our clarity about where we wanted to focus our energies. It required coming to an understanding of where we had control and where we didn't, and of where we wanted to push on the system given what was possible. One by one we filtered out proposals that didn't make sense at the time, resulting in an action plan grounded in self-study and baseline data that showed the need for this action.

By analyzing data, we acquired quantitative support for goals we'd had for a long time, and we were able to add to the growing understanding at the university that these goals were worthy of immediate action. We found that our action plan, implementing mandatory placement, was a positive step, but wasn't working as fully as it could. Many recommendations were made for improving mandatory placement, most having to do with increasing the amount of specialized advising for students in general. This was an essential finding that influenced subsequent decision-making at the department, college and university levels.

III. Increased Confidence

The list of areas needing improvement always seems long where developmental education services are concerned; this can be trying to developmental educators as the years go on. Many aspects of the certification process helped us build confidence in the face of such concerns. The self-study, for instance, identified our program's strengths: we saw that we had well-trained faculty with common goals and objectives, who provided varied instructional methods based on learning theory, assessed students regularly and gave them prompt feedback, provided support services to rural and urban-based students, and used formative evaluation strategies to refine and improve courses and services. The self-study made it easier to see these strengths. We became more confident about what we had to offer, and presented these strengths forward to administrators. We also were able to see

that our centralized program with its clearly defined mission, goals and objectives was a great strength, and we even found that we had institutional support higher than that which is found at most research universities. Having data to support our strengths gave us confidence and a positive focus.

With strong data came an increased opportunity to speak to and acquire funding and other support from our administrators. The quantitative data, especially, was required for speaking to our University of Alaska President. We were able to enter into that sort of conversation with our deans and use numbers to explain why we supported mandatory placement, intensive developmental advising, and other programmatic supports for students. Putting mandatory placement at the center of our study helped make it more likely that effective placement for our students would remain in place for our students.

IV. Assistance from NADE

If you are considering engaging in the certification process, always remember that the NADE Certification Council is there to support you as you go through key points in the process. For example, the choice of action plan is important to the certification process because the analysis centers on seeing how the action plan does and doesn't work. This is an area where NADE's involvement can be useful since the action plan needs to be well-focused, specific and precise.

The NADE certification guides helped us identify the best variables for our study. They gave us guidance as to which variables to measure but also gave us enough freedom to design our study specifically, so as to make it effective for our particular institution. For instance, though grade distributions for developmental courses were required (that's just one example of a required NADE variable), we were also able to study "retention through 24 credits," a variable that made sense for us at UAF.

Wording the goal of one's study is one of the most challenging parts of the certification process. But doing this well helped us become more precise in defining exactly what action we were trying to put into effect. Choosing the correct variables to study was also essential. These were places where coordinating with the NADE Certification Council helped ensure completion of a precise, well-focused quantitative study. Linda Thompson, Val Hampson and Karen Patty-Graham, along with our specific review team members, were always available to help us.

V. Empowerment

NADE provided the support and structure to help us develop our ability to do continuous and systematic data collection, evaluation and assessment. It's not that we hadn't been doing these before. But NADE provided a system of evaluating and assessing our program that was very structured. That structure enabled us to learn about ourselves, develop confidence, and become more powerful in our ability to support our students. We continue to use that structure of study even now that we are certified: it helps us do a stronger job on institutional program review requirements, as well as student learning outcomes assessments. We are empowered now, not just by our certification but also by what it means we know how to do for our students. We are proud of our accomplishment and recommend this process to everyone.

Dana Greci is associate professor of developmental English in the Department of Developmental Education at the University of Alaska, Fairbanks.

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Advances in Online Developmental Education: An Accelerated, Synchronous Approach at Rasmussen College

Brooks Doherty, Rasmussen College

Driven by faculty-based action research, redesigned residential and online courses, and changes to placement testing, Rasmussen College increased its developmental education pass rates by double digits while decreasing the number and percentage of students who require remedial coursework. Like many institutions of higher education, Rasmussen College prioritizes developmental education given its impact on new-student experience, graduation, and overall institutional health. In 2012, the college committed to an overhaul of developmental education in an effort to improve outcomes. At the time, Rasmussen College's developmental education experience included four courses into which student were placed through examination: 1) integrated reading and writing, 2) pre-algebra, 3) intermediate algebra, and 4) geometry. Pass rates fluctuated by term, but often hovered around 50percent, meaning the other half of the student population were either failing or withdrawing. This required reform.

Rasmussen College is a regionally-accredited college founded in 1900 near Saint Paul, Minnesota. A career-focused, baccalaureate institution, Rasmussen College offers online, on-ground, and blended courses, though most of its learning seats—including approximately 85 percent of those in developmental education coursework—are online. Thus, the challenge was not only to improve the developmental education experience, but to do so in a largely online environment.

Characteristics of Change: Changes in Placement and Assessment

First, Rasmussen College improved how students were placed into developmental education. In addition to its entrance placement assessment, which measured prospective students' abilities in writing, reading, and mathematics, Rasmussen College implemented test waivers based on prior college success in mathematics and English. Students earning C grades or higher in college-level mathematics and/or English courses prior to enrolling at Rasmussen College are eligible to waive the corresponding portion of the assessment, thus eliminating the possibility of developmental education double jeopardy. From 2012 to 2014, this new policy and other factors reduced the college's remediation seat total by 13 percent while the persistence of new Rasmussen College students remained steady.

Developmental Education faculty were, and remain, the cornerstone of our remediation successes. Beyond classroom delivery, faculty led the design of Rasmussen College's remediation courses. Crucially, faculty also met weekly with the Dean of the School of General and Developmental Education to share positive and negative trends they were seeing in their classrooms. With the assistance of an instructional designer, the dean and faculty were able to make swift changes to the course designs in the vein of action research, which uses ongoing assessment and action to improve outcomes.

Acceleration

Since 2011, a growing body of literature has emerged from the Community College Research Center (CCRC) and other organizations which supports the effectiveness of accelerated developmental education. Given these data, and support of faculty designing the courses, Rasmussen College chose to accelerate its new developmental education courses. Under this new structure, students would complete their developmental education courses in roughly half the time needed to complete non-remedial courses. Despite this acceleration, the number of contact hours, and the amount of content and assessment did not decrease.

STUDENT QUOTES

"I am one who hated math because I couldn't understand it. I came into this class with the attitude that I was going to fail and have to retake the class. I am SO amazed that my average is in the 90s and I have even gotten a score of 100 on a test! I really amazed myself! Just take plenty of notes so that you can go back and look at examples and how to do the problems."

"The demonstrations really help. There is still a lot I don't get, but with these videos I am beginning to understand."

Achieving this balance between acceleration and a positive, yet appropriately challenging, new student experience required a new model for accelerated course design: Rasmussen College's model is a confluence of synchronous learning, formative assessment, media-rich demonstrations, and student voice.

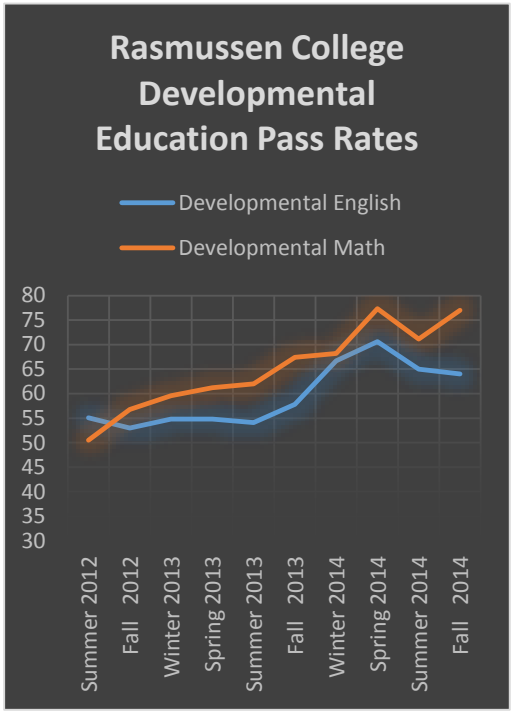
Synchronous Learning
Given the high percentage of students who complete their developmental learning online at Rasmussen College, the new course design placed significant weight on mandatory synchronous, collaborative learning. Students participate in live online sessions between one and three hours' duration, during which faculty facilitate exploration of the week's content. This provides a space in which online students can practice, make mistakes, receive encouragement, and collaborate with faculty and peers. Students taking their developmental education courses in residential or blended settings rely on their in-person time for this collaboration.

Formative Assessment and Media
Additionally, students in the new developmental education courses are provided with asynchronous, faculty-built media. Students in the developmental mathematics courses participate in weekly discussion forums by first watching recordings of faculty working through problems on an online white board. Faculty sometimes solve the problem correctly and occasionally make "mistakes" which students are asked to consider. Students then reflect on the process and apply. In developmental English, students are provided a series of ungraded, media-rich, low-stakes formative assessments leading up to summative assessments.

Motivational Framework
Shortly after the new courses were launched, despite some increased success rates among engaged students, Rasmussen College faculty continued to see disengaged developmental education students failing and withdrawing. This was deemed our *Zero Trend*, meaning multiple zeroes in a student's gradebook often trended toward their failure. In an attempt to increase engagement, all developmental courses were adjusted to highlight student inclusion characteristics. The literature which drove this effort was *Diversity & Motivation: Culturally Responsive Teaching in College* by Ginsburg and Wlodkowski (2009). In it, the authors posit that when four key characteristics—*inclusion*, *meaning, attitude, and competence*—are present in the design and delivery of college courses, adults are more motivated to learn and persist.

Examples of this motivational design include asking students to discuss their path to college in our synchronous online classrooms, addressing *inclusion*. English students write about a person in their lives with whose decisions they disagree. Building *attitude*, they are asked to think critically about why they disagree and offer preferred outcomes. In developmental mathematics, our students build *meaning* and *competence* by solving mathematics problems in backward fashion, then consider other problems in their lives or communities which could also be solved backwards.

While, as you see, pass rates have increased, the college is still gathering data on the Motivational Framework's impact on our *Zero Trend*. Rasmussen College remains focused on continuous improvement of its developmental education experience, utilizing student data and faculty feedback to improve student learning outcomes. Despite the considerable changes in 2012 to an accelerated, partially synchronous online learning experience, our student success has grown out of quality course design consistently vetted and improved by faculty engaged in action research. This model has not only benefitted our students and courses, but is also conducive to faculty acclimation to non-traditional course design and delivery.



Brooks Doherty is dean of business and general education at Rasmussen College; he is located in the Twin Cities, Minnesota office.

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Reflective Practice and North Carolina's Developmental Reading and English Redesign Efforts

Lori Dees and Emily Moore, Wake Technical Community College
Chad Hoggan, North Carolina State University

Abstract
As developmental education practitioners in the midst of North Carolina's Developmental Reading and English Redesign, we are interested in researching best practices for instructional design and application. We discovered that the principles of reflective practice pervade much of the literature on program planning and practice, so we began to question whether those principles were guiding our redesign efforts. We intentionally incorporated reflective practices to discover whether our experience mirrored this contemplative theory. In this article, we present an overview of our experiences incorporating reflective practice into our redesign efforts.

In recent years, the phrase *reflective practice* has been increasingly used in teaching and learning literature. The notion of reflection in teaching practice was introduced in 1910 when John Dewey published *How We Think*, a book that centered on reflection as the predominant mode of reason. It is widely accepted that effective teaching skills are learned over time and are honed by applying effective techniques, often involving thoughtful collaboration with fellow practitioners. Thus, reflection in itself may lead to enhanced skills in practice. Brookfield (2002) proposed that improvement happens as a result of intentional collaborative reflection. He suggested intentional collaboration would help teachers overcome a sense of isolation and, therefore, improve their instructional practice (Brookfield, 2002).

In North Carolina, redesign efforts in developmental education are presenting community college instructors with new opportunities to engage in collaborative reflection. In 2010, the North Carolina State Board of Community Colleges began the SuccessNC initiative, which called for a redesign of the state's community college developmental education programs, claiming that in the best interest of students the existing format was in need of an overhaul. In an effort to improve student persistence and reduce dropout rates, North Carolina commissioned a task force to determine how to best combine and accelerate developmental education courses in reading and English. This task force outlined basic parameters for institutions across the state to follow in their reading and English courses. The task force also developed a list of Student Learning Outcomes for community colleges to use statewide.

The parameters notwithstanding, planning in North Carolina's developmental education programs has been widely varied as colleges redesigned their developmental courses. Over the past year, we employed intentional reflective practice while engaging in our course redesign work. As part of these efforts, we participated in and documented our reflections through a collaborative online journal. Following our collaborative efforts, we invited our department to participate in our own reflective activities.

Theory of Reflective Practice
As part of our ongoing planning and reflection during our redesign efforts, we have explored many aspects of reflective planning and practice. In doing so, the theoretical works of Stephen Brookfield informed what we did, as we considered him a leader in examining learning through reflective practice in educational contexts. Through this lens, we endeavored to operate in a reflective atmosphere while resisting the natural barriers of time constraints and exposure that present themselves over time. We felt that, with the right intention and meaningful reflection, program planning could result in better teaching practices fostered by committed instructors.

Brookfield (2002) contends that community college teachers can capitalize on critical reflection through the use of four lenses: the autobiographical lens, the perspective of one's students, the perspective of one's colleagues, and the lens of educational scholarship itself. In using the autobiographical lens, the teacher reflects on his or herself as a learner and explores the ways in which learning increases subject knowledge and skills and influences teaching. Through the student's perspective, the teacher gathers feedback and gauges progress on a regular basis, enabling the instructor to get a snapshot of where the learners are in the process and thus make any adjustments. Brookfield (2002) views the third lens, colleague experience, as one in which "teachers use one another as critical mirrors and sounding boards" (p. 34). It is through the development of interpersonal relationships and the discussion and sharing of ideas with colleagues that teachers can view their own practice as one not in isolation but in the context of community. In the fourth lens of educational scholarship, Brookfield (2002) contends that by turning to the literature and developing a research/teaching nexus, teachers can find sources that address challenges they face. At the heart of Brookfield's (2002) assertion is the belief that reflection occurs contextually, critically, and with intent to examine the assumptions that frame one's teaching practice.

What We Coordinated

Brookfield's theory informed our efforts as we began the yearlong process of redesigning our developmental reading and English courses. Each stage of our development progressed through two of Brookfield's four lenses, including an online collaborative journal that promoted subject knowledge and skills, and departmental work that encouraged interpersonal relationships. We were not able to utilize the student lens at this point, as we had not implemented the redesign yet. We also did not formally utilize the theoretical lens because many instructors in our department were working on a master's degree and thus were exposed to the theory and research in our field. For us, we felt the autobiographical lens and colleague lens were the two areas that needed the most attention.

Online Collaborative Journal

The primary means of reflection during this time was a journal [name withheld] and [name withheld] shared using Google Docs that we based on Brookfield's first lens of "autobiographical experience." The journal originated during an online independent study course we were taking together. We both committed to commenting in the journal twice a week during our semester-long course. We took turns beginning the conversation and responding to one another. Our conversation followed the content of the textbook we were reading together on program planning and the questions and concerns that surfaced during the development of our new reading and English curriculum. We began to feel free to question one another on what we were doing with the redesign. The question and answer dialogue proved to be the most useful because it prompted us to address topics and issues on the redesign, such as what textbook we would use and how our lab time should be designated. Our subject knowledge and skills in the redesign began to develop and helped us take a more critical look at our planning.

Departmental Reflective Work

Our secondary step was to involve our colleagues in our department with emphasis on Brookfield's third lens, encompassing collaborative reflective work. To do so, we planned and incorporated reflective activities in our department meetings and began to explore reflection as a tool to open doors for improvement.
In one activity, we created a brief questionnaire to prompt reflective thought. Each instructor spent fifteen minutes answering the reflective questions alone. After we recorded our thoughts, we shared our answers through a guided discussion. Conversation grew and crossed avenues we did not imagine when

developing the activity. After an hour, the large group discussion transformed into smaller group discussions amongst colleagues with similar concerns. Important aspects of the redesign were questioned during this forum. As a department, we delved into the areas of vocabulary and grammar instruction and the refinement of our grading schema for the new pass/retake aspect of Developmental Reading and English. Because we specifically set up time to focus on reflection and to foster interpersonal relationships, we were able to clarify important aspects of the redesign before implementing it.

What We Discovered: Experiences with the Online Collaborative Journal

Utilizing an electronic journal to reflect during the planning process was both useful and practical. Because of our commitment to the journal, we were able to communicate several times a week when our otherwise busy schedules may not have allowed us to have face-to-face conversations. Collaborative journaling has been an important tool in our quest to build our knowledge and skills while incorporating reflection and action. Lupinski et al (2012) supported our choice, explaining, "The literature clearly states that reflective journal writing for teachers/students undertaking their field work experiences is a key component to becoming a skillful reflective practitioner" (p. 84). Our journaling informed choices we made in our group planning and helped us develop goals and stay focused on reflection.

Using our online journal in Google Docs, we discussed ways we could integrate new methods in our redesigned classes. Because there are so many elements involved in integrating traditional Developmental Reading and English, such as how to fit in all required SLO's, reduce two sixteen-week courses to one eight-week course, and choose a textbook and create curriculum, instructors can easily overlook important elements like how to teach grammar in planning. Following is an example of a journal exchange that led to a discussion of incorporating experiential learning into the redesigned courses.

> *Emily: p. 53, Experiential Learning: The idea of doing a formal needs assessment or target audience analysis intrigues me, and I guess those are covered in chapters five and thirteen. I do a very informal assessment of my students' experiential learning with an open-ended prompt I use to assess prior knowledge and experience at the beginning of the semester, and I do this at my clickers workshops by polling the audience about their experience with clickers at the beginning of the workshop, but I am not sure if or how we are doing this with the redesigned courses. Lori: I really connect with the idea of experiential learning. In writing, I ask my students to complete journal entries based on experience several times during the semester. The way our current essay prompts are also allow for experiential learning reflection. I think we could easily incorporate experiential reflection into our planning. We have time planned for in-class writing, so we could use some reflective writing for this assignment.*

Taking the time to journal about innovative ideas and how these might improve our courses led us to a deeper level of understanding about specific topics like experiential learning, summary writing, reading comprehension, essay grading, and grammar instruction that are key to our overall comprehension of how to teach integrated courses effectively.

In our collaborative journaling exercise, we recognized that our experiences as instructors, and our perceptions of those experiences, were exposed. Coming from different disciplines, we approached teaching and learning from slightly different vantage points. Reading instruction focuses on elements like vocabulary and annotating, while writing instruction focuses on elements like essay organization and grammar. In our journaling, we had to build a safe space to bare our true

reactions to our discipline-specific materials and assessments, reading and English colleagues, and redesign planning.

We accomplished establishing a feeling of a safe space by setting goals and agreeing on expectations each week (Parkes & Kajder, 2010). We committed to specific weekly readings and journal entries that included reactions, questions, and responses. These expectations encouraged us to share our reactions from our own perspectives as a reading and English instructor and to question one another in the process. This fine-tuning helped build our safe space. Consequently, our goals grew from these expectations. We developed specific plans to incorporate our findings into our program planning with our colleagues and strove to become leaders in creating a safe space for them. Having a plan at the start of every week allowed for a focused and shared understanding of what we were expecting of one another. Thus, we overcame fears of incompetence through a shared understanding of goals and agreed upon mutual respect and patience.

Experience with Departmental Reflective Activities

Because of our research and reflective journaling, we realized we needed to be more deliberative about our reflective planning in our department and that we needed to focus on our interpersonal relationships and involve our colleagues. As part of this effort, we proposed we each take an online survey to determine our individual teaching philosophies (Zinn, 2001). The survey asks instructors to read a sentence and rate how they feel about each option on a scale of 1 (strongly disagree) to 7 (strongly agree). Survey results indicate which philosophical tradition (liberal, progressive, behaviorist, humanist, radical) most strongly informs the work of the instructor. Identifying our own philosophies was a key step in reflecting on the past choices we made in our own classrooms and in understanding how we relate to each other while planning the redesign when we have different viewpoints.

Action and Collaboration Support Reflection

In hindsight, a key realization for us was that when we did not intentionally plan for reflective practice, we often did not realize that we had missed reflective opportunities. While reflection on planning for our redesigned program should arguably be at the top of our list of responsibilities, it typically takes second place to our normal daily duties. Most instructors juggle several different obligations, such as teaching, completing yearly objectives, and serving on committees; thus little time for reflecting exists. In many instances, we have so many commitments that we have to sacrifice reflection.

To overcome these barriers, we found it helpful to think of reflection as a collaborative way to put our best ideas into action. If we approach reflective practice as a two-step process, the first step is reflection, and the second equally important step is action. The acts of reflection and action are often performed collaboratively, with groups of practitioners working together to improve practice and devise solutions to problems. In our group of practitioners, we reflected together on our daily classroom experiences and identified elements of the redesigned courses that did not reinforce our objectives. Because we shared our reflections with one another, we could brainstorm solutions and act on our ideas to improve materials like reading guides or tests or activities like literary circles or in-class drafting. Brookfield (2002) argued this is the best way to reflect. Forming collaborative groups enables teachers to overcome feelings of isolation and to improve practice. Continuously reflecting is a necessary component to raise the standards in planning and teaching. Kane et al (2004) noted, "the term *excellence* [signals] an on-going process of self-improvement, rather than a measurable end-point" (p. 287). Thus, reflection is a continuous process and must occur repetitively, so instructors continue to evolve as the teaching climate changes.

Instructors who want to make a difference in the lives of their students know they must be excellent in both their teaching and their planning, and reflection can help set this change into motion. Purcell (2012) explained the benefits he gained from a reflective practice, which included improvement as an educator, improved course preparation, and improvement as a sociologist. We believe all educators have the potential to experience similar benefits with increased focus on intentionally reflective practice.

Right now, reflection is informally occurring on campuses. This method of teaching and planning would be much more effective if teachers formally included it as part of their practice. Five to fifteen minutes intended for reflection at the end of the day can build a reflective habit without costing instructors time from other responsibilities. Intention leads to more successful reflection and planning coming to fruition. What the teaching community needs are potential strategies on how to integrate a reflective community and make it work. Brookfield (2002) stated, "A critically reflective stance toward the practice of community college teaching can help teachers feel more confident that their judgments are informed and leave them with energy and intent to do good work" (p. 31). We need to break past our barriers in order to understand what reflective practices will work best.

At our community college, we have begun to explore the electronic forum. Blackboard also seems to be a viable learning management system for us to create a reflective forum for our instructors going forward. With the proper intentions set at the beginning, with leadership, and with a community whose members are familiar with each other, we believe an electronic medium could work to build knowledge and skills and enrich interpersonal relationships. Lupinski et al. (2012) said it best when they stated, "Reflection is a gift professionals can use to grow from experiences" (p. 82). This gift allows us to work together to create the soundest programs to best serve our community.

Lori Dees is an instructor of Integrated Reading and Writing, Wake Technical Community College; Emily Moore is associate professor and lead instructor of Integrated Reading and Writing, also at Wake Technical Community College. Dr. Chad Hoggan is assistant professor of the Adult, Workforce, and Continuing Professional Education; program coordinator for the Graduate Certificate in Teaching, Training & Educational Technology; and program coordinator, M.Ed. in the Training & Development (online) program, North Carolina State University.

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ACLT 052: Academic Literacy—An Integrated, Accelerated Model for Developmental Reading and Writing

Sharon Moran Hayes and Jeanine L. Williams
Community College of Baltimore County

Abstract
The current trend in postsecondary literacy is to offer developmental reading and writing coursework in an integrated, (and in most cases) accelerated, format. This move toward integration and acceleration is definitely in line with the research literature; however, many of these new courses do not reflect the curricular and pedagogical reforms necessary for student success. This article outlines ACLT 052, an integrated, accelerated developmental reading and writing course that emphasizes critical thinking. Using an academic literacy model, this course allows students to sharpen their college-level literacy skills, while also addressing the affective barriers to their academic success. The specifics of the curricular, pedagogical and assessment practices of the course are provided, along with data demonstrating the positive impact it is having on student success.

Currently, colleges across the nation are embracing integrated reading and writing courses in place of the traditional developmental reading and writing pathways. While this is a move in the right direction, very few of these new, integrated courses actually address the curricular, pedagogical, and affective barriers that have stifled the success of students in traditional developmental reading and writing courses. In addition, many instructors struggle with teaching reading and writing in a truly integrated manner. The purpose of this article is to outline the curricular and pedagogical components of *ACLT 052: Academic Literacy*, an accelerated, integrated developmental reading and writing course at the Community College of Baltimore County that allows students to sharpen their reading, writing, and thinking abilities while also learning to "understand themselves as learners who can negotiate the complex, multifaceted literacy demands of college" (Holschuh & Paulson, 2013, p. 10).

Background
The Community College of Baltimore County is a large, multi-campus institution in the Baltimore metropolitan area that serves over 70,000 students—about 30,000 of which are enrolled in college credit courses. The student body is very diverse, with most students attending part-time (66 percent). The average student age is 24 years, and they are mostly female (59 percent) and non-white (53 percent). At least 80 percent of incoming students require at least one developmental course in reading, writing, and/or math. For developmental reading and writing, the traditional sequence consists of four separate courses: RDNG 051 (5 semester hours); RDNG 052 (4 semester hours); ENGL 051 (4 semester hours); and ENGL 052 (3 semester hours). Thus, depending on their placement scores, students would need to complete up to 16 semester hours of developmental coursework before they could enroll in college-level courses. This extensive pipeline and several other factors—both external and internal to the college—led to the development of this course.

The external factors include the changes in federal financial aid guidelines, which limit the amount of time and aid that students can spend taking developmental coursework, and the Completion Agenda, where community colleges have been charged with significantly increasing the number of students who complete their degrees and certificates within a shorter time frame. Along the same lines, the Maryland Legislature recently passed Senate Bill 740, which among other things mandates that there be an option whereby developmental students can complete their developmental course requirements and take the gateway college-level course by their second semester of enrollment. In order to be in compliance with

these federal and state legislative mandates, rethinking the structure of our developmental coursework became imperative.

In terms of the internal factors, CCBC has witnessed a dramatic shift its student body. Students who enroll at CCBC are increasingly less prepared for college-level work—as previously mentioned about 80 percent of new students require one or more developmental courses. Along with this, there has been an increase in enrollment among students with documented learning differences that require special accommodations. Furthermore, CCBC students are increasingly more likely to come from less-resources backgrounds as many of our students live at or below the poverty line. Consequently, these students face great financial and life challenges that require them to juggle family and work obligations, while trying to successfully complete their coursework. Perhaps the most compelling impetus for designing this course is the success data for students taking our traditional, multi-level sequence of developmental reading and writing coursework. As indicated in Table 1, only 17 percent of these students successfully complete *English 101: College Composition* within four semesters. From this data it was concluded that the traditional developmental reading and writing course sequence had too many exit points, where students would drop out prior to completion. *Note: Students who place into our upper level developmental reading and English courses (RDNG 052 and ENGL 052) are excluded from this data since they primarily enroll in the ALP program, and are therefore, not a suitable comparison group for ACLT 052.*

TABLE 1: ENGL 101 SUCCESS RATES (TRADITIONAL SEQUENCE)

Fall 2010 Semester	Number of students Enrolled	Number of students who then enrolled in ENGL 101	Pass Rate for those who enrolled in ENGL 101	Passed rate in ENGL 101 for those in the original cohort
Students Enrolled in all combos of 051 and 052 (except for ENGL 052/RDNG 052 placements)*	711	26% (182) By Spring 2012	67% (of the 182 students from the original cohort of 711 students)	17% (122) In 4 semesters

Note: Students who place into our upper level developmental reading and English courses (RDNG 052 and ENGL 052) are excluded from this data since they primarily enroll in the ALP program, and are therefore, not a suitable comparison group for ACLT 052.

In consulting the research literature on postsecondary literacy instruction, it was apparent that not only the sequencing of our courses needed to be restructured, but our curriculum and pedagogy as well. Specifically related to the lack of student success in developmental literacy nationally, Engstrom (2008) challenges the decontextualized curriculum and instructional techniques that are used in developmental reading courses. Furthermore, she urges developmental educators to focus on "restructuring how classrooms or courses are taught to meet students' diverse learning needs; engage them in an integrated rather than fragmented, disconnected curriculum; and build foundational skills for college student success" (p. 7). Similarly, Paulson and Armstrong (2010) promote developmental literacy instruction where "learners' cultural and social backgrounds are represented" and that "considers the social, cognitive, and affective aspects of learning" (p. 3). They suggest "a theoretical framework that foregrounds sociocultural models of literacy" (p. 3). This sociocultural model emphasizes a holistic approach whereby

students develop literacy skills through meaningful and relevant reading, writing and thinking activities (Gee, 2001; Holschuh & Paulson, 2013; Lankshear & Knobel, 2006; New London Group, 1996; Paulson & Armstrong, 2012; Street, 2003).

Along with the theoretical aspects of developmental literacy instruction, the current trend in developmental coursework is shortening the pipeline to college-level, credit-bearing coursework through acceleration. The primary definition for acceleration is "the reorganization of instruction and curricula in ways that facilitate the completion of educational requirements in an expedited manner" (Edgecombe, 2011, p. 4). This involves "a departure from the multi-course sequence in favor of a streamlined structure that ultimately better supports students' college-level degree program learning objectives" (Edgecombe, 2011, p. 4). Specifically related to developmental literacy courses, acceleration emphasizes academic literacy through integrated courses where developmental reading, writing, and critical thinking are taught in one course with reduced hours (Edgecombe, 2011; Hern, 2010).

ACLT 052: Academic Literacy is an accelerated developmental course that uses an academic literacy model to provide students with multiple, low-risk opportunities to practice authentic, college-level reading, writing and thinking tasks, along with the support they need for mastery. This course is unique in that it is open to any student who places into developmental reading and writing—regardless of their scores on the placement exam. Demographics for students who enroll in this class mirror those summarized earlier for the college as a whole. Furthermore, ACLT 052 reduces students' developmental reading and writing course requirements, which vary from 7 to 16 course hours, to 5 course hours—thus reducing the time and expense involved in reaching college composition and other 100-level credit courses. The focus of ACLT 052 is "practicing college." Assignments are constructed to require critical reading and thinking, along with essay assignments based on comprehension of challenging readings. The ultimate goal is for students to be able to independently read complex academic texts, critically respond to ideas and information in academic texts, and write essays that integrate ideas and information from academic texts. This is accomplished through a skill-embedded curriculum, thinking-focused pedagogy, and growth-centered assessment. Each of these components will be discussed in detail, along with success data for students who take this course.

Skill-Embedded Curriculum

In developing this course, the steering committee decided that while we would not have a set, "one size fits all" curriculum. We all felt strongly that the course would be much more effective if instructors had the freedom and flexibility to design curricula based on their individual styles, and the needs of the students. Instead, we developed guiding principles to give some common parameters for designing our individual curricula. In other words, while the curricula for the various sections of the course may vary, our adherence to the guiding principles is non-negotiable. (In fact, we developed guiding principles for the course pedagogy and assessment, which will be outlined later in this article.)

The guiding principles for ACLT 052 curriculum are:

- The curriculum for the course will not be based on the outcomes for the existing courses; this is a new course, not simply traditional reading/writing skills combined.
- The curriculum will focus on authentic college-level tasks with an emphasis on English 101 and other 100-level credit courses.
- The curriculum will allow students to "practice college" instead of working on pre-college skills.

- The curriculum will use whole, complex academic reading selections instead of just simple paragraphs. In light of this, we do not use traditional developmental reading and writing textbooks.
- The curriculum will address affective issues through themed units, assignments, and activities.
- ACLT 052 is not a literature course, but a critical thinking course that uses reading and writing as a vehicle for this kind of thinking.

It is important to note that while ACLT 052 does not take the traditional sub-skills approach to literacy instruction, faculty are mindful of the reading, writing, and thinking skills that students must possess if they are to be successful on college-level coursework. However, these skills are embedded in the course curriculum as opposed to being the sole focus. To determine the skills that the course should cover, we engaged in a process of backwards mapping—meaning we examined the kinds of reading, writing, and thinking tasks that students are expected to perform in college-level coursework, and we developed skills-based course objectives based on our findings. The course objectives include topics such as the reading process, using source materials, grammar, and essay organization and development. These objectives are fully delineated in the common course outline for ACLT 052 (see appendix).

The curriculum for each section of the course is organized in to thematic units—with most instructors covering 3–4 units within a traditional 15-week semester. The themes for the units are in some way related to the affective or life issues that students grapple with on a daily basis. These themes include topics such as gender, social media, racial and ethnic diversity, social justice, and relationships. For each theme, there are "essential questions" which provide the context through which students critically think about and discuss the key issues and ideas related to the theme. These key issues and ideas are explored through a variety of relevant reading selections, activities, and assignments. In addition to exploring the theme, the readings, activities, and assignments for any given unit also provide students with authentic, contextualized practice with college-level critical reading, writing, and thinking skills. Each unit culminates in a final argumentative essay where students critically engage the issues and ideas discussed throughout the unit—using textual support from the assigned reading and other academic sources to support their claims. Figure 1 presents sample unit plan that illustrates the key components of the ACLT 052 curriculum model. Once developed, each unit plan is executed using thinking-focused pedagogy. This model of pedagogy is discussed in the next section.

Thinking-Focused Pedagogy

At the core of all ACLT instruction is critical thinking. In order for such depth of thought to occur, the onus for learning is firmly placed on the students' shoulders. Instructors act as facilitators, not controllers, of academic growth. With this in mind, the guiding principles for pedagogy are:

- The pedagogy turns historical assumptions on their head; instructors do not assume that "before students can do this, they have to do that."
- All pedagogical activities, both oral and written, are centered on a given theme. This approach allows for more analysis, synthesis, and evaluation.
- The pedagogy relies heavily on active learning techniques.
- The pedagogy uses a "triage" approach to weaknesses in reading and writing which require support rather than lowering the entire curriculum to sub-skills.
- The pedagogy focuses on "growth mindset" towards students and their progress.
- The pedagogy helps grow students' sense of responsibility.

FIGURE 1
SKILL-EMBEDDED CURRICULUM

Unit 1
"We Don't Need No Education":
The Politics of Schooling

Essential Questions
- Does education really empower us?
- What purpose does education serve in our society?
- Is education truly the "great equalizer"?

Reading/Writing Skills
- Academic Habits of Mind
- The Reading-Writing Process

Texts
- "Living in Two Worlds" (Marcus Mabry)
- "Social Class and the Hidden Curriculum of Work" (Jean Anyon)
- "Against School" (John Gatto)

Essay Prompt: *Critical Analysis of Education*
Horace Mann, an advocate of American public education declared that, "*education…beyond all other devices of human origin, is a great equalizer of conditions of men—the balance wheel of the social machinery…It does better than to disarm the poor of their hostility toward the rich; it prevents being poor.*" Guided by this idea, most Americans still believe that education leads to self-improvement and can help us empower ourselves—and perhaps even transform our society.

The reading selections in this unit present several different perspectives on the "politics of schooling" and offer insight on the impact of education. Using these reading selections as a lens, discuss whether or not Horace Mann's idea of education as the "great equalizer" is a myth or a reality.

These six guiding principles are the foundation of what takes place in a typical ACLT class on any given day. They ensure that rigor is maintained and students are engaged. The first day, students hit the ground running and are faced with real academic tasks. Instructors realize that support will be necessary, but a sense of academic culture is planted right away. The thematic units result in student responses which frequently include references to more than one text. Students are engaged for the entire class period on assignments including producing deliverables which hold them accountable for their time and effort. Areas of student need are identified both for the majority of the class and for individuals. Instruction is then geared to the larger group and individuals as needed. In other words, instructors identify what students can do first and then move forward from that point. Students learn quickly that absences will impact their progress, excuses are not productive, and late assignments are not accepted.

A typical ACLT class could include several of the following activities: quiz on assigned homework reading, small group comprehension-based assignment, quick write on theme-related critical thinking question, mini lesson on a timely reading/writing skill, exam preparation, essay planning and drafting, peer editing, instructor-student conferencing. ACLT is a five-hour class with at least 2 hours of computer access. This allows for increased one-on-one time for teacher support in essay development and other necessary conferencing. Students are also encouraged, and sometimes required, to schedule appointments in the College Writing Center. In addition, instructors meet with students privately during office hours. Support is readily available for students who are struggling, and many take full advantage. The timid sometimes need some prodding, but eventually recognize the value of asking for help.

Figure 2 demonstrates the range of activities related to two assigned readings, "Death and Justice" by Edward Koch and "The Ghetto Made Me Do It" by Francis Flaherty. The higher level thinking required by this pedagogical approach leads to more insightful written responses. The students' reading, writing, and thinking abilities are assessed using a growth-centered approach. This model for assessment is discussed in the next section.

Growth-Centered Assessment

The third component to successful Academic Literacy instruction is growth-centered assessment. The measurement of success is correlated with the student's achievement as the semester progresses. The guiding principles which drive assessment are:

- Assessment takes a holistic approach in analyzing student work—look at content as well as grammar and mechanics.
- Assessment uses a progressive approach with more tolerance for less than perfect work early in the semester.
- Instructors provide a lot of "low-risk" opportunities to talk, think, and write before graded, higher-stakes assignments
- Instructors embrace three goals for students:
  - Independently read and understand complex academic texts,
  - Critically respond to the ideas and information in those texts, and
  - Write essays integrating ideas and information from those texts.

Growth-centered assessment requires instructor awareness of student abilities at any given time in the semester. When analyzing a student's work, demonstration of the student's comprehension through written content is foremost. To be clear, grammar and mechanical issues are not ignored, but they are relegated to a lesser significance. Most important is whether the student can clearly discuss the larger ideas and support their claims with evidence from the reading. At the same time,

FIGURE 2
THINKING-FOCUSED PEDAGOGY

The unit essay will require students to relate the selection to their prompt choice and cite specific evidence to support their argument.

Selection choices

"Death and Justice" by Edward Koch and "The Ghetto Made Me Do It" by Francis Flaherty

- Pre-Reading:
  - Free write and discussion: After reading Koch's article, what concerns you about punishment for murder and justice for victims?
  - View and discuss headlines in which young adults and teens are involved in violent crimes.
- During reading:
  - Students read and complete a series of guide questions. These should be limited and serve to enhance comprehension. Examples:
    - Who is Felicia Morgan?
    - What is the "ghetto defense"?
    - Why was PTSD mentioned in the article?
    - How do you feel about the "ghetto defense"?
- After reading:
  - Students take a quiz based on the guide questions. Instructor can decide to allow the use of notes or not.
  - In small groups, students discuss critical thinking questions and collaborate on a required product. Instructor circulates and offers assistance when needed. Examples:
    - How are "cultural psychosis" and "psychosocial history" part of Morgan's defense?
    - Which of the criticisms of the "ghetto defense" is the most disconcerting? Why?
    - What relationship exists between the "ghetto defense" and society's responsibility?
    - What implication does the "ghetto defense" have for the debate over the death penalty?
  - Discussion Board Assignment: Write a minimum of one paragraph in which you relate Koch's argument to information included in "The Ghetto Made Me Do It."

ACLT instructors strive to identify which composition skills students already possess, both as a class and as individuals, and then continually advance their levels of mastery. In order to accomplish this integrated reading and writing challenge, the instructor will provide a variety of lesser value activities for added practice or understanding before an essay is assigned and evaluated. These may include journals, blogs, short question/answer responses, small group collaboration, etc. Ultimately, students are guided to read and understand typical college-level selections, identify the major content of those readings, and write well informed essays which are supported by those same readings.

Assessment of reading comprehension takes place throughout the reading process. Pre-reading activities may include a discussion of a topic or major concept of the reading, an engaging video clip, or a combination of thought provokers. The pre-reading goal is to tap into existing knowledge of the class and individuals. During reading, guided activities are usually assigned to assist the student with comprehension and assess engagement with concepts. These can range from assigned questions to dual-entry journals or other written task. Post-reading assessments vary as well: quizzes, postings online, group collaborations, to name a few. Finally, a major essay is the culminating demonstration of comprehension.

Writing assessment usually starts with some level of prompting leading to a response which requires integration of content from the reading and critical thinking. In order to be successful, students must demonstrate engagement with the ideas presented in the readings. At the same time, the instructor also assesses emergent skills and identifies possible areas for improvement. While not equal in significance, the instructor would also be aware of strengths and weaknesses in tone, audience, organization, sentence structure, grammar and mechanics. Assistance takes the form of "triage" for the developing writer. Comments will include specific encouragements: "Your opening example is clever and thought provoking!" rather than "Great job!" Suggestions are equally specific: "The second sentence of this paragraph would make a much better topic sentence than this one" instead of "This topic sentence is vague." Weaknesses involving diction, grammar, and punctuation are taught in context, on both the individual and group level. Instruction always focuses on the most pressing identified needs first. For example, during drafting and revising, an instructor may do a mini-lesson on comma splices because most of the class is using them, and also have a discussion about sentence variety with an individual or small group.

Figure 3 demonstrates a typical student response along with the types of comments that as ACLT 052 instructor would make. In summary, growth-centered assessment focuses on where the students are in their reading, writing, and thinking development and then moving them forward from that point to success in the higher academic forum.

Instructor Preparation

ACLT instructors are members of either the Reading or English disciplines and therefore possess credentials for their particular areas. A few may have a dual background, but those are the exception. As a result, cross training is essential. An initial workshop concentrates on the model's theory and guiding principles. In addition, during the first semester of teaching ACLT, instructors are required to attend monthly Faculty Inquiry Group sessions. These sessions focus on identified needs and concerns instructors are experiencing as they grapple with the challenges of teaching the class. Topics can include incorporating reading strategies, eliciting higher thinking responses, grading essays, and using portfolios as well as common issues the group brings to the table. First time ACLT instructors are also matched with an experienced mentor instructor who is readily available to offer guidance and support on a more daily basis.

FIGURE 3
GROWTH-CENTERED ASSESSMENT

Student Response and Instructor Feedback

Writing prompt and response

Choose one concept from Paolo Freire's "The Banking Concept of Education" and relate it to one of the other assigned reading selections. Ideas could include: banking education, problem posing education, humanization, and consciousness.

In "The Banking Concept of Education," Paolo Freire favored the problem-posing method of education. This meant the students needed to be a part of what they are learning. It also relates to the world around them. People need to be a part of the world and not just in the world. This is also something that Frederick Douglas realized. He was just another slave, but then he educated himself. He knew he had to do something with his knowledge so when he learned the word "abolish" and he became an abolitionist and a key person in the freedom of slaves. Everyone needs to learn to be a part of their surroundings and not just in them.

Instructor feedback

- Strengths:
  - Student demonstrates some understanding of challenging reading
  - Student cites the concept of problem-posing while incorporating the more complex sub-concept of consciousness.
  - Student can synthesize and apply ideas from multiple texts
- Weaknesses:
  - Student cites the concept as problem posing while incorporating the sub-concept of consciousness.
  - Student uses an awkward and wordy construction in the sentence, "He knew he had to do something with his knowledge …"
  - Student would benefit from instruction in sentence structure variety.

Student Success Data

Since the initial pilot of just five sections in spring 2012, ACLT 052 has grown exponentially and the student success data has been promising. It is important to note that the overwhelming majority of ACLT 052 students (about 85 percent) placed into our lowest level of developmental reading. Thus, the success data reflects the achievements of our most at-risk students, as opposed to the students who place at the higher level. For fall 2012, 2013, and 2014 there was a 58 percent success rate in ACLT 052. This success rate has been maintained despite the increase in sections and students enrolled. In addition, this success rate is comparable, and in some cases higher, than the success rate for the traditional RDNG 051 course. The major difference is that students who complete ACLT 052 are now eligible to enroll on credit courses, while students who complete RDNG 051 must complete up to three additional developmental reading and writing course prerequisites.

Although ACLT 052 pass rates are important, the true indicator of the success of ACLT 052 is in how many students go on to enroll and pass ENGL 101 and other credit courses. As indicated in Table 2 (see p. 20), students who take ACLT 052 pass ENGL 101 at close to double the rate and in half the time of those students who follow the traditional developmental reading and writing course sequence. As mentioned earlier in the article, only 17 percent of students in the fall 2010 cohort in the traditional pipeline complete ENGL 101 in four semesters. On the other hand, 28 percent of the fall 2012 and 27 percent of the fall 2013 ACLT 052 cohorts passed ENGL 101 within two semesters. These data indicate that the integrated, accelerated approach to developmental reading and writing is much more conducive to student success than the traditional, multi-level class sequence. In addition to ENGL 101 pass rates, data are being collected to examine accumulation of credits, retention rates, and graduation rates for students who enroll in ACLT 052. These data are disaggregated by various demographics, such as race, gender, and ACCUPLACER scores. This will allow for any trends among subgroups to be identified.

Note: Students who place into our upper level developmental reading and English courses (RDNG 052 and ENGL 052) are excluded from this data since they primarily enroll in the ALP program, and are therefore, not a suitable comparison group for ACLT 052 students.

Strengths and Challenges

Academic Literacy has serendipitously become the "go to" class for students who test into developmental reading and writing. Students recognize the benefit of completing their requirements in those areas and moving quickly to the credit classes. Since assumptions about what students can or cannot do are ignored, instruction becomes more positive and focuses on what is already achieved so that further growth can take place. Because the rigor of the class challenges them, students are more engaged. They frequently comment that the class demands college behaviors, so they more readily identify as college students. Instructors also enjoy the role of facilitator over pedant. Every ACLT instructor has a "goose bumps" story in which they were moved by a student's achievement. Every ACLT class is different; one never knows if that day's discussion will morph into something unexpected or create a new focus for the next class. Such fluctuation prohibits instructors from "turning on autopilot" while interacting with a class. This interdependency of student ability, instructor guidance, and rigorous mental activity produces quality preparation for credit level class. On the other hand, Academic Literacy has provided some challenges to overcome. The collaboration of two disciplines comes with various concerns about focus of instruction. Once instructors recognize that both disciplines are significantly equal in this model, those issues usually disappear. In addition, this paradigm is very different from the

way many seasoned instructors have been teaching reading and/or writing. Many are used to controlling the design of their class, often focused on insuring total comprehension or writing mechanics. Some feel insecure in their ability to teach the unfamiliar discipline. Therefore, instructors teaching ACLT for the first time need to be trained and mentored. Another challenge is quality control of rigor in all ACLT classes. Required portfolios and their content demonstrate what took place during the semester. The model demands critical thinking and engagement; these non-negotiables are the foundation for growth and credit-level preparedness, the ultimate goals of the guiding principles.

Student and Faculty Response and the Future of ACLT

The response to ACLT 052 has been overwhelmingly positive. Already, students in large numbers are self-selecting ACLT over stand-alone classes. While they admit that the course is challenging, they all report that the course themes and readings are interesting and relevant, and that the assignments and activities are preparing them for the rigors of credit coursework. In addition, faculty much prefer to teach ACLT 052 over the traditional, stand-alone courses—with many citing the curriculum and pedagogy of ACLT as being more in line with what they perceive as their role as a college professor. The faculty also express their amazement in the ability of developmental reading and writing students—most of whom placed at the lowest levels—to read, write, and think with such sophistication. For many, their experiences teach ACLT 052 have revolutionized how they approach the other courses they teach. They all report higher expectations and increased rigor in all of their courses.

In 2012, when ACLT was first introduced, five sections were run over three campuses. As of fall 2015, ACLT 052 is fully scaled, with 55 sections being offered across the college. These sections are running at full capacity—serving just under 1,000 students. Reading 051, the lowest level stand-alone class, has been reduced to five classes over three campuses. Conceivably, this level may disappear altogether. The number of Reading 052 classes has also seen a decrease in number although not as significantly. The rapid growth of ACLT has happened organically and what was developed as an "option" for students has become a major component of the developmental program.

TABLE 2: ENGL 101 SUCCESS RATES FOR ACLT 052 COMPARED TO TRADITIONAL SEQUENCE

SEMESTER & GROUP	ENROLLED	ENROLLED IN ENGL 101	PASS RATE IN ENGL 101	PASSED ENGL 101 OR ORIGNINAL COHORT
Fall 2012				
Enrolled in ACLT (except for ENGL 052/ RDNG 052 placements)*	118	45% (54)	61%	28% (33) in 2 semesters
Fall 2013				
Enrolled in ACLT (except for ENGL 052/ RDNG 052 placements)*	212	49% (104)	55%	27% (57) in 2 semesters
Fall 2010				
Enrolled in all combos of 051 & 052 (except for ENGL 052/ RDNG 052 placements)*	771	26% (182) by Spring 2012	67%	17% (122) in 4 semesters

APPENDIX
Common Course Outline
ACLT 052
Academic Literacy
5 Contact Hours

The Community College of Baltimore County
Description
ACLT 052—5 billable hours, 0 credits—Academic Literacy provides intensive instruction in critical thinking, reading, and writing in preparation for English 101 and other 100-level courses. Using theme-based readings from a variety of genres, coursework will emphasize independent reading of complex academic texts, critical response to ideas and information in academic texts, and writing essays that integrate ideas and information from academic texts.

5 billable hours, 0 credits; 5 lecture hours per week
Prerequisite: To be eligible for enrollment in ACLT 052, students must be placed into ENGL 051 or ENGL 052 and RDNG 051 or RDNG 052.

Overall Course Objectives
Upon completion of this course students will be able to:

1. use pre-reading strategies to facilitate understanding of texts
2. read actively and critically, and effectively use textual annotation
3. identify and deconstruct abstract ideas found in complex academic texts
4. formulate and explain valid inferences based on information from texts
5. write and evaluate arguments for validity and credibility
6. synthesize ideas and information from multiple sources and varying points of view
7. write well-organized, unified, coherent essays with a clear, purposeful thesis statement
8. support ideas with adequate and varied evidence
9. tailor language to address a specific audience and
10. detect and correct major grammatical and mechanical errors.

Major Topics

I. Academic literacy and academic discourse
II. The reading-writing process
III. Organization
IV. Critical reading, writing, and thinking
V. Reader response
VI. Using source materials
VII. Writing and evaluating arguments
VIII. Grammar, punctuation, spelling, and usage
IX. Audience awareness

Course Requirements
Grading/exams: Students must achieve a minimum overall average of 70 percent. Grading procedures will be determined by the individual faculty member but will include the following:

1. At least one research-based project requiring the synthesis of three or more sources.
2. At least one in-class writing assignment.
3. At least one presentation.
4. At least one technology-based assignment.

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5. At least four (4) essays, worth 40 percent of the final grade, comprised of a minimum of four (4) paragraphs that make a convincing argument, and demonstrate critical analysis of academic texts.
6. A common end-of-semester portfolio assessment, worth 30 percent of the final grade, which will include:
    a. Two (2) previously submitted essay assignments—revised as necessary
    b. Final Essay
    c. Self-reflection

Assignments 1–5 can be combined.
Written Assignments: Students are required to utilize appropriate academic resources.

Other Course Information
This course fulfills the requirements of Reading 051, 052 and English 051, 052.
This course is partially taught in a computerized environment.

Sharon Moran Hayes is associate professor and Coordinator of Reading at the Community College of Baltimore County in Baltimore, Maryland. Dr. Jeanine L. Williams is associate professor, Coordinator of Reading, and Coordinator for Reading Acceleration Initiatives/ ACLT 052, also at the Community College of Baltimore County.

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Classrooms for the Millennials: An Approach for the Next Generation

Lindsey N. Gerber, Utah Valley University
Debra D. Ward, Cameron University

Abstract
The purpose of this paper is to introduce educators to three types of applets that are compatible with smartphones, tablets, and desktop computers: screencasting applets, graphing calculator applets, and student response applets. The applets discussed can be seamlessly and effectively integrated into classrooms to help facilitate lectures, collect assessment data, and provide students with additional instructional support. While three specific applets will be discussed, there are many applets available, each with diverse features, varying capabilities, and different price points. In addition to discussing various applications of each type of applet, the authors will share their experiences with using these technologies in the classroom and disclose some tricks-of-the-trade.

Technology is an ever-changing tool that can be utilized to revolutionize the classroom and engage students of the new generation, the Millennials (Strauss & Howe, 1991). Advancements in technology continue to provide educators and students with smaller, more powerful devices that can be integrated into the classroom with ease. Even better, devices such as cell phones and tablets are popular with millennial students and have become more affordable over the past few years. According to the Pew Research Center (2015a & 2015b), 78 percent of "online teens" between the ages of 12–17 own a cell phone and 37 percent are smart phones. The time to tap into the possibilities of new classroom technologies is upon us. Our task, then, is to determine how we can utilize new technologies to enhance the best practices we already subscribe to, such as active student learning, timely and frequent feedback, and effective questioning strategies.

While new types of applets are being developed every day, three types will be discussed here: screencasting applets, graphing calculator applets, and student response applets. Graphing calculator applets and student response applets are similar to traditional graphing calculators and student response systems (or clickers) commonly used in classrooms. Screencasting applets, however, are providing students and teachers a new mode of communication inside and outside of the classroom. The three specific applets discussed in this article were chosen based on affordability, ease of use, and their potential to engage students; however, there are other excellent screencasting, graphing calculator, and student response applets available. Since needs vary from classroom to classroom, educators should look for applets that best meet their needs and the needs of their students.

Screencasting Applets

Screencasting is a relatively new technology in which video-recordings are made from a computer's on-screen activities and then broadcast through the internet (Séror, 2012). While the use of instructional videos is not new to educators, the cost and time commitment involved in formal video production can make teacher-created videos unrealistic. In addition, the use of scripted instructional videos makes student-specific tutorials nearly impossible. Screencasting applets provide educators a cost- and time-effective alternative to formal video production. Furthermore, as Séror (2012) points out, screencasting tools are "likely to appeal to a generation of students used to exploring texts multimodally, often through customized video clips or images that can be accessed on a digital device" (p. 114).

The Educreation interactive whiteboard and screencasting applet (Educreation, 2015) is a free applet that is compatible with desktop computers, smartphones, and tablets. This applet can be used to quickly create audio-video recordings that can

be emailed or uploaded to the internet to provide an alternative communication route between educators and students. In addition, students can use the recording feature to record the class lectures as they take notes and instructors can create private digital classrooms to provide students with a safe environment where they can share videos, ask questions, and receive feedback. Along with these features, here are a few other ideas about how screencasting applets can be utilized as well as some things to remember when using this type of technology in the classroom.

Applications

- "Appetizer" videos—Instructional videos need not be focused solely on current class materials. Consider posting videos that include interesting problems or applications related to what's being covered in class to help students engage with the material in more meaningful ways.
- Prep videos—Instead of taking up time in class to review prerequisite material, you could create preparatory videos to help students get ready for upcoming material. For example, in mathematics, a video reviewing the different factoring techniques could save valuable class time when covering quadratic and rational functions.
- Virtual office hours—Many students never visit an instructor during office hours. This could be because they feel intimidated or because they have job and family obligations. Screencasting capabilities make it possible for instructors to send videos that address a particular question in a format that involves both text and audio feedback and students have the opportunity to receive the type of one-on-one assistance typically available only during office hours.
- Record class lectures—Both students and instructors can record class lectures. Instructors can send their recording to a student who missed class and students can re-view their recordings in order to expand upon class notes, go back over a class example, or solidify their understanding.

Tricks-of-the-Trade

- Video images will include only what appears on your device's screen, as it appears on the screen. Writing needs to be legible and figures should be sharp and clear. If writing with the finger appears sloppy, you may want to consider purchasing a stylus.
- When creating videos with audio, remember to speak slowly and clearly. Also keep in mind that microphones often pick up surrounding noise, so try to create recordings in a quiet environment.

Graphing Calculator Applets

Graphing calculators are great classroom tools that facilitate discovery-based learning, help students understand and make connections between various mathematical representations (e.g., algebraic, graphical, and tabular), and give students the power and confidence to explore challenging mathematical topics (Martin, 2008). While the potential for graphing calculators to positively impact student learning has been well documented, the fact remains that graphing calculators can be an expensive investment and cumbersome to learn to use. One of the more cumbersome aspects of traditional hand-held graphing calculators involves the toggling between the various representations. However, many graphing calculator applets have the ability to display all three representations on one screen for simultaneous observation.

An inexpensive, user-friendly applet that allows the simultaneous viewing of the multiple representations is the graphing calculator applet by Desmos (Desmos, 2014). While the Desmos graphing calculator is a free applet that can be downloaded on any smartphone or tablet, it is also compatible with desktop

computers. This applet goes beyond traditional graphing calculator capabilities; it has pre-programmed explorations that can be used to engage students in dynamic investigations of various mathematical functions. For instance, the applet includes a pre-programmed exploration in which students can adjust the slope and y-intercept of a linear function in order to make conjectures regarding how the slope and y-intercept affect the graph. Included below are additional application ideas and some tricks-of-the-trade.

Applications

- Traditional graphing calculator activities—The vast majority of the graphing calculator activities that were written to be used with traditional hand-held graphing calculators can still be implemented with graphing calculator applets. Instead of throwing out all the activities you already have, revise them to work with the applet of your choice.
- Dynamic explorations—Make class activities more engaging by utilizing built-in or self-constructed dynamic explorations. Employing cooperative learning during these explorations can make the activities more powerful and more enjoyable for students.
- Connecting the multiple representations—Graphing calculator applets make connecting the various representations easier. Capitalize on this feature by facilitating comparisons between the representations in class.

Tricks-of-the-Trade

- While graphing calculator applets can be significantly more user-friendly than traditional hand-held graphing calculators, students may still struggle with entering equations and using various features. Therefore, instructors should consider using the graphing calculator applet in class on a regular basis. Also, include students in demonstrations as they will often find new features or innovative uses of the technology.
- If you decide to allow students to use graphing calculator applets on exams, be sure to think about how you will ensure students do not have access to the temptations of the internet while using their devices. (Most graphing calculator applets do not require internet access once the applet has been downloaded.)

Student Response Applets

Student response systems (clickers) are wireless electronic devices that allow students to individually respond to questions or prompts from the instructor, usually with the click of a single button (Barrett, Bornsen, Erickson, Markey, & Spiering, 2005). Once students have responded, data are summarized and displayed for instructor and class analysis. Student response systems allow instructors to provide immediate feedback to students, increasing performance and retention (Oswald & Rhoten, 2014; Bryfczynski, et al., 2014). Along with providing the opportunities for students to receive immediate feedback and for the instructor to receive valuable formative assessment data, student response systems also "provide a convenient means of disrupting the monotony of lecture" (Bryfczynski, et.al., 2014, p. 362) and increase student participation by eliminating shyness through the use of anonymous participation (Denning, Griswold, Simon, & Wilkerson, 2006).

Again, student response systems present an additional expense for students. This additional expense, however, is no longer necessary due to the availability of free student response applets like Socrative Student (Socrative, 2011a) and Socrative Teacher (Socrative, 2011b). The Socrative applets are compatible with smartphones, tablets, and desktop computers. Again, new student response applets go beyond traditional classroom clickers. The Socrative applets allow the

use of open-ended questions along with the more traditional true/false or multiple choice questions allowed by "clickers." Moreover, the Socrative applets allow anonymous data collection as well as identifiable data collection. Below is a brief list of how you can use student response applets in your classroom and some things to keep in mind if you decide to implement this technology.

Applications

- Formative assessment—Using the student response applets, instructors can see students' responses in real time allowing the instructor to identify student misconceptions and spot students who are struggling. However, rather than revealing the correct answer to students, use results to initiate class discussion and have students share ideas or paths taken to arrive at an answer.
- Exit ticket—Some student response applets have an "Exit ticket" feature in which students are asked to identify material from class that they are still unsure about. While this feature alone can give an instructor incredible insight into where students need additional help, consider using such features along with anonymous response. Research has indicated that students are more willing to be honest if participation is anonymous (Denning et al., 2006).

Tricks-of-the-Trade

- When using these types of applets in a mathematics classroom, keep in mind that many applets allow graphs and illustrations to be uploaded into the question stem. However, uploading these images as answer choices can be more difficult. Also, equation editors are not common in these applets. So, complex expressions, equations, and functions may have to be uploaded as images.
- Using student response applets in conjunction with slide presentations can alleviate restrictions imposed by formatting issues and can also provide an alternative means of participation for students who do not have access to smart devices by allowing them to participate in written format.

Technology is constantly evolving and educators should embrace new classroom tools. To increase student motivation, interest, and engagement, educators need to change their view of technology in the classroom and learn different ways to incorporate emerging technology in the classroom. Screencasting applets, graphing calculator applets, and student response applets are just a few resources available to educators. While three specific applets have been discussed, there are many more applets out there with diverse features, varying capabilities, and different price points. Before integrating a new technology in your classroom, take time to research the different applets available to determine which ones work best for you and your students.

Dr. Lindsey N. Gerber is an assistant professor at Utah Valley University in Orem, Utah; Dr. Debra D. Ward is an assistant professor at Cameron University in Lawton, Oklahoma.

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Adapting the ALP Model for Student and Institutional Needs

Meredith Sides

Abstract

With the increasing adoption of accelerated models of learning comes the necessary step of adapting these models to fit the unique needs of the student population at each individual institution. One such college adapted the ALP (Accelerated Learning Program) model and made specific changes to the target population, structure and scheduling, and faculty course loads and salary, all with the motivation of making the program work for the students' and institution's needs. The college discovered that the participating students had good success in their college-level course and had higher retention rates than those students who were eligible for, but did not participate in, the program.

Acceleration has become the new buzzword in education and particularly within the field of developmental education. With developmental students testing one, two, and even three levels below what an institution has deemed "college ready," educators are earnestly seeking ways to shorten the time that students spend in developmental courses, as lengthy course sequences may, unfortunately, give students more opportunities to become academically discouraged and may contribute to high attrition rates (Cohen, Brawer, & Kisker, 2014; Asera, 2011).

One of the most popular acceleration models stems from The Community College of Baltimore County's (CCBC) Accelerated Learning Program (ALP), a co-requisite program designed to allow students the opportunity to take a college-level course while simultaneously taking a supplemental course that helps support the students' learning in the college-level course. With more than 180 institutions in the United States that have implemented their own ALP programs, it is clear that this model is both popular and far-reaching (Community College of Baltimore County). With the advent and increasing adoption of pedagogical models of acceleration for developmental students comes the inevitable step of adapting those models to fit individual, institutional, and student population needs.

Making the Decision to Accelerate

Saxon, Martirosyan, Wentworth, & Boylan (2015) argue that full-scale implementation of popular trends for instructional redesigns is not as wise as instituting a well-designed pilot study, a point well-taken for developmental educators. It is best for each individual institution to thoroughly research, plan, implement, and objectively assess pilot programs, which is what Northwest-Shoals Community College (NW-SCC) decided to do after extensive research and planning, as well as sending a college representative to the ALP conference in Baltimore for training. In addition to creating a pilot program for the ALP model at NW-SCC, educators at the college also carefully considered the possibilities for how long they would assess the program on a small scale before making any decisions to increase the number of sections offered or to consider eliminating developmental English completely and placing all students in college-level courses. The instructors agreed that keeping at least one level of developmental English was necessary to assist those students who needed basic grammar and writing instruction to prepare them for the college-level English course. Significant planning and training in advance of offering the course to students was crucial to the overall success of the pilot program.

Adapted ALP Course Structure

After making the decision to begin an acceleration program, faculty and administrators began the necessary task of deciding how to design the ALP course and to what extent they wanted to stay in keeping with the specific facets of CCBC's model. Rather than following the CCBC's ALP model exactly, NW-SCC made the decision to adapt the ALP ideas for its developmental English students,

finding that the adapted characteristics worked well for its institutional and student population needs.

Target Population

Rather than accelerate all developmental English students, the institution focused specifically on students who scored between 55 and 61 on the English portion of the COMPASS test, a score range that would have previously and automatically relegated them to the highest developmental English course the college offers (ENG 093). However, faculty and administration members both felt that students in this upper score range could handle the workload of the transfer-level course (ENG 101), with the help of a one-hour supplemental course (ENG 080B).

Structure and Scheduling

In keeping with the original ALP model, the supplemental course is taught by the same instructor and is scheduled directly after the transfer-level course (Adams et al., 2014). Ten of the thirty seats in a typical ENG 101 class are reserved for ALP students. Instead of a three-hour supplemental course, NW-SCC decided to offer the ALP course as a one-hour course (ENG 080B) in an effort to provide some additional motivation for students to take the course, since the one-hour course allows them to save both time and money, as they would not be taking or paying for the two extra credit hours that would make up the three-hour course. Further, a one-hour course made it easier for first-semester students to also add the one-hour Student Success/Orientation course to their schedule without overloading the course schedule. This scheduling choice allowed students to meet for the ALP course on Monday afternoons at 1 p.m. and meet for their Orientation course on Wednesday afternoons at 1 p.m., thus easily utilizing that time block.

Faculty Course Loads and Salary

Faculty members teach the course voluntarily and are paid for a one-hour course overload in addition to the regular three-hour credit course. Although asking faculty members to teach the ALP course as part of their full-time load was well within the parameters of the faculty employment contracts, the administration believed that faculty would be more motivated to teach the course if they were paid for the additional one-hour course on top of their faculty contracts. As a result, faculty members were more invested in the course as part of their faculty workload and were more willing to devote extra time to it. Additionally, instructors are more invested in finding new ways to help students be successful in the upper-level course, something that might not have been actively discussed before this time.

Results

The ALP course has shortened the course sequence for certain students and has given faculty confidence in students' abilities to meet the challenges of the upper-level course. Students are now moving through their courses at a faster pace and are appropriately challenged and more confident in their abilities. As Table 1 shows, a comparison of ALP students who chose to take the course with ALP-eligible students that chose to stay in ENG 093 reveals that retention rates are significantly higher for the ALP students. In addition, Table 1 also lists students' success in the courses, revealing that half or more of the ALP students successfully completed ENG 101.

TABLE 1
COMPARISON OF ALP STUDENTS WITH ALP-ELIGIBLE STUDENTS WHO DID NOT TAKE THE COURSE

Semester	ALP student success* in ENG 101	% ALP students retained to next semester	ALP-eligible student success* in ENG 093	% ALP-eligible students retained to next semester
Fall 2013	50% (N=8)	75%	59% (N=39)	64%
Spring 2014	60% (N=5)	60%	60% (N=20)	50%
Fall 2014	83% (N=18)	89%	58% (N=19)	74%

**Success as measured by a final grade of A, B, or C*

Discussion

The ALP students represented in Table 1 would have previously been relegated to the developmental course sequence had they not had the opportunity to take the accelerated option, saving many of them time and money, particularly for those students whose degree programs only required the completion of ENG 101, rather than multiple college-level English and composition courses.

The success and retention rates for the eligible students who did not participate in the ALP program were particularly revealing to the faculty and administration at NW-SCC. It is entirely plausible that the non-ALP students who were eligible for the course would have actually done well in the ENG 101 course and, presumably, would have been retained at a rate higher than they were by taking the developmental course.

The ALP program thus had positive outcomes for the students that chose to participate in it, which contributed to positive outcomes for the program and the overall institution (in terms of student success and retention). Faculty members responded positively to the program and felt encouraged by their students' success and the realization that developmental students, with proper guidance and assistance, could be successful in the college-level courses. In their evaluations of the course, the ALP students also gave positive feedback about the program and their desire to "spread the word" to their fellow students about how it had helped them succeed and give them confidence in their abilities as writers.

The Future of ALP

The future of the ALP program at NW-SCC hangs in the balance due to the institution's new ACT score guidelines and the movement away from the COMPASS test. The new ACT guidelines make it unclear as to whether there will be enough students who will be eligible to participate in the ALP program. In addition, at the time of this writing, the state board has not yet issued guidelines about what will replace the COMPASS test when it ceases production in the winter of 2015, leaving the state's educational institutions in a quandary about planning for incoming students who do not have ACT scores. However, the demand for the course has grown and both faculty and staff agree that the course is not only a good idea, but it is also another avenue for the institution to take to help students be successful while saving them time and money. As more institutions try to find ways to accelerate their students through the developmental course sequence, it is crucial to remember that one model does not fit all; each acceleration model can be successfully adapted while still maintaining the most vital components of the model to ensure as successful an experience as possible.

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Meredith Sides is Director of Transitional Studies at Northwest-Shoals Community College in Muscle Shoals, Alabama.

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Promoting Student Learning and Productive Persistence in Developmental Mathematics: Research Frameworks Informing the Carnegie Pathways

Ann R. Edwards and Rachel L. Beattie, Carnegie Foundation for the Advancement of Teaching

Abstract

This paper focuses on two research-based frameworks that inform the design of instruction and promote student success in accelerated, developmental mathematics pathways. These are Learning Opportunities—productive struggle on challenging and relevant tasks, deliberate practice, and explicit connections, and Productive Persistence—promoting students' academic and social mindsets, and good strategies. These frameworks are the foundations of the highly successful Carnegie Pathways (Statway and Quantway), two distinct pathways that take students who place into developmental mathematics through college-level mathematics in one year. In this paper, we describe these research-based frameworks and discuss examples of high impact practices derived from them.

In 2009, the Carnegie Foundation for the Advancement of Teaching engaged a network of practitioners, researchers, designers/developers, and institutional leaders to design and implement two pathways that aim to accelerate community college students' progress through their entire developmental mathematics sequence and a college-level course for credit in a single year—Statway® and Quantway®. Statway integrates developmental mathematics and college-level statistics. Quantway covers developmental mathematics and college-level quantitative reasoning. The Pathways have been remarkably successful, helping thousands of students achieve success in college-level mathematics in a single year and tripling the success rate for college credit completion for students who place into developmental mathematics in half the time (Sowers & Yamada, 2015). Central to the effectiveness of the Pathways is instruction that incorporates two key catalysts for powerful student learning: (1) the Learning Opportunities—productive struggle, deliberate practice, and explicit connections; and (2) Productive Persistence - promoting students' tenacity and good strategies. In this paper, we discuss these research-based frameworks and how they inform instruction designed to promote student learning, engagement, and persistence in developmental mathematics. We provide examples of high impact practices derived from these frameworks used by the Pathways network.

The Pathways Learning Opportunities

The National Research Council in *How People Learn* (2005) determined that there are three basic principles of learning: 1) New understandings are constructed on a foundation of existing or prior understandings; 2) The brain forms cognitive schema or networks that are important to emphasize in the learning process; and 3) The ability to self-monitor or possess skills of metacognition enhance learning. The Pathways instructional system addresses the essence of these fundamental principles with "learning opportunities" derived from key research findings in the learning sciences, psychology, and cognitive science that inform the design of Pathways curriculum and instruction—productive struggle on challenging and relevant tasks, explicit connections to concepts, and deliberate practice.

Productive Struggle

Derived in part from research on mathematical sense-making and the development of robust conceptual understandings in mathematics, productive struggle refers to opportunities for students to grapple with important mathematical ideas.

> We use the word struggle to mean that students expend effort to make sense of mathematics, to figure something out that is not immediately apparent. We do not use struggle to mean needless frustration or extreme levels of challenge created by nonsensical or overly difficult problems…The struggle we have in mind comes from solving problems that are within reach and grappling with key mathematical ideas that are comprehendible but not yet well formed. (Hiebert & Grouws, 2007, pp. 387–388)

The ultimate goal of productive struggle is to encourage students to make meaning of mathematical content for themselves. In Pathways instruction, productive struggle most often occurs in collaborative learning settings in which students explore rich mathematical tasks as they develop strategies to investigate the problem situation or question. Students who are productively struggling are engaged and inquiring, repeatedly making guesses and judgments about how to use mathematics to approach the given situation. Promoting productive struggle involves posing tasks that require substantive mathematical thinking and giving students both the time and encouragement within the classroom culture to engage with the problem.

Explicit Connections

By explicit attention to connections, we mean that connections among mathematical facts, procedures, and ideas should be addressed explicitly.

> This could include discussing the mathematical meaning underlying procedures, asking questions about how different solution strategies are similar to and different from each other, considering the ways in which mathematical problems build on each other or are special (or general) cases of each other, attending to the relationships among mathematical ideas, and reminding students about the main point of the lesson and how this point fits within the current sequence of lessons and ideas. (Hiebert & Grouws, 2007, p. 383)

A review of findings from across multiple studies—some teacher-centered, others student-centered—suggest that teaching for conceptual understanding leads to improvement not only in conceptual understanding but also in procedural skill. The reverse has not been found to be true (Hiebert & Grouws, 2007). Thus, when we suggest that the focus of Pathways instruction is on concepts, we are not suggesting that knowledge of procedures is unimportant, but rather that instruction focused on concepts is the better way to achieve both learning outcomes.

Deliberate Practice

The literature suggests that repeating a behavior over and over is not an effective method of reaching maximal levels of performance. Pashler (2008) writes that "most current mathematics texts mass practice problems relating to a given topic into one problem set presented immediately following textual presentation of that topic. Our data suggest that—at least for promoting retention—this may be a grievous error" (p. 189). Research further demonstrates that performance is best increased as a result of deliberate, spaced efforts aimed at improvement. As opposed to massed repetition, deliberate practice consists of tasks that are invented to overcome gaps in understanding, apply what is learned, and deepen understanding and facility with key concepts. These activities are highly structured and designed to improve performance and strengthen understanding. Deliberate practice requires effort and individuals are motivated to practice because practice improves performance (Ericsson et al., 2008). For these reasons, the Pathways are not characterized by long series of similar problems, but rather by carefully chosen questions that guide students to a deeper understanding of concepts.

Instruction supporting the Learning Opportunities: Problem Cycle Routine

The key to realizing the potential of the learning opportunities for students is effective instruction. Modeled after the typical structure of mathematics lessons in Japan (Shimizu, 1999) in which student engagement in rich problems and facilitated discussion of student solutions are key drivers, we have developed an instructional routine, the Problem Cycle, with four phases that faculty can adopt and use strategically to implement lessons in a way that supports the learning opportunities (productive struggle and explicit connections, specifically). Table 1 specifies the purpose and key features of each phase.

TABLE 1
THE PURPOSES AND FEATURES OF THE PHASES OF THE PROBLEM CYCLE ROUTINE

Phase Purpose	Features
Problem Launch: To prepare students for productive struggle - to create a shared understanding of the problem to be worked on, make clear why solving it is important, and stimulate a variety of ways to think about the problem.	• Students are given problems that require explanation as part of their answer and that can be approached in a variety of ways. • Students have a clear understanding of the problem and what they are expected to do. • Students understand why solving the problem is important.
Working the Problem: To engage students in productive struggle with the problem and the concepts and to study students' ways of thinking to prepare for the discussion.	• Students struggle productively with the challenges of the problem. • The instructor recognizes and notes students' ways of thinking in preparation for ensuing discussion.
Discussing the Problem: To make public students' ways of thinking (correct and incorrect), encourage students to learn new ways of thinking by understanding each other, and explicitly connect their thinking to the key concept(s).	• Students present alternative ways of thinking about the problem. • Students have opportunities to analyze mistakes and misconceptions. • Students have opportunities to connect the solution strategies with the key concept(s) and related concept(s). • Students have opportunities to connect the solution to the organizing problem.
Conclusion: To concisely highlight the key concepts drawn from students' thinking, express the concepts with appropriate notation and representations, and explicitly connect the lesson concept(s) with the course organizing concepts.	• Students have an opportunity to see how solving the problem helped them learn the key concept(s). • Students have an opportunity to see how the key concept is related to prior and future concepts. • Instructors clarify formal notation and language to represent key concepts.

To support Pathways instructors to implement the Problem Cycle routine, we have developed a corresponding framework—called the Framework for Improving Teaching (FIT)--that specifies teaching practices to try and those to avoid for each of the phases (see Appendix). For example, for the Discussing the Problem phase, the FIT suggests, among many possible moves to try, that instructors (1) Make explicit the similarities and differences among students' contributions and (2) Explain (or solicit explanations of) how a student's solution strategy related to the key concept of the lesson. It also suggests that instructors avoid calling only on those students known to have the correct answer. These suggestions have been tested by faculty as part of ongoing faculty development activities in the Pathways network.

Productive Persistence

In addition to the foundational learning opportunities described above, the Pathways also focuses on the "non-cognitive" elements of learning. We refer to these non-cognitive elements as Productive Persistence, or the combination of tenacity and good strategies. Research has shown that psychological aspects such as mindsets, "grit" or passion and perseverance for long-term goals, self-control, and engagement are important predictors of academic achievement (see Dweck, Walton, & Cohen, 2014, for a review). However, the critical practical questions are (1) which non-cognitive factors are malleable and (2) how can these factors be affected *reliably, at scale, and by diverse practitioners working in diverse settings.* We sought to answer these questions when we convened researchers and practitioners to develop our Productive Persistence framework, the 5 drivers of which are detailed below.

Students believe that it is possible to learn

When we surveyed our students at the beginning of Statway, we asked them to agree or disagree with the following question: "Being a math person or not is something you really can't change. Some people are good at math and other people aren't." Of the 2174 students sampled in fall 2014, 62 percent agreed with this statement and exhibited what is called a *fixed mindset*. According to Carol Dweck (2006), a fixed mindset refers to the belief that intelligence is a fixed quantity and that no matter how hard you try, you cannot change your intelligence. A fixed mindset strongly relates to the stereotype that being "smart" means being "a natural." For students currently in a fixed mindset, this belief can persist even when they have earned a high grade on a test. Despite being presented with evidence that they can learn, these students may instead attribute their success to luck. The opposite of a fixed mindset is a *growth mindset*, that is a belief that intelligence is malleable. For students in a growth mindset, they value the process of learning rather than just the outcome. For these students, rigorous challenges are not seen as insurmountable obstacles, but rather opportunities to learn and to grow through a combination of effort, good strategies, and asking for help.

Students feel socially tied to peers, faculty, and the course

A vast amount of research on community college student success has found that social ties to peers, faculty, and course of study can affect persistence and engagement (e.g. Steele et al. 2002). We focus primarily on students' *psychological* ties to others—that is, the beliefs and attitudes they have that can limit their ability to feel valued and a part of the learning community. These beliefs and worries about belonging can sap their motivation, even when objective school structures are created to promote belonging. For example, questioning your belonging, what is referred to as "belonging uncertainty," is common and short-lived—except for students who face stigma or negative stereotypes. For these students, belonging uncertainty is heightened, prolonged, and impacts their investment in the class. In a sample of 725 Pathways students, we found significantly higher withdrawal rates

for students who reported high belonging uncertainty at the end of the first month (For more details on these analyses, please see Yeager et al, 2013).

Students feel that the material has value

Many students entering developmental mathematics often question the value of mathematics in their daily lives and for their long-term goals. These students may see mathematics more as a roadblock, rather than a stepping-stone on the path to earning their degree and pursuing their goals. One initial step to help students see the value of mathematics is to redesign the curriculum to include relevant material; yet, even with a new curriculum, students must see the work as personally engaging. For example, Hulleman & Harackeiwicz (2009) studied middle-schoolers with low expectations of their success and found that having these students reflect on the short term value, or relevance, of the assignments significantly increased their interest in a topic and, subsequently, their grades.

Students have the Skills, Habits, and Know-How to Succeed in a College Setting

The previous three drivers focused on mindsets and beliefs; however, effective strategies are also an essential aspect of Productive Persistence. Many students in developmental mathematics begin their classes highly motivated to succeed; however, some students get derailed in their pursuits because what is being asked of them is different from what they expected or what they knew how to do. In the data from our learning management system, we have observed a significant negative association between ineffective study strategies and end of course outcomes, even after controlling for background conceptual mathematics knowledge (see Krumm et al, 2015).

Faculty and Colleges Support Students Mindsets and Skills

In order for students to develop these mindsets and strategies, the educational environment needs to be supportive of these shifts. This is important during the first month of the course because many of the students who do not complete a course either withdraw effort or get too far behind (Vaquero & Cebrian, 2013). For that reason, faculty members and researchers co-developed the Starting Strong Package—a combination of 10 instructor-led practical routines and activities that are launched during the first month of class and address the four drivers described above. For example, some routines form a supportive community and establish the norms of collaborative learning, like the Student Group Noticing Routine. In this routine, instructors build a sense of belonging by making students responsible for each other's attendance. The routine consists of three distinct stages. In the first stage, the faculty member puts students into groups and provides time for them to get to know each other outside of the immediate math content using an icebreaker activity (e.g. find 3 non-obvious things that the group has in common). The students also develop a team name and trade their contact information. In the next stage, roughly one week later, groups are responsible for reporting to the faculty who is absent each day. In the final stage, after two weeks of using this routine, groups take responsibility for contacting students who are missing in order to encourage them to attend future classes and give them any materials or information that they missed from class. In classes that actively use this routine, attendance has been strong across the semester (85 percent median attendance rate) and different from past experiences with similar student groups.

The package also includes a brief "growth mindset" reading and writing activity (adapted from Blackwell, Trzesniewski, & Dweck, 2007) and additional practices designed to promote a growth mindset that have significantly decreased students' belief that math intelligence is fixed ($t_{(906)} = -11.854$, $p < .001$, Cohen's $D = -0.55$, which is a moderate effect size). One powerful way of shifting students' mindsets is to change how learning is discussed. Specifically, focusing on the process of how

we learn, the aspect that students can readily control, can positively impact learning. Working together with Carnegie Foundation fellow David Yeager, our network has identified several critical times to start a conversation with a growth mindset phrase:

- When praising students, instead of saying "You're really good at that," a phrase that emphasizes the outcome, you could start a conversation with a phrase that emphasizes the process, like, "You're improving. Your efforts and strategies are really paying off."
- Critical feedback is another high leverage time to begin the conversation with language that promotes a growth mindset. Specifically, Cohen, Steele, and Ross (1999) recommend using phrases that signal that the class has high standards and that you are supportive of your students. For example, you could say: "This class has a high standard to really understand the math AND I wouldn't hold you to it if I didn't believe that together we could get there."
- Additionally, when students are struggling in class, avoid using phrases such as "No one is good at everything, but just try to get through this." Phrases like that suggest that there are just some things that we can't learn and that going through the motions is the most important thing. Instead, start the conversation by reframing the meaning of the students' struggle as part of the process of learning. For example, you could say, "Struggling on this doesn't mean you won't get it. It means you are learning and are making connections that are not yet strong." After starting the conversation with the phrase, we recommend continuing with a discipline-specific discussion of different strategies to approach the problem. Remember, effort is not the only aspect of learning to emphasize; we also need to promote good strategies and asking for help, when needed.

One common misconception about the use of growth mindset language is that it needs to be universally positive; however, as the failure of the self-esteem movement suggests, being positive does not simply translate into better outcomes. Rather, growth mindset language shifts the focus from aspects that students cannot control and that should be seen as irrelevant to learning (e.g. being a "natural" or "smart") to something that they can influence. The goal is for students to see that it is possible for them to learn.

The Pathways target students who are at grave risk of failure in mathematics courses at the community college level—students who have weak K–12 preparation, face language and special education challenges, or fundamentally believe that they are destined to not do well in the subject. The Pathways seek to reverse a pernicious and disheartening cycle of failure by employing materials and teaching approaches that fundamentally put students on a pathway to success. In the Pathways, we have found that instructional practices that are both informed by the Learning Opportunities and address Productive Persistence are key factors in students' success.

See the Appendix for this article on p. 36.

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Appendix

Problem Cycle: Phases, Purposes, Guiding Questions, and Moves* (abridged)

Problem Launch (Purpose): To prepare students for productive struggle—to create a shared understanding of the problem to be worked, make clear why solving it is important, and stimulate a variety of ways to think about the problem.

Guiding Questions	Instructional Moves: Do More of These	Instructional Moves: Do Less of These
Launch 1: Are students given a problem to work on that requires explanation as part of their answer and that can be approached in a variety of ways?	• Instructor makes clear that students need to be able to explain their approach and why their solution makes sense (not just how they found it or what it is). • Instructor makes clear that students are expected to take an approach that makes sense to them.	• *Instructor prescribes a particular approach to the problem.*
Launch 2: Do students have a clear understanding of today's problem and what they are expected to do?	• *Instructor devotes time to presenting the problem.*** • Instructor explains background knowledge needed to begin working on the problem. • Instructor provides clear description of the problem goal. • Instructor asks students to restate problem, including what is expected of them. • Instructor asks questions to check understanding of problem, including context relevant to the problem.	• Instructor asks students to begin assignment without prior discussion. • *Instructor provides too much information and reveals a solution strategy.* • Instructor introduces multiple ideas leading to possible student confusion
Launch 3: Do students understand why solving the problem is important?	• Instructor explicitly states the learning goal and explains its significance within the goals of the course. • Instructor discusses questions that illustrate the utility of today's key concept(s).	

Working the Problem (Purpose): To engage students in productive struggle with the problem and the concepts and to study students' ways of thinking to prepare for the discussion. The purpose of this phase is NOT to ensure that all students get the correct answers.

Guiding Questions	Instructional Moves: Do More of These	Instructional Moves: Do Less of These
Working 1: Are students struggling productively with the challenges of the problem?	• If students appear stuck, the instructor provides timely hints and examples. • *If students appear stuck, the instructor suggests collaboration with others who are on-track with their thinking.* • If students finish quickly or appear to need challenge, the instructor probes any misconceptions or provides extension question to get them to go deeper into the problem.	• Instructor tells students whether their answers are right or wrong. • *Instructor provides too much information reducing the cognitive demand of the problem (e.g., shows student how to get the answer; asks too many fill-in-the-blank questions).* • Instructor does most of the work required by a task. • If students get stuck for an excessively long time, the Instructor doesn't intervene.

	• Hints are given to keep students struggling only when related to the core issue in the lesson	• If students finish quickly and merely wait for others to catch up, instructor doesn't intervene.
	When students are working in groups… • If one (or more) are not actively participating, the instructor asks them to collaborate (i.e., share their thinking and make sense of each others' thinking). • If conversation wanders off task, the instructor redirects students to the problem. • If a student asks a question, the instructor redirects that question to engage the group members. • If a student appears to be dominating the discussion, the instructor intervenes to engage passive students to encourage them to ask clarifying questions.	When students are working in groups… • *If students' conversations wander off task, Instructor fails to redirect them.* • If an individual dominates the group process, merely showing others how to do the problem, the instructor fails to redirect them.
Working 2: Does the instructor recognize and note students' ways of thinking in preparation for ensuing discussion? (Describes moves that create learning opportunities realized during the discussion.).	• *Instructor observes and studies students' work and student ways of thinking and takes notes.* • *Instructor asks students to prepare their contributions for presentation.* If students are in groups, instructor encourages students to share alternative methods with the rest of the group.	• *Instructor does not actively observe student interactions while waiting for students to finish the task.* Instructor is focused on fielding individual student questions, so unable to note progress being made

Discussing the Problem (Purpose): To make public students' ways of thinking (correct and incorrect), encourage students to learn new ways of thinking by understanding each other, and connect their thinking to the key concept(s).		
Guiding Questions	**Instructional Moves: Do More of These**	**Instructional Moves: Do Less of These**
Discussing 1: Do students present alternative ways of thinking about the problem?	• *The instructor calls on students to show a building of ways of thinking toward a main idea.* • Instructor deliberately notes and discusses students' incorrect ways of thinking about the problem when those ways are helpful for developing understanding of concept. • When a student presents his/her work, the instructor follows up with questions that probe the student's thinking (i.e., why answer makes sense, why they think it's true). • Instructor helps all students understand each student's presentation. • *Instructor makes explicit the similarities and differences among students' contributions.* • *Instructor encourages students to ask questions in order to understand their peers' thinking.*	• *Instructor calls only on students who volunteer.* • Instructor calls only on those students known to have the correct answer. • The instructor does nothing more than collect student answers. • The instructor makes little effort to elicit student *thinking* (just fishing for "right answers"). • Instructor treats all responses as equally valuable without regard to the goals of the lesson.

Discussing 2: Do students have an opportunity to analyze mistakes and misconceptions?	• *Instructor maintains a culture in which students feel safe sharing and discussing their incorrect solution strategies.* • *Instructor values incorrect approaches as a learning tool and uses incorrect answers to explore the mathematics.* • Instructor is willing to admit his/her mistakes and uses them to model good mathematical character. • Instructor asks questions that help students understand the reasons why incorrect strategies don't work.	• *Instructor avoids calling on students known to have an incorrect answer, for fear of embarrassing them or for fear of confusing others.* • When a student gives incorrect answer, instructor calls on someone else without responding to the thinking.
Discussing 3: Do students have opportunities to connect the solution strategies with the key concept(s) and related concept(s)?	• Instructor asks students to explain connections between concepts. • Instructor asks students to use key concept(s) to explain why their solution strategies work. • Instructor asks questions that help students connect the key concept(s) with related concepts? • *Instructor draws attention to the different contributions made by different ways of thinking to the mathematical point of the lesson.*	• *Instructor ends work on the problem as soon as the answer is made public.* • *Instructor responds to all ways of thinking in the same way without drawing attention to the connection each has to the mathematical point.*
Discussing 4: Do students have opportunities to connect the solution to the organizing problem?	• Instructor asks students to reflect on the reasonableness of the solution with respect to the scenario. • Instructor reflects on how doing the mathematical thinking adds to the knowledge about the scenario • Instructor pays attention to how variables, graph labels, etc. are used to make connections to the scenarios	• Instructor does not relate the solution back to context of the problem.

Conclusion (Purpose): To concisely highlight the key concepts drawn from students' thinking, express the concepts with appropriate notation and representations, and connect the lesson concept(s) with the course organizing concepts.		
Guiding Questions	**Instructional Moves: Do More of These**	**Instructional Moves: Do Less of These**
Conclusion 1: Do students have an opportunity to see how solving the problem helped them learn the key concept(s)?	• The instructor connects student work to the key mathematical concept(s) by incorporating several quotes that highlight the progression of student thinking that developed in the lesson.	• Instructor ends work on the problem as soon as the answer is stated. • The concept is recited by the teacher, but with little connection to student work and discussion.
Conclusion 2: Do students have an opportunity to see how the key concept is related to prior and future concepts?	• *Instructor provides a coherent statement of the key concept(s) of the lesson.* • *Instructor situates the key concept(s) of this lesson within the mathematical trajectory for the course.*	• The summary is out of focus or mathematically incorrect.

Conclusion 3: Does the instructor clarify formal notation and language to represent key concepts?	• Instructor connects notation and language to concepts already discussed. • Instructor treats new notation and language as useful and efficient ways to represent familiar procedures or concepts.	• Instructor uses language in an imprecise or incorrect way.

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* Moves are continuously tested and updated in the Pathways network professional development activities.
** Moves in *italics* are good candidates to focus on initially.

Ann R. Edwards is the director of Learning and Teaching at the Carnegie Foundation for the Advancement of Teaching in Stanford, California; Rachel L. Beattie is the director of Productive Persistence, also at the Carnegie Foundation.

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Strengthening Academic Writing

Julie R. Bodnar and Susan L. Petrucelli, American International College

Abstract

Underprepared students often need assistance building writing skills and maintaining confidence in their abilities and potential. The authors share the philosophy, pedagogy, and experience of freshman developmental education and the writing center at a four-year, private, not-for-profit urban college. They describe high-impact educational practices that support academic success and promote metacognitive skill development and academic self-efficacy. They also provide data gathered over a five-year longitudinal study. The developmental studies writing program is designed and its partnership with the writing center is designed to help underprepared students, in particular, creating a logical progression of classroom activities and support services. Learning activities are enhanced through technology to support developmental education and writing center sessions. The use of the writing center to support developmental education is to encourage and increase students' help-seeking behavior as they transition beyond the developmental level.

Thirty-four percent of all entering college students need at least one developmental course (Feldman and Zimbler, 2012). Specifically, underprepared students often need assistance building writing skills and maintaining confidence in their abilities and potential. Writing is a skill that continues to impact a student's future endeavors. That being said, the majority of developmental education instructors report that students lack the motivation to succeed (Feldman and Zimbler, 2012). So, how can instructors engage students in developmental writing and learning? At American International College, this is accomplished through the implementation of a developmental writing course that is fundamentally motivating. Thus, it necessitates a partnership between freshman developmental education and the support of the college writing center through face-to-face and technological instruction. The skills learned through this collaboration assist students in mastering and moving beyond remedial writing.

Background

American International College (AIC) is a 4-year, private, not-for-profit college located on 72 acres in an urban environment. The student body is comprised of approximately 1,500 undergraduate and 2,000 graduate students, 43 percent representing racial or ethnic diversity. AIC has a 14 to 1 student-to-faculty ratio and offers associate and bachelor's degrees, post baccalaureate certificates, master's degrees, post-master's certificates, and doctoral degrees.

Placement

The Developmental Education Department at American International College began assessing and analyzing all incoming freshmen students in 2010 with the goal of placing them in the appropriate level of writing courses. Prior to this period, advisors selected English courses for incoming freshman based on the Standard Aptitude Test (SAT) writing scores. In 2009, with assistance from the AIC English department faculty, developmental education faculty analyzed the rubric used by the Accuplacer's writing assessment program, Writeplacer. This was used in conjunction with the AIC English Composition I courses to determine a steadfast baseline. Presently, AIC uses three key areas of data to determine incoming freshman English placement: high school grade point average, SAT writing score, and Writeplacer score. The developmental education program has found that approximately 24-30 percent of incoming students place in the Foundations of Writing course. Developmental education does not place solely on one bad testing day or score, as it does not necessarily speak to a student's true academic abilities. The triangulation of the data helps to focus on the students who have demonstrated a real need to build their academic skills. (Note: Since the time this article was written, we have begun investigating how the new SAT scores

combined with the high school GPA and Writeplacer results will help us place incoming students in 2016).

Developmental English Course Overview

The developmental writing course at American International College is called Foundations of Writing and is a three-credit hybrid class that meets three times a week. We offer six sections in the fall and one in the spring. The class meets in an interactive Smart classroom with 20 computer workstations. We also use an iPad learning lab equipped with 18 iPad workstations. The students work on writing and grammar software as well as research for their final paper. Accordingly, students' skill deficiencies can be positively affected using technology while providing small scaffolding experiences (Bowen, 2012).

However, the use of technology is not the only learning mechanism to motivate developmental education students in the Foundations of Writing course. Walker and Jorn (2009) found in their study that although students wanted to use technology, they also wanted to retain face-to-face instruction and interaction with their professors and staff. However, research states that lecturing as a type of face-to-face instructional technique, especially in a writing classroom, is one of the least effective teaching methods to motivating students (Fink, 2003; Sousa, 2011; & Price, 2013). The developmental educational experience in the course, alternatively from lecturing, focuses on peer-to-peer work, the use of adaptable writing and grammar software, and student-professor interactions regarding writing assignments. The instructors work with the students on brainstorming, writing, correcting grammar in context, and providing feedback. Also, the instructor monitors the students' writing through two interventions that provide instructional guidance: the classroom management system—Smart Sync—and face-to-face mentoring.

Developmental Education Passing Rate

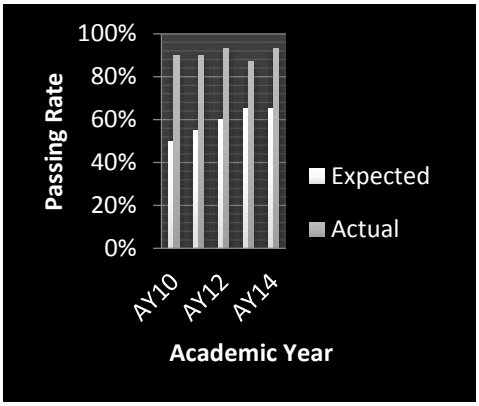
The overall passing rate for the AIC Developmental Education program is 91 percent from 2010–2014. According to the Title III grant Strengthening Institutions, each year the developmental education department had to meet a target goal that showed the minimum percent of students who reached proficiency and were released into English Composition One. The grant's baseline for developmental education in 2010 was 50 percent and incrementally increased each year to 65 percent for 2014. Refer to Table 1 for a more detailed demonstration of how the passing rate of developmental education students surpassed the grant's expectations each year.

Noonan Writing Center Overview

Students in developmental writing at AIC are further supported by the work of the Noonan Writing Center. The skills learned through this collaboration between developmental education and the center assist students in mastering and moving beyond remedial writing. As a comprehensive writing center staffed by certified peer tutors and paraprofessionals, the Noonan Writing Center is a free service that offers one-to-one tutoring and small group conferences on various aspects of the writing process by appointment or on a drop-in basis to all students throughout the college. Working with certified peer tutors and paraprofessionals, students receive face-to-face instruction through all stages of the writing process, from initial brainstorming to final revisions. The ultimate goal is to teach students how to prepare, write, and revise quality compositions.

Writing fundamentals covered include brainstorming, thesis development, outlining, organizing, formatting, structure, grammar, and mechanics. Additionally, the Noonan Writing Center conducts presentations and workshops

TABLE 1
YEARLY PASSING RATES OF DEVELOPMENTAL STUDENTS



with the remedial writing students through technological instruction as a core part of their development. Topics are as follows:

- A Grammar & Style Refresher
- Brainstorming, Concept Mapping & Outlining
- Creating a Functional Outline
- Getting Started: Topics and Thesis Statements
- Effective Drafting Techniques
- Steps to Writing Well—MLA

Traditional PowerPoint presentations have been converted into Prezi, making them more interactive, novel, and engaging visually, a strategy that can lead to positive educational outcomes (Strauss, Corrigan, & Hofacker, 2011). Tutors provide the material in small segments, leaving time for questions and practice. It is essential that the material introduced is at a pace most conducive to learning at the remedial level. Presentations and workshops follow the syllabus, and professors schedule them at a time deemed most appropriate to the subject matter being covered. Again, it is with the student in mind that the course unfolds at a pace optimal to the learning goals set forth by the instructor. Students need to be active participants in their own learning (Strauss, Corrigan, & Hofacker, 2011).

CRLA Certified Tutors

Writing Center tutors receive International Tutor Training Program Certification (ITTPC) through the College Reading and Learning Association (CRLA). The writing center director trains tutors to not only enhance the quality of work but to also provide the necessary interpersonal skills conducive to an encouraging, comfortable learning environment. Confidence building strategies are introduced during training and implemented during tutoring sessions. Staying positive and focusing on what is "right" with the paper allows for a foundation on which to build a student's skill set through practice and instruction. Overall, a positive experience with a writing tutor increases students' self-confidence and in turn their self-efficacy and help-seeking behaviors when it comes to utilizing the services provided by the writing center beyond their remedial writing courses.

Developmental Education and the Noonan Writing Center

Developmental Education and the Noonan Writing Center at American International College began their working collaboration in 2010 on a limited basis. During the first year, six sections of remedial writing were taught, and the writing center was only "officially" mentioned to students who demonstrated weakness in their writing. Primarily, the writing center was used as strictly an academic support to students who needed assistance. Nineteen unique visits by developmental education students were recorded by the writing center that year.

In 2011, developmental education added the Noonan Writing Center to the syllabi under the section entitled "Instructor Recommendations." The instructors were advised by the developmental education director to refer to the syllabus and mention the writing center when discussing assignments. The writing center director recorded 35 unique visits by developmental education students.

Subsequently, students who used the writing center were becoming more successful in their writing. In 2012, developmental education programming enforced the prior instructor recommendations for the writing center and added the writing center visit as part of the Foundations of Writing's final research paper. The rubric for the paper included the process of brainstorming, writing, and editing. In the developmental education research paper rubric, the director added a category for the writing center visit. Students were given 10 points for providing evidence that they attended a session with a writing tutor (the writing center

receipt). Instructors saw improvements in the writing of the research paper for the 69 percent of the students who followed the expectations of the rubric.

In 2013, the syllabus and the final research paper's expectations remained the same. However, developmental education instructors were advised to add the writing center visits to some of the paragraph and essay assignments. The syllabus also stated that some assignments required a visit to the writing center. Each instructor would use individual discretion and require the students to take their assignments to the writing center on at least four different occasions. The writing center receipt had to be turned in at the same time as the assignment. As a result, the writing center staff recorded ninety-eight visits for the fall 2013 semester. The instruction prompted an increase in repetitive visits to the writing center, resulting in the students becoming comfortable as frequent users of the resource.

The most significant results that both the Noonan Writing Center and the office of developmental education take credit for was in 2014 when there was a substantial leap in visits to the writing center. The number of visits of developmental education students rose from 84 in 2013 to 141 in 2014. Programming for the developmental education instructors included training on how to become even more proactive with utilizing the writing center as part of the developmental English curriculum. Specifically, the course continued to require the writing center visits for most assignments and added another component to the instruction of the use of the writing center. The new instruction included that during one class period, while the class worked on their writing and interactive writing software, the instructors would take 2 or 3 students into the writing center. The students were shown where the writing center was located and given a tour of the facility, introduced to the CRLA-certified writing tutors, and shown how to make an appointment for an individual session. A course evaluation revealed that the students said they felt comfortable and confident about the procedures and the expectations of how to use the writing center for their assignments. They also stated they felt positive regarding future writing center visits. Significantly, there was a 642 percent increase in the visits of students utilizing the services for developmental writing over a five-year period. Refer to Table 2 for a more detailed description of the increase in developmental writing sessions.

The impact of the collaboration between Developmental English and the Noonan Writing Center has been positive for the freshman students who placed in Foundations of Writing. The students express an increase in self-confidence not only in their writing, but their willingness to use the writing center for support. The writing center has seen recurring visits by this student population beyond the fall semester. Students are using the facility for other courses beyond their English requirements. For future studies, we are tracking the incoming developmental education students, their use of the writing center, and their graduation rate.

Julie R. Bodnar is the director of the Noonan Writing Center at American International College; Dr. Susan L. Petrucelli is director of developmental education, also at American International College, Springfield, Massachusetts.

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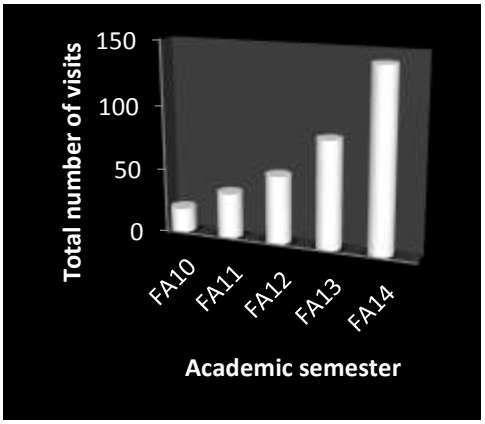
TABLE 2
DEVELOPMENTAL WRITING SESSIONS



Percent Increase
FA10–FA11 = 84%
FA11–FA12 = 51%
FA12–FA13 = 58%
FA13–FA14 = 68%

FA10–FA14 = 642%

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What Matters Most: Using High-Traction Instructional Strategies to Increase Student Success

Curtis Turner, University of Colorado at Colorado Springs

What matters most when it comes to increasing achievement and student success in the developmental classroom? Recent reform efforts in developmental education have brought sweeping changes in some states. New curricular pathways, redesigned courses, and a handful of new instructional delivery methodologies have been the result. Although these are important and needed, they are only a piece of what is necessary to yield meaningful results. In the midst of intense times of change, it is vital that we not forget what matters most in any classroom—the instructor.

This concern comes from my experience in both the K–12 system and higher education. I worked for three and one-half years as an academic dean in the Colorado Community College System, in charge of both arts and science departments and developmental education. My responsibilities included verifying qualifications of all instructors, which for the Colorado Community College System meant possessing a Master's degree in the discipline in which one wished to teach. The same was true for instructors in developmental education courses. I was always surprised by the lack of any requirement for pedagogical training.

In contrast, when I started working in the K–12 system as a mathematics teacher in 1993, I had to hold a Bachelor's degree in mathematics, complete a teaching certification program at an accredited institution, and pass examinations proving both pedagogical and content knowledge. Even with this intense preparation, it still took several years to master the art of teaching. Later in my years as a principal, when seeking teachers in disciplines for which there were few candidates such as mathematics and science, I was sometimes forced to hire people who did not have training in pedagogy. Unfortunately, most of these individuals were unsuccessful; they knew their content but did not know to deliver it effectively.

In 2011, while serving as a dean of academic services, I was asked to serve on a task force that was charged with proposing a redesign of developmental education for the Colorado Community College System. The culmination of almost two years of work by the task force was the proposal of new pathways to college gatekeeper courses specifically designed to shorten the path from developmental courses into college-level, credit-bearing courses. Once the model was approved, core implementation teams in mathematics and college composition and reading were selected and charged with developing competencies and course outlines for the new courses. I served on the mathematics team. Our focus through the entire process was on curricular and course design. The issue of effective teaching strategies was completely ignored.

It is time now for Colorado and many other states to take the next step. Once the curriculum is tight, it is time to balance the equation and focus on sound instructional practice. What matters most in student success is a good teacher who cares about students and delivers instruction based on proven practices.

Currently, I work as an instructor in the UCCSTeach program at the University of Colorado at Colorado Springs, a teacher-licensing program. We provide classroom instruction in teaching methodologies and concurrently supervise our students in field-based experiences. In short, I spend all day every day helping future teachers improve their craft.

Over time, I have narrowed the many points of high-quality instruction down to five "High-Traction Strategies" that have the greatest impact on student success: 1) make a personal connection, 2) continually assess and provide timely feedback,

3) provide a safe place to fail, 4) have a plan, and 5) prioritize content. Each is explained below. (For a bibliography related to these, see Appendix A.)

Make a Personal Connection

Making a personal connection with students is something that may seem difficult in college classrooms, but for instructional effectiveness it provides a significant amount of traction. Students need to feel connected in some way. Friendly relationships with fellow students are of value, but the most important connection to be made is the one with the instructor. There are some simple ways for instructors to start building great relationships with their students.

First, learn their names. This is a simple gesture that will send a strong message that to students that they are valued. Another strategy is to arrive at class early each day and speak to students as they come into the room. Instructors can try to have a conversation with each student in the class at some point early in the semester. It doesn't have to be a long conversation, just enough to show a personal interest and a desire to know more about them. These brief encounters will quickly grow into significant engagements in the classroom.

Continually Assess and Provide Timely Feedback

When we think of assessment, tests, quizzes, and final exams come to mind. Effective assessment is much more than this. Instructors can increase the effectiveness of their instruction by adopting an assessment mind-set, where assessment is ongoing throughout the instructional process. Instructors can begin working on effective assessment immediately by asking a few questions during class, ones designed to provide valuable and useful feedback. Even better, ask questions and allow student-to-student discussion. As instructors walk around the room during these conversations, they will discover concepts that students are not understanding, providing a chance to interrupt and re-direct or provide correct information. If students are understanding, instructors can move forward with confidence. This type of environment allows all students to actively engage with content, increasing motivation and retention. Becoming skillful in use of the Socratic Method, instructors can develop a dynamic environment with substantial levels of student engagement.

The above describes assessment that is informal. It simply notes what is going on, usually with no intention of assigning a grade. When assessing formally however, with tests, quizzes or homework, it's important for instructors to give students timely feedback. The best feedback is not just a grade but narrative comments on student work. English instructors are great at this. Sometimes instructors might consider giving students the opportunity to revise their work or correct wrong answers. It is hard to argue the value of a second chance when it comes to learning. Professional exams including NCAT, driver's license exams, and Praxis to name a few, allow for repeated attempts. Why then, in education, do we employ the "one-and-done" philosophy with testing?

Provide a Safe Place to Fail

In Maslow's Hierarchy of Needs, at the base just above the need for basic physical necessities is the need for safety. Not to be mistaken for physical safety which is equally important, this high-traction practice refers to our students' need to feel safe academically. They need to know they aren't going to die a "mathematics death" when they walk into the classroom. Failure is a great teacher. In my classroom experience, I have found that if students are not willing to stretch enough to risk failure, then learning is severely hampered. Teachers have to create an environment where it is safe to fail.

The two elements already mentioned are basic to providing a safe place to fail. Students need to have a connection with their instructors, and students also need

feedback letting them know whether they are right or wrong. In our days as a student, most of us can recall how uncomfortable it was to turn in an assignment not knowing if we got anything right, then waiting forever to receive any feedback. This doesn't create a sense of safety.

A third element, and perhaps the most important, is giving students an opportunity to edit and revise their work. If they turn in a homework assignment, they need the opportunity to revise and correct. If students write a paper, teachers can allow students the opportunity to edit and revise until they have prepared a nearly perfect product. The thought of this may stretch many of us, but we have to ask what is more important—the score or the learning that could take place.

Have a Plan

By plan I am referring to a lesson plan. There are a variety of lesson plan models or templates available. One issue with these is they are mostly developed for K–12 education and a college classroom is distinctly different, given the large amount of material in a lesson that must be covered. However, using a lesson plan is equally important for college instructors as for K–12 teachers. (For a lesson flowchart, see Appendix B.)

A good lesson should always start with objectives. The lesson objectives are statements determining what the students should know when they leave class on any given day. Instructors should give students the objectives at the start of the lesson, ideally posting them somewhere in the room for students to refer to throughout the class period. The objectives introduce the main points, the lecture or presentation will provide the "meat" and supporting details, and the conclusion brings closure to the lesson by restating the objectives or using an assessment tool to determine if the students have grasped these key points.

Supporting details can be taken care of in a variety of ways. While a majority of instructors try to accomplish this through lecture, other potentially more effective options are discussion (particularly Socratic or small group), modeling, demonstration or lab work. The key is to find an effective strategy that fits an instructor's style and the needs of students.

Prioritize Content: Focus on Concepts Necessary for Success at the Next Level

The enemy of quality instruction is always time. There is never enough time to cover all of the content in a course to an acceptable level of mastery for all students. The result is one of two things. Either the instructor doesn't get all way through the content, or the instructor methodically marches through the content but students master very little of it. The fix is thoughtful prioritization of content.

Before the semester begins, instructors should go through the required content item by item and identify those topics crucial to success at the next level. These get the highest priority. Then identify the levels of priority for the remaining items. I recommend three levels: Those that absolutely cannot be skipped, those that could be skipped without great consequence at the next level, and those that are not very important.

Once instructors have prioritized the content, they can develop a pacing schedule. The schedule will identify benchmarks for pacing during the semester. Then if time becomes a factor, decisions on what to skip or shorten will have already been made. This will allow adequate time to cover all concepts of highest priority. Syllabi usually include a schedule, but most of the time it is an inflexible document. A pacing schedule needs to be flexible to allow for strategic decision making.

While these five strategies may appear simple, they are frequently not practiced or not used consistently. As an evaluator I've seen some amazing, and some not-so-amazing instruction. About five years ago, I started to pay close attention to the

characteristics of those instructors I considered to be good. In their classrooms at least some of the five strategies were consistently applied. It was always obvious students felt a strong connection to the teachers. When I would visit these classrooms, students were willing to participate in discussion and answer questions without fear of being wrong.

As a teacher, I successfully applied the majority of these strategies for over 22 years. While working as a college dean, I also taught as an adjunct mathematics instructor. By the end of my tenure there, I had finally figured out how to implement all of the strategies in my college algebra classes. Over the course of five years, 88 percent of my students completed the course with a grade of A, B, or C. Student comments in my evaluations were similar to that of the other instructors that delivered high-quality instruction.

Undoubtedly, instructors reading this article are already using some of these strategies. The challenge is to use all of them intentionally and consistently. In addition, colleges must maintain an emphasis on effective teaching strategies as well as on content expertise. As colleges across the country are restructuring curricula and creating new pathways for developmental courses, an emphasis on effective pedagogy should receive equal attention. Administrators and faculty should never underestimate the role that instructors play in student success. After all, what really matters most is that students have caring, skillful educators in front of them who want all of their students to learn.

Appendix

A: Bibliography

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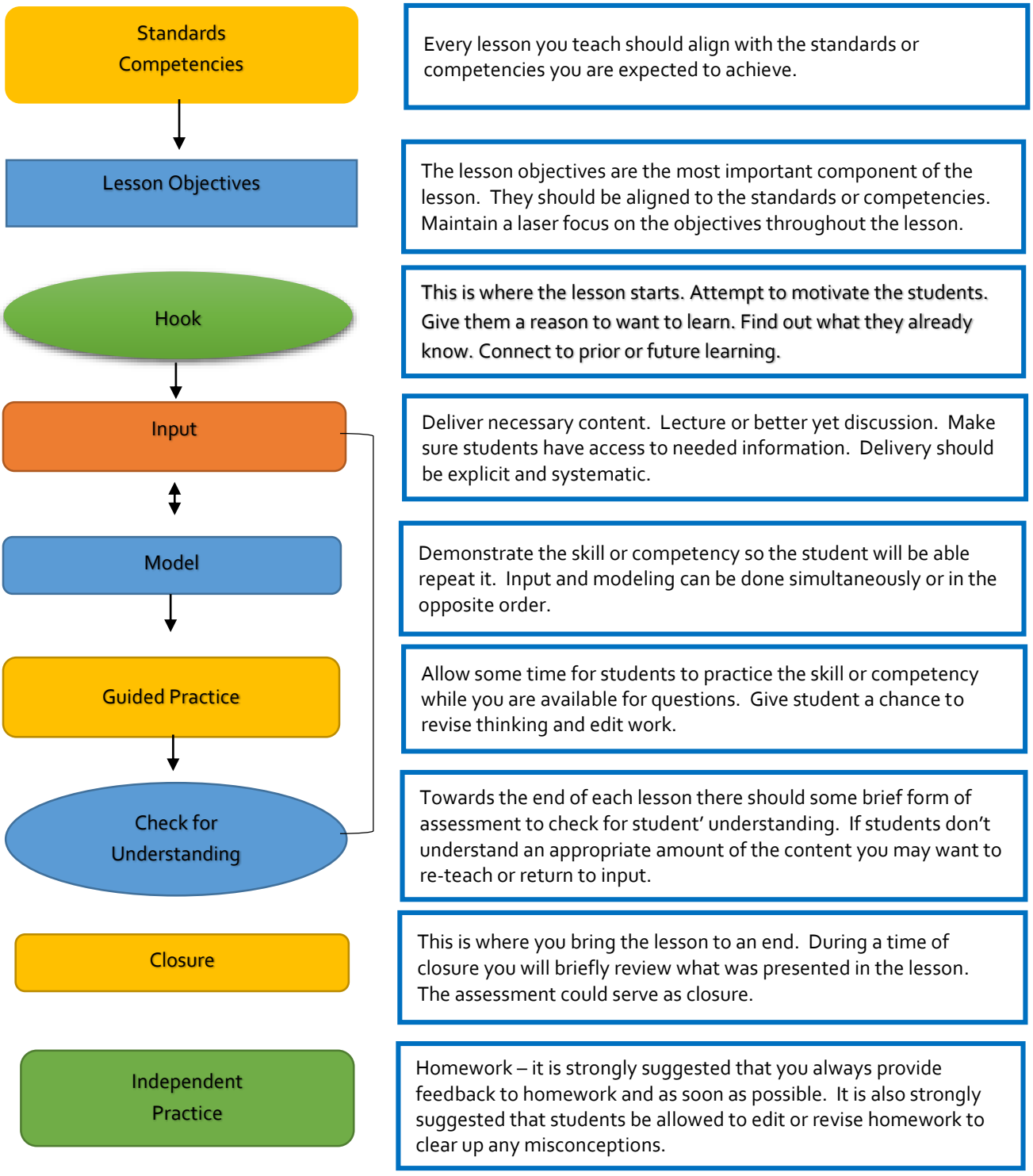
*Note particularly these topics:

- Engaging in strategic relationship-building conversations with students
- Selecting and using particular methods to check understanding and monitor student learning
- Providing oral and written feedback to students on their work
- Teaching a lesson or segment of instruction
- Designing a sequence of lessons toward a specific learning goal

B: Lesson Plan Sequence



Curtis Turner is a senior instructor/master teacher in the UCCSTeach Program at the University of Colorado at Colorado Springs.

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