Annotated Bibliography: Strong Start to Finish

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Developmental Education Reforms


This report addressed prevailing problems within traditional remediation models, as well as institutions’ reform efforts. The article addressed ineffective placement tests and issues in the general remediation process, including cost, duration, pedagogy, and program alignment. Current placement tests frequently misplace students. As a result, students are more likely to be over remediated based on their ability level, rather than under remediated. Some institutions have created placement measures related to their college-level program requirements. In some cases, students are provided with test prep and online tutorials to complete placement tests. Some of those institutions also evaluate students’ non-cognitive traits, such as GRIT. In regard to remediation course reform, the report highlighted accelerated models such as the Accelerated Learning Program (ALP). In addition, the co-requisite model has produced a great deal of early success in a number of states, including Colorado, Georgia, Indiana, West Virginia, and Tennessee. For students who are so behind that those interventions cannot help, there are alternative interventions to help them such as CUNY Start programs. The Accelerated Study in Associate Programs (ASAP) provides academic as well as other supportive measures to support success. The report ended with appeals to focus on the whole student and a list of recommendations based on ongoing efforts.


Early findings from Tennessee. Retrieved from
Belfield, Jenkins, and Lahr (2016) conducted ordinary least squares (OLS) and propensity score matching analyses on transcript data to evaluate the cost-effectiveness of corequisite remediation. The data was composed of first-time college students who started at a Tennessee Board of Regents’ (TBR) two-year or four-year institution during the fall 2008 semester. The sample of students in the survey data included only those who enrolled for at least 12 college credits. For a community college, students who enrolled for at least 27 college credits in their first year earned 18 more credits and were 18 percentage points more likely to earn a degree or certificate than students taking only 12 credits in one term, but less than 27 in their first academic year. Students taking at least 27 credits in their first year ended up paying 20% less for their degree in tuition and fees, paid less than 14% in college expenditures and stimulated $1,740 more in tuition and fees. Those effects were most impactful for students from racial and ethnic minority groups. For students in four-year colleges, those earning at least 27 credits in their first academic year were 19 percentage points more likely to earn a degree. This was in comparison to students completing less than 27 credits in their first year. They also paid 20% less for their degree in tuition and fees, 23% less in college expenditures, and they stimulated $4,890 more in tuition and fees.

Jenkins and Cho used descriptive statistics and ordinary least squares (OLS) to analyze transcript data on first-time community college students in an anonymous state. The premise of this paper was to illustrate how colleges have programs and resources, but students are often not effectively guided to the appropriate pathways. Based on previous research, students who designate pathways tend to fair better in the long run. Their study showed that more than 50% of students who designated a program of study during their first year were likely to complete their associate degree or community college credential, or transfer to a four-year college. This is in comparison to 32% of students who designated a program in their second year, and 20% of those who designated a program in their third year.

(Also see Redesigned Advising)


Leinbach and Jenkins (2008) completed a descriptive statistics and ordinary least squares (OLS) regression on transcript data. The data were made up of first-time students in the state of Washington’s community and technical colleges. More than 70% of students who completed gatekeeper math achieved a milestone, in comparison to only 11% of students who did not complete their math courses (p. 10). For transfer program students completing college-level English, 52% transferred successfully within five years, compared to only 17% who did not pass college English.

(Also see Co-Requisite Math and English)

Logue and Watanabe-Rose (2014) surveyed placement reforms for students designated as needing remedial support. Literature shows that less than 50% of students placed in traditional remediation complete the whole sequence. Additional models include placing students directly into college-level class without supports and placing students into college-level courses with extra support. This study used a randomized control trial to determine if the direct college-course placement was effective. The randomized control trial results showed that students designated as needing remediation can be successful if they are provided the proper supports. Authors noted that benefits included a faster journey to the degree, avoiding the negative stigma of being placed in remediation, and decreased the associated expenses of a college education.


Scott-Clayton’s (2018) article, “Evidence-based reforms in college remediation are gaining steam” focuses on the *effectiveness* of developmental courses and placement into those developmental courses. Scott-Clayton contended that students are being over-placed into remediation based on ACT test scores when they could have earned a
B or higher in the college-level course. As tracking and data became more accessible, statewide policies were created to address this issue by requiring institutions to reassess their overuse of remediation or get rid of them altogether. The article addressed how institutions are changing their placement measures by altering placement algorithms, using multiple measures for placement, and co-requisite remediation. The reforms are still in the early implementation process but preliminary research is finding major decreases in the number of developmental placements for students, in particular, Black students. The completion rates in other cases have increased modestly. For institutions implementing co-requisites, preliminary studies find that the rates of completion for gateway courses have doubled and tripled in comparison to traditional sequence developmental pre-requisite courses. There are few completed randomized controlled studies, many are ongoing. Preliminary studies are showing that moving away from developmental courses and utilizing alternative measures reaps better results for students. However, research also shows that despite these trends, faculty buy-in is a major obstacle in the transition.


Toth’s “Directed Self-Placement at Two-Year Colleges: A Kairotic Moment,” focused on two-year institutions’ use of Directed Student Placement (DSP) for writing courses. Toth argued that there was not extensive literature on this topic for two-year institutions, and used her qualitative study to fill that gap. The article explained that DSP is “a set of principles grounded in student choice that can be implemented in a
variety of ways with varying consequences and local contexts” (p. 16). In addition, the article gave an overview of literature evaluating DSP to find that on average, students placed via DSP perform better than peers placed through other means. This article concluded with her study’s findings and discussion, which held that DSP seemed to provide a fair alternative to alternative models being utilized in writing placement. Toth asserted that this study should help institutions move beyond whether it can be used in two-year institutions, to expanding its span in those spaces.
Co-requisite (Math and English)


This study utilized a discrete-time hazard model on longitudinal transcript data for Florida’s first-time students enrolling in community college. The study gave an overview of the retention and completion issues as well as a review of the literature on this topic. This study held that age played a factor in how students responded to achieving “credit milestones taking remedial courses, and passing college-level ‘gatekeeper’ courses” (p. 798). Overall, achieving milestones increased the likelihood of graduation for all students, but it’s greater for younger students. On the other hand, remediation less negatively affects older students. Their study also found that when keeping other predictors constant, older students are more likely to graduate. The paper concluded with implications and recommendations based on their results. For example, “colleges should provide intensive supports to help remedial students, especially younger students, take and pass the initial-level college math courses, since passing these ‘gatekeepers’ substantially increases the chances that students will succeed.” (p. 797)


The Tennessee Board of Regents’ (TBR) study (2016) examined the effectiveness of community colleges’ developmental education models. Implications and
recommendations were not included in this article. Denley utilized transcript data of entering students from two-year colleges to perform descriptive analyses for aggregated groups. The study found that “those students who were successful in their corequisite pair were also successful in their other classes, earning roughly 85 percent of the hours that they attempted.” (p. 6) The study also found that when co-requisites for math were fully implemented, about 55% of students passed in comparison to the 12.3% pass-rate of the pre-requisite model. For writing, nearly 62% of students passed in comparison to the 30.9% pass-rate of the pre-requisite model.

(Also see Redesigned Advising)


Throughout the past 60 years, policy changes have facilitated greater access to secondary education such as the GI Bill, Truman Commission, and the Higher Education Act of 1965. Despite that fact, student success largely did not improve. Research shows that ineffective remediation is a significant obstacle to first-year students. Complete College America (CCA) created a series of evidence-based strategies including 1) performance funding, 2) corequisite remediation, 3) Fifteen to Finish, 4) structured schedules, and 5) Guided Pathways to Success. In terms of the co-requisite remediation, only one in 10 of the students placed in remedial courses graduate. The report argues that the direct placement of students into college-level courses and providing academic support is the most effective route. The report went on to highlight various successes for institutions. This article did not present new research
but acted as a reference for higher education administrators considering alternative methods of support for their students.


*(See Co-Requisite Math and English)*


Mejia et al.’s report (2018), “Reforming English Pathways at California’s Community Colleges,” evaluates the English pathway reform in state community colleges. This report was based on their previous study utilizing college catalogs and student level-enrollment data to provide a detailed description of English developmental course reforms. For the state of California, 80% of students entering community colleges enrolled in developmental courses and very few completed remediation. Assembly Bill 705 (2017) required community colleges to “maximize the probability that students will enter and complete transfer-level coursework in English and mathematics within one year and mandates that colleges use high school records.” (p. 9) Findings were as follows: The structure and length of developmental English pathways varied considerably; one-semester acceleration substantially shortened the typical developmental pathway; students who take one-semester acceleration have better
outcomes; and equity gaps remain large for underrepresented students. Ultimately, the report touted corequisite remediation as one of the most successful reform measures for mitigating issues with remedial education. “Evidence from other states shows that corequisite models produce larger gains than what we observe with one-semester acceleration.” (p. 21) Major obstacles for integrating corequisite remediation is largely due to faculty resistance and fear of lost jobs with the elimination of developmental courses.

**Redesigned Advising**


Attewell and Monaghan (2016) conducted a propensity score matching analysis using 2004-2009 Beginning Postsecondary Students Longitudinal Study survey data. This survey data targeted students in two-year public or private nonprofit four-year colleges. For students in community colleges, the total number of credit hours had significant results in student success. Students who took 15 credits were 9 percentage points more likely to earn any degree and 5 percentage points more likely to earn a bachelor’s degree within six years. This was in comparison to peers who took only 12 credits. Students starting the term with less than 15 credits but who increased to 15 in the following semester had a greater chance of earning their bachelor’s degree within six years. The effects were particularly impacted by students with weak academic skills and students of color. For students in four-year colleges, the total number of credit hours had significant results on their success as well. Those taking 15 credits in their
first term were 3 percentage points more likely to earn a bachelor’s degree within six years.


Thomas Bailey’s (2018) “Equity and Guided Pathways: Which Practices Help, Hurt, and What We Don’t Know,” addresses the issue of equity and the factors contributing to gaps in higher education. Bailey notes that “disconnected courses, unclear program requirements, advising services that are difficult to access, and lengthy developmental education sequences enroll disproportionate numbers of students of color and low-income students.” (p. 1) This article provided recommendations to support equity through completion of gateway courses. Thomas also addresses inequity in advising. He encouraged advisors not to automatically track students, with identifiers mentioned above, to “reasonable” lower-paying jobs. They should be informed about the challenges and supported to complete those programs. The newsletter ended with a research recommendation. Bailey explained that even if certain reforms have positive preliminary results more research must continue to see if those gains are consistent across student identifiers.

(See Math Pathway and Equity)


(See Co-Requisites)

*(See Developmental Education Reforms)*
Multiple Measures for Placement


Brathwaite and Edgecombe’s (2018) study analyzed the impacts of developmental educational reforms disaggregated by race, gender, and Pell/non-Pell, for math and English courses. Studies on the effectiveness of developmental courses are often not disaggregated by student identifiers (race, SES, gender, etc.) and therefore does not give the full picture. In 2012, statewide reforms sought to limit the number of referrals to developmental courses, and during that time placement test instruments changed, as did the structure of the developmental courses. Authors used descriptive statistics and predictive modeling to analyze student success for placement, progression, and completion. Some of the changes to placement, progression, and completions had positive outcomes overall but when disaggregated, this success was not consistent across identifiers. The article examined how each reform impacted the student groups, with varying results. Ultimately, this study was in alignment with other research “establishing that being assigned to the lowest levels of developmental education has profoundly negative implications for academic progression and completion.” (p. 27)


Ganga and Mazzariello’s report “Modernizing College Course Placement by Using Multiple Measures” explored the biggest issue in college-entry math/English placement – ineffective placement measures. The report addressed the most prominent measure,
standardized placements tests (SAT/ACT), as the primary method of placement and biggest contributor to incorrectly placing students. Too many students who could pass college-entry courses are incorrectly placed into remedial and developmental courses. This delays students’ college journey and wastes their money. As a response to the ineffective placement methods, some institutions created policies that utilized multiple measures, including waiver systems, decision rules, and placement formulas or algorithms. The report went on to highlight some institutions using multiple measures and indicated their levels of success. The report ended with policy recommendations for institutions interested in incorporating multiple measures into their placement process.

(See Developmental Education Reforms)

Math Pathways

(See Redesigned Advising and Equity)
Equity


(See Math Pathways, Redesigned Advising)


Henson and Hern’s “Let Them In: Increasing Access, Completion, and Equity in English Placement Policies at a Two-Year College in California” examined writing and English placement using Butte College. Similar to Nastal’s (2019) “Beyond Tradition: Writing Placement, Fairness, and Success at a Two-Year College,” this article examined how current placement measures perpetuate disparities in higher education.

Evaluative Placement tests such as the ACT’s COMPASS English placement, are not effective predictors of college success; high school GPA is actually a better indicator. This study used Disparate Impact Analysis to examine the effect of Butte College’s brief policy change that expanded access to college English and writing courses. The findings concluded that students previously barred from taking English courses overwhelmingly succeeded when placed in college-level courses (in comparison to developmental courses). However, this article explained that the institution is changing the policy and this will implement a policy that will exclude marginalized groups from English courses. “This exclusion is a result of setting placement criteria to maximize course success of the limited number of students granted access, rather than setting
placement criteria so as to maximize completion of college-level courses for all
students.” (p. 9)

Hubbard, C., Rolfes, M., Hussak, L., Richards, R., & Hinnenkamp, K. (2018). Reframing the
question of equity understanding the growing importance of success for community
colleges’ part-time students [White Paper].

This white paper addressed the most vulnerable groups enrolled on college campuses.
This includes first-generation, low-income, minority, and part-time students. The white
paper noted that “over the past two decades, colleges have enrolled a greater percentage
of disadvantaged students, but these students are not graduating at rates comparable to
those of their peers. Worse, they are leaving our colleges with debt and no credential to
show for their effort.” (p. 30) The remainder of the white paper addressed how the
majority of part-time students are from vulnerable groups and this greatly contributes to
the achievement gap. The paper concluded by addressing student-centered experiences,
streamlined onboarding process, and adaptable planning tools for part-time students
could contribute to decreasing achievement gap.

and Reform. In Higher Education: Handbook of Theory and Research (pp. 469-503).
Springer, Cham.

Jaggars and Bickerstaff address developmental courses in their chapter “Developmental
Education: The Evolution of Research and Reform.” The chapter begins by explaining
the ineffectiveness of the traditional model developmental courses, along with the
rebuttals. Ultimately, the authors hold that developmental courses are overwhelmingly
unsuccessful because of ineffective placement tests, lengthy course sequences, and
instructional approaches that “fail to motivate and engage students in relevant and challenging material.” (p. 473) As the amount of data increased on the traditional model, a wave of unsuccessful reforms tried to mitigate issues in that model. Authors addressed how the second wave of traditional model reform “revised assessment for course placement, acceleration strategies, and changes to the content and pedagogy of developmental curricula.” (p. 478) It was during the acceleration component that the article addressed co-requisite models. Even in the first wave of reforms when co-requisite were implemented, there were preliminary successes. The article also addressed traditional math pathways focused only on algebra. Newer changes identify program skills so that students will be able to take appropriate courses, which may be Quantitative Reasoning or Statistics. The article wrapped up by addressing the third wave of reform and recommendations for future research and evaluation.


Kellermeier’s (2016) article “Saving Mathematical Lives: Teaching Math as if Race, Class, and Gender Mattered” addressed the importance of utilizing social justice-oriented curricula when engaging students from diverse backgrounds. Students who are from vulnerable groups (women, working-class, racial minorities) also happen to be overrepresented in remedial and developmental courses. In particular, Kellermeier described that most have the intellectual capacity to learn the material but the material may not resonate with them in a meaningful way. Based on previous teaching experience, Kellermeier examined the hidden curriculum, or the “context for how we
teach and what we use to illustrate our subject matter.” (2016, p. 22) Another pedagogical component was the *riskable classroom* where students felt safe to learn mathematics. The article concluded with spotlights on institutions that implemented the pedagogical techniques with varying degrees of success from 50% to 95% success rates.


Nastal’s “Beyond Tradition: Writing Placement, Fairness, and Success at a Two-Year College,” investigated the efficacy of writing placement tests. This article paid special attention to two-year institutions because of their open access mission. Because of two-year institutions’ commitment to providing education for all, this article argues that the issue of effective placement testing is important. Nastal highlights literature addressing how current and previous measures (COMPASS tests) for writing placement exacerbates prevailing disparities. More often than not, placed students are over-remediated and do not continue their studies. This gap is most prevalent in marginalized groups (for example, Black students). Nastal’s article then focused on her case study examining how placement scores related to student success for a diverse population. Ultimately, her case study concluded with the acknowledgment that a better alternative to writing placement tests may not exist. Nastal recommended a radical shift in the current structure or a complete break from placement and tracking altogether. Either way, this article encouraged teachers-scholars-practitioners to continue utilizing
archival research to determine whether current tracking/placement methods are effective in their institutions.


Showalter et al. (2017) produced an extensive report on rural students in America. The report analyzed the general population of rural students and their unique issues. More than 8.9 million students attend rural schools — more than New York City, Los Angeles, Chicago, and incredibly, the next 75 largest school districts combined (p.2). Showalter et al. also explained that the average rural high school graduation rates are relatively high. Eighty-seven percent of high school students in rural areas graduate within four years, in comparison to only 77 percent of rural students of color (p. 2). This report did not explicitly address co-requisite or developmental courses; however, it did address completion disparities for rural students of color. College preparation remains a major issue. The major takeaways from this report are for leaders in education to consider the importance of rural education in the state, diversity of rural students and their families, educational policy context impacting rural schools, educational outcomes of rural students, and college readiness of students in rural schools.

Rutschow et al.’s brief (2018) addressed the issue of failing traditional developmental models for students in two-year and four-year institutions. This brief explained that millions of students are identified as not being ready for college-level courses, and more than half of students tracked into traditional developmental models never complete the course sequence or graduate. Authors attributed it to the over-identification of students as needing developmental services, lengthy prerequisite sequence, and the ineffective placement assessments. In addressing possible solutions, compressed math and English sequences, math pathways, and co-requisite models were proposed.
Evaluation


Nunez and Yu’s piece (2018) “Examining the Structure of Organizational Relationships Using Social Network Analysis (SNA),” explained the utility of social networks modeling in exploring organizations and community relationships, power, and centralism. The report explained the different components (such as administering surveys) and terminology within SNA including nodes (vertices) and ties. Ultimately, this short piece connected that to the two projects funded by The John D. and Catherine T. MacArthur Foundation: New communities program (NCP) and the Chicago community (CCN) networks study. The objective for the NCP was to foster healthy community relations with larger goals of creating safer areas, improving schools, and preserving affordable housing (p. 1). The CCN study measured and structured those community members in Chicago who decided not to take part in the New Communities Program. This study’s objective was to learn more about how they contribute to the community.


Williams and Hendra’s (2018) study on “The Effects of Subsidized and Transitional Employment Programs on Noneconomic Well-Being” focused on low-income and disadvantaged groups. This study used the Subsidized and Transitional Employment
Demonstration (STED) to investigate benefits for participants. Williams and Hendra investigated how those programs contributed to a sense of well-being. Participants were randomly assigned to a program group whose members were offered access to the subsidized jobs program, or to a control group whose members were not offered services from the program being tested, but could receive other services in their communities. The results found that in addition to the increased likelihood of obtaining employment, participants also had an increased level of subjective well-being. This is important because well-being “can contribute to psychological and social resilience — the capacity to adapt effectively to adversity and life challenges.” (p. 11)