

Introduction

The Carnegie Challenge paper: Higher Education Challenge: New Teacher Education Models for a New Century (Grosso de Leon, 2001) reports that teacher education in the United States is at a critical juncture. In the next ten years, the nation's schools will need to hire at least 2.5 million new teachers. Research demonstrating the singular importance of teacher quality for student achievement mandates the need for these teachers to be well prepared, with the commitment and competence to engage in successful classroom practice.

In the last decade, service-learning has received increased recognition as potentially promising component of teacher preparation programs. A national survey by Erickson and Anderson (2001) found that over 300 teacher preparation programs nationwide currently include service-learning. In a letter to AACTE members, President David Imig commented, "for several years, the American Association of Colleges for Teacher Education (AACTE) has been interested in determining the appropriate roles for service-learning in teacher education, and the value that service-learning holds for improving teacher and student learning."

Root and Swick (1999) argue that service-learning has the potential to transform teacher preparation in two ways: through the expanded and enriched structure that it offers for the education of teachers, and by engaging teacher educators and community as partners in crafting experiences which will lead to improved teacher preparation and stronger schools and communities. However, in order for this pedagogy to become an established and effective element of teacher preparation, a body of knowledge based on high quality research must document its effects.

Although some investigators have examined service-learning in teacher education, the knowledge base is characterized by several gaps. For example, most studies have been evaluations of a single course conducted by its instructor. Many have lacked a theoretical framework. Investigators have made little progress in identifying the most important outcomes of service-learning in teacher education or measures for assessing these outcomes. Finally, the majority of studies of service-learning in teacher preparation have been limited to a simple input-output design, neglecting the potential moderating effects of participant characteristics and features of service-learning experiences. The purpose of the present proposal is to suggest an agenda for future research on service-learning within teacher education and to discuss the role that the International Center for Service Learning and Teacher Education at Clemson University can play in realizing this agenda. The proposal will begin with a brief review of the existing research in the field, followed by suggestions for a research agenda and strategies for building the field.

Review of research

Previous studies of service-learning in teacher education have addressed two primary issues: the ways in which it is being implemented and institutionalized within teacher education and the effects of this approach on teaching candidates.

Studies of implementation and institutionalization

Despite an increase in the number of teacher education programs utilizing service-learning, research indicates that the number of teacher educators who understand this approach is limited. In a three-year study of the status of service-learning in California's Teacher Education programs, Furco and Ammon (2000) found that service-learning was not widely understood by teacher educators, despite a recent statewide initiative to advance service-learning in K-12

schools. These researchers administered a survey comprised of 32 items in four categories (pedagogy, methods, philosophy, and service-learning) to teacher education deans and a set of randomly selected teacher educators. Teacher educators were less likely to report introducing candidates to the pedagogy of service-learning than any other method. Only 65% of respondents (n=71) indicated that their programs introduced candidates to service-learning. In addition, when asked about methods utilized in their teacher education classes, only 65% of those surveyed reported using service-learning, compared to small group discussion (100%), reflection (98.6%), analysis of field work (98.6%), integration of field work and course work (98.6%), and journal writing (97.2%)

Studies have identified several barriers to the integration of service-learning in teacher education in addition to lack of user understanding. One is time. In a summary of two studies, Wade, Anderson, and Pickeral (2000) reported that teacher education faculty encounter difficulties finding time to plan for and implement service-learning, include service-learning in the preservice curriculum, assess students' learning from service-learning, and develop and maintain collaborations with K-12 teacher and community members. Teacher educators cite concerns about lack of acceptance by administrators and colleagues as obstacles to adoption and note the difficulty of including service-learning in programs already constrained by national and state standards and institutional requirements. A final set of obstacles to service-learning adoption identified by teachers include challenges associated with partnering with K-12 teachers and community agency staff, such as locating K-12 teachers interested in service-learning, communicating with K-12 teachers and community agency staff and monitoring experiences in school and community sites.

While researchers have identified obstacles, they have also surfaced strategies used by teacher educators to surmount the challenges to adoption and institutionalization. Anderson and Pickeral (2001) found over 150 such strategies, which they subsumed under 5 recommendations:

1. Teacher educators can implement most strategies for successfully infusing service-learning without additional external or internal resources.
2. Initial use of service-learning should be small scale.
3. Teacher educators need to have a clear understanding of the philosophy and practice of service-learning.
4. Collaboration with K-12 and community partners is essential for service-learning success.
5. Supportive policies and infrastructure that aligns with practice are critical facilitators of service-learning integration within teacher education.

One final focus of inquiry into implementation and institutionalization has centered on elements of good practice. Anderson (2000) conducted a study to determine experts' perceptions of the features of service-learning instruction likely to lead to positive attitudes toward and deep understanding of this approach among teaching candidates, as well as committed, high quality practice. Using the Delphi approach, in which consensual data is obtained through a succession of group surveys, Anderson identified several principles of good practice. Although they are too numerous to reproduce here, sample principles include:

1. Preservice teacher should prepare to use service-learning as a pedagogy by participating in service-learning experiences, as well as in-class study of principles of good service-learning practice.

2. Teacher educators should align service-learning outcomes with program goals, and appropriate state and national standards for teacher certification and accreditation.
3. Preservice teachers should participate in multiple and varied service-learning experiences that involve working with diverse community members.

Impacts on teaching candidates

Efforts to institutionalize service-learning in teacher education have been bolstered by several rationales, but the primary one has concerned its potential to positively influence teaching candidates. Advocates have identified several professional skills and dispositions which may be enhanced by service-learning experiences, including subject matter knowledge, mastery of teacher education accreditation standards, commitment to teaching, sensitivity to the needs of diverse learners and orientation toward care and social justice. In addition, proponents contend that learning the pedagogy of service-learning will heighten candidates' willingness and ability to use it in their own classrooms. Studies of service-learning in teacher education have evaluated several of these claims.

Impact on professional knowledge and skills

Only a few researchers have examined the impact of service-learning on candidates' mastery of Education course content. Shastri (1999) compared students in an Educational Psychology course who had been randomly assigned to a service-learning or comparison section of the course. Students in the service-learning section participated in 20 hours of service and completed reflective journals and a final reflection paper, while comparison group students

wrote two papers. Both groups were tested over course concepts. While students in the service-learning section scored slightly better on tests, the difference was not significant. In contrast, on a summary measure of course achievement, service-learning students significantly outperformed comparison students.

Strange (2000) compared the content knowledge of service-learning and non service-learning participants in a child development course. Service-learning participants outperformed non-participants on two out of three exams. Further analysis of the second exam revealed significant group differences in the essay, but not in the multiple-choice section of the exam. Strange concluded that the effects of service-learning may be more apparent later in a course and on narrative measures.

Impact on professional attitudes and dispositions

Commitment to teaching

Studies provide moderate support for the hypothesis that service-learning participation contributes to candidates' commitment to teaching. In their investigations of Education students involved in tutoring projects, Flippo and colleagues (1993) and Green and colleagues (1994) found that participating students either gained in commitment to teaching or were more likely to maintain their commitment to teaching than comparison students. In a multi-institution study of several service-learning courses, Root and colleagues (2001) found no significant gains among participants on an objective measure of commitment to teaching. However, high quality service-learning experiences significantly predicted increased commitment to teaching. In addition, on an open-ended question, 76% of participants reported that their experiences had changed their views of teaching in positive ways, confirming their desire to teach, helping them become more aware of the realities of teaching, aiding them in the attainment of skills or dispositions which

would help them become better teachers or making them more aware of the important role of the teacher (Root, Callahan & Sepanski, 2001).

Attitudes toward diversity

A number of authors have proposed that service-learning can support the acquisition of the knowledge, skills and dispositions needed for effective multicultural teaching. Community-based service experiences are believed to stimulate better understanding diverse children and families, critical consciousness of the structural sources of social inequity, and commitment to social change.

Investigations of the effects of service-learning on competencies needed for multicultural teaching provide broad support for many these claims. Education students who participate in service-learning experience show increased awareness of diversity issues and reduced stereotyping (Beyer, 1991; Siegel, 1994; Vadeboncoueur et al., 1995; Tellez et al., 1994; McKenna & Ward, 1996; Boyle-Baise, 1998; Potthoff, et al., 2000; Root, et al., 2001). They appear to become more aware of their majority privilege and less inclined to attribute problems associated with poverty and discrimination to internal, personal failings (Siegel, 1994; Tellez et al., 1994; Vadeboncoueur et al., 1995; Grady, 1998; Boyle-Baise, 1998). Participants in service-learning with multicultural populations also revise their attitudes toward multicultural teaching, becoming more aware of the need for multicultural curricula and teaching strategies adapted to diverse youth (Siegel, 1994; McKenna & Ward, 1996; Boyle-Baise, 1998). Tellez and his colleagues (1994) also found that preservice teachers gained a greater commitment to working with urban youth.

Ability to work with parents and community agencies

Advocates argue that service in diverse communities can familiarize preservice teachers with families and children in contexts outside of school, and provide them with the skills needed for effective community collaboration (Wade, 1998; De Jong & Groomes, 1996; Wade & Anderson, 1996). Consistent with these hypotheses, Stachowski and Mahan (1998) discovered that students who participated in service-learning were more apt to view community members as resources.

In addition, in a study by Ginn (1996), preservice teachers who engaged in service-learning demonstrated increased knowledge of community agencies and better understanding of how teachers might use this information to better serve children and families.

Moral Development

Several authors have described teaching as an inherently moral endeavor (e.g., Goodlad, 1990; Jackson, Boostrom, & Hansen, 1998; Noddings, 1992). However until recently, teacher preparation standards and programs appeared to allocate little attention to the moral education of teachers (Goodlad, et al.1990; Bull, 1993; Beyer, 1997). One rationale for including service-learning in teacher education is that it may strengthen preservice teachers' moral dispositions, particularly their orientation toward ethics of care (Noddings, 1988; 1993) and of service (Root, Callahan & Sepanski, 2000).

According to Noddings (1988), teachers guided by an ethic of care are concerned not only with cognitive outcomes but with the growth of their students as whole persons. Commitment to an ethic of care leads teachers to engage in activities such as seeking extensive background information on their students and establishing relationships founded on affection and trust. Studies of the effects of service-learning on the development of preservice teachers' caring

ethic have yielded mainly positive results. For example, in analyzing the journals of Education students who had participated in a tutoring project, Flippo and colleagues (1993) found evidence of increased compassion and concern for others. Potthoff and others (2000) assessed the perceptions of faculty members, community agency staff members, and students, themselves, of the growth of preservice teachers who participated in service-learning. All respondents observed that candidates achieved “definite to significant growth” in “warmth and caring” and “willingness to serve others.” A study by Root and Batchelder (1994) of Education students who participated in a child advocacy project revealed that they made greater gains in the complexity of thinking in response to a social problem of childhood than comparison students. Finally, in their multi-site study, Root and colleagues (2001) discovered that 29% of preservice teachers who had been involved in service-learning reported gaining a better understanding of children’s needs, particularly for teacher care, attention and support.

Service ethic of teaching

Related to the construct of an ethic of care is that of a professional service ethic (Serow et al., 1994). The service ethic, common to many fields, refers to a commitment to serving one’s clients and profession. Serow and colleagues (1994) argue that the service ethic of teaching-the satisfaction that can be obtained from working with young people and a desire to work on their behalf-is an important incentive to teachers to join and remain in the profession. Root and colleagues (2001) presented candidates engaged in service-learning with lists of potential influences on their decision to teach and desirable qualities of teachers, each of which included items indicative of a service ethic. They found that service-learning participants showed gains on one item indicative of a service ethic, their attraction to teaching because of the teacher’s ability to bring about social change (Root, Callahan & Sepanski, 2001).

Service-learning practice

Advocates of service-learning in teacher education argue that this approach not only fosters candidates' professional competencies and dispositions, but strengthens their intent to implement this method in their own practice. Wade and colleagues (1999) surveyed beginning teachers from teacher education programs which had included service-learning. 344 full time teachers completed a survey concerning their college service-learning experiences, their school's service-learning programs, and school and community factors which affected their attempted to implement service-learning. Wade and colleagues found that 35% of their respondents had incorporated service-learning as beginning teachers. Factors which predicted their use of service-learning included their duration in full time teaching, whether they had had responsibility for implementing a service-learning project during a practicum or student teaching and the availability of funding for service-learning in their current schools. Participants' current use of service-learning was also highly correlated with their intent to use service-learning in the future.

Moderating Variables

Investigations of higher education and K-12 programs have isolated several features of service-learning experiences, such as the opportunity for structured reflection, which can moderate their influence on student development (e.g. Astin et al., 2000; Conrad & Hedin, 1982; Eyler & Giles, 1999; Waterman, 1993). However, only a few studies of service-learning in teacher education have included potential moderating variables in their analyses.

Wade et al. (1999) found that having led a service-learning project in a K-12 classroom during a practicum or student teaching predicted beginning teachers' use of this method. Root and colleagues (2000; 2001) isolated two important dimensions of preservice teachers' service-learning experiences. The first, Quality Experience, included students' perceptions of the

challenge, autonomy, exposure to diversity, and relevance to teaching associated with of their service-learning projects. This factor predicted gains in candidates' commitment to teaching. A second factor, Perceived Support, which included the degree to which teachers and/or agency staff helped the candidate adjust to the service-learning experience, the amount of instruction in service-learning as a teaching method, and the extent to which students felt adequately prepared to perform their service responsibilities, predicted gains in teaching efficacy and acceptance of diversity. Root and colleagues found that having an instructor who helped one adjust to the service-learning experience was associated with improved scores on one measure of a service ethic of teaching-belief that a strong interest in correcting social problems is a desirable quality of teachers. Finally, consistent with Wade and colleagues' findings (1999), they discovered that the opportunity to put the method of service-learning into practice was associated with gains in commitment to teaching and acceptance of diversity.

Directions for the future: A proposal for a research agenda

While the results of these studies are promising, there are several weaknesses in the knowledge base on service-learning in teacher education. A research agenda with possible questions and guidelines for future studies could provide badly needed direction for the field. The following section suggests such an agenda and outlines ways in which the International Center for Service Learning in Teacher Education at Clemson University can support the teacher education community in realizing it.

Questions for future research

Future studies of service-learning need to extend both the scope and coherence of questions asked. For example, investigators should expand the target populations and sites for research beyond preservice teachers and Education courses, to determine, for example:

- 1) The effects of service-learning practice on inservice teachers' development, for example, on commitment to teaching, teaching concerns, attitudes toward learners and beliefs about teaching and learning.
- 2) The features of professional development most likely to encourage the implementation and sustained use of service-learning among inservice teachers.
- 3) The impact of service-learning on the development of teacher education faculty and on the mission, goals, organizations and achievements of teacher education programs.
- 4) The role of service-learning in alternative certification programs and on candidates in non-traditional programs.
- 5) The effects of service-learning projects in teacher education on the recipients of service, particularly K-12 schools and students.

In addition to extending the populations and sites for study, researchers on service-learning in teacher education can advance the field by using multiple approaches to explore a limited number of consensually agreed-on, important outcomes of service-learning in teacher preparation programs. Several potentially promising questions exist, such as, "What are the impacts of participating in a developmental sequence of service-learning courses, including courses in content majors or minors, on preservice teachers?" "What effects does service-learning have on the depth and usability of candidates' understandings of the constructivist nature of learning?" "How does service-learning contribute to candidates' critical understanding of the role of schools in a pluralistic democracy and ability to prepare students for membership in this democracy?" In addition, future investigations could examine the impact of exposure to service-learning on the development of future teachers' service-learning practice, such as the process through which they construct more expert schemata for service-learning instruction.

Higher quality research

In addition to addressing particular topics, future studies of service-learning in teacher education must address the methodological flaws which have characterized early work in this field. The large number of discrete studies of single courses and instructors, failure to replicate and build on prior findings, the failure in both quantitative and qualitative studies to strategically strengthen the validity and replicability of results, and the neglect of potential moderating variables are all problems which must be addressed.

Researchers studying service-learning in teacher education can take steps to improve the methodological quality of their studies, including:

- 1) Examine the effects of service-learning within the context of specific institutions, programs and service experiences. There is a widespread agreement that teacher education programs differ extensively in their missions, faculty and student populations and organizational climates. Future studies must take into account these contextual features in explaining the effects of service-learning on preservice teachers. In addition, future research should go beyond the umbrella term of service-learning to determine the effects of specific types of service-learning experiences.
- 2) Use a combination of research approaches to gain more detailed information about the short and long-term impacts of service-learning on preservice teacher growth. For example, investigators could combine experiments or quasi-experiments in service-learning courses with case studies of individual students. Studies of single course effects could be extended through the use of follow-up surveys and case studies of candidates' development throughout programs. These projects could be

further elaborated through surveys and observations of candidates as beginning teachers.

- 3) In both quantitative and qualitative studies, use methods to improve the credibility of the results, such as random assignment or quasi-experiment approaches in quantitative research and weighting evidence or gaining insider validation in qualitative studies (Miles and Huberman, 1984).
- 4) In both quantitative and qualitative studies, move beyond the prevailing input-outcome model to include potential moderating variables, such as student and program characteristics.

Building the field of research on service-learning in teacher education

In June, 2003, members of the research work group of the International Center agreed upon several steps the Center can take to move research and evaluation in this field forward:

1. Develop, publish and actively disseminate a research agenda for Service-Learning in teacher education.
 - Bring together nationally recognized researchers on service-learning in and outside of teacher education to develop and publish an agenda.
 - Actively and broadly disseminate the agenda on the Center website, through publications, and at service-learning and teacher education conferences.
 - Identify and support a core group of researchers who will network across settings to implement research on this agenda.
 - Develop and maintain an annotated bibliography of current and historically significant research on service-learning specific to teacher education.

- Provide training and technical assistance to teacher education faculty and programs in evaluation and research methods.
 - Seek research funding for collaborative research projects on agenda items.
 - Identify and provide active assistance to teacher education faculty and programs seeking research funding.
2. Develop and make available resources to support broad development of research on Service-Learning in teacher education.
- Expand C.A.R.T. (The Compendium of Assessment and Research Tools) to include guidelines and instruments appropriate to teacher education, including measures of program quality, context and outcomes. .
 - Develop a Service-Learning Quality Review appropriate to teacher education programs. The current Service-Learning Quality Review is a self-assessment tool intended to assist K-12 educators to create high quality programs that include service-learning as an integral component. The Quality Review constructed by the Center would aid teacher education faculty to assess the quality of their service-learning efforts in light of principles of best practice.
 - Identify and create a database of funded Service-Learning projects, identifying the project evaluator and coordinating the dissemination of project results.

References