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# Preparing Practice-Based Researchers for Diverse Classrooms: A Pathway for Teacher Education

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## Abstract

Twenty-first century educators are faced with new dilemmas, as well as new opportunities. In response to the increasing racial, cultural, and linguistic diversity of students, some school districts and states have implemented policies mandating particular curriculum. However, evidence increasingly shows that teachers who are effective in diverse classrooms are adaptive and responsive rather than strictly adhering to scripted curriculum. One proposed solution is preparation to conduct practice-based research as part of teaching. Practice-based research is a method of studying ones' own teaching that draws on action research, design-development research, and transformative research. As a method through which teachers define questions, explore solutions, and share successes in professional communities, practice-based research holds tremendous potential to support teachers in diverse classrooms as they work to teach in culturally sustaining ways despite external pressures. This chapter begins with the history of action research and the tradition of teachers conducting research on their practice. Then, examples of practice-based research in literacy teacher education settings from a review of the research literature are provided to demonstrate the challenges, opportunities, and design features for this work. The chapter concludes with recommendations for teacher education policies, for teacher educators, and for practice.

**Keywords:** action research, diversity, preservice teachers, literacy

## 1. Introduction

Teacher educators are faced with myriad challenges as they prepare the next generation of classroom leaders. One particular challenge is learning to teach in ways that equitably serve students from diverse racial, cultural, and linguistic backgrounds, particularly as teachers are often very different racially, culturally, and linguistically from their students [1]. In the U.S. education context, outcomes in achievement continue to favor white native English speakers [2]. In addition, teachers increasingly face curricular constraints, mandates, and policies that dictate the ways in which they leverage resources, engage in particular pedagogies, and monitor student performance [3]. Although these policies are often written with the intention of standardizing schooling to ensure all students have access to equitable

experiences, when policymakers attempt to control every aspect of teachers' practices, it can limit teachers' ability to be responsive to students' interests and needs. This problem becomes even more pronounced as research suggests teachers' practices must become more adaptive—not less—to meet the needs of diverse learners [4, 5]. In addressing these challenges, one facet of teacher preparation that invites teachers to define challenges and design solutions is practice-based research [6]. The possibility of conducting research on one's own teaching holds tremendous potential to help teachers engage with the political, professional, and personal aspects of teaching [7]. In this chapter, the history of and methods for research conducted by teachers is reviewed. Then, a systematic review is conducted to demonstrate the ways in which this type of preparation can function. Finally, suggestions for teacher preparation are provided.

## **2. Background on research conducted inside of teaching**

In 1946, Kurt Lewin [8] proposed action research as a challenge to experimental research that “produces nothing but books” (p.35) and served only to “diagnose” (p.37) rather than provide solutions to societal challenges. Growing up in a Jewish family in pre- World War Two Germany, Lewin learned through personal experience that when leveraged by those in power, research could serve as a way to legitimize the marginalization of particular ethnic groups. In conceptualizing action research, he took a more equitable, situated perspective and attempted to engage practitioners across professional fields in being part of the process of finding strategies for action.

Given their location as sites of inequity and equity, action research eventually came to be situated inside classroom contexts. Although there were a few early trailblazers, the teacher-researcher movement primarily rose in the United Kingdom in the 1970s and 1980s [9], and in the 1980s and 1990s in the U.S., spurred by notable scholarship [10]. However, in the U.S., momentum stalled in the 1980s and 1990s as calls to standardize teacher education and enhance accountability led to increased state-level control [11]. At the same time, and as a form of resistance to the ways research was being used with authority to control teachers' and teacher educators' practices, some teacher educators argued that preparation for research ought to be a necessary component of teacher education to support quality teaching and professionalize the field [12]. These arguments have continued into the present day.

### **2.1 Purposes of conducting research inside of teacher education**

Noffke has described three main roles research can play in shaping teacher education: political, professional, and personal [7]. To Noffke, teachers' research can be used in ways that reveal that the political nature of teaching as research creates sites to explore questions of power, fairness, and ethics. The professional aspects of research relate to the growth of classroom practice in ways that use action research to bridge the traditional theory/practice knowledge gap. Finally, the personal elements of research reveal the potential for action research to lead to self-knowledge and fulfillment, deeper understanding, and greater sense of belonging as a teacher. Noffke did not suggest that the political, professional, and personal aspects of learning to conduct research as part of teaching must be engaged with separately or in any particular order. Instead, the purposeful overlap of these elements in teacher education has the greatest potential to create lasting change in teachers' understandings and practices.

## **2.2 Practice-based research: an innovative framework**

Practice-based research, which has recently been reconceptualized by Sailors and Hoffman [6], draws on action research [8], design/development research [13], and transformative research [14] framings. In this type of research, teachers begin by asking questions about things which feel unresolved in their practice, and they start by closely observing the ways in which their teaching is currently working to identify the underlying structures. This re-searching around an environment that is well known to a teacher is a key element of action research, since it invites teachers to challenge their own assumptions about what is effective, and for whom, in their teaching. At this stage, teachers begin collecting data, often in the form of student work samples, notes, and audio or video recordings of their teaching, and they begin analyzing this data to look for possibilities for change. Once they identify an alteration or intervention that could make their teaching more equitable, they put it to work and collect further data on the elements of the intervention that are working well, and those that they could further change. Teachers continue engaging in iterative cycles of growth and reflection. Sometimes this work leads to teachers sharing their findings in collaborative communities with one another, or the field more broadly, but constructing generalizable findings is not the purpose of practice-based research. Practice-based research is similar in many ways to teacher and practitioner research [10] in that it is research done by teachers, typically in their classrooms and within the contexts in which they work. However, one distinction is the iterative design of practice-based research combined with its intentional focus on realizing more equitable possibilities. This type of research highlights that teachers are never finished in their quest to create more equitable and responsive spaces for racially, culturally, and linguistically diverse students. As teachers identify challenges and find ways to make their practices more equitable, additional challenges will invariably arise, and will need to lead to further changes in teaching practices. Practice-based research is both powerful and necessary because it creates the potential for ongoing critical reflection and growth.

## **3. A review of literature on practice-based research**

In order to uncover what is already known about the utility of conducting research on ones' own teaching as part of teacher preparation, a systematic review of literature was conducted. Consistent with the timeframe in which the teacher-researcher movement began to face resistance, this review is bounded from 1990 through 2019. To focus on a content area that is most commonly controlled by external mandates, assessment policy, and external pressures [3] this review focuses on preservice literacy teachers. Drawing on Noffke [7], this review is based on the research question: How have teacher educators engaged with the political, professional, and personal dimensions of preservice literacy teachers' research?

### **3.1 Method**

Following Cooper's [15] integrative review guidelines, included studies (1) were peer-reviewed journal articles and reports of research which drew on empirical data (2) included explicit research questions or described a research focus, as well as a description of methods, data sources, analysis, and findings; (3) were published in English, and (4) focused on preservice literacy teachers conducting research. The area of interest was established using a combination of three sets of search terms: preservice teachers (i.e., university students seeking initial certification to teach),

research (i.e., action, practitioner, or teacher research or inquiries), and literacy (i.e., reading, writing, dialog, and English Language Arts). These terms were used to search three major databases between the years 1990 and 2019. Through this process, 454 abstracts were examined, and 82 studies were ultimately determined to be relevant to the research question.

### 3.2 Analysis

Analysis began with listing each study's participants, program focus, description of research engagement, methods, secondary purposes of the study (e.g., the development of data literacy) research questions, and findings. Each study was also coded for three *a priori* categories consistent with Noffke's [7] definitions of research as inviting opportunities for political, professional, and personal growth. Studies were coded as: (A) politically engaged if the authors described their purpose as supporting preservice teachers' knowledge and practices for serving racially, culturally, and/or linguistically marginalized students; (B) professionally engaged if the authors described their purpose as supporting content, curricular, and/or pedagogical knowledge for teaching; and (C) personally engaged if they were framed as supporting teachers' identity development, self-actualization as decision makers and/or sense of belonging in the field and with colleagues.

### 3.3 Description of studies

The 82 included studies all took place in literacy teaching contexts where English was the primary language of instruction. These studies were conducted most commonly in the United States of America, but also included those from Canada, Great Britain, Australia, Spain, Chile, Mexico, Turkey, China, Namibia, and Israel. Common designs were a study conducted by a preservice teacher as a single-semester course project, or a two-semester capstone or portfolio that spanned multiple courses in a final teacher education program year. The vast majority of studies involved teacher educators conducting action research on their own practice while studying their students' uptake of action research for themselves.

### 3.4 Findings

Analysis revealed that 46 of the 82 studies (56%) engaged with political dimensions of teaching, 65 (79%) engaged with professional dimensions, and 67 (82%) emphasized the personal. (**Table 1**). Further detail in each category is provided.

#### 3.4.1 Political facets of teachers' research

The 46 studies included in this category emphasized the liberatory potential of research to have a positive impact on students from marginalized communities. Eight studies in this category were designed with the intention of using research to prepare preservice teachers for work in urban schools with racially diverse learners [16, 23, 24, 27, 40, 49, 80, 97]. Others were designed to support groups of students such as English Learners who primarily spoke other languages [18, 31, 52, 54, 70, 87] or low-socioeconomic-status rural students [64]. In some studies, the political dimensions of teaching were accessed through research involving caregivers. Lazar [50] explored how preservice teachers' research that involved interviews with their students' caregivers might lead them toward more sophisticated understandings of the strengths and needs of families from marginalized communities. Lazar found that some preservice teachers began the program with fixed ideas about



Study Authors, (Year)	Political (46/ 82)	Professional (65/ 82)	Personal (67/ 82)
Abbate-Vaughn (2006) [16]	X	X	X
Amir et al. (2017) [17]		X	X
Athanases et al. (2013a) [18]	X	X	X
Athanases et al. (2013b) [19]	X	X	X
Athanases et al. (2015) [20]	X	X	X
Barnes (2006) [21]	X	X	X
Basmadjian (2008) [22]	X	X	
Bennett et al. (2016) [23]	X	X	X
Berghoff et al. (2011) [24]	X		X
Brass (2014) [25]	X		X
Broadbuss (2000) [26]	X	X	X
Brock et al. (2013) [27]	X		X
Charbonneau-Gowdy (2015) [28]	X		X
Clayton and Meadows (2013) [29]		X	
Davis et al. (2018) [30]		X	X
de Oliveira and Shoffner (2009) [31]	X	X	
Dikilitaş and Wyatt (2018) [32]		X	
Duffield and Townsend (1999) [33]		X	X
Dunlap and Piro (2016) [34]		X	X
Everett et al. (2008) [35]			X
Ferguson and Brink (2004) [36]	X	X	X
Gore and Zeichner (1991) [37]	X	X	X
Grisham et al. (2000) [38]		X	X
Grugeon (2005) [39]		X	
Hagevik et al. (2012) [40]	X	X	X
Hayden and Chiu (2013) [41]	X	X	X
Hoppey (2013) [42]		X	
Kindle and Schmidt (2011) [43]	X	X	X
Kindle and Schmidt (2019) [44]		X	X
Knight et al. (2000) [45]		X	
Kosnik and Beck (2000) [46]	X	X	X
Kucan (2001) [47]		X	
Landay (2001) [48]	X		X
Lawrence et al. (2017) [49]	X	X	
Lazar (1998) [50]	X		X
Levin and Rock (2003) [51]		X	X
López-Gopar (2014) [52]	X	X	X
Love (2009) [53]		X	
Lysaker and Thompson (2013) [54]	X	X	X
Mastrilli and Brown (1999) [55]	X	X	X

Study Authors, (Year)	Political (46/ 82)	Professional (65/ 82)	Personal (67/ 82)
Mayor (2005) [56]		X	
McGee (2011) [57]	X	X	X
Mencke (2013) [58]	X	X	X
Merino and Holmes (2006) [59]	X	X	X
Meyer and Sawyer (2006) [60]	X	X	X
Monroe et al. (2007) [61]		X	
Moore et al. (1999) [62]		X	X
Moran (2007) [63]		X	X
Norton-Meier et al. (2009) [64]	X	X	X
Olmedo (1997) [65]	X	X	X
Phillips and Carr (2007) [66]		X	X
Picower (2007) [67]	X	X	X
Price and Valli (2005) [68]	X	X	X
Quiocho and Ulanoff (2004) [69]		X	
Ramirez et al. (2016) [70]	X	X	X
Rinke and Stebick (2013) [71]			X
Rosaen et al. (2008) [72]		X	X
Rosaen et al. (2009) [73]			X
Salerno and Kibler (2014) [74]			X
Salerno and Kibler (2015) [75]			X
Scherff (2012) [76]	X		X
Schieble et al. (2015) [77]	X	X	X
Scott et al. (2013) [78]		X	X
Simon (2013) [79]	X	X	X
Simon (2015) [80]	X	X	X
Smith (2005) [81]		X	
Sutherland (2006) [82]		X	
Thwaite and Rivalland (2008) [83]		X	X
Valli (2000) [84]		X	X
Velluto and Barbousas (2013) [85]	X	X	X
Villacañas de Castro (2014) [86]	X		X
Villacañas de Castro (2017) [87]	X		X
Wastin and Han (2014) [88]		X	X
Watulak (2016) [89]	X		X
Whitaker and Valiterra (2018) [90]	X	X	X
Wickstrom (2013) [91]		X	X
Wolf (1996) [92]		X	X
Xu (2000) [93]	X	X	X
Yan (2017) [94]			X
Yayli (2008) [95]		X	X

Study Authors, (Year)	Political (46/ 82)	Professional (65/ 82)	Personal (67/ 82)
Zeichner et al. (1998) [96]	X	X	X
Zoss (2014) [97]	X		X

**Table 1.**  
*Emphasis of political, professional, and personal dimensions, per Noffke [7].*

families’ lack of commitment to education, while others took more of a curious, inquiring stance, both groups of preservice teachers became more responsive and recognized more of their students’ families’ strengths throughout the experience. In Lopez-Gopar’s [52] study of English language student teachers in Oaxaca, Mexico, preservice teachers participated in critical ethnographic action research projects involving interviews with cooperating teachers, K-12 students, and school administrators about their views regarding English, Spanish, and Indigenous languages. The preservice teachers became more appreciative toward linguistic diversity over time, but perhaps more interestingly, as the K-12 students became aware of the focus of the preservice teachers’ research, they began to shift their views to become more appreciative toward their peers’ use of Indigenous languages. Overall, the studies in this category show that one purpose of practice-based research can be to engage teachers with the political dimensions of teaching in ways that encourage them to be more reflective and supportive of students from marginalized backgrounds.

3.4.2 Professional facets of teachers’ research

The 65 studies framed as emphasizing the professional aspects of learning to teach focused on using research to help teachers understand content, construct curriculum, enact particular pedagogies, and assess the value of their teaching. In these studies, research was incorporated to help preservice teachers make sense of complex dimensions of curriculum and teaching, such as Response to Intervention [42] classroom dialogue [47, 53] or to learn to more effectively teach reading, particularly for students with disabilities [56, 61].

In Yayli’s study [95] of English teachers in Turkey, preservice teachers worked together in groups of six to observe and work with one mentor teacher and placement classroom. The preservice teachers kept reflective journals and collaboratively wrote a case study of the mentor teacher’s practices. Although some initially reported negative views of their mentor teachers, they became more sympathetic as the semester went on and they realized more of the practical aspects of teaching. Furthermore, they became critical of how much of the theory they learned in their teacher education program was derived from university-based studies in the U.S., rather than domestic. Instead, the preservice teachers referred to and quoted one another’s research while discussing the theory-practice relationship during coursework. As a whole, these studies show that learning to conduct research as part of learning to teach is not a distraction from developing knowledge of curriculum and pedagogy. In fact, conducting research actually supports teachers’ understandings of their professional work.

3.4.3 Personal facets of teachers’ research

In 67 studies, the purpose of conducting research was to strengthen preservice teachers’ identities as educators, to strengthen their resolve that they belong in the profession, to support their growth as critically reflective practitioners, and



to encourage them to see themselves as agentic and capable. These studies largely emphasized the value of building reflective relationships with other teachers in which it was safe to discuss practices that did not yet feel secure, to name questions and challenges, and to work together to envision alternatives. For example, Barnes [21] found that co-engagement in research, in which preservice teachers observed and interviewed cooperating teachers, supported strong relationships between them that enabled preservice teachers to envision themselves persisting in a teaching career. Another prime example came from Levin and Rock [51], who worked with preservice teachers who conducted action research projects in the previous semester's coursework to work alongside mentor teachers in iterative cycles of research. Mentor teachers had a professional development workshop to prepare them for the experience, and the teacher educators intentionally resisted defining for the pairs what role(s) they would each take; instead, they emphasized the value of dialog, having a common mission, and sharing in the work. Levin and Rock found that ultimately, both preservice teachers and their mentor teachers took up identities as researchers together. In general, these studies showed that a researcher identity can co-emerge with a teacher identity, and that both are supportive of teachers' personal growth.

#### *3.4.4 Summary of findings*

Each of Noffke's [7] purposes for including research was present in at least half of the studies reviewed, suggesting that these three purposes for research have persisted in popularity from 1990 through 2019. There was also overlap between the different purposes of research. For example, it was rare to see studies that emphasized the political facets of research, or the professional facets of research, without connecting these to teachers' personal growth. However only 32 studies (39%) made use of all three purposes of research simultaneously, indicating room for researchers and teacher educators to more fully integrate the uses of research into developing teachers personally, professionally, and politically as they rise to meet the needs of diverse students in 21st-century classrooms.

## **4. Recommendations for teacher education**

It is clear through this review that teacher preparation that emphasizes the value of conducting research inside of one's practice has the potential to support teachers in effectively serving racially, culturally, and linguistically diverse students, and to help them challenge external constraints on their teaching. When a focus on research is a foundational aspect of teacher education programs, rather than just an assignment or a topic to be covered in a single course, it has the potential to reshape the ways teachers engage in their work as professionals. In addition, the literature suggests several specific recommendations for policies, teacher educators, and practice.

### **4.1 Suggestions for policy**

While standardization measures were initially promoted as tools to increase equity by ensuring all students receive comparable instruction, it has become increasingly clear that equity comes from responsive teaching that is catered to the unique needs of each individual based on their racial, cultural, and linguistic positions in the world. The studies included in this review, as well as more recent work [98, 99] suggest that learning to enact this type of teaching is strengthened

by teachers' own inquiries into the complexity of their practice. Rather than standardizing curriculum, one possibility would be to construct policies that encourage teacher preparation programs to ensure their graduates have engaged with research as a foundational aspect of teaching before they move into in-service work. Wherever standards for teacher preparation exist, they must attend to the role of conducting research in learning to teach. In addition, mandates that assure in-service teachers the time and resources to continue to conduct practice-based research on their teaching, particularly in the challenging inductive years, would support more equitable outcomes for students.

#### **4.2 Suggestions for teacher educators**

The literature from the past 29 years suggests that many teacher educators have found value in bringing research into teacher education. The continued use of research for personal, professional, and political growth of teachers is merited, and clearly, there is room to expand the ways in which teachers' own research engages with the political. In particular, new frameworks such as practice-based research [6] have obvious potential to reshape the ways preservice teachers learn to resist external controls on their teaching and create spaces that honor the racial, cultural, and linguistic diversity of their classrooms. Across studies, it was clear that research works best when it is a framing that guides teacher education programs, rather than a single assignment. Additionally, its value is best demonstrated by teacher educators who actively study their own practices and make this process transparent for preservice teachers. Ensuring a research focus at the program level has unlimited potential to strengthen teacher preparation.

#### **4.3 Suggestions for teachers' practice**

In order for teachers to provide effective, equitable instruction to their students, they need to develop mindsets and toolsets to ask questions, seek solutions, and measure the successfulness of the changes they make to their practices. The literature in this area suggests that building communities of dialogue and reflection with other teachers engaged in research can strengthen teachers' sense of belonging in the field, help them refine their practices to make them more effective, and can push them to attend to questions of diversity more thoughtfully. In realizing these possibilities, it is important that teachers be encouraged to build relationships with colleagues in which they can share their practice-based research. In addition, it has been noted that sometimes teachers who begin conducting practice-based research experience a drop in their self-efficacy and confidence as they uncover issues in their teaching that they had not previously realized [98]. However, this literature base suggests that pushing through these challenges through inquiry can support teacher learning and ultimately produce teaching that is more responsive to diverse learners' needs.

### **5. Conclusions**

In this chapter, the value of practice-based research [6] was examined as a potential tool to strengthen teacher preparation in the contemporary context. The rich history of teachers conducting research on their own practice suggests that asking questions about and studying ones' own teaching can lead to the construction of more equitable possibilities in education. It is also apparent that in the face of current reforms and mandates, studying one's own teaching can help teachers

resist external pressures on their work that would otherwise prevent them from teaching in responsive, student-centered ways.

In reviewing the published literature on the uses of research in preservice literacy teacher education from 1990–2019, it is apparent that research is most often functioning as a way to support teachers' personal development of identities as professionals who have a sense of belonging in the field. This is not an insignificant goal, since teachers who develop the identity of professional educators are more likely to be dedicated to reflection and critical processes such as research. Research also commonly serves to help teachers examine their curricular and pedagogical decision-making and strengthen their ability to provide instruction. In this way, research can serve as professional learning that is directly embedded in the contexts in which teachers work.

While these uses of research are commendable, research is less commonly serving to contribute to more equitable outcomes for students by pushing teachers to more deeply attend to their students' ideas and interests, and to help them notice sources of inequity that might serve as barriers to student learning. Thus, a clear implication for teacher educators is to increase the use of research in teacher education for political purposes. This shift has the potential to help preservice teachers develop critical and reflective capacity necessary to teach adaptively in diverse 21st-century classrooms [4, 5].

Finally, this review suggests that preservice teacher education with a foundation in research become the norm if it were supported by dedicated time and resources through policy and programmatic design. When used as a foundational framework for teacher education, rather than just a course assignment, research experiences can make a vast difference on outcomes for teacher learning, and ultimately student experiences. This review of research overwhelmingly suggests that the adoption of practice-based research in teacher education programs would serve to strengthen engagement with the political dimensions of research and lead to more equitable outcomes in diverse 21st-century classrooms. It is for all of us together, as policy-makers, teacher educators, and teachers, to walk through that door.

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## References

- [1] National Center for Education Statistics. [Internet] *Adult training and education survey*. 2018. Available from: [https://nces.ed.gov/nhes/pdf/ates/2016\\_ates.pdf](https://nces.ed.gov/nhes/pdf/ates/2016_ates.pdf)
- [2] Swartz, A., & Stiefel, L. Immigrants and inequality in public schools. In G. Duncan & R. Murnane, editors, *Whither opportunity? Rising inequality, schools, and children's life chances*, Russell Sage Foundation, 2011. p. 419-442.
- [3] Au, W. *Unequal by design: High-stakes testing and the standardization of inequality*. Vol. 10. Taylor & Francis; 2008.
- [4] Gunning, T. G. *Creating literacy instruction for all students* (10<sup>th</sup> ed), Pearson. 2020.
- [5] Vaughn, M., Parsons, S. A., & Massey, D. Aligning the science of reading with adaptive teaching. *Reading Research Quarterly*. 2020; S1: S299-306.
- [6] Sailors, M., & Hoffman, J. V. *The power of practice-based literacy research: A tool for teachers*. Routledge; 2019.
- [7] Noffke, S. E. Professional, personal, and political dimensions of action research. *Review of Research in Education*. 1997; 22: 305-343.
- [8] Lewin, K. Action research and minority problems. *Journal of Social Issues*. 1946; 2(4): 34-46.
- [9] Stenhouse, L. The humanities curriculum project: The rationale. *Theory into Practice*. 1971; 10(3): 154-162.
- [10] Cochran-Smith, M., & Lytle, S. L. Teacher research and research on teaching: The issues that divide. *Educational Researcher*; 1990: 19(2): 2-11.
- [11] Freiberg, H., & Waxman, H. Changing teacher education. In R. Houston, Editor, *Handbook of research on teacher education*. Macmillan: 1990. p. 617-635.
- [12] Cruickshank, D. Research that informs teachers and teacher educators. *Phi Delta Kappa*; 1990.
- [13] Van den Akker, J. Principles and methods of development research. In J. Van den Akker, Editor, *Educational Design Research*. Routledge; 2006; p. 1-14.
- [14] Mertens, D. M. *Research and evaluation in education and psychology: Integrating diversity with quantitative, qualitative, and mixed methods*. 4th ed. SAGE; 2015.
- [15] Cooper, H. M. Organizing knowledge syntheses: A taxonomy of literature reviews. *Knowledge in Society*; 1988; 1, 104-126.
- [16] Abbate- Vaughn, J. "Not writing it out but writing it off": Preparing multicultural teachers for urban classrooms. *Multicultural Education*. 2006; Summer: 41-48.
- [17] Amir, A., Mandler, D., Hauptman, S., & Gorev, D. Discomfort as a means of pre-service teachers' professional development- an action research as part of the 'Research Literacy' course. *European Journal of Teacher Education*. 2017; 40(2): 231-245. DOI: <http://dx.doi.org/10.1080/02619768.2017.1284197>
- [18] Athanases, S. Z., Bennett, L. H., Wahleithner, J. M. Fostering data literacy through preservice teacher inquiry in English language arts. *The Teacher Educator*. 2013; 48: 8-28. DOI: [10.1080/08878730.2012.740151](http://dx.doi.org/10.1080/08878730.2012.740151)



- [19] Athanases, S. Z., Wahleithner, J. M., & Bennett, L. H. Learning about English learners' content understandings through teacher inquiry: Focus on writing. *The New Educator*. 2013; 9(4): 304-327. DOI: 10.1080/1547688X.2013.841506
- [20] Athanases, S. Z., Bennett, L. H., & Whaleithner, J. M. Adaptive teaching for English language arts: Following the pathway of classroom data in preservice teacher inquiry. *Journal of Literacy Research*. 2015; 47(1): 83-114. DOI: 10.1177/1086296X15590915
- [21] Barnes, C. J. Preparing preservice teachers to teach in a culturally responsive way. *The Negro Educational Review*. 2006; 57(1-2): 85-100.
- [22] Basmadjian, K. G. Watching what we say: Using video to learn about discussions. *English Education*. 2008; 41(1): 13-38.
- [23] Bennett, L. H., Athanases, S. Z., & Wahleithner, J. M. "Like a ball and glove": Teachers' conceptions of the promise and challenges of conducting classroom inquiry. *Action in Teacher Education*. 2016; 38(1): 49-69. DOI: 10.1080/01626620.2015.1118413
- [24] Berghoff, B., Blackwell, S., & Wisehart, R. Using critical reflection to improve urban teacher preparation: A collaborative inquiry of three teacher educators. *Perspectives on Urban Education*. 2011; Spring: 19-28.
- [25] Brass, J. Activist teacher education, Foucault, and the case of two English teachers. *English Education*. 2014; 46(3): 216-246.
- [26] Broaddus, K. From peacemaker to advocate: A preservice teacher's case study of an emergent reader. *Journal of Literacy Research*. 2000; 32(4): 571-597.
- [27] Brock, C. H., Case, R., & Taylor, S. S. Dilemmas in guiding pre-service teachers to explore literacy instruction and diversity. *Teacher Education Quarterly*. 2013; Winter: 81-100.
- [28] Charbonneau-Gowdy, P. Telling tales: Towards a new model of literacy development using e-readers in teacher education in Chile. *The Electronic Journal of e-Learning*. 2015; 13(2): 83-95.
- [29] Clayton, C., & Meadows, G. Action research projects in pre-service teacher education. *Teacher Educators' Journal*. 2013; 20: 5-18.
- [30] Davis, J., Clayton, C., & Broome, J. Thinking like researcher: Action research and its impact on novice teachers' thinking. *Educational Action Research*. 2018; 26(1): 59-74. DOI: 10.1080/09650792.2017.1284012
- [31] de Oliveira, L. C., & Shoffner, M. Addressing the needs of English language learners in an English education methods course. *English Education*. 2009; 42(1): 91-111.
- [32] Dikilitaş, K., & Wyatt, M. Learning teacher-research-mentoring: Stories from Turkey. *Teacher Development: An International Journal of Teachers' Professional Development*. 2018; 22(4): 537-553. DOI: 10.1080/13664530.2017.1403369
- [33] Duffield, J. A., & Townsend, S. S. Developing teacher inquiry in partner schools through preservice teacher research. *Action in Teacher Education*. 1999; 21(3): 13-20.
- [34] Dunlap, K., & Piro, J. S. Diving into data: Developing the capacity for data literacy in teacher education. *Cogent Education*. 2016; 3: 1-13. DOI: 10.1080/2331186X.2015.1132526
- [35] Everett, S., Luera, G., & Otto, C. Improving preservice elementary teachers' writing in a science context.



Journal of College Science Teaching. 2008; 37(6): 44-88.

[36] Ferguson, J., & Brink, B. Caught in a bind: Student teaching in a climate of state reform. *Teacher Education Quarterly*. 2004; 31(4): 55-64.

[37] Gore, J. M., & Zeichner, K. M. Action research and reflective teaching in preservice teacher education: A case study from the United States. *Teaching & Teacher Education*. 1991; 7(2): 119-136.

[38] Grisham, D. L., Laguardia, A., & Brink, B. Partners in professionalism: Creating a quality field experience for preservice teachers. *Action in Teacher Education*. 2000; 21(4): 27-40.

[39] Grugeon, E. Listening to learning outside the classroom: Student teachers study playground literacies. *Literacy*. 2005; 3-9.

[40] Hagevik, R., Aydeniz, M., & Rowell, C. G. Using action research in middle level teacher education to evaluate and deepen reflective practice. *Teaching and Teacher Education*. 2012; 28: 675-684. DOI: 10.1016/j.tate.2012.02.006

[41] Hayden, H. E., Chiu, M. M. Lessons learned: Supporting the development of reflective practice and adaptive expertise. In P. J. Dunston & S. K. Fullerton, Editors, 62<sup>nd</sup> Yearbook of the Literacy Research Association. 2013; p.279-296.

[42] Hoppey, D. Linking action research to response to intervention (RtI): The strategy implementation project. *Networks: An Online Journal for Teacher Research*. 2013; 15(1): 1-11.

[43] Kindle, K. J., & Schmidt, C. M. Outside in and inside out: Using a case study assignment in a reading methods course. *Teacher Education Quarterly*. 2011; Summer: 133-149.

[44] Kindle, K. J., & Schmidt, C. M. Developing preservice teachers: A self-study of instructor scaffolding. *Reading Improvement*. 2019; 56(2): 70-88.

[45] Knight, S. L., Wiseman, D. L., & Cooner, D. Using collaborative teacher research to determine the impact of professional development school activities on elementary students' math and writing outcomes. *Journal of Teacher Education*. 2000; 51(1): 26-38.

[46] Kosnik, C., & Beck, C. The action research process as a means of helping student teachers understand and fulfil the complex role of the teacher. *Educational Action Research*. 2000; 8(1): 115-136.

[47] Kucan, L. Transcript Analysis Project (TAP): An opportunity for student teachers to engage in practical inquiry into classroom discussion. In J. V. Hoffman, D. L. Schallert, C. M. Fairbanks, J. Worthy & B. Maloch, Editors. 50<sup>th</sup> Yearbook of the National Reading Conference. 2001; p. 346-355.

[48] Landay, E. Narrative interviews: An approach to studying teaching and learning in English classrooms. *The High School Journal*. 2001; 84(3): 26-34.

[49] Lawrence, S. A., Johnson, T., Baptiste, M., Caleb, A., Sieunarine, C., & Similien, C. Pre-service teachers' use of multicultural literature. *Journal of Inquiry & Action in Education*. 2017; 9(1): 28-47.

[50] Lazar, A. M. Helping preservice teachers inquire about caregivers: A critical experience for field-based courses. *Action in Teacher Education*. 1998; 19(4): 14-28.

[51] Levin, B. B., & Rock, T. C. The effects of collaborative action research on preservice and experienced teacher partners in professional development schools. *Journal of Teacher*

Education. 2003; 54(2): 135-149. DOI: 10.1177/0022487102250287

[52] López-Gopar, M. E. Teaching English critically to Mexican children. *ELT Journal*. 2014; 68(3): 310-320. DOI: 10.1093/elt/ccu017

[53] Love, K. Literacy pedagogical content knowledge in secondary teacher education: reflecting on oral language and learning across the disciplines. *Language and Education*. 2009; 23(6): 541-560. DOI: 10.1080/09500780902822942

[54] Lysaker, J., & Thompson, B. Teacher research as a practical tool for learning to teach. *Language Arts*. 2013; 90(3): 181-191.

[55] Mastrilli, T. M., & Brown, D. S. Elementary student teachers' cases: An analysis of dilemmas and solutions. *Action in Teacher Education*. 1999; 21(1): 50-60.

[56] Mayor, S. Preservice teachers' developing perspectives on assessment and remediation of struggling readers. *Reading Improvement*. 2005; 42(3): 164-178.

[57] McGee, A. R. Climbing walls: Attempting critical pedagogy as a 21<sup>st</sup>-century preservice teacher. *Language Arts*. 2011; 88(4): 270-277.

[58] Mencke, P. D. Pre-service teachers and participatory action research: Students, community, and action. *Networks: An Online Journal for Teacher Research*. 2013; 15(1): 1-10.

[59] Merino, B. J., & Holmes, P. Student teacher inquiry as an "entry point" for advocacy. *Teacher Education Quarterly*. 2006; 33(3): 79-96.

[60] Meyer, T., & Sawyer, M. Cultivating an inquiry stance in English education: Rethinking the student teaching seminar. *English Education*. 2006; October: 46-71.

[61] Monroe, E. E., Gali, K., Swope, K., & Perreira, I. Preservice teachers' use of action research to implement alternatives to round robin reading. *Journal of Reading Education*. 2007; 32(2): 13-17.

[62] Moore, R. A., Bartlett, A., Garrison, L., Hagemo, K., Mullaney, J., Murfitt, A., & Smith, S. Preservice teachers engaged in reflective classroom research. *The Teacher Educator*. 1999; 34(4): 259-275.

[63] Moran, M. J. Collaborative action research and project work: Promising practices for developing collaborative inquiry among early childhood preservice teachers. *Teaching and Teacher Education*. 2007; 23: 418-431. DOI: 10.1016/j.tate.2006.12.008

[64] Norton-Meier, L., Drake, C., & Tidwell, M. Writing a mathematics community: A pen pal inquiry project. *Language Arts*. 2009; 86(4): 245-256.

[65] Olmedo, I. M. Challenging old assumptions: Preparing teachers for inner city schools. *Teaching and Teacher Education*. 1997; 73(3): 245-258.

[66] Phillips, D. K., & Carr, K. Illustrations of the analytic memo as reflexivity for preservice teachers. *Educational Action Research*. 2007; 15(4): 561-575. DOI: 10.1080/09650790701664005

[67] Picower, B. Supporting new educators to teach for social justice: The critical inquiry project method. *Penn GSE Perspectives on Urban Education*. 2007; 5(1): 1-22.

[68] Price, J. N., & Valli, L. Preservice teachers becoming agents of change: Pedagogical implications for action research. *Journal of Teacher Education*. 2005; 56(1): 57-72. DOI: 10.1177/0022487104272097

[69] Quiocho, A. M. L., & Ulanoff, S. H. Developing inquiry questions:

Encouraging reflective practice in a language and literacy methods course. *Action in Teacher Education*. 2004; 25(4): 1-8.

[70] Ramirez, P. C., Gonzales-Galindo, D., & Roy, B. Preparing pre-service secondary teachers in Arizona: Using culturally responsive approaches to learn from diverse secondary English learners. *Multicultural Education*. 2016; Winter: 22-30.

[71] Rinke, C. R., & Stebick, D. M. "Not just learning about it but actually doing it": The evolution of a teacher inquiry culture. *Action in Teacher Education*. 2013; 35: 72-84. DOI: 10.1080/01626620.2012.743443

[72] Rosaen, C. L., Lundeberg, M., Cooper, M., Fritzen, A., & Terpstra, M. Noticing noticing: How does investigation of video records change how teachers reflect on their experiences? *Journal of Teacher Education*. 2008; 59(4): 347-360. DOI: 10.1177/0022487108322128

[73] Rosaen, C. L., Lundeberg, M., Terpstra, M., Cooper, M., Fu, J., & Niu, R. Seeing through a different lens: What do interns learn when they make video cases of their own teaching? *The Teacher Educator*. 2009; 45(1): 1-22. DOI: 10.1080/08878730903386849

[74] Salerno, A. S., & Kibler, A. K. Understanding how pre-service English teachers adopt stance toward academic teaching inquiry tasks. *Linguistics in Education*. 2014; 28: 92-106. DOI: 10.1016/j.linged.2014.08.008

[75] Salerno, A. S., & Kibler, A. K. Questions they ask: Considering teacher-inquiry questions posed by pre-service English teachers. *Educational Action Research*. 2015; 23(3): 399-415. DOI: 10.1080/09650792.2015.1012174

[76] Scherff, L. "This project has personally affected me": Developing

a critical stance in preservice English teachers. *Journal of Literacy Research*. 2012; 44(2): 200-236. DOI: 10.1177/1086296X12440430

[77] Schieble, M., Vetter, A., & Meacham, M. A discourse analytic approach to video analysis of teaching: Aligning desired identities with practice. *Journal of Teacher Education*. 2015; 66(3): 245-260. DOI: 10.1177/0022487115573264

[78] Scott, S. E., Kucan, L., Correnti, R., Miller, L. A. Using video records to mediate teaching interns' critical reflection. *Journal of Technology and Teacher Education*. 2013; 21(1): 119-145.

[79] Simon, R. "Starting with what is": Exploring response and responsibility to student writing through collaborative inquiry. *English Education*. 2013; 45(2): 115-146.

[80] Simon, R. "I'm fighting my fight, and I'm not alone anymore": The influence of communities of inquiry. *English Education*. 2015; 48(1): 41-71.

[81] Smith, M. S. Helping preservice teachers develop habits of inquiry: Can it be done?. *Reading Research and Instruction*. 2005; 45(1): 39-68. DOI: 10.1080/19388070509558441

[82] Sutherland, J. Promoting group talk and higher-order thinking in pupils by 'coaching' secondary English trainee teachers. *Literacy*. 2006; 40(2): 106-114.

[83] Thwaite, A., Rivalland, J. How can analysis of classroom talk help teachers reflect on their practices? *Australian Journal of Language and Literacy*. 2008; 32(1): 38-54.

[84] Valli, L. Connecting teacher development and school improvement: ironic consequences of a preservice action research course. *Teaching and Teacher Education*. 2000; 16: 715-730.

- [85] Velluto, R., & Barbousas, J. Silencing reading, silencing the boys: Using action research to investigate silent reading programs and its effect on boys' literacy skills. *Networks: An Online Journal for Teacher Research*. 2013; 15(1): 1-8.
- [86] Villacañas de Castro, L. S. Meta-action research with pre-service teachers: A case study. *Educational Action Research*. 2014; 22(4): 534-551. DOI: 10.1080/09650792.2014.904237
- [87] Villacañas de Castro, L. S. 'We are more than EFL teachers- we are educators': emancipating EFL student-teachers through photovoice. *Educational Action Research*. 2017; 25(4): 610-629. DOI: 10.1080/09650792.2016.1215930
- [88] Wastin, E., & Han, H. S. Action research and project approach: The journey of an early childhood pre-service teacher and a teacher educator. *Networks: An Online Journal for Teacher Research*. 2014; 16(2): 1-12.
- [89] Watulak, S, L. Reflection in action: Using inquiry groups to explore critical digital literacy with pre-service teachers. *Educational Action Research*. 2016; 24(4): 503-518. DOI: 10.1080/09650792.2015.1106957
- [90] Whitaker, M. C., & Valiterra, K. M. Enhancing preservice teachers' motivation to teach diverse learners. *Teaching and Teacher Education*. 2018; 73: 171-182. DOI: 10.1016/j.tate.2018.04.004
- [91] Wickstrom, C. D. Inquiry can be transformative: From "I will make him write" to "He will learn to write." *Association of Literacy Educators and Researchers Yearbook*. 2013; 35: 255-273.
- [92] Wolf, S. A., Carey, A. A., & Mieras, E. L. "What is this literachurch stuff anyway?" Preservice teachers' growth in understanding children's literary response. *Reading Research Quarterly*. 1996; 31(2): 130-157.
- [93] Xu, S. H. Preservice teachers in a literacy methods course consider issues of diversity. *Journal of Literacy Research*. 2000; 32(4): 5050-531.
- [94] Yan, C. 'You never know what research is like until you've done it': Action research to promote collaborative student-teacher research. *Educational Action Research*. 2017; 25(5): 704-719. DOI: 10.1080/09650792.2016.1245155
- [95] Yayli, D. Theory-practice dichotomy in inquiry: Meanings and preservice teacher-mentor teacher tension in Turkish literacy classrooms. *Teaching and Teacher Education*. 2008; 24: 889-900. DOI: 10.1016/j.tate.2007.10.004
- [96] Zeichner, K. M., Amukushu, A. K., Muukenga, K. M., & Shilamba, P. P. Critical practitioner inquiry and the transformation of teacher education in Namibia. *Educational Action Research*. 1998; 6(2): 183-203.
- [97] Zoss, M. Knotty articulations: Professors and preservice teachers on teaching literacy in urban schools. *English Education*, 2014; 47(1): 38-79.
- [98] Lammert, C., & Steinitz Holyoke, E. Supporting English learners through practice-based research. *Reading Horizons*, 2020; 59(1): 24-40.
- [99] Athanases, S. Z., Sanchez, S. L., & Martin, L. M. Saturate, situate, synthesize: Fostering preservice teachers' conceptual and practical knowledge for learning to lead class discussion. *Teaching and Teacher Education*, 2020, 88" 1-16. DOI: 10.1016/j.tate.2019.102970