

Annotated Bibliography: GED to Postsecondary Transitions, with a Focus on Academic Content

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GED to Postsecondary Transitions, with a Focus on Academic Content

Academic Core Content Areas**Reading**

ACT, Inc. (2006). Reading between the lines: What the ACT reveals about college readiness in reading. Retrieved from http://www.act.org/research/policymakers/pdf/reading_report.pdf

In this study of students who took the ACT, students who met the ACT Benchmark for Reading were more likely to enroll in college, have better retention, and earn higher grades than those who did not meet the Reading Benchmark. In fact, students who met the ACT reading benchmark scored significantly higher on mathematics, English, and science ACT testes than students who did not achieve the benchmark reading score. Implications point to the importance of reading for all content. The study recommends that reading instruction include instruction of reading strategies that incorporate complex reading materials throughout all subject areas.

Batchelder, J. S., & Koski, D. D. (2003). Technology in the adult education classroom:

Evaluating achievement on the test of adult basic education. *Journal of Adult Education* 32(2), 59-70.

This study with ABE and GED students found that computer-assisted instruction did not result in significantly different student achievement gains in reading, math or language gains as measured by the TABE than traditional instruction which did not incorporate computer-assisted instruction. There was no significant difference between the computer-assisted and traditional instruction.

Burke, L., Fiene, J., Young, M. J., & Meyer, D. K. (2008). Understanding the why behind the how in reading instruction. *Educational Forum*, 72(2), 168-176. doi: 10.1080/00131720701805033

This study looks at similarities of reading teachers' university training on methods and their actual classroom practices in order to recommend improved delivery of methods courses for pre-service teachers. The author suggests teachers and curriculum developers in designing assessment items and learning activities which helps as the basis for the teacher's judgment. *NOTE: This might be interesting to include in that almost no adult education teacher has had any university level methods course in reading development.*

Compton-Lilly, C. (2009). Disparate reading identities of adult students in one GED program. *Adult Basic Education & Literacy Journal*, 3(1), 34-43.

The author found that the same individuals who expressed challenges and difficulties at reading mainstream educational material also expressed enthusiasm and confidence for reading and writing that they engaged in outside of school. *NOTE: The challenge is being able to transition students from reading and writing outside of school to that they will find in mainstream education.*

Harlow, C. W., Jenkins, H. D., & Steurer, S. (2010). GED holders in prison read better than those in the household population: Why? *Journal of Correctional Education*, 61(1), 68-92.

This research found that prisoners with a GED who were incarcerated had higher reading skills than those in the general population with a GED. The populations who demonstrated these higher skills were those who were black, male, learning disabled, second language learners of English, or had never used a library. Blacks in prison read

as well as whites. The authors suggest that more education should be offered in prisons to increase their education levels and success upon release.

Hill, L. H. (2005). Concept mapping to encourage meaningful student learning. *Adult Education, 16*(3/4), 7-13.

This article introduces concept mapping as a deep learning strategy for content and a way to encourage critical thinking skills. Several references are included to support the use of concept mapping. There are several examples that can help practitioners feel comfortable with this approach.

Hock, M. F. (2012). Effective literacy instruction for adults with specific learning disabilities: Implications for adult educators. *Journal of Learning Disabilities, 45*(1), 64-78. .

Evidenced based instructional practices such as explicit instruction, instructional technology, and intensive tutoring in skills and strategies within authentic contexts are found to have significant positive effects at increasing literacy for adult students with learning disabilities. These practices should be incorporated into transitional programs to assist students who have learning disabilities. *NOTE: Is it probable that these practices will also have positive effects on all transitional students?*

Rogers, R. (2004). Storied selves: A critical discourse analysis of adult learners' literate lives. *Reading Research Quarterly, 39*(3), 272-305. doi:10.1598/RRQ.39.3.2

This study looks at adult learners' use of literacy in three domains which included past and present school, home and community, and involvement with children's education. Results may suggests improvements in models for adult education learning that bring in adults' literacy and learning that takes place outside of the classroom.

Writing

Berry, A. B., & Mason, L. H. (2010). The effects of self-regulated strategy development on the writing of expository essays for adults with written expression difficulties: Preparing for the GED. *Remedial and Special Education, 33*(2), 124-136.

doi:10.1177/0741932510375469

Writing treatments included *Self-regulated Strategy Development (SRSD)* for the *POW* (Pick my idea-pay attention to the prompt, Organize, Write and say more) + *TREE* (Topic sentence, Reasons, Explanations, Ending) + *COPS* (Capitalize, Organize, Punctuate, Sense) strategies. All students who participated subsequently passed the GED Essay test. All showed gains in the areas of organization and use of descriptive vocabulary.

Callahan, M. K., & Chumney, D. (2009). "Write like college": How remedial writing courses at a community college and a research university position "at-risk" students in the field of higher education. *Teachers College Record, 111*(7), 1619-1664.

This qualitative study compared writing courses at a community college feeder and a university. Although the two institutions said they actively collaborated on the introductory writing course curricula and assessment, students at the four-year university were expected to construct their own arguments in essays, whereas students at the two-year college completed grammar work- sheets and took vocabulary tests. In summary, the authors conclude that it is not the type of institution but rather the level of resources for students which include their access to capital (course content that develop analytical skills), a full-time professor, and one-on-one tutoring. The authors state that their research supports continuing to offer remedial courses at four-year universities.

Cargill, K., & Kalikoff, B. (2007). Linked psychology and writing courses across the curriculum. *Journal of General Education*, 56(2), 83-92.

This study, at the college level, had students concurrently enroll in psychology and developmental writing. Linking the courses was found to improve writing and exam scores and increase class retention. This strategy could work with transitional students who are allowed to dual enroll for college credit, just as high school students are allowed to do so.

Cotugno, M. (2009). Encouraging GED students write now!: The studio as bridge. *Adult Basic Education and Literacy Journal*, 3(3), 171-174.

This program aims to increase completion of the GED, increase transition to postsecondary education, and provide students with college level writing experiences. As part of the program, students participated in a half-day writing workshop and enter an essay contest.

Hill, L. H. (2005). Concept mapping to encourage meaningful student learning. *Adult Education*, 16(3/4), 7-13.

This article introduces concept mapping as a deep learning strategy for content and a way to encourage critical thinking skills. Several references are included to support the use of concept mapping. There are several examples that can help practitioners feel comfortable with this approach.

Jacobi, T. (2008). Writing for change: Engaging juveniles through alternative literacy education. *Journal of Correctional Education*, 59(2), 71-93.

This article proposed alternative methods for teaching literacy skills to youth offenders. These include writing workshops, peer and professional mentoring, and

increased engagement with the publishing industry as they write for a real audience and not just for school.

MacArthur, C. A., & Lembo, L. (2009). Strategy instruction in writing for adult literacy learners. *Reading and Writing: An Interdisciplinary Journal*, 22(9), 1021-1039.

This study found that cognitive strategy instruction in writing is promising for adult learners. Three students made consistent gains in their essay quality and organization, judged on a 7 point scale.

Perin, D. (2002). Repetition and the informational writing of developmental students. *Journal of Developmental Education*, 26(1), 2.

This study investigated the effects of task repetition on the writing skills of upper level developmental reading students. On two occasions spaced one week apart, the students were presented with college-level allied health and business text and asked to write an informational report. Although no writing instruction was provided in the interval, performance changed significantly on four of five indicators of writing skill.

Productivity, use of source text, and representation of key ideas improved, which suggested that the simple repetition of meaningful literacy tasks had potential to facilitate learning in developmental education classrooms. However, there was also an increase in copying from the sources, possibly the result of students' growing recognition of task difficulty.

Mathematics

Codding, R. S., Eckert, T. L., Fanning, E., Shiyko, M., & Solomon, E. (2007). Comparing mathematics interventions: The effects of cover-copy-compare alone and combined with

performance feedback on digits correct and incorrect. *Journal of Behavioral Education*, 16(2), 125-141.

This study found little or no difference in the number of sessions needed to gain master on mathematics problems whether or not external feedback was provided.

Cover-Copy-Compare (CCC) was the control method, and seemed as effective as CCC with the feedback of number of problems correct and incorrect per minute. Two levels of math, 6th grade and 7th grade, were included in the study.

FitzSimons, G. (2008). A comparison of mathematics, numeracy, and functional mathematics:

What do they mean for adult numeracy practitioners? *Adult Learning* 19(3/4), 8-11.

The author discusses how adult learners see achieving a task as a priority and that general math principles need to be made concrete. The authors considers it important for the adult learner to have some negotiation in the content of the course along with recognition for what they already know and are able to do with math.

Hinterer, S. (2002). *A study to determine the effect of skill-focused curriculum & instruction on student achievement as evidenced by GED & ACT pre/post scores*. Retrieved from ERIC. (ED474905)

Learners in a correctional environment went through a skill-based math curriculum based on Bloom's Taxonomy in which students were taught critical thinking skills. Learners showed an increase on their GED and ACT scores.

Safford-Ramus, K. (2008). What mathematics should adults learn? Adult mathematics instruction as a corollary to two decades of school mathematics reform. *Adult Learning*, 19(3/4), 12-16.

The author details the history of standards development for K-12 and adult education math. In the K-12 standards She points to the current decreasing emphasis on quantitative mathematics, which is what all adults tend to use in everyday. Also, she points to the de-emphasis on statistics and probability as troubling because this is the type of math used by most people in the workplace.

Stahl, N. (2011). An analysis of calculator use and strategy selection by prison inmates taking the official GED practice test. *Journal of Correctional Education*, 62(3), 194-215.

Prisoners were observed using calculators for the math portion of the Official GED Practice Test. They used the calculators only when the alternative--working by hand--would be much less effective. They chose to work by hand on problems in which they could have easily used the calculator, and those questions in which they used the calculator had a high frequency of error. The conclusion is that students need much more practice with the scientific calculator, especially for deciding when it should be used during the GED test.

Washington Mathematics Assessment and Placement (n.d) Washington Mathematics Assessment and Placement. Retrieved from <http://www.wamap.org/index.php>

Washington Mathematics Assessment and Placement is a web based mathematics assessment and course management platform. Its use is provided free to Washington State public educational institution students and instructors. The Math Placement Test (MPT) is a series of tests used to help place college-bound students into the correct mathematics course. Test include a college readiness math test, a pre-calculus readiness, and calculus-level readiness. A free "Teaching with WAMAP" course is available for instructors.

Wharton, F. (2010). *Improving mathematics teaching and learning in an adult basic education program using cogenerative dialogues*. Retrieved from ProQuest Dissertations and Theses. (746585867)

This study looks at the benefits of cogenerative dialogue in an adult education math class. Through the use of cogenerative dialog, students engaged in evaluation, analyzing and afforded the opportunity to co/plan, critique and implement curriculum and instructional practice that value how they learn mathematics as adult learners. Students participated in evaluation, analysis and interpretation of math mathematical knowledge in the form of sharing, co-teaching, and helping each other understand ideas in a collaborate learning framework. This type of dialog allowed students to have input into the curriculum and learning methods used in the classroom. The researcher observed a change in attitudes, motivation, understanding and self-efficacy in math through the use of cogenerative dialog. However, there was limited engagement observed in younger students (18-24 years) as well as males.

Wilmot, D. B., Schoenfeld, A., Wilson, M., Champney, D., & Zahner, W. (2011). Validating a learning progression in mathematical functions for college readiness. *Mathematical Thinking and Learning, 13*(4), 259-291.

Because college placement tests do not have high predictive accuracy, the authors created and validated an alternate placement test based on college readiness standards in mathematics. *Note: More information on this test might assist in developing better math curriculum in adult education.*

Integrated Curricula Models

Engstrom, E. U. (2005). Reading, writing, and assistive technology: An integrated developmental curriculum for college students. *Journal of Adolescent & Adult Literacy*, 49(1), 30-39.

doi:10.1598/JAAL.49.1.4

The author presents case studies of two students who participated in an integrated reading, writing and assistive technology curriculum at a college designed for students with learning disabilities and/or attentional disorders. Students were taught to use an active reading strategy that included pre-reading, reading, highlighting, margin noting, chunking sections of text, and summarizing text. Students with difficulty decoding due to their learning disabilities were able to access text to speech technology. The writing portion was designed to incorporate thematic connections and process strategies from the reading instruction. While students were learning how to read narrative essays for content and structure, they were also working on writing a narrative essay. In both case studies students gained in both their reading comprehension and writing proficiency.

Clayton, M., Ho, P. S., & Hudis, P. M. (2007). *Designing interdisciplinary, integrated curricula: A practical manual*. Berkeley, CA: The California Center for College and Career.

This curriculum development manual for instructors details the following major steps to development of integrated instruction curriculum:

- Connect With Industry and Postsecondary Partners
- Create and Share Curriculum and Performance Maps
- Decide on the Topic of the Integrated Unit
- Craft the Essential Question
- Identify Key Questions

- Allocate Responsibilities
- Review and Revise the Instructional Sequence
- Set the Learning Scenario
- Establish Student Assessments
- Write Lesson Plans
- Evaluate the Unit

Giesen, L. (2001). *Activities for integrating reading and writing in the language classroom*

(Unpublished master's thesis) School for International Training: Brattleboro, VT.

This thesis offers practical activities that integrate reading and writing in the college Intensive English Program for second language learners. The thesis begins with a brief review of the literature on the rationale for reading and writing integration. Before-reading activities include responding to a quote, definition posters, relating an experience, and predicting. During-reading activities included split-page notes, post-it notes, plus-minus-interesting, and double-entry response activities. After-reading activities include retelling, open-ended responses, directed responses, and summarizing.

Gocsik, K. (2004). Dartmouth writing program: Integrated reading and writing. Retrieved from the

Dartmouth College website: <http://www.dartmouth.edu/~writing/materials/>

faculty/methods/integrating.shtml

This integrated reading and writing curriculum uses a limited yet carefully selected reading assignments in order to spend adequate time on writing. Students are provided with models of writing that are both good and bad and work on identifying characteristics that make them either good or bad. Well written readings serve as

models of various genres. Students focus on the construction of arguments and structure in their readings rather than just on content. Writing is incorporated into reading assignments; for example, students are asked to write notes within their texts, to keep journals, and to create frequent short responses to reading. Students are asked to write in order to discover how they think through the use of discovery drafts, in class free writing assignments, and assignments that challenge them to think about the course materials in new ways. The use of online collaborative discussion boards are also incorporated into the course.

McNutt, B. (2009). GED Connection. *Adult Basic Education & Literacy Journal*, 3(2), 121-122.

GED Connection is a curriculum targeted to adult learners preparing for the GED which includes printed workbooks along online material. GED Connection's strongest points include its alignment with the 2002 GED tests (soon to be defunct), audience of adult learners, cost-effectiveness, student ease of use, and integrated content. Though the online materials contains numerous broken links and inconsiderate formatting, frequent online quizzes and practice tests add to the usefulness of the online portion of the curriculum. Other weaknesses include no tracking of seat time, no diagnostics for placement, and most importantly, lacks depth. Therefore, many students will need additional support and materials from an instructor.

North Carolina Community College System (2012). Developmental education: Integrated reading and writing. Retrieved from <http://www.nccommunitycolleges.edu/programs/devintegrated.htm>

North Carolina Community College system posts its course competencies for three developmental integrated reading and writing courses. Each one of these courses

combines a developmental reading and developmental English course in order to half the number of courses that students need to progress through developmental education coursework. Only the course competencies rather than strategies or course syllabi are included in the documents.

Perin, D. (2008). *Preparing community college developmental education students for discipline-area reading and writing: Implications for curriculum*. New York, NY: Columbia University, Teachers College, Community College Research Center

In this study, a reading and writing intervention called Content Comprehension Strategy Intervention (CCSI) was used with students enrolled in upper level developmental reading and writing courses. The interventions developed included one contextualized with science and another containing high-interest but unrelated readings. Both interventions were formatted equally and required that students practice summarizing a reading passage, formulating questions, working with vocabulary, writing a persuasive essay, and answering test-prep questions. The two interventions were self-paced and used independently by students outside of the class. Findings indicated an improvement in both treatment groups in the number of main ideas identified in a written summary. Only the contextualized curriculum showed an increase in accuracy of information. However, the contextualized treatment showed a decrease in paraphrasing, and did not show a gain in reading as did the other non-contextualized group and the control group.

Zachry Rutschow, E. & Schneider, E (2011). *Unlocking the gate: What we know about improving developmental education*. New York, NY: MDRC..

This in-depth meta-analysis covers research on developmental education models in order to discover research-based best practices in development education. One best practice identified is mainstreaming, which combines developmental education classes with college level entry coursework. For example, an Integrated Reading/Writing development course may be taken over two semesters in conjunction with a college level English class. This affords the student college credit at the end of the year. Many of these integrated courses also emphasize student-centered instructional strategies and rely on a wide range of assessment practices, such as portfolio-based grades. Successful Integrated Reading/Writing developmental education courses are based on a holistic approach to reading and writing and incorporate self-reflective writing and activities that support metacognitive development, active learning and analytic thinking. Research at San Francisco State showed an increase in retention, pass rates of entry college level English, reading comprehension scores and critical thinking skills.

Contextualized Instruction and Career Pathways

Baker, E. D., Hope, L., & Karandjeff, K. (2009). Contextualized teaching & learning: A faculty primer. Retrieved from <http://www.careerladdersproject.org/docs/CTL.pdf>

This report, designed for California community college faculty, provides as a promising set of strategies and practices for contextualized Teaching and Learning (CTC). Best practices related to curriculum development include:

- Focusing on learning outcomes to which both academic content and vocational coursework. Limited basic skills instruction to mini-lessons of 10 to 30 minutes.

- Instructor feedback that stresses the relevance of career goals to academic instruction.
- Selection of reading materials pertinent to the vocational area.
- Homework and assessment of academic specific to the vocational area project-based learning focused on student interest which requires extensive research, reading, and writing.
- Integrating ideas from class reading into personal experiences.

Berns, R. G., & Erickson, P. M. (2001). Contextual teaching and learning: Preparing students for the new economy. Retrieved from <http://www.eric.ed.gov/PDFS/ED452376.pdf>

The author defines contextual learning and teaching and describes approaches for contextual teaching and learning to include problem-based learning, cooperative learning, project-based learning, service learning, and work-based learning. Posits that lessons should be developmentally appropriate and include interdependent learning groups, and environment that supports self-regular learning and addresses multiple intelligences of students, and authentic assessment. An example contextual teaching and learning class is described.

Casey, H., Cara, O., Eldred, J., Grief, S., Hodge, R., Ivanic, R., Jupp, T., Lopez, D., & McNeil, B. (2006). *Embedding literacy, language and numeracy in post-16 vocational programmes - the impact on learning and achievement*. London: National Research and Development Centre for Adult Literacy and Numeracy.

This research explored the impact of basic skills instructions on 79 vocational programs. The courses were based in 16 further education colleges throughout England. The 1,916 learners who took part in the research looked at were preparing for

national vocational qualifications in health and social care, hair and beauty therapy, construction, business, and engineering. Retention was 16 per cent higher in the basic skills embedded courses versus basic skills non-embedded. Ninety-three percent of those with literacy needs achieved a literacy or ESOL qualification, compared to only 50 per cent for those in nonembedded courses. Ninety-three percent of those with numeracy needs achieved a numeracy/math qualification, compared to 70 percent for those in nonembedded courses. Where a single teacher was asked to take dual responsibility for teaching vocational skills and literacy skills, the probability of learners succeeding with literacy and numeracy qualifications was lower. Some features of embedded literacy, language and numeracy in vocational programs include:

- Vocational and basic skills instruction are physically integrated – i.e. taught during the same time blocks.
- Basic skills instruction is linked to practical, vocational content and activities.
- The vocational materials and instruction are adapted or differentiated to take account of different literacy learner levels and needs.
- Initial/diagnostic assessment is used along with the use of individual learning plans or other formative assessment.
- Vocational staff and basic skills staff have shared planning time.
- Basic skills instruction is viewed to be essential to the learner's success in their vocational area.
- Resourcing and working conditions support integrated, contextualized instruction.

Kalchik, S., & Oertle, K.M. (2010). The theory and application of contextualized teaching and learning in relation to programs of study and career pathways. *Transition Highlights(2)*., Champaign, IL: Office of Community College Research and Leadership, University of Illinois.

Kalchik and Oertle first define cross-curriculum integration as the collaboration of academic teachers, contextualized teaching and learning (CTL) teachers, and representatives of business/industry to create projects that require both academic content and career/workforce competencies. They list its benefits and challenges as well as its theoretical roots. The authors assert that constructivist educational theory is core to the CTL. They also discuss additional theories that add to the implementation and effectiveness of CTL: motivation theory, problem-centered learning, social learning theory, learning styles, and brain research.

Kalchik, S., & Oertle, K.M. (2011). The relationship of individual career plans to programs of study and career pathways. *Transition Highlights (3)*., Champaign, IL: Office of Community College Research and Leadership, University of Illinois.

This article focuses on the Individual Career Plan (ICP) ,which is a core component of student-centered contextualized teaching and learning (CTL). The ICP is personalized student education plans that include information such as high school courses, postsecondary education and career interests, and extracurricular activities. Kalchik and Oertle give two examples of ICPs, including a model called *LifeMap* that was developed for community college students and another named *Self-Determined Career Development (SDCDM)* used for elementary, middle school and high school students. Interestingly, the SDCDM is being tested with adult learners with disabilities.

Mazzeo, C., Rab, S. Y., & Alssid, J. L. (2003, January). *Building bridge to college and careers: Contextualized basic skills programs at community colleges*. New York, NY: Workforce Strategy Center.

This study looks at best practices from five community colleges across the nation that use integrated and/or contextualized instruction to teach basic skills to disadvantaged adults. Best practices relevant to instruction and curriculum include

- Mono-lingual Spanish and bilingual Spanish/English progressing to English for all Spanish-speaking populations.
- Hands-on learning directly related to the targeted industry along with work readiness.
- Encouraging group work that respect students' multiple intelligences and various cultural backgrounds
- Giving the students a voice in the classroom, using activities such as journaling and student-led review sessions, use of short term intensive instructional modules
- Earning college credit when possible for classes.

This comprehensive report includes definitions of integrated curriculum with best practices largely taken from K-12 but linked to adult education. Curriculum-related lessons included:

- Shared purpose among administrators and teachers in implementing curriculum integration to increase student achievement
- Content from two or more disciplines (academic and CTE)

- Well-defined educational objectives, such as academic content standards, industry skill standards and workforce-readiness standards such as SCANS

Park, R. J., Ernst, S., & Kim, E. (2007, October). *Moving beyond the GED: Low-skilled adult transition to occupational pathways at community colleges leading to family-support careers*. St. Paul, MN: National Research Center for Career and Technical Education, University of Minnesota

This review of the literature looks closely at three community colleges which have shown promising results of collaboration and success of adult basic education and academic study leading to vocational certification and/or licensure. The project goal was to identify best practices that are replicable at other community colleges. Many best practices were identified in this review; however, due to the academic focus of this annotated bibliography, only best practices concerning curriculum and instruction are included in this annotation. Agreement in all studies reviewed that curriculum should be focused on competencies required for jobs—and, where possible, tied to industry skill standards, certifications, or licensing requirements. It should be structured in small modules or chunks, each leading to a recognized credential, and allow learners to enter and exit education as their circumstances permit. Flexibility in scheduling and nontraditional pedagogical philosophy (“nontraditional” is never defined) were consistent across institutions. Finally, accelerated learning, intensive instruction, and careful and regular assessment were also found to be best practices.

Perin, D. (2001). Academic-occupational integration as a reform strategy for the community college: Classroom perspectives. *Teachers College Record*, 103(2), 303-335. doi: 10.1111/0161-4681.00117

This study looked at six community colleges who implemented an integrated occupation and academic instruction approach. The most negative finding was the time and effort needed to achieve the integration. Positive findings included increased student learning and instructor motivation. Factors evaluated in the classroom included the strength of the integration, level of student-centeredness, and use of explicit teaching. What is most interesting from this study is the author's assertion that this model can also be productive for remedial education.

Perin, D. (2011). Facilitating student learning through contextualization: A review of evidence. *Community College Review*, 39(3), 268-295. doi:10.1177/0091552111416227

The purpose of this article is to examine evidence for the embedding of basic skills instruction through contextualization, which integrated basic skills with vocational instruction. The author suggests that this type of instruction may accelerate the progress of academically underprepared college students. Contextualized instruction occurs when reading, writing, and mathematics basic skills are embedded within other content. The focus is on the basic academic skills. Integrated instruction occurs when content area teachers, as opposed to basic skills reading writing and math teachers, embed basic skills into their content, which is often vocational. The emphasis of the teacher is the content area rather than the basic skills. The author reviews literature in support of contextualized and integrated instruction, discusses current research, implications, and suggestions for further research. Her conclusion is that contextualized and integrated instruction can be used to accelerate student learning for those students lacking in basic skills.

Wachen, J., Jenkins, D., & Van Noy, M. (2010). *How I-BEST works: Findings from a field study of Washington State's Integrated Basic Education and Skills Training*

Program. New York, NY: Columbia University, Teachers College, Community College Research Center.

The goal of I-BEST, developed in the state of Washington within its higher education system, is to increase the rate at which adult education students advance to college-level occupational programs and complete postsecondary credentials. A common approach to the joint curriculum planning process is to modify existing professional-technical curriculum by integrating basic skills instruction into the course content, but, fully integrated instruction is rare. I-BEST courses are mandated in Washington to have both a basic skills and a professional-technical instructor in the classroom together for at least 50 percent of the instructional time. Input from the 34 colleges in Washington showed that they all agree that I-BEST is effective but very expensive and difficult to fund. College faculty stated that careful planning, well-defined staff roles, buy-in from both the basic skills and vocational departments, and support from senior institutional leaders are critical to success of this model.

Wachen, J., Jenkins, D., Belfield, C., & Van Noy, M. (2012). Contextualized College Transition Strategies for Adult Basic Skills Students: Learning from Washington State's I-BEST Program Model. Available: <http://ccrc.tc.columbia.edu/publications/i-best-program-final-phase-report.html>

Best Practices in Curriculum and Instruction

Edgecombe, N. (2011). *Accelerating the academic achievement of students referred to developmental education (Working Paper No. 30)*. New York, NY: Columbia University, Teachers College, Community College Research Center.

This paper describes and categorizes the different acceleration models in use and looks at empirical research on the effectiveness of each model. A variety of models for course redesign and mainstreaming are outlined. The author concludes that there are both advantages and disadvantages to acceleration such as the need for state policy change and the tendency for acceleration to create a competency-based approach which overemphasize skills and decreases critical thinking. However, initial analysis of accelerated classrooms suggests that frequent use of diversified instructional approaches combined with an increase in student-centered instruction may contribute to lower attrition and higher course completion rates shown by recent studies.

Gardner, H. (2011). Promoting learner engagement using multiple intelligence and choice-based instruction. *Adult Basic Education and Literacy Journal*, 5(2), 97-102.

The author describes a strategy of activity menus which presents students with a list of choices. The idea for activity menus comes a recent book by Viens and Kallenbach (2007) titled *Multiple Intelligences and Adult Literacy: A Sourcebook for Practitioners*. Each activity listed on the activity menus is based on one of the types of intelligences described by Garder (1983). These include linguistic, logical-mathematical, musical, spatial, bodily-kinesthetic, interpersonal, intrapersonal, or naturalist.

Kenner, C., & Weinerman, J. (2011). Adult learning theory: applications to non-traditional college students. *Journal of College Reading and Learning*, 41(2), 87-96.

Three groups of non-traditional students are identified. The authors explain the differences between these groups and suggest that an understanding of these differences by postsecondary faculty can help them better teach these students. Tacit,

informal and formal adult learning theories are reviewed. Several examples are included of appropriate instructional techniques and learner activities. *Note: Can serve as a foundation for all GED, transitional, and developmental education faculty.*

Twigg, C. A. (2005). *Increasing success for underserved students: Redesigning introductory courses*. Saratoga Springs: NY. The National Center for Academic Transformation.

In this review, best practices for redesigning developmental courses revealed recommendations of:

- Continuous assessment and feedback.
- Increased interaction among students.
- Individualized support.
- Limiting lecture and increased collaborative learning.
- Using information technology to support good pedagogical practice

Moeller, M., Day, S. L., & Rivera, B. D. (2004). How is education perceived on the inside?: A preliminary study of adult males in a correctional setting. *Journal of Correctional Education*, 55(1), 40-59.

Inmates were asked about their perceptions and impressions of the GED and ABE courses they were taking. They expressed that they preferred more time concentrating on reading and math skills, more time in preparation for the TABE exam, and larger classrooms. This may suggest that transitional students would benefit from increased focus on reading, math and college placement preparation as well as from inviting learning environments.

Wilson, B. J. (2006). Adults must be college-ready too: ABE-to-college transition project inspires lives. *Connections: The Journal of the New England Board of Higher Education*, 20(4), 25-26.

This article describes the results of New England's investment in the ABE-to-College Transition Project. Implemented in 2001, this project is designed to support the successful transition of adult GED recipients to postsecondary education. The project focuses on improve students' English and math skills and stresses critical thinking as opposed to rote memorization. The project also assists them in non-academic skills and knowledge that the need for higher education. Since 2001, 63 percent of 2,532 students have completed the program and 90 percent of these had applied to or enrolled in postsecondary education.

Zachry, E. M., & Comings, J. P. (2006). *How do you teach content in adult education?: An annotated bibliography*. Cambridge, MA: National Center for the Study of Adult Learning and Literacy.

The authors describe suggested resources to help teach content in adult education classes in reading, writing, math, numeracy, second language, GED, adult learning theory, and technology.

Zafft, C. K. (2008). Bridging the great divide: Approaches that help adults navigate from adult education to college. *Adult Learning*, 19(1/2), 6-11.

Through her research, the author creates a typology of Adult Basic Education (ABE) to career and college transition programs: Advising, GED Plus, ESOL Transition, Career Pathways, and College Prep. All models address gaps in academic preparation and the need for intensive counseling/support. Differences include the intensity and

types of instruction and counseling services offered. State-level approaches for Oregon, Maine, Connecticut, and Kentucky are also described. The author concludes with recommendations for clear AE to postsecondary readiness goals, the ability to track achievement across institutions; need for state level funding based on cost and benefit analysis, high quality, sustained professional development for both AE and developmental instructions, partnerships at the state, regional and local levels, and further research on models which measure these against common criteria.

Academic Content Standards and Alignment

ACT, Inc. (2010). The alignment of Common Core and ACT's College and Career Readiness

System. Retrieved from <http://www.act.org/commoncore/pdf/CommonCoreAlignment.pdf>

This document describes the ACT College and Career Readiness System and demonstrates points of alignment to the national Common Core. It is unclear from this document whether the ACT College Readiness Standards were created before the Common Core, parallel to them, or after the Common Core came into existence. ACT aligns three of their tests to the system: EXPLORE® (grades eight and nine), PLAN® (grade ten) and the ACT®, which can be used by juniors and seniors at the high school level. According to ACT, scores from these tests align to their College Readiness System, which in turn can be aligned to the Common Core based on this document's crosswalk.

Agba, C. P., Klosowski, S. M., & Miller, G. R. (2002). Appraisal of an offender population on the General Educational Development test as predicted by the General Educational Development practice test. *Journal of Correctional Education*, 53(1), 28-31.

The researchers refutes a prior study that not all GED Practice Test can predict passing the GED and finds that all practice tests are valid predictors. Note: This combined with research by Joost (2009) and Tokpah, C. L., & Padak, N. (2003) may support the use of the reading GED practice test to help predict college success.

Common Core State Standards Initiative (2010). Common core state standards for English language arts & literacy in history/social studies, science, and technical subjects.

Retrieved from http://www.corestandards.org/assets/CCSSI_ELA_Standards.pdf

Forty-eight states, two territories, and the District of Columbia contributed to and have adopted the Common Core Career and College Readiness Standards (CC CCRS) created by the created by the Council of State School Officers and the National Governor's Association Two sets of standards were actually developed; one to create a common definition (CCR) and another developed for K-12 to provide a progression towards college and career readiness. The framework is based on K-12, and includes one set for K-12 Language Arts and one set for History/Social Studies, Science, and Technical Subjects for Grades 6-12.

Common Core State Standards Initiative (n.d.).Common Core State Standards for mathematics.

Retrieved from http://www.corestandards.org/assets/CCSSI_Math_Standards.pdf

Forty-eight states, two territories, and the District of Columbia contributed to and have adopted the Common Core Career and College Readiness Standards (CC CCRS) created by the created by the Council of State School Officers and the National Governor's Association Two sets of standards were actually developed; one to create a common definition (CCR) and another developed for K-12 to provide a progression

towards college and career readiness. The framework is based on K-12, and includes two sets for Mathematics – K-8 and High School. and one set for K-12 Language Arts.

Comprehensive Adult Student Assessment System (n.d.) Common core standards to CASAS

reading content standards: Detailed. Retrieved from

<http://www.CASAS.org/docs/research/table-2-common-core-to-CASAS-reading-detailed.pdf>

This table shows a detailed alignment between the Common Core Career and College Readiness Reading, Language and Writing Standards and the CASAS Reading Content Standards.

Comprehensive Adult Student Assessment System (n.d.). CASAS reading content standards to

common core standards: College and Career Readiness only. Retrieved from

<http://www.CASAS.org/docs/research/table-3-CASAS-reading-to-common-core.pdf>

This table lists the CASAS Reading Content Standards and their corresponding NRS levels with a crosswalk to matching Common Core Standards for Reading, Language, and/or Writing.

Comprehensive Adult Student Assessment System (.n.d.). Common Core Standards to CASAS

Reading Content Standards: Summary. Retrieved from

<http://www.casas.org/docs/research/table-1-common-core-to-casas-reading-summary.pdf>

This chart gives a summary graphic of the alignment between the Common Core Career and College Readiness Reading, Language and Writing Standards and the CASAS Reading Content Standards.

Comprehensive Adult Student Assessment System (2003, June). Study of the CASAS

relationship to the GED 2012. Retrieved from

https://www.casas.org/docs/pagecontents/ged_summary.pdf

This research compared GED test scores to scores on the CASAS. Over 6,700 individuals took the tests within 6 months of each other. CASAS math scores correlated positively with GED math scores. CASAS reading test scores were positively correlated with GED reading scores as well as with overall GED scores averaged across all five GED sub-tests. No significance level was statistically offered, though passing rates of the two tests were listed. The researchers recommend that most students reach level E of the CASAS testing form before attempting the GED 2012, though instructor judgment may warrant some students ready to take the GED 2012 at the CASAS level D test level.

Connecticut State Department of Education (2008). The relationship of CASAS scores to GED

results. Retrieved from

http://www.sde.ct.gov/sde/lib/sde/pdf/deps/adult/accountability/relationship_of_casas_scores_to_ged_results.pdf

This study analyzed paired over 3,000 CASAS math and reading scores to total GED scores as well as subtest scores in language arts, science, social studies, and math. CASAS reading and math scores correlated with GED reading and math tests at .60 and 0.63, respectively. A 90% overall GED passing rate was observed in students who had reading scores in the NRS High ASE range along with NRS ASE Low ranges in math. Reading abilities were observed to be more important to the total GED score than math ability. However, of those who failed the GED, 75% failed the math portion. Furthermore, of those who passed the GED, the average math score was 100 points lower than the average reading score. The article ends with a recommendation that GED preparation programs need to have staff well-trained for math instruction,

including the use of scientific calculators, and that math instruction should be increased in intensity and duration.

Curry, D., McGuire, P. Trawick, A., & Nash, A. (2011). *Report on an analysis of correspondences between the EFF curriculum frameworks and the Common Core state standards*. Knoxville, TN: Equipped for the Future.

The authors analyze overall similarities and differences in the approach and content of the two sets of educational guidelines. Similarities include focus on knowledge and skills to support employment and further education, similar theoretical concepts of skill development, and an absence of dictating particular instructional methods or strategies to achieve the standards. Differences exist in the approaches to learning. EFF stresses broadly defined, transferable skills whereas the Common Core includes discrete skills with no implied connection among and between them. EFF focuses on the full range of adult life (family, work and community), but the Common Core focuses on academic skills to be used for postsecondary or vocational education. Research skills in EFF are addressed with separate strands, but the Common Core has them interconnected throughout the standards areas.

Educational Policy Improvement Center (2009). *Texas college and career readiness standards*.

University Printing Services, University of Texas at Austin: Austin, Texas.

The TX CCRS were developed to provide a wide range of knowledge and skills necessary for students to succeed in entry-level community college and university.

High school and higher education content specialist formed vertical teams in 2007 to create a draft. After public comment, the standards were adopting in early 2008.

Subject areas are English/Language Arts, Mathematics, Science, Social Studies. Cross-

Disciplinary Standards, which include foundational academic skills, study skills, and employment skills. Each subject area is broken down into a few key content areas. For example, English Language arts is broken down into reading, writing, speaking, listening, and research. Each key content area is broken into several components which in turn are followed by examples of performance expectations.

GED Testing Service (2012). Assessment guide for educators: A guide to the 2014 assessment content from GED Testing Service, Chapter 1. Retrieved from <http://www.gedtestingservice.com/uploads/files/d2dcf7999b40b1ff1e593c43beabe77d.pdf>

Most of this chapter focuses on the question types and question formats that will be used on the computerized GED 2014. One example is a multiple choice question that has multiple correct responses. Another question type requires test-takers to drag and drop information into the correct order. Some questions will require that students use a drop-down menu to select the correct answer. A split screen will be used for items which require written responses.

GED Testing Service (2012, February). Assessment guide for educators: A guide to the 2014 assessment content from GED Testing Service, Chapter 2. Retrieved from http://www.communitycolleges.wy.edu/Data/Sites/1/commissionFiles/Programs/GED/_ppt/0666-assessment-for-educators-chpt2.pdf

In this chapter, GED Assessment Targets for all areas are listed. Included in these targets are references to similar Common Core standards. This chapter explains the cognitive framework, Webb's Depth of Knowledge Model (DOK), which was used to develop test items according to the cognitive demands put on the test-taker. Roughly

80 percent across all 4 content areas will be at DOK levels 2 and 3, and 20 percent at level 1. None of the highest level (4) will be included as a timed test cannot adequately measure these complex cognitive tasks. DOK descriptions and examples are provided for English Language Arts, Math, Science & Social Studies.

GED Testing Service (2012, February). Assessment guide for educators: A guide to the 2014 assessment content from GED Testing Service, Chapter 3. Retrieved from <http://www.gedtestingservice.com/uploads/files/53b21e21c907cc9c5cf2b7c10db43eac.pdf>

This chapter focuses on how each item type will be scored and how machine scoring engines will be developed and implemented. The chapter also builds on Chapter 2's GED assessment targets by providing examples of specific skills that will be tested under the four areas of ELA, Math, Science and Social Studies. These specific skills are grouped under "Reporting Categories" for each test area. Sub-scores for each of these categories will be calculated to give the student and instructor feedback on areas of strengths and weaknesses.

<http://www.gedtestingservice.com/uploads/files/53b21e21c907cc9c5cf2b7c10db43eac.pdf>

Joost, D. (2009). *Comparing the General Education Development (GED) tests to the ACT computer-adaptive placement assessment and support system (COMPASS) placement tests as predictors for college readiness*. Retrieved from ProQuest Dissertations and Theses. (304602366).

This study compared GED scores in reading and math to COMPASS scores in reading and math to extrapolate how well the GED can predict college readiness. GED

completers who scored 540 or higher on the GED Reading Test were likely to be college ready for reading. However, even those who made a perfect score on the GED Math Test (800) may still lack math skills needed for college level math.

Mellard, D. F., & Anderson, G. (2007). *Challenges in assessing for postsecondary readiness*. New York, NY: Council for Advancement of Adult Literacy.

The policy brief analyzes several assessments used nationwide for adult education learning gains, high school equivalency, and college placement purposes in terms of their alignment of skills. The BEST, CASAS, TABE, GED, COMPASS, ASSET, and ACCUPLACER are examined. The focus is on the ability of these assessments to accurately place students so that they may transition smoothly from adult education to college. The authors offer several recommendations to address issues they find in alignment.

Tomaszewski, L. & García, S.J. (2008). *Texas Adult Education Standards and Benchmarks for ABE/ASE and ESL learners: Implementation guide, Version 1.1*. Bryan, Texas: Texas Center for the Advancement of Literacy and Learning.

This publication contains the standards for Adult Education content to be taught in the state of Texas as of June 2008. It includes the history of the standards development, including the many stakeholders who were involved, along with the implications that these standards will have on learners, teachers and local programs. The standards are aligned with the federal National Reporting System levels for English as a Second Language, Adult Basic Education students, and Adult Secondary Education students. All standards are accompanied by benchmarks which align to learner proficiency levels. Examples of proficiency for each benchmark are also included. For ESL,

standards cover reading, listening, writing, and speaking. For ABE and ASE, standards cover reading, writing, mathematics.

Tokpah, C. L., & Padak, N. (2003). Academic challenges. *Adult Learning, 14*(3), 8-10.

The author compares the readiness of GED students for college by examining their scores on the COMPASS test and concludes that the average student would not need remediation in reading or writing but would need two remedial courses in math.

Texas Education Agency. (2010). *Texas college and career readiness standards and common core college and career readiness standards crosswalk / review analysis*. Retrieved from <http://www.tea.state.tx.us/index2.aspx?id=8019>

Public school and higher education content specialists combined forces to compare the Texas College and Career Readiness Standards (TX CCRS) to the Common Core College and Career Readiness Standards (CC CCRS) currently adopted by 46 states at the time of the publication. The English Language Arts team judged alignment between the two in writing as adequate, reading inconsistent, and speaking, listening and research strong. Several areas covered in the TCCRS were absent from the CC CRS. One area of difference observed was that the TCCRS had a separate strand for Research whereas the Common Core integrated Research throughout multiple strands. For math, seven out of ten concept areas were judged to have strong alignment by the Mathematics team, two were judged as adequate, and one, Connections, was found to be inconsistent. The CC CRS's six Core Practices were judged to be aligned with the TX CCRS.

The Education Institute. (2011). *An analysis of the differences between the Texas college and career readiness standards and the Texas adult education standards and benchmarks*.

Retrieved from <http://www.theccb.state.tx.us/files/dmfile/>

AnalysisbetweenTexasCCRSandTexasAESTandardsandBenchmarks.pdf

This report compares the Texas College and Career Readiness Standards (TCCRS) to the Texas Adult Education Standards and Benchmarks (TAESB) in an effort to determine their alignment. Though both sets of standards adequately fulfill their original purpose for development, there are gaps between the two. In particular, the mathematics standards in the TX CCRS are more numerous and more advanced than those of the TAESB. Due to large gaps, the authors recommend a redevelopment of the TAESB as opposed to a revision in order to improve alignment and better prepare adult education students for postsecondary opportunities. They also advance the Cross-Disciplinary Standards, with their emphases of “learning how to learn,” as a key component of the TCCRS that can be easily and effectively integrated into adult education classes.

The Smarter Balanced Assessment Consortium, & the Partnership for Assessment of Readiness for College and Careers (2012). *Technology readiness tool: Start-up instructions, district and school personnel*. Retrieved from http://www.techreadiness.org/q/Quick_Start_Instructions_District_and_School_Personnel_v2.pdf

Two non-profit organizations, the Partnership for Assessment of Readiness for College and Careers (PARCC) and the Smarter Balanced Assessment Consortium, have worked with Pearson to develop a free online-tool that school districts can use to gauge their capacity for Pearson's new generation of online assessment tools.

Currently, forty-seven states are using this tool; Texas is not one of these states.

Because the GED 2014 is a Pearson product, it is interesting that Texas has not made use of this free tool.

Patterns of Entry and Exit

Bozick, R., & DeLuca, S. (2005). Better late than never? Delayed enrollment in the high school to college transition. *Social Forces*, 84(1), 527-550.

This study using NELS:88 data studied postsecondary success for students who delayed entry into postsecondary education after high school, whether due to inability to pay, low test scores, dropping out of high school, or exiting high school with a GED. Postponement meant enrolling at least 7 months after high school graduation occurred or would have occurred had the student stayed in high school. Controlling for many other factors, those who delay have a significantly lower chance of completing a bachelor degree and are more likely to attend 2 year institutions.

Entwisle, D., Alexander, K., & Olson, L. (2009). The adult transition of at-risk youth: Mode of exit from high school. *Journal of Sociological Research*, 1(1), 1-30.

Taking all other factors in consideration, this study concludes that a twenty-two year old with a high school diploma will do better in the labor market than a twenty-two year old with a GED. Perhaps adult education should offer high school equivalency instead of GED for younger GED students who can still count their high school credits.

Risler, E., & O'Rourke, T. (2009). Thinking exit at entry: Exploring outcomes of Georgia's juvenile justice educational programs. *Journal of Correctional Education*, 60(3), 225-239.

This study looks at outcomes of juveniles exiting from the juvenile justice education system in Georgia and analyzes these according to their receipt of a high school diploma, GED or Special Education Diploma.

Oxford M. L., Lee, J.O., & Lohr, M.J., (2010). Predicting markers of adulthood among adolescent mothers. *Social Work Research*, 34(1), 33-44.

This study shows that receipt of a high school diploma or GED by age 19 for teenage girls who had their children at an average age of 16 determined much of their future with implications for economic status and postsecondary education. Young mothers in adult education programs may need intensive programs to ensure that they complete their secondary education in a timely manner.

Non-Academic Factors

Bayich, D. (2003). GED grads in college: Building awareness. *Adult Learning*, 14(3), 5-7.

Examines numbers and motivating factors of GED students attending college and encourages institutions to support GED students.

Kefallinou, M. (2009). The learner persistence project at Quinsigamond Community College. *Adult Basic Education & Literacy Journal*, 3(2), 105-109.

The most effective intervention that contributed to student persistence was regular visitation to their classroom by counselors. This demonstrates how important counseling is to encouraging at-risk students to persist until they meet their goals.

Kilgore, J. (2011). Bringing Freire behind the walls: The perils and pluses of critical pedagogy in prison education. *Radical Teacher*, (90), 57-66.

The author studied the link between friendships between students, teacher-student relationships and attachment styles of over 200 male and female prisoners who were in

the GED program. Student friendships, positive teacher-student relationships, and attachment styles correctly predicted 85.7% of those who completed the program.

Those with secure attachment styles had better relationships with peers and instructors than those who did not. The conclusion is that affective factors are a significant factor in GED program completion.

Kist, W. (2003). Non-academic challenges faced by GED scholars: A report of the GED scholars initiative. *Adult Learning*, 14(3), 11-13.

Determines that three main non-academic challenges for GED graduates attending college are university bureaucracy, learning to work with others, and family and economic pressures. Note: Curriculum could certainly address learning to work with others through cooperative learning. Assignments when appropriate (writing, math) could focus on family and economic pressures. Issues with university bureaucracy could be assisted by instructors having an understanding of the processes in the university and/or visit from advisor to explain particular issues.

Perin, D., Flugman, B., & Spiegel, S.D. (2006). Last chance gulch: Youth participation in urban adult basic education programs. *Adult Basic Education: An Interdisciplinary Journal for Adult Literacy Educational Planning*, 16(3), 171-188.

Even though several intervention were tried to increase the success of 16-20 year old adult education students who had dropped out of high school, the ABE program was not adequately equipped to deal with the personal issues that served as barriers, including below 5th grade reading levels, pregnancy, poverty, court referral, and misconceptions of the GED. Interventions included segregation by age, individual

assistance, computer-aided instruction, and recruitment of teachers with experience working in special education and/or correctional environments.

Strawn, J. (2007). *Policies to promote adult education and postsecondary alignment*. New York, NY: Council for Advancement of Adult Literacy.

The author describes three major factors to lack of adult education students' success in college: a lack of alignment between federal and state adult education, job training, and postsecondary education policies; adult students facing financial, personal, and family challenges; and adult and postsecondary education and training institutions who lack the ability to respond effectively to the need of transition to postsecondary and the workforce. He addresses these challenges with calls to (a) increase state capacity to track individual outcomes over time and throughout agencies, (b) adapt financial aid policies to the aid lower-skilled adults, and (c) support adult students in the transition from adult to postsecondary education and training.

Tokpah, C., Padak, N., Baycich, D., Trehan, D. M., & Turnidge, D. (2006). Learning about students with general education development diplomas on college campuses: Implications for academic advisors. *NACADA Journal*, 26(1), 77-88.

This student created portraits of Kent State University students who entered with GED's rather than High School Diplomas. The intent is a better understanding of the GED holders' academic needs and aspirations.

Wehmeyer, M. L., Lattimore, J., Jorgensen, J. D., Palmer, S. B., Thompson, E., & Schumaker, K. M. (2003). The self-determined career development model: A pilot study. *Journal of Vocational Rehabilitation*, 19(2), 79-87.

This study was designed to test a method for career development designed by the researchers. Five participants with disabilities used the model to determine career goals and an implementation plan. Four out of the five participants were successful. The model supports learner-centered problem solving and goal setting.