



University of Wyoming Trustees Education Initiative

Literature Summary and Annotated Bibliography

Prepared by Marzano Research
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Table of Contents

Recommendations	3
1. Assessment and Data Literacy.....	3
2. Content Knowledge Acquisition	4
3. Diversity	7
4. Field Experiences	8
5. General Program	12
6. Instructional Technology.....	16
7. Special Education.....	17
Annotated Bibliography: Primary References.....	20
1. Assessment and Data Literacy.....	20
2. Content Knowledge Acquisition	22
3. Diversity	29
4. Field Experiences	34
5. General Program	46
6. Instructional Technology.....	63
7. Special Education.....	69
Annotated Bibliography: Additional References.....	74
1. Background.....	74
2. Candidate Selection	86
3. Education Leadership.....	88
4. Outreach	90
5. Professional Development	91



MARZANO
— Research —

6. Secondary Education 92

Recommendations

1. Assessment and Data Literacy

<i>Recommendation</i>	<i>Examples from the literature</i>	<i># of articles</i>	<i>Citations</i>	<i>Comments</i>
Assessment Literacy	<ul style="list-style-type: none"> • Use action research process at field site <ul style="list-style-type: none"> ○ Training and practice in data mining ○ Review data at field site ○ Develop research question ○ Review quant and qual data ○ Develop goals ○ Develop intervention ○ Implement ○ Gather and analyze data ○ Reflect ○ Present • Dedicated course on assessment literacy • Assessment instruction critical, including stats • Mentor-teachers are an important component of learning assessment literacy 	3	Kaden & Patterson (2014) McGee & Colby (2014) Young et al. (2015)	



	<ul style="list-style-type: none"> • Frequent, detailed feedback on assessment practices 			
Formative Assessment	<ul style="list-style-type: none"> • Faculty needs to understand teacher reasoning about formative assessment practices in order to fully develop in candidates. This includes how candidates frame the assessments and how they pay attention to student thinking and ideas • Need explicit instruction in formative assessment practices. Provide instruction in context, including case studies, field experiences and ongoing reflection 	2	Buck et al. (2010) Talanquer et al. (2015)	

2. Content Knowledge Acquisition

<i>Recommendation</i>	<i>Examples from the literature</i>	<i># of articles</i>	<i>Citations</i>	<i>Comments</i>
Tutoring to improve content acquisition	<ul style="list-style-type: none"> • Tutoring sessions provided prior to content courses; not a campus wide tutoring center 	1	Young (2011)	
Incorporate content literacy and vocab into course work	<ul style="list-style-type: none"> • Integrate content literacy and vocab into all courses, including methods 	1	Shaw et al. (2014)	



<p>Candidates should develop deep understanding of content specific theory and foundations</p>	<ul style="list-style-type: none"> • Activities to develop own meaning 	<p>1</p>	<p>Stover et al. (2014)</p>	
<p>Literacy</p>	<ul style="list-style-type: none"> • Develop foundational understanding of acquisition of reading. Integrate ongoing instruction into all coursework • Foundation of language instruction • All teachers need exposure to nature of and interventions for dyslexia • Instruction should include reasons for and research supporting a strategy • Integrate grammar instruction throughout • Course should help candidates to work with all population, including ELLs • Writing instruction for candidates should include a model, using the model to discuss student writing samples, observation of teachers 	<p>9</p>	<p>Fry & Griffin (2010) Fry & Seely (2011) Heather et al. (2012) Islam & Park (2015) McCombes-Tolis & Spear-Swerling (2011) Sampson et al. (2013) Washburn et al. (2011) Zuidema & Fredericksen (2016)</p>	



	<p>conferencing with students, debrief, trying skills with students (can be remote)</p> <ul style="list-style-type: none"> • Integrate information and literacy skills throughout coursework; teach specific processes 			
Math	<ul style="list-style-type: none"> • More math. Additional methods courses and specialized math content • Use of and instruction in questioning strategies • Representations to help candidates dig into students' current understanding • Instruction in choosing instructional strategy to match need • Develop student belief in Math throughout program • Analyze student work to identify misconceptions and potential alternative solutions • Course that blends math content and methods, co-taught by mathematician and prep faculty 	3	<p>Kajander (2010) Kazemi & Waege (2015) Haciomeroglu (2013)</p>	
Science	<ul style="list-style-type: none"> • Inquiry based methods, instruction, and resources into 	5	<p>Koenig et al. (2012) Lewis et al. (2014) Nilsson & Loughran (2012)</p>	



	<p>content and methods courses, field experiences</p> <ul style="list-style-type: none"> • Multiple field experiences (non-school) to practice communicating science concepts • Focus on developing scientific reasoning in candidates (focused course, needs more than just one course, should be integrated throughout) 		<p>Saxman et al. (2010) Shively & Yerrick (2014)</p>	
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3. Diversity

<i>Recommendation</i>	<i>Examples from the literature</i>	<i># of articles</i>	<i>Citations</i>	<i>Comments</i>
Interact with Diverse Populations	<ul style="list-style-type: none"> • Field experiences should include opportunities to work with diverse students • A diverse candidate population with opportunities to interact in a safe space • Opportunities to interact with individuals (students, adults) from other cultures 	3	<p>Hernandez & McKenzie (2010) Kahn et al. (2014) McCollough & Ramirez (2012)</p>	
Teach Diversity	<ul style="list-style-type: none"> • Need instruction in cultural and linguistic diversity 	8	<p>Akiba (2011) Causey et al. (2000) Darvin (2011)</p>	



	<ul style="list-style-type: none"> • Instruction in language development • Instruction in the relationship between language and culture • Focused, specialized courses to develop cultural awareness • In addition, must be integrated across all course and field work • Address student beliefs about diversity and culture • Model culturally appropriate instruction • Include social and political histories of diverse communities in coursework • Integrate diversity work over multiple courses • Opportunities to reflect, self-analysis and discourse around diversity issues • Use case studies 		<p>Ellerbrock et al. (2016) Jackson (2011) Mueller & Hindin (2011) Robertson et al. (2012) Zepeda et al. (2011)</p>	
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4. Field Experiences

<i>Recommendation</i>	<i>Examples from the literature</i>	<i># of articles</i>	<i>Citations</i>	<i>Comments</i>
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Residencies	<ul style="list-style-type: none"> • Undergrad residency with concurrent university coursework; focus on MTSS implementation and use 	1	Ross & Lignugaris-Kraft (2015)	
Provide faculty Supervision and Mentoring	<ul style="list-style-type: none"> • Faculty should provide additional mentoring for student teachers • Clinical faculty should receive training to provide mentoring • Methods professor involvement in evaluation of student teaching • Hybrid training of mentor teachers (1 full day FtF covering standards, assignments, assessment of candidates, classroom management, and online system, 4 required online modules, behavior management, co teaching, differentiation, RTI) 	4	Ambrosetti (2014) Childre & Van Rie (2015) Mueller & Hindin (2011) Gareis & Grant (2014)	Training for faculty and mentors is important. Important to get faculty in the field.
Provide field experiences early and often	<ul style="list-style-type: none"> • “extensive” • Early tutoring to help candidates connect theory and practice • Community-based (non-school) placements provide greater opportunities to work with kids in a less formal environment and to work with diverse kids (working with students on science projects, community-based organizations) 	6	Conderman et al. (2013a) Dorel et al. (2016) Flores (2015) Hoffman et al. (2016) Massey & Lewis (2011) McDonald et al. (2011)	Strong support for the idea that more field experiences are better. Applies to SpEd as well. These field experiences do not have to be school based. Community-based experiences received support in science and SpEd.

	<ul style="list-style-type: none"> • Tutoring <ul style="list-style-type: none"> ○ Significant time 1 on 1 ○ Opportunity to personalize according to need, flexibility to react to learner need ○ Integrate reading, writing, and oral language ○ Immediate application of learning ○ Reflection • Beginning of year practicum to allow candidate to experience classroom and year set up • The more field experiences increase in efficacy 			
Content of field experience	<ul style="list-style-type: none"> • Work with parents • Work with diverse students, including students with disabilities • Opportunities for MS and HS candidates to work with elementary kids • Balance between methods and field. Do not sacrifice methods courses to provide more field experiences. 	6	<p>Collier et al. (2015) De Bruine et al. (2014) Ronfeldt et al. (2014) Voss & Bufkin (2011) Massey & Lewis (2011) Grudnoff (2011)</p>	<p>The need to work with diverse students is supported across many of the categories here, including as a means to improve understanding of diversity</p>



	<ul style="list-style-type: none"> • Do not decrease requirements to attract candidates • Provide field experiences early in the year so that candidates can experience the beginning of the school year 			
Remote Mentoring and Supervision	<ul style="list-style-type: none"> • Internet-based tech (Skype showed promise as means to provide feedback) • Bug-in-ear technology to provide immediate feedback • Video recording and reflection 	6	Benson & Cotabish (2014) Capizzi et al. (2010) Coogle et al. (2015) Mueller & Hindin (2011) Scheeler et al. (2012) Wash et al. (2014)	Generally, it appears that remote mentoring and feedback can work
Co-Teach during field experiences	<ul style="list-style-type: none"> • Co-teach experiences with mentor teacher and candidate 	1	Yopp et al. (2014)	
Teach collaboration	<ul style="list-style-type: none"> • Paired placements to encourage/teach collaboration among colleagues • Collaborative experiences between SpEd and General Ed (co-teach, co-plan, co-assess) 	1	Ammentorp & Madden (2014)	
Assessment of candidate	<ul style="list-style-type: none"> • Consider a case review method of candidate assessment—describe case seen in placement and apply theory to case, including why issue is occurring, strategies to 	1	Youngs & Bird (2010)	



	fix, evaluating implementation of plan			
Placement type	<ul style="list-style-type: none"> • Look for schools with strong collaboration, achievement gains, and stable teaching force • Avoid poorly functioning schools (nothing is gained by exposure to problems) • Highly-qualified mentors critical 	3	Lee et al. (2012) Ronfeldt (2012) Ronfeldt (2015)	The placement school matters. Highly functioning schools provide a better overall experience, preparation, and retention. Exposing candidates to lower functioning schools for the experience leads to lower retention and worse preparation.

5. General Program

<i>Recommendation</i>	<i>Examples from the literature</i>	<i># of articles</i>	<i>Citations</i>	<i>Comments</i>
Utilize Multiple Modes of Coursework Instruction	<ul style="list-style-type: none"> • Podcasts • Simulations • Modeling • Scaffolds • Consistent and clear feedback • Case studies, including video • Reflection on practice and performance with tools to guide (rubrics, 360-degree assessment) 	15	Barnes & Gillis (2015) Bell et al. (2011) Busi & Jacobbe (2014) Ford & Strawhecker (2011) Gale et al. (2010) Kennedy et al. (2011) Mahon et al. (2010) McPherson et al. (2011) Santagata & Angelici (2010)	The use of various forms of case study, including video (own and others), appeared multiple times and appears to be a strong recommendation. Use of case studies is supported in all contents/programs,



	<ul style="list-style-type: none"> • Model collaboration and communication among colleagues through co-planned and taught classes • Use observation frameworks to guide analysis and reflection on video cases • Provide instruction on how to reflect on practice • Reflection needs to include the impact of instruction on student learning to encourage thinking about alternative strategies • Multiple opportunists to discuss, observe, reflect, apply 		<p>Shaw et al. (2014) Shoffner & Morris (2010) Sun & van Es (2015) Tal (2010) Thomas (2011) Wold et al. (2011)</p>	including Special Ed and Diversity
Create Collaborative Partnerships	<ul style="list-style-type: none"> • Engage stakeholders, including program grads and the field in decision-making • Collaboration with school leaders to help align program activities with realities of the field 	2	<p>Lohfink et al. (2011) Machado (2012)</p>	
Provide Special Ed for All	<ul style="list-style-type: none"> • Require course for all students • All methods courses should include Special Ed content • Integrated Special and General Ed program • Adaptive PE course with practicum 	5	<p>Altieri et al. (2015) Frey et al. (2012) Taliaferro et al. (2015) Taylor & Ringlaben (2012) Welton & Vakil (2010)</p>	This theme appeared multiple times, and appears to be a strong recommendation



Provide experiences in multiple learning contexts	<ul style="list-style-type: none"> • Opportunities to work with parents • Use multiple contexts/placements for field placements (specific to science, used museums, etc. to supplement school-based experiences) • Intentional preparation for high need/specific environments • Authentic experiences with students incorporated into coursework (ways to interact with students informally, not part of a field experience such as Skype, “pen pals”) 	5	Harlow (2012) Kirchhoff & Lawrenz (2011) Rohr & He (2010) Stover et al. (2014) Tamir (2010)	Opportunities to work with parents in field experiences is supported in the Special Ed and Diversity categories as well.
Collaborate within the program	<ul style="list-style-type: none"> • Creation of common assessments to create PLC and consistent expectations among faculty 	1	Kubitskey et al. (2011)	
Consider timing of coursework	<ul style="list-style-type: none"> • Coursework/methods courses need to be completed prior to beginning work in schools 	1	Yao & Williams (2010)	
Align field experience and coursework	<ul style="list-style-type: none"> • Joint methods activities with mentor teachers, faculty and preservice teachers • PD to faculty on school contexts/needs • Faculty need to be in schools 	6	Capraro et al. (2010) Darling-Hammond (2014) Gareis & Grant (2014) Santoyo & Zhang (2016) Singer et al. (2010) Wood & Turner (2015)	The alignment between coursework and field experiences, including coursework that reflects the realities of the field, appears to be critical. University faculty



	<ul style="list-style-type: none"> • Program policies (pay, tenure, promotion, workload) need to encourage/allow faculty to spend time in schools • Concurrent practicum and methods course—provide opportunity to put theory into practice at the same time • Unifying framework to link classroom and field experiences, use for reflection • Coursework needs to include realities of field, contextual factors • Tight alignment to allow candidates to practice what they have learned • Time spent in field is not as important as how time is spent (focus on desired outcomes, in this case science inquiry) 			working in the field is also critical
Program Structure	<ul style="list-style-type: none"> • Use of cohorts • Spiraled curriculum 	1	Wood & Lewis (2010)	
Evaluate Quality of Candidates	<ul style="list-style-type: none"> • Early and ongoing identification of struggling students • Clear communication of expectations and areas of concern 	2	Kincaid & Keiser (2014) Stobaugh et al. (2010)	



	<ul style="list-style-type: none"> • Support, with responsibility placed on candidate to improve • Clear definitions/rubric defining program expectations and outcomes • Communicate alignment of component to practice 			
Program Content	<ul style="list-style-type: none"> • Foundational course in Educational Philosophies to guide candidates towards developing their own • Health Education course • For Elementary, combine both content and developmental topics 	3	Bornfreund (2012) Clark et al. (2014) Roosevelt (2011)	
Working with ELLs	<ul style="list-style-type: none"> • All candidates need instruction in working with ELLs, should be a priority of program 	1	Daniel & Peercy (2014)	

6. Instructional Technology

<i>Recommendation</i>	<i>Examples from the literature</i>	<i># of articles</i>	<i>Citations</i>	<i>Comments</i>
Teach Technology Use	<ul style="list-style-type: none"> • Required Basic Tech skills course plus online Ed Tech course • Technology integration course with PBL activities 	3	An et al. (2011) Lambert et al. (2008) Beare et al. (2013)	



	<ul style="list-style-type: none"> • Single course helps with skills but not attitudes • Must accommodate candidates needs and differentiate/personalize instruction 			
Require Use of Tech in Coursework	<ul style="list-style-type: none"> • Tech integrated into coursework • Modeling of use in specific instructional situations • Use tech to collaborate with peers • Use tech for reflection and feedback • Use up to date tech suites aligned to program goals/outcomes, and to encourage ways of thinking 	3	Alexander et al. (2014) Bell et al. (2013) Kimmons et al. (2015)	
Assess Use of Tech	<ul style="list-style-type: none"> • Self-assessment and reflection on tech use • Use system of continual assessment to monitor use and understanding of tech 	1	Lewis et al. (2003)	
Partnerships	<ul style="list-style-type: none"> • Use partnerships and collaboration to keep up to date with practices/tools in the tech industry and the field 	1	Ottenbreit-Lefwich et al. (20012)	

7. Special Education (Specific to SpEd program; all other categories apply)



Recommendation	Examples from the literature	# of articles	Citations	Comments
Program Design	<ul style="list-style-type: none"> Hybrid methods course design is effective Co-planning/teaching methods course with SpEd and General Ed faculty 	2	Ross et al. (2015) Strieker et al. (2013)	
Collaborative Partnerships	<ul style="list-style-type: none"> Must be involvement with SEAs and LEAs in prep program Partnerships to implement distance programs 	1	Williams et al. (2010)	
Faculty	<ul style="list-style-type: none"> Increase salaries, travel time and money, opportunities for collaboration, housing allowances, benefits Continued PD 			
Candidate Evaluation	<ul style="list-style-type: none"> Use of in-service teacher evaluation instrument to evaluate candidates in field experiences Skill survey used for formative assessment, and program evaluation purposes Use skill survey to help candidates identify strengths and weaknesses and design professional development plan 	2	Johnson (2015) King-Sears et al. (2012)	



Course content	<ul style="list-style-type: none"> • Include assistive/adaptive technology requirements in courses • Use of assessment data to differentiate • Reading processes and instruction prior to methods course. Integrate literacy instruction methodologies in methods course • Modeling of the use of evidence-based practices 	<p>4</p>	<p>Conderman et al. (2013b) Copeland et al. (2011) Lipsky et al. (2014) Van Laarhoven & Conderman (2011)</p>	
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Annotated Bibliography: Primary References

1. Assessment and Data Literacy

Buck, G. A., Trauth-Nare, A., & Kaftan, J. (2010). Making Formative Assessment Discernable to Pre-Service Teachers of Science. *Journal of Research in Science Teaching*, 47(4), 402-421. doi:10.1002/tea.20344

ABSTRACT: The purpose of this pragmatic action research study was to explore our re-conceptualization efforts in preparing pre-service teachers to guide the inquiry process with formative assessment and subsequently use the understandings to improve our teacher preparation program. The process was guided by two questions: to what extent did course re-conceptualization efforts lead to a more informed understanding of formative assessment by pre-service teachers and did strategies enacted in the re-conceptualized methods course foster or hinder pre-service teachers' understanding of formative assessment? Data from this study support the following findings: (1) a substantial pre- to post methods course difference was realized in the pre-service teachers' understanding of formative assessment; (2) explicit and contextualized approaches to formative assessment in the methods course led to increased understandings by pre-service teachers; (3) an implicit approach led to improvements in course structure but did not foster pre-service teachers' understanding of the reflexive nature of formative assessment; and (4) a field-based case study on elementary science teaching both hindered and fostered our efforts with formative assessment. This study yields implications for pre-service teacher education on formative assessment. To foster pre-service teachers' knowledge and skills, we suggest explicit instruction on formative assessment combined with case studies, field experiences, and ongoing reflection.

Kaden, U., & Patterson, P. P. (2014). Changing Assessment Practices of Teaching Candidates and Variables That Facilitate That Change. *Action in Teacher Education*, 36(5-6), 406-420. doi:10.1080/01626620.2014.977700

ABSTRACT: This mixed-methods study explores changes over time in assessment strategies and identifies variables that facilitate that change by examining assessment practices of 11 teacher candidates enrolled in a one-year postbaccalaureate teacher education program that prepares for teaching in rural and urban settings of Alaska. Analyzing multiple data sources drawn directly from candidates' fieldwork performances and teacher education program experiences suggests changes in emphasis and range of assessment strategies between the first and second semesters of the teacher education program. The extent of change varied between rural and urban candidates indicating a need for more attention to the specifics of rural education in teacher preparation. Variables that facilitated a change in assessment practices were identified as mentor teachers, field experiences, unit and lesson planning, university coursework, collegial



interactions, and university supervisors. Results further indicate that assessment strategies develop within the sociocultural context where teaching takes place.

McGee, J., & Colby, S. (2014). Impact of an Assessment Course on Teacher Candidates' Assessment Literacy. *Action in Teacher Education*, 36(5-6), 522-532. doi:10.1080/01626620.2014.977753

ABSTRACT: Understanding effective and appropriate techniques for assessing student learning has never been as critical and political as it is today. Accurate assessment methodologies employed in public schools are vital to the interpretation of student achievement data through which school effectiveness is being measured. Although there is a need, research has shown that preservice teachers are not receiving adequate training in their teacher preparation courses. The authors of this study examined the assessment literacy of teacher candidates before and after completing a required assessment course in their teacher preparation program. Teacher candidates (N = 190) were asked to complete the Assessment Literacy Inventory as a pretest measure and posttest measure. Findings revealed that certain aspects of assessment literacy were present before the course, but also that exposure to the course potentially increased assessment literacy in some areas. Implications for researchers and practitioners are included.

Talanquer, V., Bolger, M., & Tomanek, D. (2015). Exploring Prospective Teachers' Assessment Practices: Noticing and Interpreting Student Understanding in the Assessment of Written Work. *Journal of Research in Science Teaching*, 52(5), 585-609. doi:10.1002/tea.21209

ABSTRACT: The goal of this exploratory study was to analyze how beginning prospective secondary school teachers approached the analysis of student written responses to formative assessment probes. We sought to identify what elements of students' written work were noticed, what types of inferences of student understanding were built, and what these noticed elements and inferences told us about levels of sophistication in assessing student understanding. Our results are based on the qualitative analysis of the written evaluations of student work made by 32 prospective secondary school teachers enrolled in an introductory teacher preparation course at our institution. The results of this study suggest that analyzing teachers' assessment of student understanding requires paying attention to both domain-neutral and domain-dependent aspects of teacher reasoning. Domain-neutral dimensions help characterize how a teacher frames the assessment of student understanding. Domain-dependent dimensions characterize how the teacher attends to relevant disciplinary ideas. Our prospective teachers often focused on the description and qualification of student work, making fewer attempts to make sense of student ideas. However, study participants' abilities to generate inferences were varied and influenced by the nature of students' responses. Findings from this study provide a framework for scaffolding and evaluating progress in teachers' abilities to notice and interpret student work.



Young, A., Gonzales, I., Owen, L., & Heltzer, J. V. (2015). The Journey from Counselor-In-Training to Practitioner Researcher. *Professional School Counseling, 18*(1), 217-226.

ABSTRACT: School counselor preparation necessitates that new counselors are trained to build a comprehensive school counseling program, which means understanding how to use data to develop, implement, and evaluate their interventions. In spite of their school counseling training, first-year school counselors may feel unprepared to use data and lack the experiential accountability skills and advocacy resources to impact systemic student outcomes. This article describes an action research training model for prospective school counselors and proposes that early and frequent exposure to data-driven decision making closes the gap to practitioner research.

2. Content Knowledge Acquisition

Fry, S., & Seely, S. (2011). Enhancing Preservice Elementary Teachers' 21st-Century Information and Media Literacy Skills. *Media Literacy Education, 33*(2), 206-218.
doi:10.1080/01626620.2011.569468

ABSTRACT: This two-semester pedagogical study investigated the effectiveness of an approach to information and media literacy instruction for elementary preservice teachers. Participants were trained in and then used a systematic process of searching for, evaluating, and using journal articles and Websites. Two-thirds of the Semester 1 participants were unsuccessful identifying relevant, high-quality journal articles and one half inaccurately evaluated the quality of Websites. After three opportunities for formative assessment were added to the instruction model in Semester 2, participants proficiently evaluated Websites and three-fourths were able to find relevant journal articles. The results demonstrate the importance of formative assessment and the need to provide preservice teachers with information and media literacy training so they are better able to navigate and evaluate digital-age resources to expand their content mastery and teach their students 21st-century skills.

Fry, S. W., & Griffin, S. (2010). Fourth Graders as Models for Teachers: Teaching and Learning 6+1 Trait Writing as a Collaborative Experience. *Literacy Research and Instruction, 49*(4), 283-298.
doi:10.1080/19388070903117955

ABSTRACT: Performance on standardized writing assessments indicates that less than one-third of American K-12 students are proficient in writing. Despite this statistic, the current emphasis on reading in elementary schools means preservice elementary teachers may observe little writing instruction during field experiences. This article presents the results of a semester-long collaborative writing exchange designed in response to these problems. Qualitative methods were used to determine how 22 elementary students' writing improved as a result of helping a cohort of five student teachers learn to use the 6+1 Trait® Writing Model for Improving Student



Writing. The findings have implications for classroom teachers, teacher educators, and teacher preparation programs.

Haciomeroglu, G. (2013). Mathematics Anxiety and Mathematical Beliefs: What Is the Relationship in Elementary Pre-Service Teachers? *Issues in the Undergraduate Mathematics Preparation of School Teachers*, 5.

ABSTRACT: Three hundred-one pre-service teachers enrolled in elementary teacher education program were administered two surveys to measure mathematics anxiety and mathematical beliefs. Results of the study revealed that there were significant differences between third year and fourth year pre-service teachers regarding their mathematics anxiety and mathematical beliefs. They held strong beliefs about teaching and learning mathematics that were aligned with the teacher education program. The results suggested that the pre-service teachers who held stronger beliefs and felt less anxious were more confident about their abilities to teach mathematics effectively. Thus, the significant relationship between mathematics anxiety and mathematical beliefs should be acknowledged.

Heather, J., & Helt, M. (2012). Evaluating Corpus Literacy Training for Pre-Service Language Teachers: Six Case Studies. *Journal of Technology and Teacher Education*, 20(4), 415-440.

ABSTRACT: Corpus literacy is the ability to use corpora—large, principled databases of spoken and written language—for language analysis and instruction. While linguists have emphasized the importance of corpus training in teacher preparation programs, few studies have investigated the process of initiating teachers into corpus literacy with the result that few guidelines exist for training teachers to make optimal use of corpus output. This study uses a case study approach to examine six pre-service language teachers' development of multiple components of corpus literacy during a semester-long introductory grammar course through which corpus linguistics was threaded. Results showed that while corpus literacy training was generally effective, that effectiveness varied among subjects. Examining the sources of that variation suggests several practices for teacher educators planning or modifying instruction in corpus literacy.

Islam, C., & Park, M.-H. (2015). Preparing Teachers to Promote Culturally Relevant Teaching. *Multicultural Education*, 23(1), 38-44.

ABSTRACT: Graduate students who know strategies for second language acquisition are more prepared to advocate for appropriate instructional accommodations to facilitate engagement of English language learners (ELLs; Daniel, 2008). Obstacles to comprehension for ELLs are decreased when teachers use purposeful tasks that use language productively and meaningfully and identify cultural links to texts. Many graduate students who are certified teachers have voiced concern that they are not well prepared to make appropriate instructional accommodations for ELLs (McIntyre, Kyle, Chen, Munoz, & Beldon, 2010). Thus, it is important



for teacher preparation programs to offer opportunities for future teachers to identify how to best plan and deliver instruction to ELLs and prepare them to differentiate instruction in ways that allow ELLs to achieve the literacy needed to succeed in school. Despite the growing body of research-based strategies for use in classrooms, there is little research on how teachers implement literacy instruction for ELL students. In fact, many teachers struggle to implement instructional approaches that have been proven to address the needs of ELL students. Therefore, the purpose of this study was to explore how a graduate reading methods course provides teacher candidates opportunities for reflection and prepares them to differentiate instruction in ways that allow ELL students to achieve the literacy comprehension that is necessary to succeed in school.

Kajander, A. (2010). Elementary Mathematics Teacher Preparation in an Era of Reform: The Development and Assessment of Mathematics for Teaching. *Canadian Journal of Education*, 33(1), 228-255.

ABSTRACT: Teachers' understanding of the elementary school mathematics curriculum forms part, but not all, of the newly emerged field of mathematics for teaching, a term that describes the specialized mathematics knowledge of teachers. Pre-service teachers from a one-year teacher preparation program were studied in each of three years, using a pre-test/post-test survey of procedural and conceptual knowledge of mathematics required by elementary teachers. Beliefs about mathematics were also examined through post-test interviews of 22 of the participants from one of the cohorts. Each cohort of teacher-candidates was consistently found to be initially weak in conceptual understanding of basic mathematics concepts as needed for teaching. The pre-service methods course, which included a strong focus on specialized mathematical concepts, significantly improved pre-service teachers' understandings, but only to a minimally acceptable level. Program changes, such as extra optional course in mathematics for teaching, together with a mandatory high-stakes examination in mathematics for teaching at the end of the methods course, have been subsequently implemented and show some promise.

Kazemi, E., & Waege, K. (2015). Learning to Teach within Practice-Based Methods Courses. *Mathematics Teacher Education and Development*, 17(2), 125-145.

ABSTRACT: Supporting prospective teachers to enact high quality instruction requires transforming their methods preparation. This study follows three teachers through a practice-based elementary methods course. Weekly class sessions took place in an elementary school. The setting afforded opportunities for prospective teachers to engage in cycles of investigation and enactment. The course was focused on learning teaching practices through planning, rehearsing, enacting and reflecting on routine instructional activities that travel back and forth between field-based methods course and field placements. All three teachers grew in their capacity to lead goal-directed lessons by eliciting and responding to students' thinking. Our analysis connects the teachers' learning to the intentional design of the methods course.



Koenig, K., Schen, M., & Lei, B. (2012). Explicitly Targeting Pre-service Teacher Scientific Reasoning Abilities and Understanding of Nature of Science through an Introductory Science Course. *Science Educator, 21*(2), 1-9.

ABSTRACT: Development of a scientifically literate citizenry has become a national focus and highlights the need for K-12 students to develop a solid foundation of scientific reasoning abilities and an understanding of nature of science, along with appropriate content knowledge. This implies that teachers must also be competent in these areas; but assessment of students in our teacher preparation program indicated they were not developing necessary scientific reasoning abilities or a sophisticated understanding of nature of science. As a result, explicit scientific reasoning-oriented training modules and reflective nature of science activities were integrated into the program's science foundations course. Significant gains were observed in each. These findings highlight the need and motivation for teacher preparation programs to incorporate coursework that promotes the development of scientific reasoning and a more contemporary view of the nature of science. In addition, this study provides a framework for the modification of existing teacher preparation courses to meet these needs.

Lewis, E., Dema, O., & Harshbarger, D. (2014). Preparation for Practice: Elementary Preservice Teachers Learning and Using Scientific Classroom Discourse Community Instructional Strategies. *School Science and Mathematics, 114*(4), 154-165. doi:10.1111/ssm.12067

ABSTRACT: Despite historical national efforts to improve elementary science education, science instruction continues to be marginalized, varying by state. This study was designed to address the ongoing challenge of educating elementary preservice teachers (PSTs) to teach science. Elementary PSTs are one of the science education community's major links to schools and science education reform. However, they often lack a strong background in science, knowledge of effective science teaching strategies, and consequently have low confidence and self-efficacy. This investigation explored the initial learning of elementary PSTs using an interdisciplinary model of a scientific classroom discourse community during a science methods course. Findings post-methods course suggested that the PSTs gained confidence in how to teach inquiry-based elementary science and recognized inquiry-based science as an effective means for engaging student learning. Additionally, PSTs embraced the interdisciplinary model as one that benefits students' learning and effectively uses limited time in a school day.

McCombes-Tolis, J., & Spear-Swerling, L. (2011). The Preparation of Preservice Elementary Educators in Understanding and Applying the Terms, Concepts, and Practices Associated with Response to Intervention in Early Reading Contexts. *Journal of School Leadership, 21*(3), 360-389.

ABSTRACT: The purpose of the present inquiry was to identify how thoroughly degree-granting institutions in our state prepare elementary educators to serve students' literacy needs from a response to intervention perspective. The first investigator collected syllabi via a Freedom of Information request made to the state's Department of Higher Education, which had gathered



syllabi in relation to a separate inquiry. Results indicated that preservice elementary educators are not routinely being prepared to understand key terms, concepts, and practices associated with response to intervention in early reading contexts. Implications for school leaders, district administrators, and higher education faculty are reviewed. Reprinted by permission of the publisher.

Nilsson, P., & Loughran, J. (2012). Exploring the Development of Pre-Service Science Elementary Teachers' Pedagogical Content Knowledge. *Journal of Science Teacher Education, 23*(7), 699-721. doi:10.1007/s10972-011-9239-y

ABSTRACT: This paper explores how a group of pre-service elementary science student teachers came to understand the development of their Pedagogical Content Knowledge (PCK) over the course of a semester's study in a science methods course. At the start of the semester, PCK was introduced to them as an academic construct and as a conceptual tool that they could use to plan for, and assess, the development of their professional knowledge and practice as beginning science teachers. All participants were provided with a tool known as a CoRe (Content Representation) and the manner in which they worked with the CoRe was such that it supported them in planning for and assessing their own learning about teaching elementary science through a focus on the development of their PCK. Through analysis of data derived from the application of a CoRe based methodology (modified and adapted for this study) to the teaching of the science topic of Air, participants' reasons for, confidence in, and perceived meaningfulness of their learning about science teaching could be examined. In so doing, the nature of participants' PCK development over time was made explicit. The results illustrate real possibilities for ways of enhancing student teachers' ongoing professional learning in teacher preparation and offer a window into how the nature of PCK in pre-service education might be better understood and developed.

Sampson, M. B., Linek, W. M., Raine, I. L., & Szabo, S. (2013). The Influence of Prior Knowledge, University Coursework, and Field Experience on Primary Preservice Teachers' Use of Reading Comprehension Strategies in a Year-Long, Field-Based Teacher Education Program. *Literacy Research and Instruction, 52*(4), 281-311. doi:10.1080/19388071.2013.808296

ABSTRACT: This descriptive study employed mixed methods to explore preservice teachers' initial knowledge and subsequent use of explicitly taught reading comprehension strategies in primary grade classrooms during a year-long, field-based teacher preparation program. Self-Knowledge Rating Surveys, Strategy Multiple-Choice Tests, strategy logs, lesson plans, self-evaluations, mentor teacher/university liaison evaluations, and interviews with university liaisons comprised data sources. Research questions addressed what reading comprehension strategies primary preservice teachers self-reported they knew; what they demonstrated they actually knew via testing and implementation; and how the self-reports, test results, and implementation compared. Results indicated that neither knowledge nor prior exposure to research-based comprehension strategies transferred into teaching when strong external



influences that did not support strategy use such as scripted programs, district policies, high stakes testing environments, and public school mentor teachers' examples of teaching were present.

Saxman, L. J., Gupta, P., & Steinberg, R. N. (2010). CLUSTER: University-Science Center Partnership for Science Teacher Preparation. *New Educator*, 6(3/4), 280-296.

ABSTRACT: The purpose of this paper is to describe and present results from the fourth year of a five-year collaborative research project between an interactive science center and a local college. The purpose of the project is not only to recruit and train approximately 50 highly qualified science teachers who will teach in New York City public schools, but also to develop a model for science teacher preparation. This model demonstrates how university-science center partnerships can allow both institutions to leverage each other's strengths to guide and support inquiry and constructivist-based pre service teacher preparation. In addition to a description of the training model, data presented will include standardized assessments, classroom observations of project participants and comparison participants, and follow-up with graduates. Results suggest that this innovative training model has enhanced teaching skills and performance. Reprinted by permission of the publisher.

Shively, C. T., & Yerrick, R. (2014). A Case for Examining Pre-Service Teacher Preparation for Inquiry Teaching Science with Technology. *Research in Learning Technology*, 22.

ABSTRACT: Inquiry has been the framework for guiding reform-based science instruction. All too often, the role of technology is treated tacitly without contributions to this framework. This case study examines a collection of pre-service teachers enrolling in two educational technology courses and the role these experiences play in promoting inquiry teaching. Interviews, field notes, surveys, reflective digital narratives and student-generated exhibits served as the data informing the analysis of inquiry experiences which shaped the enacted lessons of science teachers. Implications for research and practices are discussed.

Washburn, E. K., Joshi, R. M., & Cantrell, E. B. (2011). Are Preservice Teachers Prepared to Teach Struggling Readers? *Annals of Dyslexia*, 61(1), 21-43.

ABSTRACT: Reading disabilities such as dyslexia, a specific learning disability that affects an individual's ability to process written language, are estimated to affect 15-20% of the general population. Consequently, elementary school teachers encounter students who struggle with inaccurate or slow reading, poor spelling, poor writing, and other language processing difficulties. However, recent evidence may suggest that teacher preparation programs are not providing preservice teachers with information about basic language constructs and other components related to scientifically based reading instruction. As a consequence preservice teachers have not exhibited explicit knowledge of such concepts in previous studies. Few studies have sought to assess preservice teachers' knowledge about dyslexia in conjunction with



knowledge of basic language concepts. The purpose of the present study was to examine elementary school preservice teachers' knowledge of basic language constructs and their perceptions and knowledge about dyslexia. Findings from the present study suggest that preservice teachers, on average, are able to display implicit skills related to certain basic language constructs (i.e., syllable counting), but fail to demonstrate explicit knowledge of others (i.e., phonics principles). Also, preservice teachers seem to hold the common misconception that dyslexia is a visual perception deficit rather than a problem with phonological processing. Implications for future research as well as teacher preparation are discussed.

Young, E. (2011). Onsite Peer Tutoring in Mathematics Content Courses for Pre-Service Teachers. *Issues in the Undergraduate Mathematics Preparation of School Teachers*, 3.

ABSTRACT: Pre-service elementary teachers often need help in mathematics courses. Tutoring is an effective practice (Boylan, 2002) and peer tutoring is one of the most successful forms of tutoring, due to the personal connections that are made (Tinto, 1993). A peer is defined as one at the same level, at the same institution, and having equal status (Falchikov, 2001). An onsite peer tutor is someone enrolled in the same course, with similar demographics, offering tutoring in the classroom before or after class. This research project created an onsite peer tutoring program for college students enrolled in three mathematics content courses designed specifically for future PK-8 teachers. The purpose of this research study was to measure the impact of the onsite tutoring program and explore reasons for non-attendance.

Zuidema, L. A., & Fredricksen, J. E. (2016). Resources Preservice Teachers Use to Think About Student Writing. *Research in the Teaching of English*, 51(1), 12-36.

ABSTRACT: This article identifies five categories of resources that preservice teachers drew on as they considered student writing and planned their own approaches to assessing and teaching writing. Identifying these resources helps us better understand how beginning writing teachers think about student writing—and better understand mismatches that commonly occur between what teacher educators teach and what new teachers actually do. Our study builds on literature that considers how writing teachers are prepared, extends research about how preservice teachers use what they learn, and adds layers of detail to literature about the resources that beginning teachers draw upon to aid and support them in their work. The pedagogical and research projects described in this study stem from a communities-of-practice framework. Our methods surfaced preservice teachers' claims about writing and the resources they drew upon to support those claims. Drawing upon our rhetorical view of writing, we worked inductively to identify these claims and resources, using grounded analysis of transcripts from preservice teachers' VoiceThread conversations to develop a taxonomy of 15 resources grouped into 5 categories: understanding of students and student writing; knowledge of context; colleagues; roles; and writing. This research has implications for educators and researchers working in teacher preparation. Scaffolded instruction is essential to help beginning teachers use particular resources—and to employ resources in ways connected with rhetorical conceptual frameworks.



To that end, the taxonomy of resources can be used as a tool for individual and programmatic assessment, as well as to facilitate scaffolded instruction.

3. Diversity

Akiba, M. (2011). Identifying Program Characteristics for Preparing Pre-Service Teachers for Diversity. *Teachers College Record, 113*(3), 658-697.

ABSTRACT: Background/Context: Educating pre-service teachers to develop multicultural awareness, knowledge, and skills for teaching diverse students is a major responsibility of teacher education program coordinators and teacher educators. Numerous studies have discussed and explored the characteristics of teacher preparation that improve pre-service teachers' competency to teach diverse students. However, only a few empirical studies have examined the relationship between preparation characteristics and pre-service teachers' multicultural awareness, knowledge, and skills. Research Questions: The study answered two research questions: 1) How do the initial level and change in pre-service teachers' beliefs about diversity in personal and professional contexts differ by their background characteristics? and 2) What characteristics of teacher preparation for diversity reported by pre-service teachers are associated with positive changes in their beliefs about diversity in personal and professional contexts, controlling for their background characteristics? Participants: The participants were 243 pre-service teachers enrolled in eight sections in a diversity course and accompanied field experience component in a teacher education program in a Midwest Research I university. Research Design: Pre- and post-surveys were conducted to examine: 1) pre-service teachers' background characteristics (gender, socioeconomic status, class standing, hometown location, and prior exposure to diversity), 2) beliefs about diversity in personal and professional contexts, and 3) four characteristics of teacher preparation for diversity: classroom as a learning community; instructor modeling constructivist and culturally-responsive teaching; field experience for understanding diverse students; and opportunity for reflection. Findings: The study found that three characteristics of teacher preparation for diversity reported by pre-service teachers: 1) classroom as a learning community, 2) instructor modeling constructivist and culturally-responsive teaching, and 3) field experience for understanding diverse students were significantly associated with positive changes in pre-service teachers' beliefs about diversity in both personal and professional contexts. Conclusions/Recommendations: Creating a sense of community in classrooms, and modeling constructivist and culturally responsive teaching are likely to promote positive beliefs about diversity among pre-service teachers. In addition, field experiences should promote pre-service teachers' interactions with people from diverse backgrounds, assign a mentor to support their learning experience and promote self reflection, and provide opportunities to understand the connection with diversity coursework.

Causey, V. E., Thomas, C. D., & J. Armento, B. (2000). Cultural Diversity Is Basically a Foreign Term to Me: The Challenges of Diversity for Preservice Teacher Education. *Teaching and Teacher Education, 16*(1), 33-45. doi:10.1016/S0742-051X(99)00039-6



ABSTRACT: While student populations grow more diverse, the preservice teacher population is becoming more homogeneous, primarily White and middle-class. One challenge for teacher preparation programs arising from the mismatch of teacher and student cultures is to facilitate intercultural sensitivity and learning among prospective teachers. This longitudinal study examines the effectiveness of the approach to diversity issues used in an urban university during the final year of a teacher preparation program. The article examines the effects of the treatment on teacher beliefs in two case studies at the end of the program and also looks at residual effects three years later.

Darvin, J. (2011). "I Don't Feel Comfortable Reading Those Books in my Classroom": A Qualitative Study of the Impact of Cultural and Political Vignettes in a Teacher Education Course. *Teacher Educator*, 46(4), 274-298. doi:10.1080/08878730.2011.604710

ABSTRACT: This article chronicles a qualitative study of the impact of a pedagogical practice called cultural and political vignettes (CPVs) on graduate students enrolled in a teacher education course. CPVs are cultural and political "situations" that are presented to teachers so that they can practice the decision-making skills that they will use in the diverse classrooms of New York City public schools. This study investigates whether engaging in CPV activities helped participants to feel more prepared to address culturally and politically sensitive issues in the elementary schools at which they are employed. The preliminary findings of this qualitative study are promising. They indicate that responding to, creating, exchanging, and engaging in situated performances of CPVs provided participants with occasions to practice their written, verbal, and nonverbal communication skills in a supportive classroom environment where they could discuss cultural and political issues that are rarely addressed in teacher preparation courses.

Ellerbrock, C. R., Cruz, B. C., Vásquez, A., & Howes, E. V. (2016). Preparing Culturally Responsive Teachers: Effective Practices in Teacher Education. *Action in Teacher Education*, 38(3), 226-239. doi:10.1080/01626620.2016.1194780

ABSTRACT: Despite the growing diversity in our nation's schools, many teacher educators avoid discussions on diversity issues for myriad reasons. As a result, numerous preservice teachers lack quality learning opportunities to become well versed on issues of diversity in meaningful ways that can translate to P-12 practice. This article elaborates on instructional practices and resources used by teacher educators who, grounded in an understanding of diversity awareness and identity development as well as culturally relevant pedagogy, are actively preparing the next generation of teachers who are culturally responsive.

Hernandez, F., & McKenzie, K. B. (2010). Resisting Social Justice in Leadership Preparation Programs: Mechanisms that Subvert. *Journal of Research on Leadership Education*, 5, 48-72.



ABSTRACT: It is well documented that the achievement gap between affluent students and economically disadvantaged students and between White students and students of color continues to widen. In addition to these achievement gaps, marginalizing practices are often imbedded in the structures of schooling. These challenges require educational leadership programs that effectively prepare school principals who can meet our most pressing school challenges and who, in particular, strive for social justice ends; however, the literature on leadership for social justice provides no clear consensus on what an entire educational leadership program oriented toward social justice would include. This study attempts to fill the gap in the literature by critically examining a curriculum and instruction leadership program that has social justice embedded into the program's core practices. Specifically we ask the following questions: 1. What critical elements underlie programs that prepare professionals for social justice in fields outside of educational leadership? 2. What can we learn from these programs in support of educational leadership programs whose aim is to prepare leaders for social justice? 3. What possible resistance was faced by these programs, and what can we learn from these experiences that can inform our practice of preparing educational leaders for social justice? There were several key findings that range from how students were selected into the program to the way in which faculty worked with each other in their teaching responsibility. The paper concludes with implications and recommendations for principal-preparation programs.

Jackson, T. O. (2011). Developing Sociopolitical Consciousness at Freedom Schools: Implications for Culturally Responsive Teacher Preparation. *Teaching Education, 22*(3), 277-290.
doi:10.1080/10476210.2011.585634

ABSTRACT: This article describes the programmatic ways in which the Children's Defense Fund Freedom Schools® program develops culturally responsive teaching practices amongst its summer interns, particularly in the area of developing sociopolitical consciousness. This paper places specific focus on the role that historical knowledge, the acknowledgement of a "we" discourse and instilling a lifelong commitment to service plays in cultivating teacher sociopolitical consciousness. The research reported here aims to serve as a case for lessons to be learned by traditional, university-based teacher education programs committed to preparing teachers to teach in culturally responsive ways.

Kahn, L. G., Lindstrom, L., & Murray, C. (2014). Factors Contributing to Preservice Teachers' Beliefs about Diversity. *Teacher Education Quarterly, 41*(4), 53-70.

ABSTRACT: The cultural makeup of educational professionals in the United States does not necessarily represent the students that walk through the front doors of the school each day. The majority of teaching professionals identify as White, female, heterosexual, and middle-class with little to no experience working with diverse populations; thus the cultural values and experiences that teachers bring to the classroom may not match those of the students they are serving. Although the profession is attempting to recruit more diverse educators and school leaders, diversifying the teaching force is not the only answer to meeting the needs of students.



Conducting research that examines teachers' beliefs about diversity is a vital step towards developing more culturally competent educators who practice teaching in a way that understands all students to be individuals with valuable knowledge and experiences. Prior research suggests that there are a number of distinct and alterable factors associated with teachers' development of beliefs about diversity. For this study, researchers focused on examining factors that are simultaneously proximal, experiential, and malleable. These factors include: (1) completing multicultural courses in education; (2) having experiences living and working in cross-cultural contexts; (3) experiencing significant cross-cultural relationships; and (4) engaging in critical self-reflection. The purpose of this study was to gain a more comprehensive understanding of factors associated with preservice teachers' personal and professional beliefs about diversity in special and general education teacher preparation programs. Using empirical research in the fields of cultural competence and teacher education, researchers developed a logic model to explore the overall relationship between these factors and preservice teachers' beliefs about diversity. This study examines the component of the logic model related to the relationship between potential influencing factors and preservice educators' beliefs. The factors included in the logic model have been shown to contribute to increased culturally competent beliefs for preservice teachers. Some of the results confirm previous research while others expand on the field's knowledge about preservice teachers and their beliefs about diversity. More specifically, this study indicates that preservice teachers believe that significant cross-cultural relationships are the most significant contributing factor to their cultural competence. Holding this belief was also associated with higher scores on the Personal and Professional Beliefs about Diversity Scale. Researchers also found that the level of self-reflection activities and belief about the importance of self-reflection had the strongest association with the preservice teachers' beliefs about diversity.

Kim, Y., Turner, J. D., & Mason, P. A. (2015). Getting into the Zone: Cases of Student-Centered Multicultural Literacy Teacher Education. *Action in Teacher Education, 37*(2), 102-119. doi:10.1080/01626620.2015.1013162

ABSTRACT: The purpose of this article is to report our preliminary work on student-centered teacher preparation to promote school success among culturally and linguistically diverse learners. The authors believe that teacher education programs need to be very purposeful in their approach to multicultural literacy teacher education. Drawing upon Vygotskian perspective on learning, the authors chose two cases from the beginning of their teacher education program and during student teaching, which often marks the end of teacher education program. The authors explain the potential of a student-centered approach they experienced and its implications for teacher education programs.

Kindle, K. J., & Schmidt, C. M. (2013). Developing Preservice Teachers: A Self-Study of Instructor Scaffolding. *Reading Improvement, 50*(3), 83-100.



ABSTRACT: In this collaborative self-study, two teacher educators examined transcripts of preservice teachers' inquiry groups focused on assessment and tutoring of struggling readers as part of a reading methods course. The analysis identified instances of scaffolding by the course instructor that influenced preservice teachers' development. Types of scaffolding included a shift in instructor stance from authority to expert peer, strategic prompts to promote inquiry, modeling professional language, and the transfer of responsibility from instructor to preservice teachers.

McCollough, C., & Ramirez, O. (2012). Cultivating Culture: Preparing Future Teachers for Diversity Through Family Science Learning Events. *School Science and Mathematics, 112*(7), 443-451. doi:10.1111/j.1949-8594.2012.00158.x

ABSTRACT: Preservice teachers (PSTs) participated in Family Science Learning Events (FSLEs) at a university designated as a Hispanic Serving Institution. PSTs were required by the instructor to conceive and design culturally relevant science activities as well as implement these activities with K-8 students and their families during three separate FSLEs each semester. After school venues included elementary and middle schools located in ethnically diverse school districts. Data collected from these future teachers included qualitative PST reflections, lesson plans, project board/activity evaluation by peers, and a quantitative survey instrument (modified SEBEST) to assess PSTs perceptions of teaching diverse learners. Results suggest that using FSLEs as an integral component of teacher preparation can be a powerful facilitator of learning for all involved, increasing excitement for learning, confidence in using culturally relevant activities and valuable experience in working with family members, particularly Hispanics. In addition, using culturally relevant science activities deepened content knowledge and gave PSTs the opportunity to use culturally responsive activities with Hispanic students and their families, increasing feelings of self-efficacy in science teaching with diverse learners.

Mueller, M., & Hindin, A. (2011). An Analysis of the Factors That Influence Preservice Elementary Teachers' Developing Dispositions about Teaching All Children. *Issues in Teacher Education, 20*(1), 17-34.

ABSTRACT: A study examines the factors that influence the dispositions of pre-service elementary teachers about teaching all children. The study is grounded on the belief that good teachers respect diversity and understand how to meet the needs of diverse learners, and aimed to determine the relationship between candidates' dispositions and their experiences. The study used data sources such as entry and exit surveys, field evaluations, and micro-case scenarios to measure candidates' dispositions. Candidates were subjected to two scenarios; an inclusion scenario and a cultural stereotypes scenario, and each scenario was followed by seven questions to be answered by them. Research findings indicate that teacher preparation courses can make a difference in how teacher candidates develop dispositions and influence their responses to issues of diversity. Furthermore, it was found that pre-service teachers are often influenced by what they see their cooperating teachers do, or by their own memories.



Robertson, P. M., García, S. B., McFarland, L. A., & Rieth, H. J. (2012). Preparing Culturally and Linguistically Responsive Special Educators: It “Does” Take a Village. *Interdisciplinary Journal of Teaching and Learning*, 2(3), 115-130.

ABSTRACT: The preparation of culturally and linguistically responsive special educators requires planning, substantive collaboration, and valuing the perspectives of underrepresented groups. This article describes restructuring efforts of one special education preparation program that included coursework and field-based experiences designed to enhance candidates’ understanding of the complex, dynamic interrelationships among culture, language, and disability as the basis for culturally and linguistically responsive practice. Major activities included identifying key competencies, aligning those competencies with specific coursework and activities, and working with faculty in general education to design opportunities for candidates in both programs to develop collaborative skills. Results of ongoing program evaluation indicate that efforts were successful based on positive responses from participating candidates, cooperating teachers who host them, and the principals who subsequently hire them. Successes, challenges, and future directions are discussed within the context of program design and delivery.

Zepeda, M., Castro, D. C., & Cronin, S. (2011). Preparing Early Childhood Teachers to Work with Young Dual Language Learners. *Child Development Perspectives*, 5(1), 10-14. doi: 10.1111/j.1750-8606.2010.00141.x

ABSTRACT: Teacher preparation is clearly linked to the quality of early childhood programs. In order for young dual language learners (DLLs) to be academically successful, teacher preparation should focus on those skills and abilities relevant to students’ particular needs. This article reviews the content of professional preparation for early educators working with young DLLs and briefly discusses the importance of developing the cultural and linguistic diversity of the early childhood workforce. It identifies 6 content areas: (a) understanding language development, (b) understanding the relationship between language and culture, (c) developing skills and abilities to effectively teach DLLs, (d) developing abilities to use assessment in meaningful ways for DLLs, (e) developing a sense of professionalism, and (f) understanding how to work with families.

4. Field Experiences

Ambrosetti, A. (2014). Are You Ready to Be a Mentor? Preparing Teachers for Mentoring Pre-Service Teachers. *Australian Journal of Teacher Education*, 39(6), 30-42.

ABSTRACT: The use of mentoring has nowadays become a predominant practice for the professional placement component of pre-service teacher education programs. Research however has identified that being an effective teacher does not make you an effective mentor.



The present research investigated the role of professional development in the preparation of mentor teachers for their mentoring roles. Specifically, this paper presents the findings of a pilot mentoring preparation course that engaged mentor teachers in developing their knowledge about the nature and process of mentoring and the roles of mentors and mentees. Data about changed understandings of mentoring and changed mentoring practices of the mentor teachers who participated were gathered. The findings presented here are intended to inform the development of future professional development courses for mentor teachers who intend to mentor pre-service teachers.

Ammentorp, L., & Madden, L. (2014). Partnered Placements: Creating and Supporting Successful Collaboration Among Preservice Teachers. *Journal of Early Childhood Teacher Education, 35*(2), 135-149. doi:10.1080/10901027.2014.905805

ABSTRACT: Recent calls for change in teacher preparation programs stress the importance of field experience and the need for preservice teachers to have ample opportunities for peer collaboration and feedback. The paired placement model, with two preservice teachers working with one cooperating teacher, has shown to provide many benefits. However, the strategies for developing successful partnerships in the context of a required course are not fully understood. This article presents a study of early childhood and elementary preservice teachers' perspectives on the peer and faculty related factors that contribute to the success (and lack of success) of their partnerships. The article concludes with effective strategies for teacher educators to consider in creating and supporting field-based peer partnerships.

Benson, T., & Cotabish, A. (2014). Virtual Bugs: An Innovative Peer Coaching Intervention to Improve the Instructional Behaviors of Teacher Candidates. *SRATE Journal, 24*(1), 1-9.

ABSTRACT: Throughout the evolution of education, various methods of teacher training have emerged to provide general professional development to educators. After trial and error, forms of coaching, including peer coaching, emerged as one of several operational training tools and has been a recommended method of teacher development in recent years (Cotabish & Robinson, 2012; Dailey, Cotabish, & Robinson, 2013; Tschannen-Moren & Tschannen-Moren, 2010). The traditional goal of peer coaching is to provide positive feedback to instructors (Slater & Simmons, 2001); however, more recently the peer coach has a greater responsibility. The coach should take on the roles of content expert, teacher support, classroom helper, and at times instructional facilitator (Appleton, 2008; Dailey, Cotabish, & Robinson, 2013). The coach must provide expert advice on content and pedagogical knowledge as well as be available to model and facilitate classroom lessons. Findings indicate that teachers attribute their increased knowledge and skills to observing and talking to their coaches (Dailey, 2013) as well as classroom support from their coaches (Appleton, 2008; Dailey, Cotabish, & Robinson, 2013).

Capizzi, A. M., Wehby, J. H., & Sandmel, K. N. (2010). Enhancing Mentoring of Teacher Candidates Through Consultative Feedback and Self-Evaluation of Instructional Delivery. *Teacher Education*



and *Special Education: The Journal of the Teacher Education Division of the Council for Exceptional Children*, 33(3), 191-212. doi:10.1177/0888406409360012

ABSTRACT: In this study, the authors evaluate the efficacy of videotape analysis with structured expert consultation and self-evaluation to improve teacher candidates' instructional delivery. A single-case, multiple-baseline, across-participants design was used to evaluate lesson components, rate of praise statements, and rate of opportunities to respond included by teacher candidates in their teaching. After teacher candidates videotaped their instructional delivery, they met with an instructional consultant and evaluated the components of instruction included in the lesson, received feedback and guidance from the instructional consultant, and established goals for subsequent instruction. Consultation was effective in increasing the number of lesson components and amount of behavior-specific praise delivered during instruction for all participants. Effects varied by participants for rates of opportunities to respond. Limitations of this study and future implications for research are discussed.

Childre, A. L., & Van Rie, G. L. (2015). Mentor Teacher Training: A Hybrid Model to Promote Partnering in Candidate Development. *Rural Special Education Quarterly*, 34(1), 10-16.

ABSTRACT: In order to promote high quality clinical experiences for teacher candidates, one of the recent changes to educator preparation accreditation standards specifically targeted clinical faculty qualifications. Qualified mentor teachers are critical clinical faculty because they serve as the model for training practices for teacher candidates, the tangible link between research and practice. For optimal training outcomes, educator preparation programs must ensure mentor teachers are skilled in both mentoring teacher candidates and in modeling practices central to candidate preparation. This article describes a hybrid mentor teacher training designed to promote mentor teacher awareness of training program requirements and mentoring responsibilities as well as proficiency in evidence-based practices. Resources, online tools, and collaborative partnerships to support implementation by rural training programs are discussed. Mentor teacher evaluation of the pilot program is reported. Considerations are shared for establishment of P-12 partnerships in clinical faculty preparation and development of sustainable training models.

Collier, M., Keefe, E. B., & Hirrel, L. A. (2015). Preparing Special Education Teachers to Collaborate with Families. *School Community Journal*, 25(1), 117-135.

ABSTRACT: Positive family-school-community relationships are associated with student success. Creating successful relationships with parents is an important but difficult task for teachers to master. Therefore, teacher candidates need opportunities to learn how to develop collaborative relationships with parents of all children, including children with disabilities. This paper describes the implementation of the Families as Faculty Program (FAF), jointly developed by a parent center and a special education program at a southwestern university. The purpose of this program is to prepare teachers and other professionals in the community to work



collaboratively with parents in an effort to improve services, develop partnerships, and to increase positive outcomes for students across the full range of disabilities. This program provides teacher candidates with a unique opportunity to learn firsthand from parents who agree to share their experiences and stories about the strengths, differences, and challenges of raising a child with disabilities. This article describes the way in which FAF was integrated into a graduate-level course in a special education master's degree program. Information is given on how other teacher preparation programs can access materials created through FAF for their own programs.

Conderman, G., Johnston-Rodriguez, S., Hartman, P., & Walker, D. (2013a). Honoring Voices from Beginning Special Educators for Making Changes in Teacher Preparation. *Teacher Education and Special Education: The Journal of the Teacher Education Division of the Council for Exceptional Children*, 36(1), 65-76. doi:10.1177/0888406412473311

ABSTRACT: Through a mixed-methods study, teacher educators investigated recent graduates' perceptions of their preparation program. Beginning special education teachers completed surveys and indicated (a) their level of preparation and confidence associated with 25 core competencies, (b) the most beneficial components of their preparation program, (c) suggestions for improving the program, and (d) current training needs. The highest levels of preparation and confidence were found in the areas of professionalism, behavior management, and instruction. The lowest levels of preparation and confidence were noted in transition and teaching students whose first language was not English. Participants reported that early clinical experiences and student teaching were the most beneficial components of the program. Furthermore, they offered suggestions for adding breadth and depth to courses and desired to learn more about timely issues.

Coogle, C. G., Rahn, N. L., & Ottley, J. R. (2015). Pre-Service Teacher Use of Communication Strategies upon Receiving Immediate Feedback. *Early Childhood Research Quarterly*, 32, 105-115. doi:10.1016/j.ecresq.2015.03.003

ABSTRACT: The purpose of this research was to investigate the impact of immediate feedback through bug-in-ear eCoaching on early childhood special education pre-service teachers' use of communication strategies using an activity-based intervention approach. Three early childhood special education pre-service teachers participated in this study. A multiple-probe, single-case design was used to determine the effects of immediate feedback through bug-in-ear eCoaching on teachers' use of communication strategies. Results indicate that immediate feedback through bug-in-ear eCoaching enhanced pre-service teachers' use of communication strategies within small-group activities. Implications for practice and future research are discussed.

De Bruïne, E. J., Willemse, T. M., D'Haem, J., Griswold, P., Vloeberghs, L., & van Eynde, S. (2014). Preparing Teacher Candidates for Family-School Partnerships. *European Journal of Teacher Education*, 37(4), 409-425.



ABSTRACT: Previous research indicates that, while parent involvement promotes student achievement, how teacher candidates are prepared to establish family-school partnerships (FSP) is not well documented and the roles of teacher educators are often neglected. Explorative studies including curriculum analysis and focus groups of primary and secondary teacher candidates and teacher educators were conducted in three universities, one each in the Netherlands, Belgium and the USA. Data collection was designed to identify opinions towards FSP and perceived preparation for FSP. The programmes showed limited attention to aspects other than communication and FSP was not assessed. The findings indicate training is largely dependent upon the proclivities of individual teacher educators. Although all respondents acknowledged the importance of FSP, respondents of primary education held a more positive attitude towards parents than others. Hardly any differences were found between the views of candidates and educators, regardless of the programme they followed or taught.

Dorel, T. G., Kearney, W. S., & Garza, E. (2016). Ready from Day One? The Relationship Between Length of Pre-Service Teacher Field Residency and Teacher Efficacy. *Critical Questions in Education*, 7(1), 38-52.

ABSTRACT: The study examines the perceptions of pre-service teachers' sense of efficacy in a teacher preparation program to determine whether a relationship exists between teacher efficacy and the amount of time spent in field residency. The paper first examines the existing literature on efficacy and current field residency practices in teacher preparation programs. Following the literature will be an overview of the methodology and results. The findings indicate a significant correlation between length of time in field residency experiences and the pre-service teachers' sense of General Teaching Efficacy.

Flores, I. M. (2015). Preservice Teachers as Investigative Science Mentors: Advancing Self-Efficacy through School-Based Professional Development. *Journal of Instructional Pedagogies*, 17.

ABSTRACT: Pedagogical competence and teaching efficacy significantly influence the quality of classroom science learning. Without applying pedagogical learning in realistic classroom environments, there is slight possibility that prospective teachers will increase their teaching confidence or develop understanding of how learners acquire and construct knowledge. The current shift in science education reform calls for students to experience how science is authentically enacted. Twenty-two undergraduate teacher candidates were placed at an elementary school for teacher preparation studies and for opportunities to apply their coursework learning. This quantitative study sought to determine if teacher candidates' self-efficacy increased due to participation in a field-based elementary science methods course with integrated teaching practice consisting of mentoring fifth grade students in investigative science projects. Pretest and posttest STEBI-B data indicate that general ($d = 0.93$) and personal ($d = 0.90$) science teaching efficacy increased significantly. The increase in outcome expectancy was not significant ($d = 0.38$).



Grudnoff, L. (2011). Rethinking the Practicum: Limitations and Possibilities. *Asia-Pacific Journal of Teacher Education*, 39(3), 223-234.

ABSTRACT: Teachers and policy makers often view the practicum as being the critical component of initial teacher education (ITE) programmes. While numerous studies have investigated the practicum in ITE, less attention has been given to the role practicum plays in the transition from preparation to teaching. This study investigated 12 New Zealand first-year primary teachers' perceptions of how their practicum experiences prepared them for starting teaching. The data for this qualitative study were gathered over a 15-month period using semi-structured individual interviews. The study showed that, while the beginning teachers consistently viewed the practicum as being a key part of their ITE, their practicum experiences were not always helpful in supporting their move into teaching. While acknowledging that the practicum cannot replicate the conditions of full-time teaching, the findings suggest that the practicum should be reconsidered in order to more effectively prepare student teachers for the complexities and demands of beginning teaching.

Haverback, H. R., & Parault, S. J. (2011). High Efficacy and the Preservice Reading Teacher: A Comparative Study. *Teaching and Teacher Education*, 27(4), 703-711.
doi:10.1016/j.tate.2010.12.001

ABSTRACT: The purpose of this study was to investigate the differential impact of two field experiences, tutoring and observing, on preservice teachers' reading self-efficacy and content knowledge. Participants completed an adapted, reading version of The Teacher Sense of Efficacy Scale (TSES). Results showed that both groups reported growth in reading self-efficacy and content knowledge; however, there was only a marginally significant difference between reading self-efficacy motivation scores. Mean score differences showed that the observers changed more in their reading efficacy than the tutors; however, a greater number of tutors found the field experience to be worth maintaining in future courses.

Hoffman, J. V., Wetzel, M. M., & Peterson, K. (2016). Approximating Literacy Practices in Tutorials: What is Learned and What Matters for Teacher Preparation. *Literacy Research and Instruction*, 55(3), 183-208. doi:10.1080/19388071.2015.1128023

ABSTRACT: In this study, we examined the learning of preservice teachers associated with the features of a literacy tutorial experience. Our qualitative study focused on the close inspection of the experiences of 7 focus cases out of the 19 preservice teachers enrolled in our program across a one-semester tutorial experience. Through our research we identified three preservice teacher learning themes and seven features of the tutorial experience that afforded opportunities for preservice teachers to build these understandings. Overall, our findings support the importance of this tutorial experience to the development of teachers who can adapt their practices to students and contexts. Our findings also resonate with what others have



suggested as the importance of authentic contexts to try out practices of literacy teaching within preservice teacher preparation programs.

Lee, J., Tice, K., Collins, D., Brown, A., Smith, C., & Fox, J. (2012). Assessing Student Teaching Experiences: Teacher Candidates' Perceptions of Preparedness. *Educational Research Quarterly, 36*(2), 3-19.

ABSTRACT: The purpose of this study is to investigate the effectiveness of student teaching experiences by measuring teacher candidates' perceptions of their preparedness. The participants were 130 teacher candidates who had completed their student teaching as part of a program preparing them to teach children in pre-K through grade 4. Teacher candidates responded to the survey by recalling their before and after student teaching experiences. A paired t-test was calculated to determine statistical mean differences before and after student teaching on five categories: a) pedagogical content knowledge, b) planning and preparation for instruction, c) classroom management, d) promoting family involvement, and e) professionalism. Mean differences of all of the paired items between pre- and post-survey were shown to be statistically significant on all five categories.

Massey, D. D., & Lewis, J. (2011). Learning From the "Little Guys": What do Middle and High School Preservice Teachers Learn from Tutoring Elementary Students? *Literacy Research and Instruction, 50*(2), 120-132. doi:10.1080/19388071003725705

ABSTRACT: As teacher educators, we continue to focus on tutoring experiences as ways to help tutors connect coursework to practice. This study presents a preservice tutoring program designed to provide a field-based experience where the tutors would be able to (a) learn about literacy instruction, (b) use a multitude of assessment data rather than representing students by single scores, (c) design literacy curriculum based on students' needs, and (d) focus on motivating students to read and write in addition to helping them succeed academically. Unlike previous studies, the tutors were middle and high school preservice teachers tutoring elementary struggling readers.

McDonald, M. A., Tyson, K., Brayko, K., Bowman, M., Delport, J., & Shimomura, F. (2011). Innovation and Impact in Teacher Education: Community-Based Organizations as Field Placements for Preservice Teachers. *Teachers College Record, 113*(8), 1668-1700.

ABSTRACT: Background: Research shows that students who are overrepresented when it comes to failure are underrepresented when it comes to being taught by highly qualified teachers who are well prepared to teach students from diverse backgrounds. Teacher education, as one aspect of the educational system, plays a critical role. in preparing teachers with the necessary principles and practices for improving the academic, social, and intellectual opportunities available to students of color, low-income students, and English language learners. Acknowledging this responsibility, teacher education programs continue to search for structural, curricular, and pedagogical approaches to prepare teachers to teach in increasingly diverse



contexts. One response has been to connect preservice teachers with community experiences, an uncommon strategy that has been asserted at various times over the past century. This study examines one teacher education program's innovation of placing preservice teachers in community-based organizations (CBOs) to better prepare candidates to teach children whose back-grounds are different from their own—and particularly children who attend high-needs schools. Purpose of Study: This study addresses questions of both implementation and impact, specifically examining the participation of preservice teachers in CBOs and the outcomes of this innovation on their opportunities to learn. Through this research, the authors aim to advance the field of teacher education's understanding of community experiences, and in particular to highlight the ways in which partnerships with community organizations advance the preparation of teachers. Setting: The University of Washington's Elementary Teacher Education Program (ELTEP), a five-quarter postbaccalaureate master's in teaching program. Participants: Participants in this study include case study preservice teachers from two cohorts: faculty who teach in the teacher education program, and staff who work in the community-based organizations in which the preservice teachers are placed. Intervention: During the first quarter in the program, preservice teachers spend 60 hours each in CBOs that serve diverse youth. The intention behind the community-based placements is to (1) build connections between prospective teachers, community organizations, and local schools, (2) give prospective teachers opportunities to develop a holistic and assets-based view of children and youth, (3) acknowledge education and learning as a process that occurs in multiple contexts, and (4) place students, families, neighborhoods, and communities at the center of teaching and education. Research Design: We designed a 3-year longitudinal study in which we follow two cohorts of preservice teachers from their teacher preparation through their first year of teaching. We employ qualitative methods of interviews, focus groups, observations, document review, and survey methods. Data analysis occurred as an iterative process. For this article, we systematically coded individual and focus group interviews for concepts that reflected participants' participation and outcomes in regard to the program innovation. Findings: Findings highlight specific dimensions of teachers' participation in CBOs and indicate ways in which the community experiences added to the resources for learning provided by the teacher education program. The authors also classify outcomes of this innovation and explicate the kinds of opportunities such experiences provide preservice teachers. Specifically, the authors identify instances of how placements in CBOs afforded preservice teachers new ways of seeing and understanding children beyond school and across difference. These findings are preliminary and are based on data and analysis from the first year of our 3-year study. Conclusions: Through the in-depth case study of the University of Washington Elementary Teacher Education Program's community-based partnership innovation, we contribute to an overall understanding of such efforts in teacher education. By building on a strong conceptual foundation based in sociocultural and activity theories, this study provides preliminary evidence that field placements in community-based organizations are a promising approach to supporting preservice teachers' opportunities to learn to work with children from diverse backgrounds. In particular, partnerships with community organizations may move teacher education efforts closer to the overall goal of preparing teachers with knowledge of children that allows them to



incorporate the complexity of children's lives into the classroom in ways that ultimately improve children's opportunities to learn.

Ronfeldt, M. (2012). Where Should Student Teachers Learn to Teach? Effects of Field Placement School Characteristics on Teacher Retention and Effectiveness. *Educational Evaluation and Policy Analysis, 34*(1), 3-26. doi:10.3102/0162373711420865

ABSTRACT: This study is motivated by an ongoing debate about the kinds of schools that make for the best field placements during pre-service preparation. On the one hand, easier-to-staff schools may support teacher learning because they are typically better-functioning institutions that offer desirable teaching conditions. On the other hand, such field placements may leave new teachers unprepared to work in difficult-to-staff schools and with underserved student populations that need high quality teachers the most. Using administrative and survey data on almost 3,000 New York City teachers, their students, and their schools, this study finds that learning to teach in easier-to-staff field placement schools has positive effects on teacher retention and student achievement gains, even for teachers who end up working in the hardest-to-staff schools. The proportion of poor, minority, and low-achieving students in field placements is unrelated to later teacher effectiveness and retention suggesting something beyond student populations explain these results.

Ronfeldt, M. (2015). Field Placement Schools and Instructional Effectiveness. *Journal of Teacher Education, 66*(4), 304-320. doi:10.1177/0022487115592463

ABSTRACT: Student teaching has long been considered a cornerstone of teacher preparation. One dimension thought to affect student teacher learning is the kinds of schools in which these experiences occur. Drawing on extensive survey and administrative data on all teachers, students, and schools in a large, urban district, this study investigates whether certain kinds of field placement schools predict later teacher performance. It finds that teachers who learned to teach in field placements with stronger teacher collaboration, achievement gains, and, to a lesser degree, teacher retention were subsequently more effective at raising student achievement. However, these kinds of schools were less likely to be used as field placements. Results suggest that better functioning school organizations with positive work environments make desirable settings for teacher learning and that preparation programs, and the districts they supply, would benefit from more strategically using these kinds of schools to prepare future teachers.

Ronfeldt, M., Schwartz, N., & Jacob, B. (2014). Does Preservice Preparation Matter? Examining an Old Question in New Ways. *Teachers College Record, 116*(10), 1-46.

ABSTRACT: Background: Over the past decade, most of the quantitative studies on teacher preparation have focused on comparisons between alternative and traditional routes. There has been relatively little quantitative research on specific features of teacher education that might



cause certain pathways into teaching to be more effective than others. The vast majority of evidence on features of preservice preparation comes from qualitative case studies of single institutions that prepare teachers. Among the few large-scale cross-institution studies that exist, most provide only descriptive trends that fail to account for teacher and school characteristics that might explain apparent relationships in the data. Additionally, these studies typically look at state- or district-level data, providing little information on national trends. Purpose: Focusing on two features of preparation commonly targeted by certification policies, this study asks: Does completing more practice teaching and methods-related coursework predict teachers' retention and perceived instructional preparedness? Do the results vary for different kinds of teachers and schools. Research Design: This is a secondary analysis of data from the two most recent administrations of the Schools and Staffing Survey (SASS), a nationally representative survey of teachers that includes information about preservice preparation, retention, and perceptions of preparedness. We link surveyed teachers to Common Core of Data on their schools and to Barron's ratings of college competitiveness. Data Analysis: We use linear and logistic regression with state and district fixed effects, as well as comprehensive controls for school and teacher characteristics, to estimate whether completing more practice teaching and methods-related coursework predicts teachers' self-perceived instructional preparedness and persistence in the profession.

Ross, S. W., & Lignugaris-Kraft, B. (2015). Multi-Tiered Systems of Support Preservice Residency: A Pilot Undergraduate Teacher Preparation Model. *Journal of the National Association for Alternative Certification, 10*(1), 3-20.

ABSTRACT: This case study examined the implementation of a novel nontraditional teacher preparation program, "Multi-Tiered Systems of Support Preservice Residency Project" (MTSS-PR). The two-year program placed general and special education composite undergraduate majors full time in high-need schools implementing evidence-based systems of behavioral (Positive Behavioral Interventions and Supports) and academic support (Response to Intervention). Project participants received substantial training and practice in Tier 1 core instruction, Tier 2 interventionist activities, and Tier 3 interventions for students with special needs. The effectiveness of the program was evaluated through a district-wide teacher appraisal, measuring teacher-delivered opportunities to respond, ratio of interactions, student engagement, and participant and principal interviews. Results indicated that the MTSS-PR participants not only outperformed other new teachers on the district appraisal, they also outperformed other veteran teachers. At the conclusion of the project, both the participating teachers and their principals scored the project high on a measure of social validity. Methodological limitations exist, however results of the case study have promising implications for teacher preparation that infuses residency-based models within evidence-based practice.

Scheeler, M. C., McKinnon, K., & Stout, J. (2012). Effects of Immediate Feedback Delivered via Webcam and Bug-in-Ear Technology on Preservice Teacher Performance. *Teacher Education and Special*



Education: The Journal of the Teacher Education Division of the Council for Exceptional Children, 35(1), 77-90. doi:10.1177/0888406411401919

ABSTRACT: University faculty and supervisors dedicated to the preparation of future teachers are facing more challenges than ever before in doing more with less. This includes supervising more preservice teachers in more schools, spread out over a wide geographic area. Feedback is essential to learning, and recent research suggests that the most effective feedback is immediate rather than delayed. New advances in technology may make the job of supervision more efficient and when used to provide immediate feedback, more effective as well. Research was conducted to evaluate the effects of using webcams and Bluetooth™ technology to deliver immediate feedback to special education preservice teachers in practicum placements from remote locations. Results suggest that immediate feedback provided via this technology was effective in increasing the targeted technique in all five preservice teachers who participated in the study. Each participant rated the intervention as acceptable. Implications for classroom application are discussed.

Voss, J. A., & Bufkin, L. J. (2011). Teaching All Children: Preparing Early Childhood Preservice Teachers in Inclusive Settings. *Journal of Early Childhood Teacher Education*, 32(4), 338-354. doi:10.1080/10901027.2011.622240

ABSTRACT: Preparing early childhood and early childhood special education preservice teachers for inclusive settings is the focus of this article. The need for all teachers to be prepared for inclusive settings has become evident with the growing diversity of children in every classroom. Integrating inclusive content throughout the teacher preparation program sets the expectation for inclusion in the schools. The standards from the Division for Early Childhood of Council for Exceptional Children and the National Association for the Education of Young Children provide a framework to link inclusive content and fieldwork to preservice teacher experiences. The use of inclusive sites for well sequenced and focused field experiences provides the opportunity for preservice teachers to develop skills and attitudes for teaching all children. One institution's site-based methods courses, with preservice teachers in school sites for a significant portion of their coursework accompanied by their faculty members, enhanced the course content and preservice teaching at the sites. Measures of self-perceptions of preservice teachers indicate significant growth in preservice teachers' confidence and skills for working with students with special needs through structured inclusive field experiences.

Wash, P. D., Bradley, G., & Beck, J. (2014). Remote Classroom Observations with Preservice Teachers. *SRATE Journal*, 24(1), 58-65.

ABSTRACT: According to O'Brien, Aguinaga, Hines, and Hartsborne (2011), "Delivery of course content via various distance education technologies (e.g., interactive video, asynchronous and/or synchronous online delivery) is becoming an accepted and expected component of many teacher preparation programs" (p. 3). With the infusion of technology in K-16 classrooms,



including one-to-one computing and bring your own device (BYOD) initiatives, university teacher preparation institutions are piloting the use of Web 2.0 tools such as Skype and FaceTime to conduct remote clinical observations. This article provides the research data of a pilot study conducted with middle level and secondary education preservice teachers regarding the effectiveness of remote classroom observations.

Yopp, R. H., Ellis, M. W., Bonsangue, M. V., Duarte, T., & Meza, S. (2014). Piloting a Co-Teaching Model for Mathematics Teacher Preparation: Learning to Teach Together. *Issues in Teacher Education*, 23(1), 91-111.

ABSTRACT: This study offers insights from an initial pilot of a co-teaching model for mathematics teacher preparation developed both to support experienced teachers in shifting their practice toward the vision set forth by NCTM and the Common Core State Standards for Mathematics (National Governors Association, 2010; NCTM, 2000, 2009) and to provide opportunities for preservice teachers of mathematics to gain experience with teaching practices better aligned with the new standards. Co-teaching is emerging as an alternative to the traditional student teaching experience, in which teacher candidates gradually assume full responsibility for instruction, assessment, and management in their field placement settings, a model that has not changed significantly in more than 50 years (Bullough et al., 2003). Based on effective practices in special education (Cook & Friend, 1995), co-teaching involves two teachers sharing the planning, teaching, and assessment of groups of students in the same physical space. In the context of special education, the two teachers are a general educator and special educator. Much has been written about these co-teaching partnerships and the benefits for students with special needs who are served in general education classrooms, and it is not uncommon to see a special educator working alongside a general educator in elementary and secondary classrooms, including mathematics classrooms. In the context of teacher preparation, the co-teachers are a teacher candidate and the cooperating teacher. In this model, the teacher candidate is involved in teaching from the first day in the classroom, and the cooperating teacher maintains a high level of involvement throughout the experience. In this article, the authors report on the use of a co-teaching model developed and implemented specifically in foundational level mathematics courses in high-need schools.

Youngs, P., & Bird, T. (2010). Using Embedded Assessments to Promote Pedagogical Reasoning Among Secondary Teaching Candidates. *Teaching and Teacher Education*, 26(2), 185-198.
doi:10.1016/j.tate.2009.03.011

ABSTRACT: The purpose of this documentary account is twofold. First, we describe two strategic instructional assignments embedded in university courses at a large research institution in the United States that were designed to help teaching candidates move toward mastery. Second, we explicate candidates' performances on the assessments as well as evidence of the reliability of the assessments and scoring procedures. This case study provides evidence that advanced secondary teaching candidates are able to address instructional issues and engage in the kind of



pedagogical reasoning more characteristic of experienced teachers. Further, this account indicates that despite some challenges, it is feasible for multiple course instructors in a research institution to implement and score reliable, valid embedded assessments.

5. General Program

Allen, L. V. Z. (2013). The Impact of Induction Support on Teacher Development, Teacher Retention, and the Teacher Quality Issue. *Teacher Education Quarterly*, 40(3), 75-92.

ABSTRACT: The article focuses on interpretation made by the U.S. National Council on Teacher Quality (NCTQ) and the National Council for the Accreditation of Teacher Education (NCATE) on improving the quality of teaching in schools. Topics discussed include identification of current problems associated with teachers learning and education programs, factors related to teachers' education such as supply, demand and preparation and recruitment through staff development.

Altieri, E. M., Colley, K. M., Daniel, L. S., & Dickenson, K. W. (2015). Merging Expertise: Preparing Collaborative Educators. *Rural Special Education Quarterly*, 34(1), 17-22.

ABSTRACT: In this article, teacher education faculty of a medium-size university, historically grounded in teacher preparation within a rural context, describe their ongoing work to transform their practice in order to prepare special and general educators who co-plan, co-teach, and co-assess with their counterparts in the field. Follow-up research with their graduates revealed insights into the impact of a collaborative preparation model on teachers and students and suggested positive effects on teacher retention problems. These insights inform their continuing program transformation and their recommendations for the field of teacher preparation.

Barnes, N., & Gillis, A. (2015). Assessment360: A Promising Assessment Technique for Preservice Teacher Education. *The Teacher Educator*, 50(4), 288-304. doi:10.1080/08878730.2015.1071904

ABSTRACT: The call for preservice teachers to exercise reflective practices has echoed through U.S. education policy and research for a number of years and is evident in U.S. preservice teaching standards. As a result, educator preparation programs are challenged to design learning experiences and assessments that foster reflection skills. This study describes a promising assessment technique, named Assessment360, which can be implemented during coursework to prepare future teachers to be reflective practitioners. Assessment360 is a formative assessment technique in which students reflect on the content of a quiz individually and collaboratively in order to develop a deeper and more integrated understanding of the material. Thirty-one preservice education students enrolled in an undergraduate educational psychology course participated in this research. Results of the questionnaire suggested participation in Assessment360 potentially (a) fostered reflection, (b) encouraged peer



interaction and learning (i.e., collaboration), and (c) promoted timely and frequent feedback. Implications and significance are discussed.

Bell, R. L., Matkins, J. J., & Gansneder, B. M. (2011). Impacts of Contextual and Explicit Instruction on Preservice Elementary Teachers' Understandings of the Nature of Science. *Journal of Research in Science Teaching*, 48(4), 414-436. doi:10.1002/tea.20402

ABSTRACT: This mixed-methods investigation compared the relative impacts of instructional approach and context of nature of science instruction on preservice elementary teachers' understandings. The sample consisted of 75 preservice teachers enrolled in four sections of an elementary science methods course. Independent variables included instructional approach to teaching nature of science (implicit vs. explicit) and the context of nature of science instruction (as a stand-alone topic vs. situated within instruction about global climate change and global warming). These treatments were randomly applied to the four class sections along a 2×2 matrix, permitting the comparison of outcomes for each independent variable separately and in combination to those of a control group. Data collection spanned the semester-long course and included written responses to pre- and post-treatment administrations of the VNOS-B, semi-structured interviews, and a variety of classroom artifacts. Qualitative methods were used to analyze the data with the goal of constructing profiles of participants' understandings of the nature of science and of global climate change /global warming (GCC/GW). These profiles were compared across treatments using non-parametric statistics to assess the relative effectiveness of the four instructional approaches. Results indicated that preservice teachers who experienced explicit instruction about the nature of science made statistically significant gains in their views of nature of science regardless of whether the nature of science instruction was situated within the context of GCC/GW or as a stand-alone topic. Further, the participants who experienced explicit nature of science instruction as a stand-alone topic were able to apply their understandings of nature of science appropriately to novel situations and issues. We address the implications of these results for teaching the nature of science in teacher preparation courses.

Bornfreund, L. (2012). Preparing Teachers for the Early Grades. *Educational Leadership*, 69(8), 36-40.

ABSTRACT: Too often, early elementary teachers enter the classroom unprepared for the particular challenges of teaching children in grades 3 and under. Many were trained in programs that focused on older elementary grades, even though their license qualifies them to teach children as young as kindergarten. Teachers who obtained their certification through a program focused on early childhood might not have the expertise needed to create effective lessons in such content areas as social studies and science. Others may not have received instruction in teaching children how to read. Still others may not have studied child development. Bornfreund suggests that teacher training and licensure programs be changed so that all teachers in these early grades will have the preparation they need.



Busi, R., & Jacobbe, T. (2014). Examining Student Work in the Preparation of Preservice Elementary School Teachers. *Mathematics Educator*, 23(2), 23-39.

ABSTRACT: This study investigated preservice teachers' perceptions of their knowledge and development resulting from analyzing student work in an undergraduate mathematics education course. Participants were given opportunities to view and analyze student work examples that portrayed errors in thinking as well as alternative solution methods. Thirty-eight undergraduate students participated in the study and a thematic analysis approach was utilized for the analysis. The findings, which include four major themes of perceived knowledge development, are shared.

Capraro, M. M., Capraro, R. M., & Helfeldt, J. (2010). Do Differing Types of Field Experiences Make a Difference in Teacher Candidates' Perceived Level of Competence? *Teacher Education Quarterly*, 37(1), 131-154.

ABSTRACT: A study conducted to ascertain whether differing types of field experiences made a difference in the perceived level of competence to teacher candidates (TCs) is presented. Though field experiences and practice teaching have been recognized as key elements in traditional teacher-training programs, all field experiences will not automatically bridge the gap between theory and practice. This study examined the perceived level of competence of three groups of 45 TC participants, drawn from one teacher preparation program at a research-intensive university, and each group participated in one of three different field-based models. The study aimed to find out if different field-based experiences affected a TC's self-perception of professional competence within the context of the Interstate New Teacher Assessment and Support Consortium Standards, and, if the TCs rate themselves differently on knowledge, disposition, and performance because of their field experience.

Chiero, R., Beare, P., Marshall, J., & Torgerson, C. (2015). Evaluating the Effectiveness of E-Learning in Teacher Preparation. *Educational Media International*, 52(3), 188-200.
doi:10.1080/09523987.2015.1075101

ABSTRACT: Teacher education struggles with the challenge of preparing and retaining high-quality teachers who can work effectively with all students. While educator preparation is a strong correlate of student achievement, traditional university-based programmes are not available to all potential teachers. This manuscript describes CalStateTEACH, an online teaching credential programme operated by the California State University system, and reports data on its efficacy as compared to traditional, campus-based programmes. The independent variable was the pathway used by each teacher, and the dependent variables were the ratings of preparation by programme graduates at the end of their first year of professional teaching and those of their employment supervisors. Mean ratings by CalStateTEACH graduates were significantly higher on 16 of the 17 scales. There were differences in supervisor ratings but none



was significant. Results add to the knowledge base of effective e-learning in higher education and suggestions for practice are presented.

Chiero, R., Tracz, S. M., Marshall, J., Torgerson, C., & Beare, P. (2012). Learning to Teach: Comparing the Effectiveness of Three Pathways. *Action in Teacher Education*, 34(4), 368-380.

ABSTRACT: This study examined the differential effectiveness of three pathways to an elementary teaching credential across a large public university system. The study compared traditional campus-based, intern, and online credential programs across a 22-campus system using ratings of program preparation by 12,590 graduates after their first year of teaching and by 3,781 principals who supervise them. Although no significant differences were found among principals' ratings of the teachers' preparation, teachers saw large differences with a statistically and clinically significant advantage for the online pathway. Features of the online pathway included a spiraling curriculum, candidates taught in cohorts across all coursework, fieldwork embedded in coursework, and extra mentoring available in addition to the usual university and district supervision.

Clark, J. K., Clark, S. E., & Brey, R. A. (2014). Improving Pre-Service Elementary Teachers' Self-Reported Efficacy for Using the Professional Teacher Standards in Health Education. *Journal of School Health*, 84(7), 459-465. doi:10.1111/josh.12166

ABSTRACT: Background: The effectiveness of health education methods courses for pre-service elementary teachers has not been assessed for improving the pre-service elementary teacher's self-efficacy for using the professional teacher standards in health education (PTSHE). Methods: A quasi-experimental design was used to assess pre-service elementary teachers' self-efficacy toward using the PTSHE. Four institutions whose elementary education programs provide a health education methods course were recruited to participate in the study. Students were recruited to participate and they completed the Pre-service Health Education National Standards Self-efficacy (PHENSS) Scale at the beginning and end of the semester. Data were analyzed using SPSS (version 15) software. Results: A significant increase in the PHENSS Scale scores indicated that a 3-credit health education methods course could improve the pre-service elementary teacher's self-efficacy to use the national standards in their teaching of health education. Further analysis indicated statistically significant improvement of the participants' PHENSS scores in 2 of the 7 standards. Conclusion: Teacher self-efficacy can be a useful measure of the pre-service elementary teachers' ability to use the national standards for health education. The design of the methods course may affect the PHENSS scores.

Daniel, S., & Peercy, M. M. (2014). Expanding Roles: Teacher Educators' Perspectives on Educating English Learners. *Action in Teacher Education*, 36(2), 100-116.

ABSTRACT: Although the underpreparation of teachers to work with English learners is a documented problem in teacher education, little research has addressed teacher educators'



perspectives in guiding prospective teachers to educate English learners. This case study of one 13-month elementary certification program highlights teacher educators' efforts and challenges in providing preservice elementary teachers with opportunities to learn about educating students learning English as an additional language. A key finding is that all teacher educators who participated in this study felt responsible for and made efforts to guide teacher candidates to educate linguistically diverse students in elementary classroom settings, but they did not work toward this goal collectively or cohesively. Implications for integrating preparation of teachers to work with English learners in preservice teacher education, such as distributed leadership among faculty, are discussed.

Darling-Hammond, L. (2014). Strengthening Clinical Preparation: The Holy Grail of Teacher Education. *Peabody Journal of Education, 89*(4), 547-561. doi:10.1080/0161956X.2014.939009

ABSTRACT: Efforts to improve teacher education have recently focused in on the importance of well-supervised clinical practice as a critical element of effective preparation. This article outlines the challenges to creating productive clinical experiences for prospective teachers, and identifies strategies that have been found successful in confronting these challenges. These include the development of professional development school relationships that strengthen practice in partner schools and the use of teacher performance assessments that focus attention on pulling together practical skills and providing feedback to candidates and programs.

Ford, P., & Strawhecker, J. (2011). Co-Teaching Math Content and Math Pedagogy for Elementary Pre-Service Teachers: A Pilot Study. *Issues in the Undergraduate Mathematics Preparation of School Teachers, 2*.

ABSTRACT: With a national need to improve Science, Technology, Engineering and Mathematics Education (STEM), elementary pre-service teachers must be provided with ample opportunities to increase their own knowledge and confidence in STEM disciplines. This article describes a Math Block experience developed for a special population of non-traditional students in an Early Childhood Unified program. The block blended a math content course with a math methods course and was co-taught by a mathematician and teacher educator.

Frey, T. J., Andres, D. K., McKeeman, L. A., & Lane, J. J. (2012). Collaboration by Design: Integrating Core Pedagogical Content and Special Education Methods Courses in a Preservice Secondary Education Program. *The Teacher Educator, 47*(1), 45-66. doi:10.1080/08878730.2011.632473

ABSTRACT: In this article the authors describe a collaboratively designed secondary teacher education program focused on the preparation of preservice general education teachers to work effectively with children who have diverse learning needs in inclusive classrooms. The focus of the article is on the collaborative development and initial evaluation of the program by secondary teacher education faculty and special education faculty. The instructional design emphasized a co-teaching model where principles of Universal Design for Learning and



instructional adaptation were integrated and assessed in multiple courses by collaborating university faculty. Data from the initial evaluation included student teaching portfolios, formal teacher observations, and 6th- through 12th-grade student assessments. The data suggest that preservice teachers appropriately used strategies for adapting their instruction to meet the needs of students with exceptionalities.

Gale, E., Trief, E., & Lengel, J. (2010). The Use of Video Analysis in a Personnel Preparation Program for Teachers of Students Who Are Visually Impaired. *Journal of Visual Impairment & Blindness*, 104(11), 700-704.

ABSTRACT: The article offers information on video analysis in personnel preparation program of teachers for visually impaired students at Hunter College in New York City. It reports that video analysis allows the teachers to review and analyze videos of teaching practices. Hunter College's video analysis of their teaching project is presented where the college's program involves the digital video recordings of the school's graduating students. Tips on establishing video analysis programs are also presented including the choice of camera, video analysis sequence, and the method of offering feedback to students.

Gareis, C. R., & Grant, L. W. (2014). The Efficacy of Training Cooperating Teachers. *Teaching and Teacher Education*, 39, 77-88. doi:10.1016/j.tate.2013.12.007

ABSTRACT: This study investigated outcomes of a clinical faculty training program designed to prepare cooperating teachers for supervising pre-service teachers. Drawing on multiple data sources from more than a decade of implementation, researchers investigated initial outcomes of the program for cooperating teachers, student teachers, and new teachers. Findings suggest that the training resulted in a greater sense of efficacy for aspects of the role and may lead to more effective evaluation practices by clinical faculty and to stronger performances by student teachers. The lack of other significant results may have implications for policies related to the evaluation of teacher preparation programs.

Harlow, D. B. (2012). The Excitement and Wonder of Teaching Science: What Pre-service Teachers Learn from Facilitating Family Science Night Centers. *Journal of Science Teacher Education*, 23(2), 199-220. doi:10.1007/s10972-012-9264-5

ABSTRACT: In this study, pre-service teachers facilitated stations at a family science night as a context to learn to identify, assess, and use children's science ideas. Assessment is already difficult in K-12 classrooms. Assessing learning in informal learning environments adds the complication that participation is largely voluntary. As such, controlling the learners' participation to systematically assess learning is counter to the intents of informal environments. The pre-service teachers in this study experienced success at teaching science and developed understandings about children's science ideas. Data included reflective postings, class discussions, observations, artifacts, and photographs. The findings contribute to



understanding the value of multiple learning contexts in teacher preparation and lead to implications about leveraging informal science contexts for educating teachers.

Kennedy, M. J., Hart, J. E., & Kellems, R. O. (2011). Using Enhanced Podcasts to Augment Limited Instructional Time in Teacher Preparation. *Teacher Education and Special Education: The Journal of the Teacher Education Division of the Council for Exceptional Children*, 34(2), 87-105. doi:10.1177/0888406410376203

ABSTRACT: Teacher education programs are limited in terms of available face-to-face instructional time for preparing general education teacher candidates to work with students with exceptionalities. Given this constraint, developing innovative use of technologies may assist in meeting the demand for highly qualified teachers for such students. In this research study, enhanced podcasts (images displayed in time with audio) were produced using Mayer's cognitive theory of multimedia learning to deliver selected uncovered course content. Two randomly assigned groups of undergraduate teacher education candidates interacted with either audio podcasts or enhanced podcasts across two experiments. Researchers measured recall and higher order application ability of students to determine which podcast method resulted in higher scores. Participants interacting with the enhanced podcasts outperformed their audio-only counterparts on three of four measures of recall and application. Implications for teacher education programming regarding how to better prepare general education teachers to meet the needs of students with disabilities by utilizing this type of technology will be described.

Kincaid, M., & Keiser, N. (2014). Using a Monitoring Process to Effectively Assist Struggling Pre-Service Teacher Candidates. *Critical Questions in Education*, 5(2), 93-111.

ABSTRACT: A critical issue in teacher preparation today is that some candidates meet the criteria for admission to teacher education programs yet they struggle or fail to develop the levels of knowledge, skills, and/or dispositions required to complete the program. This article offers three different case studies to examine the monitoring process developed by one teacher preparation program to identify such students and provide effective interventions.

Kirchhoff, A., & Lawrenz, F. (2011). The Use of Grounded Theory to Investigate the Role of Teacher Education on STEM Teachers' Career Paths in High-Need Schools. *Journal of Teacher Education*, 62(3), 246-259. doi:10.1177/0022487110397840

ABSTRACT: An inductive grounded theory approach was used to investigate the role of teacher education on the career paths of 38 Noyce scholarship recipients ("scholars"), most of whom were teaching in high-need schools. The emergent research design was guided by the initial research question: "What are Noyce scholars' reasons for the decisions made on the career paths of becoming and remaining teachers in high-need schools?" In-depth interviews were conducted and analyzed, resulting in a theoretical model of their career paths that revealed that



some components of teacher education played a role in the scholars' career paths. Specifically, the role of teacher education programs in providing ongoing support and specific preparation for high-need settings was influential on the scholars' career paths.

Kubitskey, B., Rutherford, S., Wylo, B., & Liggitt, P. (2011). The Accreditation Process for Science: The Path Leads to Unintended (Positive) Consequences. *Journal of College Science Teaching, 41*(1), 46-53.

ABSTRACT: In this paper, we discuss how a community of scholars came together to create assessments across science departments for the initial teacher preparation program in secondary science teaching. The steps of the process taken to meet accreditation standards are described, as well as some surprising findings from our road trip down the path of "continuous improvement." In particular, we demonstrate how preparation for the assessment process not only can influence the rigor of a program, but also can facilitate the development of professional learning communities among college faculty. The community we created provides a space for the growth of the program as well as for the professionals who maintain and hold that space.

Lohfink, G., Morales, A., Shroyer, G., Yahnke, S., & Hernandez, C. (2011). A Distance-Delivered Teacher Education Program for Rural Culturally and Linguistically Diverse Teacher Candidates. *Rural Educator, 33*(1), 25-36.

ABSTRACT: This article describes a collaborative, distance-delivered, teacher preparation program for rural, culturally and linguistically diverse (CLD) teacher candidates. Multiple institutions partnered with one university in order to diversify the teaching force in the region and meet the needs of CLD students living there. In describing the program's design and implementation phases, a focus on cultural responsiveness to the candidates' needs, their rural settings, and high populations of Latino/a students in the rural areas in which they were trained is presented. Assessment of each implementation phase guided program practice for the participants' training as effective teachers. Relevant discussion indicates that even with responses to the pre-service teachers' academic, social, and financial needs, issues of communication and barriers imposed by distances emerged. Additionally, while collaborative bonds among the partner institutions facilitated the candidates' training as effective teachers, the building of multi-institutional partnerships concurrently with the implementation phases caused participants and implementers stress.

Machado, C. (2012). ISLLC/ELCC Standards Implementation: Do Educational Administration Faculty Practice What They Preach? *International Journal of Educational Leadership Preparation, 7*(2).

ABSTRACT: Both the 1996 Interstate School Leadership Licensure Consortium (ISLLC) standards and the 2002 Educational Leadership Constituent Council (ELCC) standards, adopted by preparation programs nationwide have a strong emphasis on democratic ideals. By aligning their programs with these standards education administration faculty have taken a step in the right



direction. This paper, as part of a larger mixed method study examines the degree to which faculty's perception of the change environment, the attitudes and dispositions they exhibited during the implementation process, and their choice of program-standard alignment strategies reflected the democratic ideals they wish to instill in graduates of their programs. The findings of this study confirm that a collaborative, collegial atmosphere prevailed. While the attitudes and dispositions that faculty exhibited demonstrated democratic ideals, this was not always evident from their choice of strategies. Much of the work was done by faculty, or by committees comprised primarily by faculty. Group differences were observed in strategies used and found to be beneficial, when compared across accreditation and Carnegie classification status. To ensure that the program modification process is both democratic and inclusive, faculty should adopt a more proactive approach in engaging graduates of the program, current graduate students, superintendents, principals, and teachers in the actual process of program review, evaluation, and development.

Mahon, J., Bryant, B., Brown, B., & Kim, M. (2010). Using Second Life to Enhance Classroom Management Practice in Teacher Education. *Educational Media International*, 47(2), 121-134. doi:10.1080/09523987.2010.492677

ABSTRACT: The following article discusses an educational simulation created within Second Life (SL) in order to assist pre-service teachers (PSTs) in gaining more experience managing student behavior. The article discusses the development, implementation, and assessment of the simulation as well as student data on the feasibility of the approach in comparison to other methods of learning classroom management. It includes discussion of the use of artificial intelligence (AI) methods to infuse the simulation with random student behavior, much as it would arise in the classroom. Results indicated that the students found the simulation to be a useful learning experience and put them in situations that forced them to think on their feet. Recommendations for future work with the simulation and for others considering the use of SL for educational purposes are discussed.

McPherson, R., Tyler-Wood, T., McEnturff Ellison, A., & Peak, P. (2011). Using a Computerized Classroom Simulation to Prepare Pre-Service Teachers. *Journal of Technology & Teacher Education*, 19(1), 93-110.

ABSTRACT: This study at a large midwestern university evaluated the use of a web-based simulated classroom, simSchool, with pre-service and in-service special education students, to determine if use of the simulated classroom influences students' perceptions of inclusion and teacher preparation. The project used a nonequivalent comparison group, quasi-experimental design. The Effective Inclusion Instrument and Teacher Preparation Survey were used to gather research data. The primary purpose of this study was to examine the effectiveness of simSchool in improving participants' scores in teacher preparation and attitudes toward inclusion. Additionally, data were collected regarding the instructional delivery method of the simulation training, comparing face-to-face training sessions with watching online videos. Findings revealed



that students who participated in the teaching simulation scored higher on the teacher preparation survey and valued simulations and computer games more.

Rohr, J., & He, Y. (2010). Preservice Teachers and Parents: Using a Reading Course to Change Perceptions and Practice. *Educational Studies, 36*(1), 35-45. doi:10.1080/03055690903148530

ABSTRACT: The authors sought to understand preservice teachers' views about parents of students who struggle with reading and about their own preparedness to deal with such parents. Research, including surveys, student evaluation and tutoring intervention, indicates that before their work with parents and students, preservice teachers held strong beliefs about parents' role and responsibilities with respect to their children who find reading daunting. After a semester-long reading course which provided opportunities to work with struggling readers and their parents, the preservice teachers in this study expressed beliefs that were contrary to the ones they offered at the beginning of the course.

Roosevelt, G. (2011). Values Added: The Uses of Educational Philosophies in an Accelerated Teacher Training Program. *Educational Studies, 47*(6), 545-560. doi:10.1080/00131946.2011.621074

ABSTRACT: In this article I report on the ways that an educational philosophies course in a performance-based program enables teacher candidates to identify, reflect upon, and evaluate a wide range of educational purposes. The context for the report is an accelerated graduate program in childhood education at a small urban college where intensive fieldwork is required every semester and applied learning is the norm. Using teacher candidates' reactions to selected texts in the history of educational thought as evidence, I aim to show that an encounter with provocative foundational ideas can promote effective value-formation and reflective analysis of educational practice. Reprinted by permission of the publisher.

Santagata, R., & Angelici, G. (2010). Studying the Impact of the Lesson Analysis Framework on Preservice Teachers' Abilities to Reflect on Videos of Classroom Teaching. *Journal of Teacher Education, 61*(4), 339-349. doi:10.1177/0022487110369555

ABSTRACT: This study investigates the impact of an observation framework on preservice teachers' abilities to engage in productive video-based reflections on mathematics teaching. The Lesson Analysis Framework draws from research on expert—novice teacher differences. Its central element is the analysis of the impact of teachers' instructional decisions on students' learning of mathematics. Through an experimental design, the effects of this framework on preservice teachers' abilities to reflect on teaching are compared to the effects of an alternative framework focused on the evaluation of separate elements of instruction. Findings suggest that the Lesson Analysis Framework facilitates preservice teachers' learning to elaborate on what they observe and to propose alternative teaching strategies. In addition, the framework provides a structure for evidence-based evaluation of observed instruction.



Santoyo, C., & Zhang, S. (2016). Secondary Teacher Candidates' Lesson Planning Learning. *Teacher Education Quarterly*, 43(2), 3-27.

ABSTRACT: Teacher candidates (TCs) use clinical experiences to enact concepts taught in their university courses; therefore field experiences may be the most important component of teacher preparation (Hammerness et al., 2005). TCs require support and guidance as they learn to adapt curriculum materials for effective use in the classroom (Davis, 2006). They learn to lesson plan by negotiating the pros and cons of multiple methods while considering the needs of their students, their own knowledge, and their goals (Beyer & Davis, 2009). They tend to consider various ideas when planning (Davis, 2006), but these ideas are often narrow in focus (Beyer & Davis, 2009). Significant research has explored curricular planning by new and prospective teachers (Beyer & Davis, 2009; Courey, Tappe, Siker, & LePage, 2013; Davis, 2006; Jones et al., 2011). However, little research has investigated TCs' lesson planning through a concurrent focus on theories and concepts in a methods course and practices in a school-based context. This study challenges the misconception that methods courses and field experiences are dichotomous. The purpose of this study is to examine how secondary TCs in a general methods course and a school-based field experience learn lesson planning. It provides insight regarding the interactions of the TCs' methods course and first practicum experience. The general research question is, How do TCs' experiences in a concurrent practicum experience and methods course shape their lesson planning practices? The authors investigate the following: (1) How concurrent enrollment influences TCs' planning to use teacher-centered and student centered methods; and (2) How university and school based contexts impact TCs' lesson planning choices.

Shaw, J. M., Lyon, E. G., Stoddart, T., Mosqueda, E., & Menon, P. (2014). Improving Science and Literacy Learning for English Language Learners: Evidence from a Pre-service Teacher Preparation Intervention. *Journal of Science Teacher Education*, 25(5), 621-643. doi:10.1007/s10972-013-9376-6

ABSTRACT: This paper present [sic] findings from a pre-service teacher development project that prepared novice teachers to promote English language and literacy development with inquiry-based science through a modified elementary science methods course and professional development for cooperating teachers. To study the project's impact on student learning, we administered a pre and post assessment to students (N = 191) of nine first year elementary teachers (grades 3 through 6) who experienced the intervention and who taught a common science unit. Preliminary results indicate that (1) student learning improved across all categories (science concepts, writing, and vocabulary)—although the effect varied by category, and (2) English Language Learner (ELL) learning gains were on par with non-ELLs, with differences across proficiency levels for vocabulary gain scores. These results warrant further analyses to understand the extent to which the intervention improved teacher practice and student learning. This study confirms the findings of previous research that the integration of science language and literacy practices can improve ELL achievement in science concepts, writing and



vocabulary. In addition, the study indicates that it is possible to begin to link the practices taught in pre-service teacher preparation to novice teacher practice and student learning outcomes.

Shoffner, M., & Wachter Morris, C. (2010). Preparing Preservice English Teachers and School Counselor Interns for Future Collaboration. *Teaching Education, 21*(2), 185-197. doi:10.1080/10476210903183894

ABSTRACT: The authors believe that by working together, teachers and school counselors can better support students and more effectively work for their success. In this article, we present our efforts in creating a collaborative class for preservice English teachers and school counselor interns. While offering an overview of English teachers and school counselors in their daily interactions with adolescents, we focus on the university preparation of both groups, specifically the preparation at our university, a large research institution in the Midwestern United States. We provide a look at the collaborative class created for the preservice English teachers and school counselor interns, offering examples of their interaction and feedback from the students. Lastly, we close with a consideration of the meaning of such collaboration at the university level for both English teachers and school counselors.

Singer, N. R., Catapano, S., & Huisman, S. (2010). The University's Role in Preparing Teachers for Urban Schools. *Teaching Education, 21*(2), 119-130. doi:10.1080/10476210903215027

ABSTRACT: Many teacher education programs in the United States (US) face increasing demands to better prepare teachers for entry into and retention in urban schools. Through a US Department of Education grant, a university-school partnership was formed to develop a community-based model of teacher preparation that placed pre-service teachers in urban schools for a full year. Based on questionnaires and interviews with university teacher education faculty, and both pre-service and novice classroom teachers who took their first jobs in urban schools, this research considers the common concerns and disparate roles that the three groups considered paramount in preparing new teachers for urban schools.

Stobaugh, R. R., Tassell, J. L., & Norman, A. D. (2010). Improving Preservice Teacher Preparation Through the Teacher Work Sample: Exploring Assessment and Analysis of Student Learning. *Action in Teacher Education, 32*(1), 39-53.

ABSTRACT: This study focuses on the Renaissance Teacher Work Sample's critical sections Assessment Plan and Analysis of Student Learning. Preliminary review of scoring data based on the sample revealed that preservice teachers at a large comprehensive institution teacher program appeared to be most challenged with designing assessments and analyzing student learning, compared to other sections. Further analysis of multiple sources of data related to these skills — including deeper study of the student teacher performance on the sample, student-teaching evaluation proficiency rates, self-reported scores on teacher standards, and Praxis scores — indicated that all intersected with the same theme: relatively low areas for this



institution's preservice teachers in assessment and analysis. Based on these results, institutional efforts to improve student performance in this area are addressed.

Stover, K., Yearta, L. S., & Sease, R. (2014). "Experience Is the Best Tool for Teachers": Blogging to Provide Preservice Educators with Authentic Teaching Opportunities. *Journal of Language and Literacy Education*, 10(2), 99-117.

ABSTRACT: Considering the digital landscape of the 21st century classroom, it is paramount that teacher education programs prepare preservice teachers to incorporate technology into their classrooms to engage in communicative and collaborative acts as readers and writers. This collective case study was conducted to explore what happened when nine preservice teachers, in a literacy methods course at a small liberal arts university, blogged with the fifth graders about a commonly read text. Over a period of 11 weeks, various types of qualitative data including pre-and post-interviews, blog exchanges, and reflective papers completed by the preservice teachers were collected and analyzed. Data analysis procedures included a holistic in-depth exploration of the recurring themes and patterns in the data. The findings revealed that the preservice teachers designed and implemented differentiated instruction as they gained practice engaging the students in real world 21st century reading and writing activities. Additionally, the preservice teachers developed as active readers and writers, which allowed them to foster deeper thinking and metacognition with their elementary pen pals. These findings have important implications for the ways teacher preparation programs consider enriching and meaningful experiences for preservice teachers.

Sun, J., & van Es, E. A. (2015). An Exploratory Study of the Influence That Analyzing Teaching Has on Preservice Teachers' Classroom Practice. *Journal of Teacher Education*, 66(3), 201-214. doi:10.1177/0022487115574103

ABSTRACT: We designed a video-based course to develop preservice teachers' vision of ambitious instruction by decomposing instruction to learn to attend to student thinking and to examine how particular teaching moves influence student learning. In this study, we examine the influence that learning to systematically analyze ambitious pedagogy in the course has on preservice teachers' classroom practice. Analysis of preservice teachers' videos from the Performance Assessment for California Teachers Teaching Event reveals that they engaged in more student-centered practices compared with a cohort of candidates who did not participate in the course—creating opportunities to see student thinking, noticing student thinking during instruction, and pursuing student ideas to learn more about their thinking. We also found that their probing of student thinking focused primarily on correct answers and procedural fluency. These findings have implications for defining a pedagogy of teacher preparation to develop beginning teacher competency.



Swars, S. L. (2015). A Mixed Methods Study of Teach for America Teachers' Mathematical Beliefs, Knowledge, and Classroom Teaching Practices During a Reform-Based University Mathematics Methods Course. *SRATE Journal*, 24(2), 25-39.

ABSTRACT: This mixed methods study examined the mathematical preparation of elementary teachers in a Teach for America (TFA) program, focal participants for whom there is scant extant research. Data collection occurred before and after a university mathematics methods course, with a particular focus on the participants' (n = 22) mathematical beliefs, specialized content knowledge, and classroom teaching practices. Data were collected via two beliefs surveys, a content knowledge instrument, and interviews. The results show the added value of the course and offer considerations for learning experiences during mathematics teacher preparation, some of which are specific to alternative teacher preparation programs such as TFA.

Tal, C. (2010). Case Studies to Deepen Understanding and Enhance Classroom Management Skills in Preschool Teacher Training. *Early Childhood Education Journal*, 38(2), 143-152.
doi:10.1007/s10643-010-0395-z

ABSTRACT: This article adds to the existing body of data that demonstrates how the use of in-depth case studies that include social episode analysis can deepen the teaching students' and researchers' understanding of the perceptions and skills needed for Classroom Management (CM). In this article, CM is defined as a meta-skill that integrates cognitive perceptions (proactive, ecological-systemic, and leadership-oriented), self-regulation skills, and interpersonal relationships with students and colleagues. CM is also perceived as a cyclical process that includes advance planning, implementation, assessment during the implementation, and a final evaluation that takes into account factors related to the children and their environment, intended to bring about progress in the activities carried out for the learning and emotional well-being of the children in the class. Two cases showing opposite positions with regard to social-moral CM were selected from 34 cases documented by second-year, 4-year-track, preservice teaching students enrolled in a CM course in Israel in the spring of 2008. One case shows how, guided by the desire to ensure a child's well-being, a student developed perceptions and skills related to all components of the CM theoretical framework. The other case shows how opportunities were missed to learn and develop a social-moral, complex, CM perception. Based on an analysis of the two cases, the discussion examines the usefulness of case studies in teacher training and offers insights related to improved teacher training.

Taliaferro, A. R., Hammond, L., & Wyant, K. (2015). Preservice Physical Educators' Self-Efficacy Beliefs Toward Inclusion: The Impact of Coursework and Practicum. *Adapted Physical Activity Quarterly*, 32(1), 49-67. doi:10.1123/apaq.2013-0112

ABSTRACT: The purpose of this study was to investigate the effect of completion of an adapted physical education (APE) course with an associated on-campus practicum on preservice physical educators' self-efficacy beliefs toward the inclusion of individuals with specific disabilities



(autism, intellectual disabilities, physical disabilities, and visual impairments). Preservice students in physical education teacher education (N = 98) at a large U.S. Midwestern university enrolled in 1 of 2 separate 15-wk APE courses with an associated 9-wk practicum experience were surveyed at the beginning, middle, and conclusion of each course. Results of 4 separate 2-factor fixed-effect split-plot ANOVAs revealed significant improvements in self-efficacy beliefs from Wk 1 to Wk 8 and from Wk 1 to Wk 15 across all disability categories. Significant differences between courses were found only for autism in Time 1.

Tamir, E. (2010). The Retention Question in Context-Specific Teacher Education: Do Beginning Teachers and Their Program Leaders See Teachers' Future Career Eye to Eye. *Teaching and Teacher Education, 26*(3), 665-678. doi:10.1016/j.tate.2009.10.002

ABSTRACT: This paper discusses the challenge of retaining teachers in hard-to-staff schools by examining how it is addressed in three context specific teacher education programs, which prepare teachers to teach in urban public, urban Catholic, and Jewish Day Schools in U.S.A. The findings of this study suggest that counter to teaching force trends teachers from the three programs that we studied expressed high motivation to serve as teachers or leaders in their particular schools and communities. In particular, we found that teachers' career commitments developed around the religious or civic missions promoted by their respective programs. Finally, teachers' career perceptions seem to correlate, though not entirely match, with those of their program leaders.

Taylor, R. W., & Ringlaben, R. P. (2012). Impacting Pre-Service Teachers' Attitudes toward Inclusion. *Higher Education Studies, 2*(3), 16-23.

ABSTRACT: Despite federal mandates to educate students with disabilities in the least restrictive environment, teachers continue to have mixed feelings about their own preparedness to educate students with disabilities in the general education setting. However, research has documented that teachers with more positive attitudes toward inclusion are more likely to adjust their instruction and curriculum to meet individual needs of students and have a more positive approach to inclusion. With inclusion becoming the norm in today's schools, teacher educators are now faced with the challenge of making significant changes to educational programs in preparing pre-service teachers to be ready to meet the needs of all students. These programmatic changes mirror the continuous melding transformations in progress now in traditional general education and special education programs. However, there is limited information about how these new teacher educator programs influence pre-service teachers' confidence or attitudes toward inclusive education as future teachers. To investigate this influence of teacher preparation programs on pre-service teachers' attitudes toward inclusion, a survey method was used to collect data from pre-service teachers in one teacher-preparation program. The responses from pre-service teachers were analyzed indicating that pre-service teachers from this particular teacher preparation program in which general education curricula were infused with special education curricula in special education survey courses had improved



positive attitudes and confidence toward inclusion. The implications of this study for practice and future research are discussed.

Thomas, J. (2011). Preservice Teachers' Perceptions of Learning Science Methods Through Hybridizing Asynchronous and Traditional Experiences. *Contemporary Issues in Technology & Teacher Education*, 11(3), 271-281.

ABSTRACT: This study addresses preservice teachers' perceptions toward online experiences, specifically, their perceptions about utilizing an online science methods curriculum versus a traditional methods curriculum. Thirty-eight senior level preservice teachers at a midwestern U.S. university completed surveys about their experiences during their methods course that included a module for online content learning, videos of fourth- and fifth-grade elementary student in situ learning, and exploration of pedagogical skills embedded in an electricity module. Survey and focus group data indicate that the preservice teachers valued and wanted more online experiences, but not as a total replacement of traditional methods experiences. Teacher education preparation programs must identify with and address preservice teacher expectations about the value placed upon online experiences. Specifically, online experiences can help focus instruction and enhance student interaction about life in an elementary classroom. Implications of this study help address professional movements for incorporating online experiences for in-service K-12 teachers and schools.

Welton, E., & Vakil, S. (2010). Enhancing the Development of Dispositions in Pre-Service Teacher Preparation Programs. *Revista de Psihologie*, 56(3-4), 261-268.

ABSTRACT: As inclusive practices have become more widespread, it is necessary for all educators to have knowledge and skills in the area of special education so that the needs of all students were met in the classrooms. Therefore many universities across the United States added a course about disabilities/special education into their curriculum requirements for all education students. Currently, the University of Akron requires all teacher preparation candidates to complete an introductory course in special education to better prepare them to meet the needs of individuals with disabilities in the classroom. This article presents a unique approach by including an individual with autism to present to the class his experiences in school. The first hand interactions with this presenter has proven to be among the most effective methods for establishing positive dispositions while dispelling many of the stereotypes, which the university students may have regarding this population.

Wold, L. S., Young, J. R., & Risko, V. J. (2011). Qualities of Influential Literacy Teacher Educators. *Literacy Research and Instruction*, 50(2), 156-172. doi:10.1080/19388071003746388

ABSTRACT: An online survey of award-winning literacy teachers was conducted to determine the most influential qualities of literacy teacher educators in teacher preparation programs. Sixty-two recipients of literacy awards participated in the study, representing teachers of excellence



from all U.S. geographic regions. Using a backward mapping process, teachers identified a literacy teacher educator who most influenced their own teaching and responded to the online survey (Qualities of Influential Literacy Teacher Educators) about the named educator. Half of the survey participants were interviewed to provide clarification of survey ratings about the influential educator. Findings derived from three triangulated data sources reveal consensus that mentoring is most influential, followed by qualities related to teaching. Research qualities appear to be least influential in teacher preparation.

Wood, A. L., & Lewis, J. L. (2010). Recruiting, Retaining, and Preparing Quality Urban Teachers: The Urban Learning Program (ULRN). *Journal of College Student Retention: Research, Theory & Practice*, 12(3), 353-377. doi:10.2190/CS.12.3.f

ABSTRACT: This study's goals were to describe an urban, blended undergraduate/teacher preparation program and to assess its effectiveness in recruiting, retaining, and preparing diverse teachers to teach in urban schools. Methods used included a 43-item, on-line survey and semi-structured interviews. One hundred nine undergraduates (68%) responded to the survey which was analyzed using descriptive statistics and regression models. Findings show that the cohort system, high-level outside support, and effective faculty advisement contributed to the retention and success of these predominantly first-generation college students. Cohorts were particularly effective for academically struggling students, unrepresented minorities, and students whose native language was not English.

Wood, M. B., & Turner, E. E. (2015). Bringing the Teacher into Teacher Preparation: Learning from Mentor Teachers in Joint Methods Activities. *Journal of Mathematics Teacher Education*, 18(1), 27-51. doi:10.1007/s10857-014-9269-4

ABSTRACT: Studies of mathematics teacher preparation frequently lament the divide between the more theoretically based university methods course and the practically grounded classroom field experience. In many instances, attempts to mediate this gap involve creating hybrid or third spaces, which seek to dissipate the differences in knowledge status as individuals from the university and from K-12 classrooms work together in support of prospective teacher (PST) learning. However, what is missing in the literature on these third-space enactments is an exploration of the contributions of different contexts (i.e., methods and the field) to PST learning and an articulation of the synergistic knowledge arising in the third space. This exploratory study draws on Lampert's three-pronged teacher-child-content model to examine the possible contributions of elementary mentor teachers (MTs) to the learning-to-teach-mathematics experiences of PSTs. More specifically, we focus on a third-space learning context in which university-based teacher educators, MTs, and PSTs collaborated to conduct and analyze task-based problem-solving interviews of elementary children. Our analysis identified ways that MTs could potentially enhanced the learning-to-teach context as well as moments when MTs' contributions introduced problematic ideas about children and teaching. Finally, we explore the



benefits and complexities of leveraging these MT contributions to create a third-space learning opportunity.

Yao, Y., & Williams, W. (2010). A Comparison of Three Teacher Preparation Programs in Terms of Their Impact on Teacher Competencies. *Action in Teacher Education*, 32(3), 15-24.

ABSTRACT: This study compared the effectiveness of three teacher education programs in terms of their impact on teacher competencies. The programs include a traditional 4-year teacher certification program, an alternative certification-based master of arts in teaching program, and an alternative certification program without the master degree option. The teachers held positive views of the impact of the programs on their teaching competencies, with no significant difference found among the programs or between program candidates and completers. The teachers' employers favorably rated their teachers' competencies. The highest ratings were given to alternative certification completers, and the lowest, to alternative certification candidates. Implications of the study are discussed.

6. Instructional Technology

Alexander, C., Knezek, G., Christensen, R., Tyler-Wood, T., & Bull, G. (2014). The Impact of Project-Based Learning on Pre-Service Teachers' Technology Attitudes and Skills. *Journal of Computers in Mathematics and Science Teaching*, 33(3), 257-282.

ABSTRACT: Researchers in this study looked at the effect of content-specific, technology-rich project-based learning activities on EC-8 pre-service teachers' competencies and skills, as well as pre-service teacher's attitudes toward science, technology, engineering and mathematics (STEM). Researchers employed a quantitative design involving participants in two sections of a required technology integration class which served as part of a teacher preparation sequence. Data were collected using the STEM Semantic Survey, Technology Proficiency Self-Assessment questionnaire, and Stages of Adoption of Technology in Education questionnaire at the beginning and end of the Fall 2011 semester. The findings provide evidence of changes in attitudes and skills of the pre-service educators after participating in the course. A specific focus is explored on the emerging relationships between STEM dispositions and technology integration competencies. Applications of these findings and directions for future studies are discussed.

An, H., Wilder, H., & Lim, K. (2011). Preparing Elementary Pre-Service Teachers from a Non-Traditional Student Population to Teach with Technology. *Computers in the Schools*, 28(2), 170-193. doi:10.1080/07380569.2011.577888

ABSTRACT: This article documents the development of a two-stage curriculum intended to improve elementary teacher candidates' understanding of technology integration. Most students in the program came from low-income districts and lacked technology experience. The



first stage of the curriculum consisted of a prerequisite basic technology skills course offered by the Computer Science Department. This was then followed by an online educational technology course offered by the College of Education. The objectives of the authors in this article are twofold. The first is to describe the rationale, procedures, and design of a two-stage curriculum, as a pedagogical model for teaching elementary teacher candidates to teach with technology, with the goal of preparing a new generation of teachers who are capable and comfortable applying a broad range of advanced technologies to meet the learning needs of their students. The second objective is to share the authors' findings from the evaluation, which employed mixed methodologies, after the students completed the online educational technology course. The results showed that an online educational technology course contributed to the candidates' development of Technological Pedagogical Content Knowledge and improved their attitudes and beliefs on their technology integration practices.

Beare, P., Torgerson, C., Marshall, J., Tracz, S., & Chiero, R. (2013). Surveys of Teacher Education Graduates and Their Principals: The Value of the Data for Program Improvement. *Teacher Education Quarterly*, 40(3), 143-161.

ABSTRACT: The article focuses on the U.S. Department of Education's (USDOE) plan for improving teacher education reform as described in its publication "Our Future, Our Teachers." It presents several surveys such as Teacher Preparation Assessment conducted by California State University (CSU) in order to quantify the effectiveness of the program and also inform about overall program quality. It mentions that the survey of program graduates is highly sensitive to reflect programmatic improvement.

Bell, R. L., Maeng, J. L., & Binns, I. C. (2013). Learning in Context: Technology Integration in a Teacher Preparation Program Informed by Situated Learning Theory. *Journal of Research in Science Teaching*, 50(3), 348-379. doi:10.1002/tea.21075

ABSTRACT: This investigation explores the effectiveness of a teacher preparation program aligned with situated learning theory on preservice science teachers' use of technology during their student teaching experiences. Participants included 26 preservice science teachers enrolled in a 2-year Master of Teaching program. A specific program goal was to prepare teachers to use technology to support reform-based science instruction. To this end, the program integrated technology instruction across five courses and situated this instruction within the context of learning and teaching science. A variety of data sources were used to characterize the participants' intentions and instructional practices, including classroom observations, lesson plans, interviews, and written reflections. Data analysis followed a constant comparative process with the goal of describing if, how, and why the participants integrated technology into their instruction and the extent to which they applied, adapted, and innovated upon what they learned in the science teacher preparation program. Results indicate that all participants used technology throughout their student teaching for reform-based science instruction. Additionally, they used digital images, videos, animations, and simulations to teach



process skills, support inquiry instruction, and to enhance student engagement in ways that represented application, adaptation, and innovation upon what they learned in the science teaching methods program. Participants cited several features of the science teacher preparation program that helped them to effectively integrate technology into their instruction. These included participating in science lessons in which technology was modeled in the context of specific instructional approaches, collaborating with peers, and opportunities for feedback and reflection after teaching lessons. The findings of this study suggest that situated learning theory may provide an effective structure for preparing preservice teachers to integrate technology in ways that support reform-based instruction.

Kimmons, R., Miller, B. G., Amador, J., Desjardins, C. D., & Hall, C. (2015). Technology Integration Coursework and Finding Meaning in Pre-Service Teachers' Reflective Practice. *Educational Technology Research and Development, 63*(6), 809-829. doi:10.1007/s11423-015-9394-5

ABSTRACT: This study seeks to inform teacher preparation programs regarding technology integration by understanding (1) relationships between tasks with specific technologies and pre-service teachers' critical thinking about technology integration and (2) relationships between how pre-service teachers are critically thinking about technology integration and their self-assessed competence in technology integration. A mixed methods research design was employed, which gathered survey and performance task reflection data from pre-service teachers in four sections of a technology for teaching course. Data were analyzed using a process that categorized pre-service teacher thinking about technology integration in accordance with the replacement, amplification, and transformation model of technology integration. Results revealed that there was a significant overall effect of the selection of performance task upon whether it was applied in a transformative manner, but that no such overall effect existed for amplification and replacement. Examining the data descriptively, pre-service teachers generally exhibited a high level of amplification in how they applied technology in their thinking and rarely referred to technology use that did not show some clear benefits in their classrooms (i.e. replacement). Results also showed that there was no relationship between how students were thinking about technology integration and their self-assessment of technology integration competence. These results suggest that the types of performance tasks we used only had an impact on how pre-service teachers applied their understanding of technology integration in their educational contexts for transformative use cases. We also conclude that pre-service teachers' self-assessments of competence are likely based upon technical fluency rather than thoughtful application toward classroom outcomes.

Lambert, J., Gong, Y., & Cuper, P. (2008). Technology, Transfer, and Teaching: The Impact of a Single Technology Course on Preservice Teachers' Computer Attitudes and Ability. *Journal of Technology and Teacher Education, 16*(4), 385-410.

ABSTRACT: Research on the impact of technology integration in colleges of education is often conflicting and rarely evaluated well. It therefore remains unclear which strategies are most



effective for integrating technology in a teacher preparation program and how those strategies should be delivered over time. To better understand the effectiveness of particular strategies, researchers must begin by formally analyzing personal differences in preservice teachers' attitudes and abilities that may play a role in technology-related learning. This article reports on a year-long study conducted to explore the relationships between 62 preservice teachers' perceived computer ability and attitudes toward computers; two factors most associated with resistance to computers; and the impact of a single technology course on these variables. Utilizing a pretest posttest group design, statistical analyses indicated that a single course greatly impacts perceived computer ability but not general computer attitudes; that course instruction as well as prior technology experience has a significant influence on preservice teachers' ability to understand the usefulness of integrating technology in the classroom, and that student outcomes are strongly related to the use of particular instructional strategies that accommodate widely varying experience levels in learners.

Lewis, V. K., Shaha, S. H., Farnsworth, B. J., Benson, L. F., & Bahr, D. L. (2003). The Use of Assessment in Improving Technology-Based Instruction Programs. *Journal of Instructional Psychology, 30*(2), 110-119.

ABSTRACT: A college-based teacher preparation program undertook a grant-supported evaluation of its' [sic] curriculum focused on preparing teacher candidates for integrating technology into instruction. The project employed a pre-posttest design, including the use of the 54-item Educator's Knowledge and Implementation of Technology instrument (EKIT), which provides information regarding technology-related capabilities summarized in five area subscores and a total score. Results of the study substantiated the usefulness of such instrumentation in a pre-posttest design for evaluating program impact on students, and for prioritizing areas for continuous program improvement based on low achievement and unsustained growth. Conclusions clearly establish the power of the pre-posttest design for the evaluation and continuous improvement of teacher training programs.

Ottenbreit-Leftwich, A. T., Brush, T. A., Strycker, J., Gronseth, S., Roman, T., Abaci, S., . . . Plucker, J. (2012). Preparation Versus Practice: How Do Teacher Education Programs and Practicing Teachers Align in Their Use of Technology to Support Teaching and Learning? *Computers & Education, 59*(2), 399-411. doi:10.1016/j.compedu.2012.01.014

ABSTRACT: Researchers have called for renewed efforts in exploring both what knowledge should be taught in preservice teacher education programs with regard to technology, and how to best prepare teachers to effectively use that knowledge to support teaching and learning. This study compared the importance of technology topics from teacher educators and teachers' perspectives. A two-phase mixed-methods research design utilized surveys and multiple case studies (interviews, documents) to collect data from both teacher educators and practicing teachers. Findings indicate that teachers and teacher educators demonstrated similarities in their views regarding the use of technology for personal productivity, information presentation,



and the access and use of electronic resources to support teaching and learning. Teacher educators and teachers differed with regard to their use of technology for communication, analysis of student data, documenting professional growth, and facilitating higher-order thinking skills. Recommendations for how teacher education programs can incorporate and address technology topics in order to increase relevance for teachers are discussed.

Thomas, T., Herring, M., Redmond, P., & Smaldino, S. (2013). Leading Change and Innovation in Teacher Preparation: A Blueprint for Developing TPACK Ready Teacher Candidates. *TechTrends: Linking Research & Practice to Improve Learning*, 57(5), 55-63. doi:10.1007/s11528-013-0692-7

ABSTRACT: When preparing TPACK ready teacher candidates, faculty must incorporate and model TPACK within the teacher education curriculum, which often requires an ongoing change process. But for change to take place we must consider the role leadership plays in the innovation of change. Leaders, deans and department heads must be an integral part of this process. The challenge for innovation, change and education technology leaders is to transform teacher preparation programs into fully realized TPACK environments and determine the necessary learning opportunities and support necessary to motivate college leaders and faculty to fully embrace the change process. This article outlines a collaborative ongoing process and blueprint that leaders should consider as they make plans for the effective integration of TPACK into their colleges. "Tomorrow's teachers must be prepared to rethink, unlearn and relearn, change, revise, and adapt" (Niess, 2008, p.225). Leaders, deans and department heads must be an integral part of this process if it is to be successful. While technology can support changes in how teacher educators teach and future teachers learn to teach (Dilworth et al., 2012), teaching with technology is a "wicked problem" in that it has "incomplete, contradictory and changing requirements" (Koehler & Mishra, 2008, p.10). New and innovative ways of confronting this complexity must address core knowledge base components that include content, pedagogy, and technology. These components have been used as the foundation for a "technology, pedagogy, and content knowledge (TPACK)" framework known as technological pedagogical content knowledge, or TPCK (AACTE, 2008; Koehler & Mishra, 2008; Mishra & Koehler, 2006; Pierson, 1999). But what is the role of "leaders" where TPACK based processes are being implemented in university teacher preparation programs? Educational technology leaders often approach models for teacher preparation in collectives that examine them iteratively. The 2012 National Technology Leadership Summit brought together the American Association of Colleges for Teacher Education (AACTE) and its Innovation and Technology Committee. Representatives from college administrations met and examined leadership issues facing deans, directors and chairs as they work to support college-wide change facilitating faculty and teacher candidates in the task of becoming TPACK proficient. This work built upon a CITE (Contemporary Issues in Technology and Teacher Education) journal editorial focused on initial conversations around leadership needs for effective TPACK implementation (Dexter, Herring, & Thomas, 2012). A presentation at AACTE 2013 extended this work with teacher preparation and education technology leaders sharing "what worked" in their colleges around these processes. A panel presentation at the 2013 Society for Information Technology and Teacher Education (SITE)



Conference also shared insights into a blueprint for key areas that leaders should consider as they make plans for the effective integration of TPACK into their colleges as well as several implementation case studies. This article compiles this iterative work from a leadership perspective. While the challenge is to transform teacher preparation programs into fully realized TPACK environments, leadership becomes the key in developing new ways of confronting this complex issue that must address core knowledge base components inclusive of content, pedagogy and technology. To accomplish this task, faculty are faced with incorporating modeling these ideas within a teacher education curriculum in concert with ongoing change processes. A solid understanding of the interactions of these components can result in effective teaching with technology in varied and diverse settings; but the critical role of leadership in making such changes must first be considered. The critical features of a “blueprint for leaders” is based upon the work of Leithwood and colleagues’ framework comprised of three key leadership functions associated with improved student outcomes (Day, Sammons, Leithwood, Kington, 2008; Leithwood, Harris & Hopkins, 2008; Leithwood & Jantzi, 2008; Leithwood & Riehl, 2003). The three major component [sic] of the Leithwood “transformational leadership” model are: (1) Building vision and setting direction (2) Developing people through understanding people and (3) Developing the organization through redesigning it. Leithwood, Begley and Cousins (1994) define transformational leadership as follows: The term “transform” implies major changes in the form, nature, function and/or potential of some phenomenon; applied to leadership, it specifies general ends to be pursued although it is largely mute with respect to means. From this beginning, we consider the central purpose of transformational leadership to be the enhancement of the individual and collective problem-solving capacities of organizational members; such capacities are exercised in the identification of goals to be achieved and practices to be used in their achievement (p. 7). Transformational leaders can create significant change in both followers and the organization with which they are associated (Griffin, 2003). Transformational leaders also find common ground that allows them to enlist followers in processes of change. Fullan (2010) finds that for true reform to take place, resolute leadership that remains focused is critical when new ideas encounter serious difficulty, thereby sustaining and building on success. To achieve this task and create significant “change,” transformational education leaders realize that true technology integration means understanding and negotiating the relationships between the three components of knowledge and going beyond a “business” organizational model to create change in teacher preparation programs. Too often organizations start down the road to change without being clear on key factors that influence the outcomes of the initiative. “Deans and educational leaders” must develop a model for change based upon both the organizational culture and the environments they need a set of resources to help and guide them to integrate a framework like TPACK. Through ongoing collaboration and discussion the focus has been around the development of a leadership module which would help leaders establish a vision and set a direction for addressing TPACK. The purpose of a “leadership module” would be to provide Deans and other educational leaders with the tools they need for full-scale implementation and motivate them to redesign their programs while continuing to improve and sustain a developing/changing curriculum.



7. Special Education

Conderman, G., Johnston-Rodriguez, S., Hartman, P., & Kemp, D. (2013b). Preparing Preservice Secondary Special Educators. *Preventing School Failure, 57*(4), 196-205.
doi:10.1080/1045988X.2012.679326

ABSTRACT: Through a mixed-methods study, teacher education faculty members investigated the implementation of a new block of courses and an associated secondary clinical experience designed to prepare preservice secondary special educators. Seventy-three preservice candidates (a) completed then-and-now surveys assessing their confidence implementing 25 competencies, (b) submitted clinical-based artifacts, and (c) reflected on their clinical experience. They reported greater confidence in all skills; completed co-teaching, transition, and strategy-based projects with more than 90% accuracy; and indicated greater understanding of the roles assumed by secondary special educators. Results support recommendations by the National Council for Accreditation of Teacher Education for developing closer connections between methods courses and clinical experiences and greater collaboration between university and school faculty.

Copeland, S. R., Keefe, E. B., Calhoun, A. J., Tanner, W., & Park, S. (2011). Preparing Teachers to Provide Literacy Instruction to All Students: Faculty Experiences and Perceptions. *Research & Practice for Persons with Severe Disabilities, 36*(3/4), 126-141.

ABSTRACT: Although there is an increased focus on reading instruction in schools, little is known about how teachers of students with extensive support needs are prepared to provide literacy instruction for this group of students. This paper reports the results of an exploratory study of how literary instruction is addressed within teacher education programs at institutions of higher education that prepare preservice and inservice teachers to work with students with extensive support needs. We conducted telephone interviews with nine teacher educators in university programs across the country that prepare special educators, asking about their experiences and perceptions of what works well and what presents difficulty in preparing teachers to effectively teach literacy skills to students with significant disability, what additional research and practice knowledge is needed in this area, and how they view literacy instruction for students with extensive support needs fitting into the current national debate on reading instruction methodology. Content analysis of respondents' interviews yielded three broad themes that we describe and discuss: challenges, changes, and future directions for the field. We explore the implications of the study's findings for teacher preparation programs and directions for future research.

Johnson, E. S. (2015). Increasing Rural Special Education Teacher Candidates' Ability to Implement Evidence-Based Practices: A Program Description of the Boise State University TATERS Program. *Rural Special Education Quarterly, 34*(1), 5-9.



ABSTRACT: The Technology Accentuated Teacher Education for Rural Specialists (TATERS) program aimed to: (a) prepare highly qualified special education teachers across a state comprised of more than 70% rural districts, (b) develop a system of support through a mentor network and institutions of higher education collaboration to address the needs of teacher candidates in rural areas, (c) ground special education teachers in the use of evidence-based practices to improve the instructional services that students with disabilities in Idaho receive, and (d) develop a mechanism to evaluate and provide feedback on teacher candidates' implementation of evidence-based practices. This article describes the application of a special education teacher evaluation system to a teacher preparation program designed to improve special education teachers' ability to implement evidence-based practices for students with disabilities in rural areas. Key program components are described and future directions for continuous improvement are highlighted.

King-Sears, M. E., Carran, D. T., Dammann, S. N., & Arter, P. S. (2012). Multi-Site Analyses of Special Education and General Education Student Teachers' Skill Ratings for Working with Students with Disabilities. *Teacher Education Quarterly*, 39(2), 131-149.

ABSTRACT: In this study, the researchers examined self-ratings from special and general education teacher candidates engaged in their culminating instructional activity prior to graduation: student teaching. Acquiring data at the end of the student teaching experience was targeted because student teaching is when teacher candidates apply the knowledge and use the skills they learned in courses. Moreover, student teaching can be the time when student teachers' self-efficacy beliefs evolve, especially pertaining to teaching students with disabilities. This timing of data collection provides teacher preparation programs a unique lens from which to more methodically assess programmatic strengths and areas to improve. Three research questions guided this examination: (1) Are there differences between skill self-ratings of student teachers in general education and special education programs?; (2) Are there differences between skill self-ratings of student teachers in traditional general education and traditional special education programs?; and (3) Are there differences between skill self-ratings of student teachers in special education completing traditional certification and alternative certification teacher preparation programs? In this article, the authors provide discussion relative to the three research questions focused on the student teachers' ratings, identify limitations of the study, and describe the educational importance of the research, with implications for future research.

Lengyel, L., & Vernon-Dotson, L. (2010). Preparing Special Education Teacher Candidates: Extending Case Method to Practice. *Teacher Education and Special Education: The Journal of the Teacher Education Division of the Council for Exceptional Children*, 33(3), 248-256.
doi:10.1177/0888406409357371

ABSTRACT: Case methodology is receiving more recognition in the field of education as a viable pedagogy for use in the preparation of future educators. In this article, the coauthors explore



two examples of case method instruction that extend beyond university classrooms to field sites: case report and case study. Both examples were used in special education teacher preparation graduate courses. A case report example is provided to illustrate the methodology used to prepare teacher candidates to teach students with severe and multiple disabilities; the second example illustrates the use of a case study to prepare candidates to teach students with emotional and behavioral disorders. Each example describes the process and content of the case requirement, along with descriptions of candidate outcomes and assessment of the case method learning. The coauthors provide concluding remarks on the successful use of the two variations of case methodology.

Lipsky, M., Schumm, J. S., Doorn, K., & Adelman, A. (2014). Preparing Preservice Teachers for Data-Based Decision Making in Working with Struggling Readers: A Collaborative Effort. *Journal of Reading Education, 40*(1), 36-42.

ABSTRACT: This article describes a partnership between a school of education and a professional development school (PDS) in the development and implementation of an after school tutoring program linked with an undergraduate literacy practicum course. The primary goal of this initiative was improving the assessment literacy and enhancing the data-based decision making skills of preservice teachers by having them work with struggling readers. We discuss the collaborators' roles and responsibilities and provide a course description followed by an explanation of the logistics of the tutoring program. Four case studies of participating children and their tutors are provided to illustrate lessons learned.

Ross, S. W., & Lignugaris-Kraft, B. (2015). Multi-Tiered Systems of Support Preservice Residency: A Pilot Undergraduate Teacher Preparation Model. *Journal of the National Association for Alternative Certification, 10*(1), 3-20.

ABSTRACT: This case study examined the implementation of a novel nontraditional teacher preparation program, "Multi-Tiered Systems of Support Preservice Residency Project" (MTSS-PR). The two-year program placed general and special education composite undergraduate majors full time in high-need schools implementing evidence-based systems of behavioral (Positive Behavioral Interventions and Supports) and academic support (Response to Intervention). Project participants received substantial training and practice in Tier 1 core instruction, Tier 2 interventionist activities, and Tier 3 interventions for students with special needs. The effectiveness of the program was evaluated through a district-wide teacher appraisal, measuring teacher-delivered opportunities to respond, ratio of interactions, student engagement, and participant and principal interviews. Results indicated that the MTSS-PR participants not only outperformed other new teachers on the district appraisal, they also outperformed other veteran teachers. At the conclusion of the project, both the participating teachers and their principals scored the project high on a measure of social validity. Methodological limitations exist, however results of the case study have promising implications for teacher preparation that infuses residency-based models within evidence-based practice.



Scheeler, M. C., Budin, S., & Markelz, A. (2016). The Role of Teacher Preparation in Promoting Evidence-Based Practice in Schools. *Learning Disabilities: A Contemporary Journal*, 14(2), 171-187.

ABSTRACT: It is paramount that teacher preparation programs continually strive toward the mission of preparing effective special educators. Through coursework and fieldwork, graduates must be well-informed professionals capable of improving student outcomes by understanding, selecting, and engaging in evidence-based practice (EBP). Evidence suggesting special educators are not implementing EBP with fidelity underscores the necessity for teacher educators to reexamine our role in promoting EBP in schools. Following an analysis of current challenges, ranging from lack of reinforcement provided to teachers who use EBP to the breadth of expertise needed as contemporary special educators, we offer a path forward. Starting within our own college classrooms, we explore traditional and innovative methods of enhancing knowledge and skills that rely on EBP. Next, we highlight the transition from coursework to fieldwork and the importance of building teacher preparation programs around clinically-rich teaching experiences. We then unpack issues related to fidelity and generalization of EBP by preservice teachers and provide a model for its promotion. We conclude with the critical role teacher educators have in elevating the status of teacher preparation by ensuring our preservice teachers know and use EBP in their own classrooms.

Strieker, T., Gillis, B., & Zong, G. (2013). Improving Pre-Service Middle School Teachers' Confidence, Competence, and Commitment to Co-Teaching in Inclusive Classrooms. *Teacher Education Quarterly*, 40(4), 159-180.

ABSTRACT: Within the educational research community, there have been a growing number of published research studies in teacher education that adopt a self-study approach. Researchers suggests that self-study in teacher education has the potential to animate the idea of teaching as reflection, model an inquiry-based approach to pedagogy, and generate rich understandings about promoting reflective practice. This study responds by situating the present research in the larger research programs on improving general education teacher candidates' knowledge, skills, and dispositions to effectively include students with disabilities.

Van Laarhoven, T., & Conderman, G. (2011). Integrating Assistive Technology into Special Education Teacher Preparation Programs. *Journal of Technology & Teacher Education*, 19(4), 473-497.

ABSTRACT: Current legal mandates require that students with disabilities in K-12 settings have access to assistive technology (AT) devices and services. Therefore, educational teams serving students with Individualized Educational Programs (IEPs) must consider various ATs and identify services to support their implementation in educational settings. However, research has reported that insufficient teacher expertise continues to impede effective student access to AT and that models and strategies for improving teacher expertise, particularly at the preservice level, are desperately needed. Therefore, the purpose of this study was to evaluate the



effectiveness of a model for integrating AT throughout a preservice undergraduate special education teacher preparation program at a large public university. Results indicated that special education teacher candidates were satisfied with their AT instruction and felt prepared for using ATs with students. Discussion and implications for integrating AT throughout a teacher education program are provided.

Williams, J. M., Martin, S. M., & Hess, R. K. (2010). Personnel Preparation and Service Delivery Issues in Rural Areas: The State of the Art. *Rural Special Education Quarterly*, 29(4), 31-39.

ABSTRACT: Preparation of high quality personnel to provide educational services to students with disabilities living in rural areas is, at best, challenging. Findings from a comprehensive study concerning the status of the implementation of the Individuals with Disabilities Education Act (IDEA) in rural settings and the issues such implementation presents to teacher education programs in these areas are discussed. Members of the American Council on Rural Special Education (ACRES) participated in the study. Results indicated that strategies for enhancing personnel preparation, recruitment, and retention of individuals to institutions of higher education and K-12 schools in rural settings include distance learning, on-site professional development opportunities, salary incentives/increments, and benefits. Linking evaluation data to the general education curriculum and determining how the student's disabilities affect his/her progress in general education are issues for practitioners implementing IDEA in rural settings. Recommendations are provided for enhancing personnel preparation and service delivery based on the results. Reprinted by permission of the publisher.

Annotated Bibliography: Additional References

1. Background

Allen, D. (2016). The Resourceful Facilitator: Teacher Leaders Constructing Identities as Facilitators of Teacher Peer Groups. *Teachers and Teaching*, 22(1), 70-83.
doi:10.1080/13540602.2015.1023029

ABSTRACT: The use of teacher peer groups is a prevalent strategy for school-based professional development and instructional improvement. Facilitation of such groups is an increasingly vital dimension of teacher leadership as a component of school improvement efforts. Drawing on a qualitative study of facilitation of teacher peer groups, the article investigates how teacher leaders integrate experiences from different domains of life in constructing a unique facilitator identity. Focusing on portraits of three teacher leaders, it demonstrates how teachers relate experiences outside of teaching, including academic experiences, other professional experiences, and social experiences, to the skills and orientation necessary for effective facilitation. The article argues for attention to reflexive practices of identity formation in the preparation of teacher leaders as facilitators and in the ongoing development of teacher leaders who already function as facilitators.

Brownell, M. T., Sindelar, P. T., Kiely, M. T., & Danielson, L. C. (2010). Special Education Teacher Quality and Preparation: Exposing Foundations, Constructing a New Model. *Exceptional Children*, 76(3), 357-377.

ABSTRACT: The authors trace changes in conceptions of special education teacher quality and preparation in response to developments in special education research, policy, and practice. This developmental arc is a backdrop for understanding contemporary special education practice and charting future directions for preparing special education teachers. Federal policy, and recent research on teaching and learning, and the response-to-intervention (RTI) movement require a shift in thinking about how to prepare quality special education teachers and the expertise they need to be effective. To function effectively in RTI and fulfill federal highly qualified teacher requirements, special education teachers must master an increasingly complex knowledge base and sophisticated repertoire of instructional practices. The authors contend that preservice preparation is inadequate for this purpose and that preparation for special education teaching should build up on an existing knowledge base and demonstrated competence in classroom practice.

Cochran-Smith, M., Cannady, M., McEachern, K. P., Mitchell, K., Piazza, P., Power, C., & Ryan, A. (2012). Teachers' Education and Outcomes: Mapping the Research Terrain. *Teachers College Record*, 114(10), 1-49.



ABSTRACT: Background/Context: Questions about teacher quality, including how teachers ought to be educated and licensed, rank near the top of the educational agenda in the United States. These controversies persist because of lack of consensus about what “teacher quality” means, conflicting claims about the empirical evidence, and public skepticism about the need for formal teacher preparation. Because there has been relatively little research on the outcomes of preparation programs and pathways and because researchers work from diverging paradigms, there are few clear conclusions in this area. Purpose/Objective/Research Question/Focus of Study: The purpose of this article is to offer a conceptual analysis of empirical research on teachers’ education and outcomes that is linked to the political controversies and policy debates that shape it. Using the concept of research “genres,” the article addresses two questions: (1) How have researchers conceptualized and studied the connections between teachers’ education and its outcomes, consequences, or results? (2) What are the policy controversies and larger social and political factors that have shaped these genres? Research Design: This review focuses on research conducted in the United States since 1998 and published by peer-reviewed journals or centers with peer review procedures. The review includes only empirical research that explicitly examines connections between particular aspects of teachers’ education (e.g., certification status, academic background, pathways into teaching, program mission/curriculum, transitions to teaching, life experiences) and specific posteducation outcomes (e.g., teacher preparedness, beliefs, practice, retention, student achievement). Findings/Results: The review reveals that there are six distinguishable genres that examine connections between teachers’ education and posteducation outcomes: teacher certification and its correlates, teachers’ educational backgrounds and the teacher workforce, entry pathways into teaching and their consequences, teacher preparation programs and their graduates, teacher preparation and learning to teach in the early career years, and teachers’ life experiences and beliefs/practices. The article analyzes and critiques each genre, including its contributions/limitations and the controversies it addresses. Conclusions/Recommendations: The review concludes that there continue to be relatively few studies that connect aspects of teachers’ education to outcomes; some genres focus primarily on outcomes related to student achievement, whereas others focus primarily on outcomes related to teacher learning. These genres have grown up relatively separately from one another. The review recommends that all six research genres ought to be taken into account by policymakers, researchers, and practitioners in order to have a rich understandings [sic] of teachers’ education and outcomes.

Cochran-Smith, M., Cannady, M., McEachern, K. P., Piazza, P., Power, C., & Ryan, A. (2011). Teachers’ Education, Teaching Practice, and Retention: A Cross-Genre Review of Recent Research. *Journal of Education*, 191(2), 19-31.

ABSTRACT: In the United States, there is enormous controversy about how teachers ought to be prepared and licensed. Many of the sharpest controversies stem from acute public skepticism about whether formal teacher preparation is really necessary at all given the lack of conclusive evidence that teacher preparation has a direct impact on students’ achievement. With these



larger issues in mind, this article presents a review of recent research that empirically examines the connection between teachers' education and either teaching practice or teacher retention (or both). The literature in six distinct genres of research is reviewed with cross-genre conclusions and implications.

Cochran-Smith, M., & Villegas, A. M. (2015). Framing Teacher Preparation Research: An Overview of the Field, Part 1. *Journal of Teacher Education*, 66(1), 7-20. doi:10.1177/0022487114549072

ABSTRACT: This is the first of a two-part article that aims to chart the contemporary landscape of research on teacher preparation and certification. It is based on a review of more than 1,500 studies published between 2000 and 2012. Part 1 provides information about how the review was conducted and describes the theoretical/analytic framework the authors developed to guide the review. The framework combines ideas from the sociology of knowledge and research as social practice. This framework situates the research on teacher education within salient economic, intellectual, and demographic developments of the past half century and also examines the practices of researchers who are differently positioned from one another, have divergent purposes and audiences, and who work both inside and outside teacher education. Part 1 also analyzes the first of three major research programs—research on teacher preparation accountability, effectiveness, and policies, identifying strengths and weaknesses in this body of studies.

De Arment, S. T., Reed, E., & Wetzel, A. P. (2013). Promoting Adaptive Expertise: A Conceptual Framework for Special Educator Preparation. *Teacher Education and Special Education: The Journal of the Teacher Education Division of the Council for Exceptional Children*, 36(3), 217-230. doi:10.1177/0888406413489578

ABSTRACT: Special educators face numerous challenges as their roles change, evidence-based practices increase, educational priorities shift, and accountability grows. How can teacher education for special educators prepare candidates for the realities of practice and promote professional commitment to continuous learning? This article reviews the literature on adaptive expertise, proposes a conceptual framework, and presents implications for special educator preparation to promote cognitive and metacognitive skills and adaptive dispositions that are critical to professional growth and effectiveness.

Fendler, L. (2012). The Magic of Psychology in Teacher Education. *Journal of Philosophy of Education*, 46(3), 332-351. doi:10.1111/j.1467-9752.2012.00865.x

ABSTRACT: Educational psychology is a curricular requirement for most teacher preparation programs in the world. Knowledge of educational psychology is assessed on examinations for teacher licensure in most jurisdictions, and understanding of psychology is assumed to be indispensable [sic] for effective teaching at all levels. Traditional university-based teacher-certification pathways have recently come under attack from various socio-political sectors, and



the curriculum for teacher preparation is among the most contested issues. This article examines the lure of psychology for teacher education.

Fuchs, W. W., Fahsl, A. J., & James, S. M. (2014). Redesigning a Special Education Teacher-Preparation Program: The Rationale, Process, and Outcomes. *New Educator, 10*(2), 145-152.

ABSTRACT: Teacher-preparation programs across the nation are faced with multiple mandates that aim to increase rigor and effectiveness of future educators. In the state of Illinois, all teacher-preparation programs must revise and redesign their coursework to align with the new professional teaching standards and licensure requirements. This article will describe an Illinois public university's process for revising its special education program to increase rigor by aligning to the new teacher-preparation requirements.

Gao, W., & Mager, G. (2011). Enhancing Preservice Teachers' Sense of Efficacy and Attitudes Toward School Diversity Through Preparation: A Case of One U.S. Inclusive Teacher Education Program. *International Journal of Special Education, 26*(2), 92-107.

ABSTRACT: Conducted in one inclusive teacher education program in the United States, this study explored the trajectory of and the relationships between preservice teachers' sense of efficacy and attitudes toward school diversity through the course of preparation. Findings revealed that, in general, changes of preservice teachers' perceived efficacy, attitudes towards inclusion, and beliefs of socio-cultural diversity reflected the particular foci at different phases of the program. Overall, participants' perceived sense of efficacy showed significant, positive associations with their attitudes towards inclusion and beliefs about socio-cultural diversity. However, regardless of their perceived levels of efficacy, participants were negative about teaching children with behavioral disabilities. On the one hand, the study suggests the effectiveness of the program to educate preservice teachers to positively respond to school diversity. On the other hand, it also indicates that preservice teachers across the board persistently hoarded negative feelings about children with behavioral disabilities. The study recommends that teacher educators may need to devote ample resources and employ effective strategies to improve preservice teachers' attitudes towards children with behavioral challenges.

Gentry, R. (2012). Collaboration Skills Pre-Service Teachers Acquire in a Responsive Preparation Program. *Journal of Instructional Pedagogies, 8*.

ABSTRACT: Collaboration skills are essential for all teachers, but crucial for personnel who instruct students with disabilities. Through collaboration, families and professionals are able to combine their strengths and wisdom to make education as appropriate as possible for the student. Capitalizing on each other's knowledge and expertise not only helps the student, it also makes for stronger families and more competent professionals. But what may come as a surprise, in schools and universities teacher education candidates do not gain extensive training



and experience in collaborative teamwork; however, research reveals that it is possible to effectively teach collaboration, listening, and to some extent, cooperative skills (Cortez & et al., 2009; Taylor & et al., 1988). This manuscript reports on the status of collaboration-skill development, the many advantages of effective parent-professional partnerships, legal mandates for parental involvement in the education of persons with disabilities, essential collaboration skills needed by teachers, and provides an account of the extent to which pre-service candidates in one responsive teacher preparation program are acquiring collaboration skills. The evidence suggests that teacher candidates are on the right track but may need more in-depth training and experience to develop an appropriate level of confidence to work effectively with parents and other professionals as they prepare to teach children in today's schools.

Goldhaber, D., Liddle, S., & Theobald, R. (2013). The Gateway to the Profession: Assessing Teacher Preparation Programs Based on Student Achievement. *Economics of Education Review, 34*, 29-44. doi:10.1016/j.econedurev.2013.01.011

ABSTRACT: With teacher quality repeatedly cited as the most important schooling factor influencing student achievement, there has been increased interest in examining the efficacy of teacher training programs. This paper presents the results of research investigating the relationship between teachers who graduate from different training programs and student achievement on state reading and math tests. Using a novel methodology that allows teacher training effects to decay, we find that training institution indicators explain a statistically significant portion of the variation in student achievement in reading, but not in math. Moreover, there is evidence that graduates from some specific training programs are differentially effective at teaching reading than the average teacher trained out-of-state and that these differences are large enough to be educationally meaningful.

Gray, D. L., & Lewis, J. P. (2013). Lessons Learned in Preparing Principals to Become Instructional Leaders. *International Journal of Educational Leadership Preparation, 8*(1), 140-143.

ABSTRACT: Instructional Leadership faculty at the University of South Alabama redesigned their program's curricula between 2004 and 2006 to include new standards for instructional leaders. Seven of eleven public school superintendents in the University's service area signed a Memorandum of Agreement with the College of Education to plan, implement, and evaluate the program. The redesigned program's capstone experience is a full-semester in local schools to give residents opportunities to observe and lead teachers in improving student achievement. Data obtained from surveys and the Leadership Practices Inventory[C] reflect residents' and mentor principals' satisfaction with the program. Forty nine [sic] residents in eight cohorts indicated on their end-of-program survey that they wanted more time and interaction with mentor principals. Principals responded to a similar survey statement that they gave residents adequate guidance and ample feedback about job performance. These divergent perceptions will be a focal point for improving the program in the future.



Kearney, W. S., & Valadez, A. (2015). Ready from Day One: An Examination of One Principal Preparation Program's Redesign in Collaboration with Local School Districts. *Educational Leadership and Administration: Teaching and Program Development*, 26, 27-38.

ABSTRACT: This paper presents a newly implemented model of principal preparation at a public university in the southwestern United States. The authors begin by identifying a number of innovative practices currently being carried out within educational administration programs across the United States. Informed by the context of these national models, the authors present their university's design for the readers' consideration. This is followed by a discussion of implementation issues (both positive and negative) which the administrators of this program have encountered. Finally, an evaluation matrix is presented which will be utilized in assessing the effectiveness of this principal preparation model.

Kennedy, M. J., Alves, K. D., & Rodgers, W. J. (2015). Innovations in the Delivery of Content Knowledge in Special Education Teacher Preparation. *Intervention in School and Clinic*, 51(2), 73-81.
doi:10.1177/1053451215579268

ABSTRACT: Teacher educators are expected to provide preservice special education teachers with extensive knowledge about a variety of topics as well as allowing candidates a chance to engage in higher-level thinking about content. Today, some teacher educators are thinking "outside the box" when it comes to instructional delivery by moving beyond the traditional lecture format for instruction. This article discusses three alternatives to lecture-style instruction: (a) interteaching, (b) video-based reflection, and (c) content acquisition podcasts. Each of these strategies is a way to improve candidates' engagement with the material while improving learning. The features and benefits of each approach are provided in addition to steps for using these strategies within teacher preparation.

Leko, M. M., Brownell, M. T., Sindelar, P. T., & Kiely, M. T. (2015). Envisioning the Future of Special Education Personnel Preparation in a Standards-Based Era. *Exceptional Children*, 82(1), 25-43.

ABSTRACT: The authors consider the future of special education personnel preparation by responding to an overarching question: "What frameworks might teacher educators use as a basis to promote special education teacher effective performance now and in the future?" In answering this question, they summarize current trends in the context of schooling and special education (i.e., Common Core State Standards [CCSS], multi-tiered systems of support [MTSS]) and what these contexts demand of special education teachers. The authors propose a practice-based model for fostering effective special education teacher performance. Grounded in the science of learning, the model includes approaches in teacher education that align with this literature. Implications for implementing the model are provided, which recognize current constraints on schools and colleges of education, to better promote this model for fostering effective performance.



Lesley, M. K. (2014). Policy, Pedagogy, and Research: Three Issues Affecting Content Area Literacy Courses for Secondary-Level Teacher Candidates. *Literacy Research and Instruction, 53*(1), 50-71. doi:10.1080/19388071.2013.826761

ABSTRACT: In the wake of tepid National Assessment of Educational Progress reading and writing scores, the creation of College and Career Readiness Standards (National Governor’s Association Center for Best Practices & Council of Chief State School Officers [NGA & CCSSO], 2010; Texas Higher Education Coordinating Board, 2008), and studies such as the “Diploma to Nowhere” (Wise, 2009) depicting increasing college remediation rates, literacy instruction for adolescents in the United States has reached a critical juncture. In spite of these indicators, few states have established policies that require preservice secondary level teacher candidates to complete literacy education coursework designed to redress such trends. Irrespective of policy mandates, many teacher preparation programs require teacher candidates to take one (three credit hour) course in content area literacy (National Governor’s Association Center for Best Practices [NGA], 2005; Snipes & Horwitz, 2008). Given the importance of this solitary course required for teacher certification, much more needs to be understood about effective content area literacy pedagogy for teacher candidates. Through a review of literature pertaining to instruction in content area literacy published primarily during the past two decades emerged three key issues that need to be addressed in order to bring about maximum benefits for teacher candidates in this course: (1) greater cohesion in definitions of content area literacy, (2) a clearer understanding of how to prepare teacher candidates to offer instruction in disciplinary literacies or “literacies of disciplines” (National Council of Teachers of English [NCTE], 2011), and (3) methods to overcome the dispositional barriers of teacher candidates toward implementing content area literacy.

Lim, C. P., Chai, C. S., & Churchill, D. (2011). A Framework for Developing Pre-Service Teachers’ Competencies in Using Technologies to Enhance Teaching and Learning. *Educational Media International, 48*(2), 69-83. doi:10.1080/09523987.2011.576512

ABSTRACT: This paper presents a framework for developing pre-service teachers’ competencies in using technologies to enhance teaching and learning. It focuses on building the capacity of teacher education institutions (TEI) based on six strategic dimensions: (1) vision and philosophy; (2) program; (3) professional learning of deans, teacher educators and support staff; (4) ICT plan, infrastructure, resources and support; (5) communications and partnerships; and (6) research and evaluation. This paper describes each of these six strategic dimensions and synthesizes these in the overall framework for developing pre-service teachers’ competencies in generating technology-enhanced teaching and learning.

Lit, I., Nager, N., & Snyder, J. D. (2010). If It Ain’t Broke, Why Fix It? Framework and Processes for Engaging in Constructive Institutional Development and Renewal in the Context of Increasing



Standards, Assessments, and Accountability for University-Based Teacher Preparation. *Teacher Education Quarterly*, 37(1), 15-34.

ABSTRACT: The writers discuss the process of institutional renewal and development from the context of increasing standards, assessments, and accountability for university-based teacher preparation. The framework and process of a five-year project undertaken at the Bank Street College of Education, New York, New York, features and benefits of the programs, data gathering instruments, and procedures for institutional development are presented and discussed.

Mueller, J. J., & File, N. K. (2015). Teacher Preparation in Changing Times: One Program's Journey Toward Re-Vision and Revision. *Journal of Early Childhood Teacher Education*, 36(2), 175-192. doi:10.1080/10901027.2015.1030521

ABSTRACT: The purpose of this paper is to describe a major revision process to the early childhood teacher education program at our 4-year university. We briefly outline the major policy and standards changes that we have witnessed impacting our work as early childhood teacher educators that were, in part, the impetus for our program changes. We describe our teacher education program as it was configured 2 years ago and as it exists today after major change efforts, highlighting the purposes and desired outcomes of these changes. We have conceptualized this journey as both a revision of the program and a re-visioning process. We focus on our attempt to integrate the intentions underlying policy and standards changes into our work in preparing teachers for the full range of early childhood program auspices, as well as for any and all of the children who are enrolled in them. In particular, we emphasize the integration of coursework and classroom experiences to more fully prepare our teacher candidates for effective practice with dual-language learning young children and their families. One result of this work, we hope, is the normalization of "difference" for our teacher candidates and the resultant disposition toward responsibility for educating all children.

Neumann, R. (2010). Social Foundations and Multicultural Education Course Requirements in Teacher Preparation Programs in the United States. *Educational Foundations*, 24(3/4), 3-17.

ABSTRACT: Teacher quality has been a central issue in discourse on improvement of schooling outcomes. While the importance of teacher quality is widely acknowledged, there is considerable dispute regarding necessary skills, knowledge, and dispositions of a highly qualified teacher, as well as the methods for producing such teachers. Indeed, even the definition of teacher effectiveness is contested. One area of teacher preparation that has been marginalized in the debate on teacher quality is the social foundations of education (SFE), a critical, interdisciplinary area of study that examines education and schooling through lenses of history, philosophy, and the social sciences. In recent years, and particularly since the onset of the new century, the value of skills, knowledge, and dispositions promoted in teacher preparation SFE courses and the subsumed or related knowledge domain of multicultural education (ME), have



been largely ignored in policy documents on teacher quality. Although limitations of extant data preclude comparison of current course requirements in SFE/ME with those in teacher education programs of the past, establishment of a benchmark on course requirements in this area will help clarify the status of SFE/ME in the field and enable future assessments of trends. This study examined the question of course requirements in SFE and ME in university-based teacher preparation programs in the United States that lead to an initial credential.

O'Brien, C., Aguinaga, N. J., Hines, R., & Hartshorne, R. (2011). Using Contemporary Technology Tools to Improve the Effectiveness of Teacher Educators in Special Education. *Rural Special Education Quarterly*, 30(3), 33-40.

ABSTRACT: Ongoing developments in educational technology, including web-based instruction, streaming video, podcasting, video-conferencing, and the use of wikis and blogs to create learning communities, have substantial impact on distance education and preparation of special educators in rural communities. These developments can be overwhelming, however, for teacher educators reluctant to break away from traditional methods. Rather than lamenting the burden of ever-changing technology, the authors highlight technology tools that make the efforts of teacher educators in special education more effective, looking at the positive elements of technology in teaching in higher education and offering a proactive perspective on technology integration.

Paisley, P. O., Bailey, D. F., Hayes, R. L., McMahon, H. G., & Grimmert, M. A. (2010). Using a Cohort Model for School Counselor Preparation to Enhance Commitment to Social Justice. *The Journal for Specialists in Group Work*, 35(3), 262-270. doi:10.1080/01933922.2010.492903

ABSTRACT: This article describes a cohort model of school counselor preparation designed to enhance graduate student commitment to social justice. Foundational principles of group work are used as the vehicle for understanding self in context and for integrating the tenets associated with social justice advocacy. Key components related to program mission, admissions processes, and course sequence are discussed. Recommendations for other counselor education programs are also identified.

Papanastasiou, E. C., Tatto, M. T., & Neophytou, L. (2012). Programme Theory, Programme Documents and State Standards in Evaluating Teacher Education. *Assessment & Evaluation in Higher Education*, 37(3), 305-320. doi:10.1080/02602938.2010.534760

ABSTRACT: Across the USA as well as worldwide, numerous universities offer teacher preparation programmes and award such degrees. However, there are no consistent valid or reliable indicators for determining the coherence and quality of these programmes. An effective way of starting to evaluate these programmes is by looking at their standards and their documents. The combination of both could be considered the basis on which all major decisions about the programme are based. Using the example of a Midwestern university in the USA, the



purpose of this paper is to demonstrate a method of examining the coherence between the various sets of standards that university programmes have to adhere to (e.g. whether the teacher education standards of the university correspond to the standards for the state that the university is in, as well as to the programme documents). This article ends with some suggestions that could lead to a higher level of coherence within such programmes.

Papay, J. P., West, M. R., Fullerton, J. B., & Kane, T. J. (2012). Does an Urban Teacher Residency Increase Student Achievement? Early Evidence from Boston. *Educational Evaluation and Policy Analysis*, 34(4), 413-434. doi:10.3102/0162373712454328

ABSTRACT: Boston Teacher Residency (BTR) is an innovative practice-based preparation program in which candidates work alongside a mentor teacher for a year before becoming a teacher of record in the Boston Public Schools (BPS). The authors found that BTR graduates are more racially diverse than other BPS novices, more likely to teach math and science, and more likely to remain teaching in the district through Year 5. Initially, BTR graduates for whom value-added performance data are available are no more effective at raising student test scores than other novice teachers in English language arts and less effective in math. The effectiveness of BTR graduates in math improves rapidly over time, however, such that by their 4th and 5th years they outperform veteran teachers. Simulations of the program's overall effect through retention and effectiveness suggest that it is likely to improve student achievement in the district only modestly over the long run.

Ruys, I., Van Keer, H., & Aelterman, A. (2012). Examining Pre-Service Teacher Competence in Lesson Planning Pertaining to Collaborative Learning. *Journal of Curriculum Studies*, 44(3), 349-379.

ABSTRACT: Taking into account the merits of anticipatory reflection, instructional planning is perceived as an important process in the professionalization of teachers. When implementing a complex instructional strategy such as collaborative learning (CL), a thorough preparation becomes even more important. The purpose of the present study was to investigate the quality of lesson plans focusing on CL implementation. Based on the literature, a scoring rubric with 17 criteria in three domains (instruction, organization and evaluation) was developed and applied to analyse 323 lesson plans of second-year pre-service teachers. The results reveal both strengths (e.g. designing appropriate learning tasks, developing adequate learning materials) and weaknesses (e.g. including social objectives, rules and agreements for collaborative work) in the lesson plans. The rubric proves to be a useful instrument both for research and practice-oriented reflection. The findings provide significant insights for teacher training with regard to CL implementation.

Sandoval-Lucero, E., Shanklin, N. L., Sobel, D. M., Townsend, S. S., Davis, A., & Kalisher, S. (2011). Voices of Beginning Teachers: Do Paths to Preparation Make a Difference? *Education*, 132(2), 336-350.



ABSTRACT: This study examined the experiences of beginning teachers from three preparation models; traditional, professional development school, and teacher-in-residence, regarding their perceptions of their first years of teaching. The purpose was to explore possible links between teacher candidates' preparation paths and their preparedness and intention to remain in teaching. All participants chose teaching because they wanted a meaningful career, however, only those who entered teacher-in-residence programs did so due to dissatisfaction with former careers. While all three groups had practical considerations that influenced their choice of program, including financial and geographic, only the traditional and professional development school graduates considered program reputation. All teachers clearly articulated their beliefs about the strengths and weaknesses of their chosen programs, yet their teaching practice was most influenced by other professionals in their buildings. Finally, most planned to remain in teaching, but those prepared through college programs had broader views about their career options.

Shin, M., Lee, H., & McKenna, J. W. (2016). Special Education and General Education Preservice Teachers' Co-Teaching Experiences: A Comparative Synthesis of Qualitative Research. *International Journal of Inclusive Education*, 20(1), 91-107. doi:10.1080/13603116.2015.1074732

ABSTRACT: Co-teaching is commonly used to support students with disabilities in inclusive educational settings. However, there is often a gap between the potential effectiveness of co-teaching and actual classroom practice. This study examined preservice teachers' co-teaching experiences to better understand this gap to identify potential practices for improving teacher training and service delivery. A review of 11 studies revealed that both special education and general education preservice teachers believed that co-teaching practices provided them opportunities to communicate and work collaboratively. Both groups agreed on the significant impact of personality in co-teaching as well as challenges in implementing co-teaching. Furthermore, special education preservice teachers noted that they lacked content knowledge, whereas general education preservice teachers thought they needed more training in the provision of accommodations and modifications. Study limitations, areas for future research, and implications for preservice teacher preparation are discussed.

Silva, T., McKie, A., Knechtel, V., Gleason, P., & Makowsky, L. (2014). *Teaching Residency Programs: A Multisite Look at a New Model to Prepare Teachers for High-Need Schools* (NCEE 2015-4002). Washington, DC: National Center for Education Evaluation and Regional Assistance, Institute of Education Services, U.S. Department of Education. Retrieved from <https://ies.ed.gov/ncee/pubs/20154002/pdf/20154002.pdf>

ABSTRACT: In Fall 2009 and Spring 2010, 30 teaching residency programs received funding through one of 28 Teacher Quality partnership grants awarded to establish or expand residency programs. These programs follow a model of teacher preparation in which prospective teachers complete graduate-level coursework alongside a year-long fieldwork experience in the district in which the prospective teacher will be hired. This report provides descriptive information



regarding the 30 residency programs. For a purposefully-selected subset of 12 of the programs, in-depth information is provided regarding program participants and the retention rates of teachers once hired by the district. The residency programs provided a fieldwork experience with a mentor teacher, along with integrated coursework. On average, residents reported being fully in charge of instruction for 21 days during the first half of the residence and 37 days during the second half. The programs included the equivalent of 10 courses, on average. The programs somewhat broadened the pool of people entering the teaching profession in the participating districts. For example, novice teachers from the residency programs were more likely than teachers from other programs to report having worked in a full-time job other than teaching (72 percent versus 63 percent). However, novice residency program teachers and teachers from other preparation programs had similar demographic characteristics. Novice teachers from residency programs had similar retention rates to other novice teachers. Approximately 90 percent of teachers from both groups reported staying in the same district from spring 2012 to fall 2012; about 5 percent of teachers were no longer teaching.

Smith, D. D., & Tyler, N. C. (2011). Effective Inclusive Education: Equipping Education Professionals with Necessary Skills and Knowledge. *Prospects*, 41(3), 323-339. doi:10.1007/s11125-011-9207-5

ABSTRACT: As a result of educational reforms, students with disabilities are educated in inclusive settings to a greater degree than ever before. Regrettably, many teachers report that they feel unprepared to work effectively with these students. Because teacher effectiveness is strongly linked to student outcomes, these perceptions of inadequacy are clearly problematic. Improved teacher preparation is a necessity. Yet, teacher educators face their own challenges when trying to keep up with current literature and a rapidly expanding knowledge base. Web-based technology offers solutions to some of these challenges, yet not all Web-based resources are valid or reliable. The IRIS Center for Training Enhancements, funded by the U.S. Department of Education, provides free online resources for those working with struggling learners and students with disabilities. The resources are developed in collaboration with leading educational researchers, are highly rated, and are heavily used in multiple countries to improve the quality of teacher education.

State, T. M., Kern, L., Starosta, K. M., & Mukherjee, A. D. (2011). Elementary Pre-Service Teacher Preparation in the Area of Social, Emotional, and Behavioral Problems. *School Mental Health*, 3(1), 13-23. doi:10.1007/s12310-010-9044-3

ABSTRACT: Youth social, emotional, and behavioral problems continue to be of great concern and are costly to individuals and society. Teachers are in an ideal position to recognize symptoms of these problems and to provide or obtain appropriate services. Thus, it is critical to examine the training that pre-service teachers receive. In the present study, we evaluated the curriculum requirements for certification in randomly selected college/university elementary teacher training programs. Course syllabi were examined to determine the amount and type of training future elementary teachers received related to social, emotional, and behavioral



problems. Results indicated limited exposure to such information. The findings are discussed with respect to implications for college/university teacher preparation programs, student outcomes, and future research.

Styron, R. A., Jr., Bonner, J. L., Styron, J. L., Bridgeforth, J., & Martin, C. (2016). Are Teacher and Principal Candidates Prepared to Address Student Cyberbullying? *Journal of At-Risk Issues, 19*(1), 19-28.

ABSTRACT: The purpose of this study was to examine the preparation of teacher and principal candidates to address problems created in K-12 settings as a result of cyberbullying. Participants included teacher and principal preparation students. Findings indicated that respondents were familiar with the most common forms of cyberbullying and its impact on students, but only moderately aware of the extent that students initiated acts of cyberbullying and the appropriate responses. Recommendations for policy and practice included additional training regarding the identification of cyberbullying and its impact on students and the creation of modules pertaining to cyberbullying and digital citizenship inserted into courses that address the use of technology.

Thibeault, C. H., Kuhlman, N., & Day, C. (2010). ESL Teacher-Education Programs: Measuring Up to the TESOL/NCATE Yardstick. *CATESOL Journal, 22*(1), 48-59.

ABSTRACT: English language learners (ELLs) in K-12 schools continue to increase in number across the country. In California alone, about 1.5 million students are not sufficiently proficient in English to perform optimally in mainstream classrooms. The No Child Left Behind (NCLB) Act of 2001 emphasizes the need for highly qualified teachers, but just who is qualified to apply best educational practices to help ELLs reach their potential in an academic environment? This article will discuss how the Teachers of English to Speakers of Other Languages (TESOL)/National Council on the Accreditation of Teacher Education (NCATE) P-12 ESL teacher-preparation standards provide a nationally recognized framework for teacher preparation and evaluation, while at the same time providing for flexibility in the way in which certified ESOL teachers are prepared. Graduates of programs that follow these standards are ready to begin meeting the challenges of educating the next generation of ELLs in American classrooms.

2. Candidate Selection

Gitomer, D. H., Brown, T. L., & Bonett, J. (2011). Useful Signal or Unnecessary Obstacle? The Role of Basic Skills Tests in Teacher Preparation. *Journal of Teacher Education, 62*(5), 431-445. doi:10.1177/0022487111412785

ABSTRACT: Many individuals who attempt to enter teacher education programs are precluded from doing so because of an inability to pass basic skills tests. The authors examine whether these tests are simply a gate that needs to be passed through or whether they provide useful early information about how individuals are likely to perform on subsequent licensure tests. By examining a pool of individuals who took both basic skills and licensure tests, the authors



contrast the likelihood of passing licensure tests given how well individuals performed on the basic skills test. The results support the hypothesis that basic skills tests are measuring cognitive skills important to the learning of material required for success in attaining teacher licensure and are not simply a bureaucratic hurdle.

Howley, M., Howley, A. A., Helfrich, S., Harrison, L., Gillam, M. B., & Safran, J. (2012). A Research-Focused Honors Program for High-Ability Teacher-Education Students. *Journal for the Education of the Gifted, 35*(4), 319-343. doi:10.1177/0162353212459687

ABSTRACT: Honors programs represent one way that secondary schools and undergraduate programs address the needs of academically talented students. Evidence suggests that these programs contribute to positive student outcomes in terms of achievement, social development, and career preparation. Because colleges of education produce graduates who typically confront the prospect of low salaries, attracting high-ability applicants is important. Despite the benefits of encouraging talented individuals to become teachers, few traditional teacher education programs use honors programs. This study reports on an honors program in a college of education that incorporates distinct course work and field experiences, focused especially on inquiry and research. Qualitative interviewing revealed three themes: How the program's focus on inquiry and research fits with participants' expectations and interests, complex and conflicting responses to the program's focus on leadership development, and significant logistical challenges. These themes corroborated findings from related literature on honors programs in secondary schools and undergraduate programs.

Watkins, P., & Watkins, S. (2011). Predictors of Teacher Candidate Success in Developing a Capstone Project: The Teacher Work Sampling (TWS) Methodology. *Critical Questions in Education, 2*(2), 84-92.

ABSTRACT: Many university and college teacher education programs have adopted the Teacher Work Sample (TWS) as their capstone assessment demonstrating a teacher candidate's competencies in planning, assessing and reflecting on instructional practice. The TWS summative results submitted by students at a mid-size state university who were in their final semester of a teacher preparation program included participants from elementary, special education and early childhood majors, and were evaluated by teams of faculty, university supervisors (part-time faculty), and practicing classroom teachers who work with the university students in the field. Students were expected to meet all of the elements of the TWS with 70% accuracy or higher. In the case of this study students were admitted to the education program with a minimum 2.5 GPA. To assure the program is getting highly qualified students, universities should consider raising the GPA requirement to as much as 2.7. Consequently, teacher preparation programs must set high expectations for their graduates. These programs must select candidates who enter the program first as high performing undergraduates and finish as proficient, highly-qualified professional teachers. Success on the TWS relates more strongly to GPA than any other predictor considered in this study. More teacher preparation programs



around the country who adopt the TWS assessment model should consider those dispositions and prerequisites that strengthen the teacher candidate's likelihood of success.

3. Education Leadership

Gooden, M. A., Bell, C. M., Gonzales, R. M., & Lippa, A. P. (2011). Planning University-Urban District Partnerships: Implications for Principal Preparation Programs. *Educational Planning, 20*(2), 1-13.

ABSTRACT: Urban school districts continue to face increased demands for improving student learning in PK-12 settings. As a result, universities are faced with increased accountability, requiring their leadership preparation programs to be more effective and proficient at monitoring and measuring the impact their graduates have on student achievement. Recent research supports creating university-district partnerships as part of a complex solution to address some of the demands by improving the effectiveness of principal preparation programs and thereby increasing the number of effective leaders prepared to work in urban schools. Findings from this work present some pitfalls to avoid and some recommendations for those interested in exploring university-district partnerships.

Koonce, G. L., & Kelly, M. D. (2014). Analysis of the Reliability and Validity of a Mentor's Assessment for Principal Internships. *Education Leadership Review, 15*(2), 33-48.

ABSTRACT: In this study, researchers analyzed the reliability and validity of the mentor's assessment for principal internships at a university in the Southeast region of the United States. The results of the study yielded how trustworthy and dependable the instrument is and the effectiveness of the instrument in the current principal preparation program. Study results were analyzed using reliability requirements for instruments utilized in obtaining national accreditation and to provide suggestions for program improvement. The instrument was reviewed by a panel of experts from areas outside of the research population to establish content and face validity. Internal consistency and reliability were measured using Cronbach's alpha. A total of 229 candidate internship scores were used. The reliability test resulted in an overall alpha of 0.949. The results obtained in this study indicate the instrument has a very high level of validity as well as reliability.

McDonnough, J. T., & Matkins, J. J. (2010). The Role of Field Experience in Elementary Preservice Teachers' Self-Efficacy and Ability to Connect Research to Practice. *School Science and Mathematics, 110*(1), 13-23.

ABSTRACT: Though the importance of including practicum experiences in programs for the preparation of elementary preservice teachers is generally accepted, the nature of these experiences on the development of skills in teaching science can vary greatly. This study compares the effect of variations in field experiences at two institutions, one which included a



practicum that was not connected to the science methods course and instructor and the other where the practicum was concurrent with and taught by the methods instructor. Interview data and results of the STEBI-B were collected across four years, with a total $n = 129$. The concurrent, embedded practicum yielded consistent increases in self-efficacy across the semesters. Also after the embedded practicum, preservice teachers showed greater understanding in research-based science teaching practices.

Orr, M. T. (2011). Pipeline to Preparation to Advancement: Graduates' Experiences In, Through, and Beyond Leadership Preparation. *Educational Administration Quarterly*, 47(1), 114-172. doi:10.1177/0011000010378612

ABSTRACT: Purpose: The purpose of the study was to describe the nature of preparation among a nonpurposeful sample of 17 leadership preparation programs and to investigate the relationship of their participants' characteristics, program experiences, leadership learning, and initial career outcomes. The study was guided by prior research on innovative programs (Darling Hammond, Meyerson, La Pointe, & Orr, 2009; Leithwood, Jantzi, Coffin, & Wilson, 1996). Data Collection and Analysis: Faculty members from 13 institutions (two with multiple programs) surveyed their graduates between 2004 and 2007 using a common survey instrument developed by the University Continuing Education Association Learning and Teaching in Educational Leadership Special Interest Group Taskforce on Evaluating Leadership Preparation Programs. Of these, 471 had completed their program from 0 to three years prior; their responses were aggregated by program and analyzed using descriptive statistics and correlational analyses. Findings: The results show that programs had many recommended innovative program features, varied somewhat on content focus, challenge, coherence, use of active student-centered instructional practices, and internship length and quality. These were positively associated with the extent of graduates' learning in five areas of leadership, their satisfaction with the program, and their beliefs about the principalship. Conclusions: The results confirm prior research that how aspiring school leaders are prepared influences what they learn and their career intentions. The results validate the survey measures in discriminating among programs, and identifying areas for improvement.

Vogel, L. R., & Rude, H. (2010). Native American Educational Leader Preparation: The Design and Delivery of an Online Interdisciplinary Licensure Program. *Educational Considerations*, 38(1), 17-23.

ABSTRACT: In a 1991 report, the Indian Nations at Risk Task Force documented a lack of Native educators as role models for Native American students and set a goal of doubling their number by the year 2000. Under-representation of Native American educators remains an issue today particularly with regard to school leaders (Planty et al. 2009; Snyder and Dillow 2010). In order to increase the number of Native American educational leaders serving Bureau of Indian Education (BIE) schools, and other schools with high concentrations of Native American students, the Educational Leadership and Policy Studies program and School of Special



Education at the University of Northern Colorado developed a two-year online multidisciplinary Master's of Arts degree program for Native American teachers to obtain both principal and special education administrative licenses. This article describes the context, design, and evaluation of this new degree program. In addition, drawing upon the experiences of program staff, faculty members, and participants (students), it presents the challenges and lessons learned in the areas of recruitment and retention; program structure and online delivery; and cultural accommodation and enhancement.

Vogel, L. R., Weiler, S., & Armenta, A. (2014). Pushing Back and Forging Ahead: Making Principal Preparation Responsive to State and National Changes. *Planning & Changing, 45*(1/2), 210-227.

ABSTRACT: Various state and national forces are influencing principal preparation programs, including competition from online for-profit institutions, teacher evaluation, school accountability, equity, and Response to Intervention mandates that require university-based leadership preparation programs to re-examine and revise program delivery and content. The changes in the Educational Leadership and Policy Studies program at the University of Northern Colorado are described in detail and are presented in three categories: curriculum changes, accountability changes, and delivery changes. These changes illuminate the social, economic, and political forces to which a principal preparation program must be attuned and responsive in order to serve as a model for other programs to consider in an era of rapidly increasing demand for effective school leadership.

4. Outreach

Sindelar, P. T., Dewey, J. F., Rosenberg, M. S., Corbett, N. L., Denslow, D., & Lotfinia, B. (2012). Cost Effectiveness of Alternative Route Special Education Teacher Preparation. *Exceptional Children, 79*(1), 25-42.

ABSTRACT: In this study, the authors estimated costs of alternative route preparation to provide states a basis for allocating training funds to maximize production. Thirty-one special education alternative route program directors were interviewed and completed cost tables. Two hundred and twenty-four program graduates were also surveyed. The authors describe program characteristics, including costs; program content; and participant demographics, including employment history and future plans. Four program types are identified that vary by length, employment status, and cost, although all programs cost less than traditional preparation. Regardless of program type, participants were older than traditional college age, were likely to make more money teaching than in previous jobs, and expressed intent to remain in the field. The authors argue that paraprofessional step-up programs in particular hold great promise for special education.

Valle-Riestra, D. M. r. f. e., Shealey, M. W., & Cramer, E. D. (2011). Recruiting and Retaining Culturally Diverse Special Educators. *Interdisciplinary Journal of Teaching & Learning, 1*(2), 68-87.



ABSTRACT: In light of the current challenges in addressing the achievement gap between minority and non-minority students, the persistent problems of disproportionality in special education, and the dismal post-school outcomes for culturally and linguistically diverse (CLD) students and those living in poverty, it is critical that successful models of teacher recruitment and retention are developed and implemented. In this article we review current literature on multicultural issues in special education that underscore the need for a more diverse teaching workforce and look at the recruitment trends described in the retention of teachers who are prepared to effectively serve PK-12 students and their families from diverse backgrounds. We also share preliminary data on our efforts to recruit and retain graduate students in an advanced special education program at a Hispanic-serving institution of higher education. To further guide the efforts of others, we provide recommendations for program development and future research.

5. Professional Development

Binks-Cantrell, E., Washburn, E. K., Joshi, R. M., & Hougen, M. (2012). Peter Effect in the Preparation of Reading Teachers. *Scientific Studies of Reading, 16*(6), 526-536. doi:10.1080/10888438.2011.601434

ABSTRACT: The Peter Effect (Applegate & Applegate, 2004) claimed that one cannot be expected to give what one does not possess. We applied this notion to reading teacher preparation and hypothesized that teacher educators who do not possess an understanding of basic language constructs would not prepare teacher candidates with an understanding of these constructs considered essential for early reading success. Results from a survey of basic language constructs revealed similar patterns in performance between teacher educators and their respective teacher candidates, which served as initial validation of the Peter Effect in reading teacher preparation.

Damore, S. J., Kapustka, K. M., & McDevitt, P. (2011). The Urban Professional Development School Network: Assessing the Partnership's Impact on Initial Teacher Education. *Teacher Educator, 46*(3), 182-207. doi:10.1080/08878730.2011.582929

ABSTRACT: In an era of dissatisfaction with the nation's prekindergarten through grade 12 schools and criticism of teacher education programs, professional development school (PDS) partnerships have emerged as one solution. Using quantitative and qualitative data obtained during the first two years of an urban PDS network that includes a large, private university and six local public and private schools, the researchers document how the PDS relationships influenced preservice candidate preparation, with specific consideration given to changes over time. Through the data, the voices of the participants emerge to help the researchers understand how preservice candidates, through the PDS model, are equipped with the



knowledge, skills, and dispositions necessary to meet the needs of P-12 students in their future classrooms.

Superfine, A. C., & Li, W. (2014). Developing Mathematical Knowledge for Teaching Teachers: A Model for the Professional Development of Teacher Educators. *Issues in Teacher Education*, 23(1), 113-132.

ABSTRACT: What is needed to prepare teachers to effectively teach mathematics has been the subject of considerable debate for at least two decades, with the focus shifting back and forth between the number of mathematics courses that teachers need to the mathematics content that teachers need to know. Building upon previous work related to teacher knowledge, some researchers have reconceptualized mathematics content knowledge and have argued that teachers need to know not only the ways that mathematics is used in applied contexts and other professions, e.g., using percentages to compute amounts of discounts, but also the ways required exclusively for teaching, e.g., evaluating the validity of the mathematics in solution methods. Nevertheless, little is known about what mathematics teacher educators, the individuals who are primarily responsible for the mathematical preparation of teachers, should know. Building on their work as part of a two-year professional development project for mathematics teacher educators, and drawing from research on features of high-quality professional development programs, the authors propose a model for the professional development of teacher educators who teach mathematics content courses as part of elementary teacher preparation programs. They illustrate this professional development model by drawing on their ongoing work as part of the Mathematical Knowledge for Teaching Teachers (MKTT) Project, which is a National Science Foundation funded professional development project designed to provide opportunities for mathematics teacher educators to develop their own understandings of mathematical knowledge as it influences their work with preservice teachers in mathematics content courses. While the proposed professional development model has been used only in the context of the project, their aim is to provide insight into the nature of professional development activities designed specifically for teacher educators so that they can develop ways to support teacher educator learning in broader contexts.

6. Secondary Education

Fullerton, A., Ruben, B. J., McBride, S., & Bert, S. (2011). Development and Design of a Merged Secondary and Special Education Teacher Preparation Program. *Teacher Education Quarterly*, 38(2), 27-44.

ABSTRACT: As middle and secondary classrooms become increasingly inclusive, some special educators may not be prepared to teach content, and some general educators may not be prepared to address diverse learning needs. This mismatch between the reality of today's schools and traditional teacher preparation has led to the development of new models for teacher education that integrate or merge special education and general education. Integrated



and merged models are two approaches to combining special and general education pedagogy for teacher education. In merged programs, faculty in general and special education collaborate to develop one program in which all candidates receive licensure in both general and special education. Merged programs are developed through the extensive and deliberate collaboration of general and special education faculty to redesign the teacher education curriculum and field experiences. However, while several merged programs have been developed to prepare elementary candidates, programs for middle/secondary candidates are scarce. When faculty from Curriculum and Instruction and Special Education consider creating a merged secondary program, many questions and issues arise. These questions and issues were addressed in the development and implementation of the Secondary Dual Educator's Program (SDEP). The overall purpose of SDEP is to develop strategic teachers with the versatility to meet the learning needs of all secondary students. This article describes the process used by cross-department faculty to develop the program design and components and how program evaluation led to revisions that strengthened the program.

Grskovic, J. A., & Trzcinka, S. M. (2011). Essential Standards for Preparing Secondary Content Teachers to Effectively Teach Students with Mild Disabilities in Included Settings. *American Secondary Education*, 39(2), 94-106.

ABSTRACT: Secondary content teachers are more likely than ever before to be asked to provide instruction for students with disabilities in their classrooms. Despite years of recommendations for curricular reform, general education teachers continue to report feeling ill-prepared to teach students with disabilities. The purpose of this study was to identify the knowledge, skills, and dispositions essential for preparing secondary content teachers to effectively teach students with mild disabilities. A national sample of experienced special education teachers working in secondary schools rated a modified version of the Council for Exceptional Children Special Education Teacher Preparation Standards on their importance in general education teacher preparation. Thirty-one "essential" standards were identified and are recommended for inclusion in secondary teacher curricula.

Wasserman, N. H., & Ham, E. (2013). Beginning Teachers' Perspectives on Attributes for Teaching Secondary Mathematics: Reflections on Teacher Education. *Mathematics Teacher Education and Development*, 15(2).

ABSTRACT: The aim of this collaborative study was to understand what factors beginning secondary mathematics teachers attribute their success to in the classroom, regardless of their preparation program. Further description of how and when beginning teachers reported acquiring important teaching attributes provides a perspective on how they make the transition to teaching. A large-grain analysis of critical developmental moments, pre-, during, or post-program, contributes to the conversation about teacher education, highlighting valuable aspects of the preparation process for beginning teachers. The results have implications for informing the types of students mathematics education programs should try to attract or recruit, and



defining areas on which teacher education programs should focus and where practicum or internship components might be incorporated into the preparation process.

Westerlund, J. F., Radcliffe, R. A., Smith, D. A., Lemke, M. R., & West, S. S. (2011). Profiles of U.S. Science Teacher Candidates: Safeguards Amidst the Gathering Storm. *International Journal of Environmental and Science Education*, 6(3), 213-226.

ABSTRACT: The shortage of science teachers in the United States and throughout the world indicates a collective need to recruit more students into the science teaching field and to retain current science teachers. This study explores the profiles of U.S. science teacher candidates and investigates what attracts and discourages these pre-service teachers into teaching science. Through the use of survey and structured interview approaches we investigated the profiles of pre-service elementary, middle school, and high school teachers (n = 109) who were interested in teaching science. Common findings among this set of science teacher candidates included: positive science experiences with K-12 teachers during childhood, beliefs that certain teacher preparation content courses were roadblocks to becoming certified, unfamiliarity with the employment market for science teachers, and a lack of being recruited to teach science. Based on these profile characteristics of science teacher candidates, teacher educators may pursue specific strategies to encourage more teacher-candidates to select science as their teaching field.