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Difference in Scores Between Teacher Certification Program Students  
With and Without Paraprofessional Experience

S. Caroline Dunn

A thesis submitted to the faculty of  
Brigham Young University  
in partial fulfillment of the requirements for the degree of  
Educational Specialist

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## ABSTRACT

### Difference in Scores Between Teacher Certification Program Students With and Without Paraprofessional Experience

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Demand for highly effective, qualified teachers grew as legislation such as No Child Left Behind (NCLB) and the Individuals With Disabilities Education Act (IDEA) raised the requirements for teachers and paraprofessionals. One suggestion for meeting this demand for teachers who can bring about the required classroom outcomes is to encourage paraprofessionals to become certified teachers—with the expectation that paraprofessionals' prior experience in the school environment will make them likely to excel as teachers. This study examined whether Brigham Young University Special Education teacher candidates with paraprofessional experience differed from candidates without paraprofessional experience in terms of performance scores during a mentored teaching practicum. The teaching skills of classroom and behavior management, teacher competency and knowledge, and professionalism and organization were measured through the scores earned by 37 candidates on their behavior management plans, math and reading lesson plans, and professionalism evaluations. Results indicated no significant difference between candidates with and without prior paraprofessional experience. However, a significant difference was found between the scores in the areas of reading and math lesson plans of the students who were and were not paraprofessionals prior to entering the program. The variance in the scores of the paraprofessionals was significant, meaning some students with paraprofessional background scored low and others scored high in these two areas.

Keywords: paraprofessional educators, teacher training, Special Education, teaching skills

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## **Introduction**

The demand for effective and influential teachers continues to increase within the educational system. Children in the education system need professionals that are dedicated to their work and who provide services that will help educate them to the fullest. Recent laws and regulations have set qualifications for teachers and paraprofessionals to help ensure they are competent in their duties and responsibilities. The No Child Left Behind Act of 2001 (NCLB) and the Individuals With Disabilities Education Act (IDEA) are two examples of laws that have impacted the education field and raised the requirements for teachers and paraprofessionals to promote more effective learning within the classroom. Due to this increase in requirements for teacher qualifications, educators and administrators are interested in finding the resources that will produce the most qualified certified teachers (Smith, 2003). Where can highly qualified teacher candidates be found to make the educational system most effective? What avenues can be investigated that will help bring in highly qualified teaching?

Paraprofessionals are believed to be a pool of possible future highly qualified certified teachers due to their prior experience in the schools (Urban Institute, 2005). Upon entering a teacher certification program, paraprofessionals often bring with them experience from the schools and knowledge of the community (Ashbaker, Morgan, & Dunn, 2010). This knowledge and experience may contribute to the production of the highly qualified teachers that are needed to support student learning as required by the No Child Left Behind and Individuals With Disabilities Education Acts.

In many classrooms, paraprofessionals have been utilized to help teachers educate their students. Under NCLB, paraprofessionals are defined as individuals employed in elementary and secondary educational settings who are supervised by certified teachers (NCLB, 2002, p.

307). Paraprofessionals' roles include a wide variety of duties; they may function as one-on-one or small group instructors or as personal aides for students who can then be accommodated in the general education classroom (Daniels & McBride, 2001). Thus, paraprofessionals come to training programs with experience in working with children from various backgrounds in the educational system. These paraprofessionals have begun to learn and develop skills in instruction, lesson planning, evaluation of students, knowledge of different disabilities, and various other skills.

In seeking to become a resource that will provide the educational field with potential qualified certified teachers, training programs need to focus on skills and knowledge that make effective teachers. Then the training programs can look for those skills and knowledge in future applicants as well as work towards teaching those skills and knowledge to their teacher candidates. Paraprofessionals, again, are believed to be the population nearest to becoming qualified certified teachers because they have had time in the schools to develop the skills and knowledge to become effective teachers.

### **Statement of Problem**

The United States is in need of highly qualified certified teachers to effectively educate the children and adolescents in the community so that they can become contributing members of society. Children need and deserve to learn in an environment led by an effective certified teacher so that their learning is successful. With the implementation of No Child Left Behind (NCLB) and the Individuals With Disabilities Education Act (IDEA), the requirements to become a highly qualified teacher have been increased. Paraprofessionals may be a resource to draw from when training individuals to become certified elementary and secondary teachers because of their previous experience within the educational system, but do they bring the

necessary skills to the job? Are they actually more advanced in the teacher-training process than teacher candidates who have not been paraprofessionals?

### **Statement of Purpose**

The purpose of this research was to discover if paraprofessionals have an advantage over non-paraprofessionals in their work toward becoming effective certified teachers.

### **Research Question**

Is there a significant difference in the scores of special education teacher candidates with experiences as a paraprofessional before entering the program compared to those teacher candidates who have not been paraprofessionals prior to entering the program? Scores used from program assignments during practicum experience include behavior management plan, reading lesson plan, math lesson plan, and professionalism score.

## **Literature Review**

This review will present and discuss the roles and responsibilities of paraprofessionals, the programs that exist to help paraprofessionals become certified teachers, research that states the different qualities that make effective teachers, and teacher education program entrance criteria. This combined information helps formulate an understanding of paraprofessional's ability to develop the qualities of effective teachers and possibly curb teacher shortages through participation in existing teacher education programs.

### **Background**

Education has been a focal point of the United States for many hundreds of years. Throughout the history of the United States of America, the national and state-level governments have worked toward making education a life-enriching experience that is available to all children. As class size has grown and student load has become more demanding for teachers, other resources have been introduced to the educational field to make these state and national governmental goals possible.

Public Law 94-142, the Education for All Handicapped Children Act, stated the need for all children to attend school in regular classrooms in the least restrictive environment possible. This increased the need for assistants or paraprofessionals to help within the classroom (see discussion in IDEA, 2004); this law is now known as Individuals With Disabilities Education Act (IDEA), Public Law 108-446. Another law that has impacted the current standing of paraprofessionals within the classroom setting is the Elementary and Secondary Education Act (ESEA) of 1965, which specified certain qualifications and duties of paraprofessionals; the most current revision of that act is known as the No Child Left Behind Act of 2001.

In 2001, when No Child Left Behind was drafted and agreed upon by the national government, a paraprofessional was defined as follows:

an individual who is employed in a preschool, elementary school, or secondary school under the supervision of a certified or licensed teacher, including individuals employed in language instruction, educational programs, special education, or migrant education.

(NCLB, 2002, p. 307)

This act specifies that in order to work within a Title I program in a school system, paraprofessionals need to qualify under one of the following standards: two years of higher education, an associate's degree or higher, or have a high school diploma/equivalency and pass a rigorous assessment (NCLB, § 1119(c)(1)(A,B, & C). As the act became official, the government gave current paraprofessionals a set amount of time to align their qualifications with the new set of qualifications within the act.

Paraprofessionals have become increasingly important in the U.S. public education system. This is one reason the government has placed more emphasis on making sure they are highly qualified to fulfill their positions. In the 2003–2004 school year, 91% of the public schools reported employing at least one paraprofessional (IES, 2007). According to Hughes and Valle-Riestra (2008), it is estimated that more than half a million paraprofessionals are employed in the public school setting across the United States. Today, most U.S. public schools have instructional paraprofessionals employed as support staff responsible for assisting in the delivery of instruction (Hoffman & Sable, 2006). Originally, their main role was one of support to the teacher in the form of clerical work, such as taking attendance, checking papers, preparing materials and bulletin boards, organizing paperwork, collecting money, and other housekeeping duties (Blalock, 1991; French, 1999b). Over time, this workforce has come to be utilized for

many other important tasks within the classroom. Paraprofessionals are often found in self-contained classes, resource rooms, and bridging inclusion activities in general education classrooms. The different types of classrooms—self-contained, resource, and mainstream—in which paraprofessionals serve have different types of structures in order to benefit the students they serve.

From the research, there is a particular profile that captures the majority of paraprofessionals. Typically, they are women around the average age of 40 years (French, 1999b). This career is considered family friendly because it allows the paraprofessionals to work similar hours to their children so they are able to be at home when their family is at home (French, 1999a). They often live within the community they work in and are found to be similar to the school population in regards to racial, cultural, and linguistic characteristics (Ashbaker, Morgan, & Dunn, 2010). Teachers have described paraprofessionals as caring, cooperative, flexible, dedicated to their work, and imaginative (French, 1999b).

Broer, Doyle, and Giangreco (2005) found that students with intellectual disabilities viewed paraprofessionals as having various roles such as mother, friend, protector, and primary teacher. Chopra et al. (2004) suggested that paraprofessionals could also play the role of connector: they connect parents to teachers, parents to community resources, students to teachers, students to parents, students to peers, and students to the curriculum. In many instances, paraprofessionals work one-on-one with students or conduct small group activities that have been prepared by the classroom teacher (Daniels & McBride, 2001; Minondo, Meyer, & Xin, 2001). Rueda and Monzo (2002) identified five major roles of the paraprofessional:

- Instructional – emotional support for the student, member of a team, monitor student performance, and participate in staff development;

- School support – perform general school duties assigned by the teacher, support teacher, and provide community based instruction;
- Liaison – adaptation of material, communicate with the families of students, and facilitate and connect peers;
- Personal support – provide personal care of the student, help achieve therapy objectives, and provide assistance to entire classroom; and
- One-on-one class support – provide one-to-one, in-class instruction to students who need the assistance.

With each of these roles come specific responsibilities. According to the Rueda and Monzo (2002) survey of paraprofessionals, the most frequently noted role was that of being one-to-one support.

As listed above, paraprofessionals bring many skills to the classroom to help certified teachers, who may share in the same types of responsibilities as paraprofessionals. However, some job responsibilities remain with the teachers. For example, Cheng and Tsui (1999) specify that teaching, school management, curriculum changes, educational innovations, teacher education, working with parents, and community services are some of the responsibilities of certified teachers.

Together, as a team of teachers and paraprofessionals, the needs of the students are met and all students are served. Paraprofessionals are receiving firsthand experience working with students in the classroom and learn the culture of teaching as they watch and observe the certified teacher with whom they work (Ashbaker & Morgan, 2006). During this time, they may be gaining instructional skills, academic skills, classroom management skills, and behavior management skills; they may also be writing and implementing lesson plans and learning how to

work with students, parents, and other teachers. This experience is the beginning of a training process to help many of the paraprofessionals to become future effective certified teachers.

### **Transition from Paraprofessional to Teacher**

With the institution of No Child Left Behind, there has been an increase in the qualifications of certified teachers and a need to train prepared professionals. Paraprofessionals are generally considered to be an excellent source of prepared professionals, who only need additional training to become certified teachers. Rintell and Pierce (2002) suggested using paraprofessionals to ease the teacher shortage in bilingual communities. These paraprofessionals have the background of coming from another culture and working with bilingual students. Genzuk and Baca (1998) also advocated providing additional program support to help trained paraprofessionals transition from paraprofessional to certified teachers. They found that this group of individuals had the basic skills to work with students from similar backgrounds and had developed needed skills from their work as paraprofessionals. However, even though these paraprofessionals have an advantage of knowing the culture and language of the students, they are faced with several types of obstacles, which they need assistance to overcome (Rintell & Pierce, 2003). If provided with performance assistance, these individuals can meet the needs of a teacher certification program's demands and add to the teacher workforce (Genzuk & Baca, 1998).

Research has indicated that paraprofessionals face several types of obstacles in completing their teacher certification: balancing family life with school enrollment, locating college courses that fit their schedule, and the financial burden of returning to school (Smith, 2003). Several different training programs and opportunities have been developed to prepare performance-driven, quality paraprofessionals who are empowered to perform their roles and



responsibilities effectively and who aspire to be certified teachers and to overcome the obstacles that stand in their way. A few areas of assistance according to Genzuk and Baca (1998) include financial assistance, cohort structure, on-site faculty mentors, adjunct classes, project socials, school site presentations and meetings, professional development support, and support for conference participation.

These training programs have been developed at several different levels. State-level programs, programs for individuals with special skills, and career ladders all aid paraprofessionals in developing teaching skills and help them move toward becoming certified licensed teachers. Examples of these different types of programs are given below. As paraprofessionals move towards becoming certified teachers, it is important they consider the obstacles they personally face and choose a program that will help them overcome those specific obstacles.

**State-level training programs.** Given the noted obstacles to achieving teacher certification, several states have developed programs that aid paraprofessionals. Louisiana, Maryland, North Carolina, South Carolina, and Texas each have programs designed to help paraprofessionals move towards becoming certified teachers.

Each state has its own arrangement of programs. For instance, Louisiana has the Tuition Exemption and Stipend Program for paraprofessionals. This program gives assistance to full-time paraprofessionals employed at a public or private school who desire to receive an education degree at a public or private institution in Louisiana (Smith, 2003). Louisiana, as part of the program, will pay the tuition and some fees at public universities and will pay part of private university tuition. In return, the paraprofessional remains employed full time while they work towards receiving a teaching degree. During the student teaching portion of university training,

the paraprofessional is not required to work full time and receives a stipend to help counteract the loss of full-time income. In return for receiving the benefits of this program, the paraprofessional agrees to teach for at least two consecutive years in a public school in Louisiana upon receiving a teaching certificate (Smith, 2003).

Smith (2003) suggested several ways that all states can aid their paraprofessionals in becoming certified teachers. First, provide financial assistance in the form of a scholarship, exemption from tuition, or loans that are forgivable rather than reimbursement. Second, provide financial assistance other than just tuition and fees. Third, continue assistance throughout the program, including the student-teaching experience. Fourth, meet various other needs of the paraprofessionals such as working with local colleges to set up evening, weekend, and summer classes, preparation for college entrance exams and teacher preparation exams, tutoring, and childcare arrangements (Smith). As this untapped pool or resource is aided, many new teachers will be added to the impressive force helping our education system today.

**Individual training programs.** Project PET (Para-Educators to Teachers), a Title VII program, is an example of a program that has been instituted to help bilingual paraprofessionals work towards becoming certified teachers in order to help with teacher shortages, specifically in bilingual communities in the United States. The program highlights providing tuition grants to pay for bachelor's degrees at local colleges, aid in receiving teacher licensure, and support from faculty and staff (Rintell & Pierce, 2003). Fifteen Latina paraprofessionals participated in Project PET from October 1999 to July 2000. During this time, surveys, student records, and faculty evaluations were used to document and track the experiences of these paraprofessionals working towards becoming licensed teachers.

After reviewing the data from the study, researchers studying Project PET noticed certain strengths Latina paraprofessionals brought to the program and obstacles they needed to overcome. Mastering the English language, time management, commuting, and childcare were issues that the paraprofessionals had to deal with while trying to earn their teacher licensure. At the same time, knowledge of cultural backgrounds of the bilingual students, ability to understand concerns of bilingual students, and participants' commitment to the field of education were viewed as strengths that provided great advantage to these paraprofessionals in the education field (Rintell & Pierce, 2003).

As paraprofessionals begin to transition to certified teachers, they will have available to them these many different resources that will aid them through the transition and help them overcome the different obstacles they may face. During this transition, it will be important for these paraprofessionals to keep in mind the different qualities that are believed to make teachers effective and work on developing those qualities so they too can be effective certified teachers.

**Career ladders.** Career ladders help those interested in becoming competent paraprofessionals or in continuing on to become certified teachers (Para e-Link, n.d.). The Minnesota state colleges and universities have developed career ladders for paraprofessionals to use as a guideline to progress in their careers. The career ladder is based on the core and specialized competencies, as outlined by educators in Minnesota, that paraprofessionals need to develop in order to become competent education providers.

As discussed above, paraprofessionals may choose from several different types of avenues as they work toward becoming certified teachers. With each different type of program, a specific goal is the objective and the paraprofessionals have the opportunity to develop effective teacher qualities while at the same time moving towards becoming certified teachers as

they continue to work as paraprofessionals. An understanding of effective teacher qualities, as described in academic research, can aid these paraprofessionals along their path.

### **Teacher Qualities/Effectiveness**

Within the academic community, some researchers define teacher effectiveness in terms of student achievement; other researchers focus on high performance ratings from supervisors; and others rely on feedback from students and administrators (Stronge & Hindman, 2003). As the research is reviewed and assimilated in greater detail, a list of qualities continues to grow in regards to what makes a teacher effective. In fact, a dual system exists: One set of qualities/predictors is used for picking effective teacher candidates and a different set of qualities/predictors is used to define effective certified teachers. With few solid research studies on what makes teachers effective, many authors offer their opinions or personal thoughts from interpretation of other research on what makes teachers effective. Still, a few studies have been conducted with pre-service teachers, prospective teachers, novice teachers, experienced teachers, and parents that point to qualities that may make effective teachers.

For example, in a literature review, Harris (1998) divided a teacher's actions into two categories: instructional behavior and behavior management. Within these two categories, the list is as follows: effective management of academic time, establishes clear structures and routines, organized, maximum time devoted to instruction, provides feedback and allows for effective questioning, gives direct instruction, and creatively combines effective teaching with effective learning. Additionally, Harris wrote that effective teachers are able to organize information; break down complex sources of information; clarify complex information; provide appropriate feedback; co-ordinate the dynamics of individuals, groups, and classes; and constantly improve their teaching.

In a similar vein, the following information was assembled by Porter and Brophy (1988) to summarize their thoughts about effective teachers:

#### Effective Teachers

- are clear about their instructional goals;
- are knowledgeable about their content and the strategies for teaching it;
- communicate to their students what is expected of them—and why;
- make expert use of existing teaching materials in order to devote more time to practices that enrich and clarify the content;
- are knowledgeable about their students, adapting teaching to their needs and anticipating misconceptions in their existing knowledge;
- teach students meta-cognitive strategies and give them opportunities to master them;
- address higher- as well as lower- level cognitive objectives;
- monitor students' understanding by offering regular, appropriate feedback;
- integrate their teaching with that in other subject areas;
- accept responsibilities for student outcomes; and
- are thoughtful and reflective about their practice. (p. 75)

Stronge and Hindman (2003) have assimilated six domains that organize the attributes, behaviors, and characteristics of effective teachers. These domains include prerequisites of effective teachers, the teacher as a person, classroom management and organization, organizing for instruction, implementing instruction, and monitoring student progress and potential. Each domain has specific qualities that define it. Prerequisites of effective teachers are defined by verbal ability, knowledge of teaching and learning, certification status, content knowledge, and teaching experience. The teacher as a person is considered caring, fair and respectful, interacts

with students, enthusiastic, motivated, dedicated to teaching, and practices reflection. Many of these terms describe the individuals as conducting themselves in a professional manner. In the areas of classroom management and organization, effectively managing the classroom, developing organization, and disciplining students are found to be qualities of teacher effectiveness. The next domain is titled organization of instruction. This includes the teacher's understanding of the importance of instruction, effective time allocations, known teacher expectations, and instructional planning. After organizing instruction, the implementation of instruction is considered a domain of teacher effectiveness. Implementing instruction includes instructional strategies, considering content and expectations, questioning, and student engagement. The last domain specified by Stronge and Hindman is designated as monitoring student progress and potential. Qualities included in this domain are using homework to monitor, effectively monitoring learning, and adjusting instruction when needed.

Now that several opinions of effective teacher qualities have been discussed, research-based information about effective teacher qualities will be presented. Minor, Onwuegbuzie, Witcher, and James (2002) surveyed 134 preservice teachers enrolled in education classes and asked them what they believed were characteristics of effective teachers. Seven themes emerged: student centered, effective classroom and behavior management, competent instructor, ethical, enthusiastic about teaching, knowledgeable about teaching, and professional. The only difference that the researchers found in the study was a difference between preservice female and male teachers: male preservice teachers were more likely to pick knowledgeable as the most important characteristics and female preservice teachers were more likely to pick enthusiastic about teaching as the most important characteristic for an effective teacher.

Patrick and Smart (1998) studied effective teacher qualities in two phases: phase one surveyed 148 undergraduate students across various disciplines, and phase two surveyed 266 undergraduate psychology students. The purpose of their study was to determine what qualities these students felt made a teacher effective. Three characteristics were frequently indicated by these students. One characteristic was organization and presentation skills; specifically, students mentioned effective use of resources and the teacher's being well prepared for lessons with clear aims (Patrick & Smart, 1998).

In another study that researched the effectiveness of the teacher, Bohn, Roehrig, and Pressley (2004) observed six different teachers during their first few days of the school year to discover if there were differences between those considered more effective and those considered less effective. Through the use of mid-year observations, production of student engagement, student literacy progress, and ratings from the Classroom AIMS instrument (an instrument rating the teacher in areas of classroom performance), the teachers were identified as either effective or ineffective. The four teachers considered more effective demonstrated the following qualities: appropriate classroom atmosphere (no threats, used enjoyable activities, empathetic, supportive, knew all student names, and emphasized community); demonstrates instruction and content coverage (enthusiastic, create interest for content, and develop classroom routines); holds expectations (high and positive); gives specific praise (frequent); creates a democracy (allows the students to have a degree of choice and control); elaborates on procedures (uses books to teach, explained rationale behind practices used, and monitors students progress); exemplifies self-regulation (takes responsibility and ownership of teaching); and uses modeling (models tasks expected of students and uses enthusiasm).

Howard (2002) queried a group of 30 African American students in grades 2–8 to identify three specific qualities of effective teachers. The three central themes discovered from these students included the teacher creating a presence of family, community, and home characteristics in the classroom; exhibiting culturally connected caring; and dispersing verbal communication and affirmations. Each of these themes has several different components that the students described in greater detail.

The effective teachers were able to develop the presence of family, community, and home characteristics by reflecting on common interests held with students, discussing students' histories and experiences, establishing classroom traditions and rituals, requiring accountability for actions, and providing direct responses to students' questions and concerns (Howard, 2002). Second, culturally connected caring looks like pats on the back for encouragement, verbally expressing high expectations for all students, providing direct statements about students' potential, asking students about life outside of school, and displaying care in a cultural context with which each student is familiar. Last, effective teachers communicated with their students in a particular manner. The students explained that their effective teachers used a stern voice to describe disappointment or seriousness of situation but the students always knew and understood why the teacher was using a stern voice. From their teachers' actions, the students knew and understood their passion for teaching and helping the students. The stern voice described by the students was always combined with other teaching methods and never used exclusively. "Warm demanders" is the title these students gave to the teachers that they felt were effective in their ability to communicate with the students (Howard, 2002). These three themes were the characteristics these students felt made their teachers most effective.



From the above discussion, many ideas are shared that express qualities that make certified teachers effective, but the question remains: What tools do we use to measure teacher effectiveness? What is the best way to decide that teachers truly are effective? Is it the skills they bring with them to a job, is it their students' academic achievement, is it their college grade point average, or is it the combination of courses they took in the teaching certification program? If this question can be answered empirically, prospective teacher candidates will know what areas to concentrate on while preparing to become effective teachers. Laczko-Kerr and Berliner (2003) believe that education coursework is a more accurate predictor of teaching effectiveness than the teacher's grade point average (GPA) on their test scores in their majors. In this research study, the students' coursework grades during their practicum experience were used to determine if a difference existed between paraprofessionals and non-paraprofessionals.

### **Teacher Education Program Entrance Criteria**

With a picture painted above of the different types of teacher certification programs available to paraprofessionals and the different qualities that make teachers effective, this section discusses acceptance criteria for teacher certification programs. Demonstration lessons, grade point average, ACT scores, interviews, group tasks, and pre-professional skills tests are factors used to select qualified applicants into teacher education programs. Criteria used in the applicant selection process, as indicated by the research, helps identify applicants who possess the teaching skills the research suggests make effective teachers.

Teacher education programs seek to admit the applicants who will make the most qualified and effective certified teachers. As mentioned, paraprofessionals have been identified as a group of candidates who may become effective certified teachers, and more avenues are available to help them receive their teacher certification. Along with the information about

paraprofessionals and available programs, information regarding entrance criteria into teacher education programs can guide recruitment and selection committees as they accept applicants.

**Demonstration lessons.** In the current research, a few articles focus on specific criteria such as demonstration lessons, interviews, and group tasks when selecting teacher education program participants; one study out of Finland focused on these three important predictors (Valli & Johnson, 2007). In the end, demonstration lessons were found to be the best predictor of future effective teachers. The study followed 78 students who had applied to a teacher education program; each applicant was required to teach a 10–15 minute lesson to a class of 10–12 students ranging in age from 9 to 11. An observer rated the applicant in the areas of facilitator of learning and the effectiveness of his/her interactions with the students. The study then followed these applicants throughout their study courses and into their practicum experiences and found that those who performed well according to the study's criteria on the demonstration lessons performed the best during their practicum experience.

The other two measurements, interviewing and group task, were also studied by Valli and Johnson (2007) as criteria to use when accepting applicants into a teacher education program. Interviews were used to discover the applicants' thoughts and feelings regarding teaching and their intent for applying to the program; group tasks were used to see how the interviewees interacted with one another. Interviewing was found to be useful in evaluating applicants when more than one evaluator was used; group tasks were not found to be useful criteria. The authors stated several times throughout the article that the entrance examination aims to locate motivated students, but also effective teachers (Valli & Johnson).

**Letter of intent, grade point average, and group activity.** Another study looking at predictors of teacher education program acceptance criteria found letter of intent (essay), grade

point average, and group activity (simulation) appropriate predictors of qualified teacher applicants (Caskey, Peterson, & Temple, 2001). The researchers found these to be valid predictors by following 141 applicants to a graduate teacher preparation program; the program admitted 82 applicants and denied 59. The researchers investigated undergraduate grade point average, letters of recommendation, personal statement of competence and intent, standardized test scores on basic academic skills (reading, mathematics, and writing), overall admission file rating, and performance on a group problem solving activity. After analyzing the data in each of these areas, the researchers found those who were accepted to the program performed better and were rated higher in the areas letter of intent and simulation activity and had an overall higher undergraduate grade point average. In particular, the researchers noted that the letter of intent allowed the program admitters to see the motivation related to the student needs as opposed to self-interest, congruence with the program and mission of the institution, and the applicant's ability to express him- or herself in a compelling way. Upon completion of this study, Caskey, Peterson, and Temple also identified personal qualities as criteria that were more effective predictors but also more difficult to measure.

**Group interviews.** Byrnes, Kiger, and Shechtman (2000) researched the use of group interviews to choose the best qualified students for teacher education programs. For their research, two questions were asked: 1) Do group assessment interviews predict future student teaching performance? and 2) Are group assessment interviews better than academic criteria predictors? In order to answer these questions, the researchers followed 65 different student teacher applicants through the application and acceptance process. The group assessment interviews measured verbal, interpersonal, and leadership qualities of the student applicants to the teacher education program and were rated by two assessors. A group assessment interview

consisted of eight students and was 90 minutes in length; it allowed the applicants to introduce themselves and discuss two different topics, followed by a problem solving activity; and it proved to be more cost effective and time efficient than individual interviews. After following 65 student teachers, the researchers concluded that the group interview was a better predictor of acceptance and teaching performance than academic criteria predictors.

**Grades and ACT scores.** Mikitovics and Crehan (2002) noted that pre-professional skills tests were a weak predictor of success in teacher education programs. They found ACT subtest scores, undergraduate sophomore-year grade point average, and grades in introductory education courses more useful than pre-professional skills tests as teacher education entrance criteria. All of the above information is helpful to university or college teacher education programs because it gives them useful criteria to use when accepting applicants to their teacher certification programs.

### **Summary**

Once students have been accepted into teacher certification programs, developing and shaping effective teaching skills and effective teaching qualities is important to the success of the teachers and the students they will teach. The research literature has suggested several qualities or skills that make teachers successful—to some extent, skills that paraprofessionals may already possess—as well as several assistance programs aimed at supporting paraprofessionals in acquiring the additional skills of certified teachers. Teacher certification programs could use this information in recruiting and selecting teacher applicants and in guiding their teaching strategies. Paraprofessionals can also use this information as they work in their current positions in the schools and work towards developing effective teaching qualities and skills.

## **Method**

### **Design**

Highly qualified teachers for elementary and secondary schools are becoming more important with the implementation of No Child Left Behind and the Individuals With Disabilities Education Act. As educators and administrators search for the most effective future teachers, paraprofessionals appear to be a resource that can fill this need. This study offers insight into whether a difference exists between paraprofessionals seeking teacher certification and teacher certification program applicants who have not had paraprofessional experience.

Data collected from students of the Special Education Licensure program at Brigham Young University during their course work and practicum experience were used to compare those who had paraprofessional experience prior to entering the program to those who did not have prior experience working as a paraprofessional. Information such as course work grades, professionalism checklists, summer practicum observations and evaluations, and experience prior to the program helped determine if there is a difference between these two groups of participants.

The use of SPSS helped organize and analyze the data using a multiple t-tests with a Bonferonni inequality to adjust for cumulative type I error across the multiple tests to determine differences between those with paraprofessional experience and those without paraprofessional experience.

### **Participants**

This study drew from 86 teacher candidates from the post-baccalaureate Special Education Licensure program at Brigham Young University. Two cohorts from the school years 2005–2006 and 2006–2007 were invited to participate. They included 39 students from the

school year 2006–2007 and 47 students from the school year 2005–2006. From these 86 teacher candidates, 37 teacher candidates provided consent to use their data from Brigham Young University. Participants were selected due to their participation in the program; this is regarded as a convenience sample. Within this group of 37 participants for this research project, 12 were paraprofessionals prior to entering the program and 25 were not paraprofessionals prior to entering the program. The participants were studying to become Special Education teachers for students with mild to moderate disabilities.

### **Setting**

The data collection took place during students' Spring Term practicum experiences in three different school districts in Utah: Alpine, Nebo, and Provo. Each student was assigned a school and supervisor. During the six-week practicum experience, data were collected by the practicum supervisor and professors from Brigham Young University. The teacher candidates of this study taught students from the Special Education programs of the Alpine, Nebo, and Provo school districts who registered for the summer program. Each participant was assigned a supervisor (mentor teacher) and given five to six students to teach for a six-week period. There were approximately three mentor teachers per site and each mentor teacher was given approximately three students to supervise. Each site also had a site coordinator to make sure that the program was implemented correctly.

### **Instrumentation**

The instruments used to collect data included a Behavior Management Plan Rubric, Professionalism Checklist, Math Lesson Plan, and Reading Lesson Plan. Along with these instruments used during the teacher candidates' practicum experience to collect data, information

from the teacher candidates' consent forms was also used to determine their prior experience as paraprofessionals.

From the literature review above, the different factors shown to be good predictors of effective certified teachers were discussed. Consideration from the research and available information from Brigham Young University regarding the teacher candidates, data were selected that fit both of these categories. Minor et al. (2002) emphasized classroom and behavior management as an effective teacher skill; Strong and Hindman (2006) concentrated on the importance of being competent and knowledgeable; and Patrick and Smart (1998) found professional and organized to be effective teacher skills. In this portion of the method section, different instruments will be explained that have been used to measure the different predictors of effective teachers stated above (see Table 1). The scores of teacher candidates with paraprofessional experience were compared to the scores of the teacher candidates that had not had paraprofessional experience prior to entering the program.

Table 1

*Research-Based Qualities of Effective Teachers, Aligned With Measures Used*

Teacher qualities	Study's measurement tools
Classroom/Behavior management	Behavior management plan (Practicum Exp.)
Competent/Knowledgeable	Math/Reading lesson plan (Practicum Exp.)
Professional/Organized	Professionalism

## **Research-Based Predictors From Practicum Experience**

From the student's research consent form, the student's status as a paraprofessional was collected. From the literature review, several different qualities were discussed that made a teacher effective within the classroom, and these qualities were matched with tools used by the Brigham Young University program that measured similar skills. Data from the student's math lesson plans, reading lesson plans, and professionalism checklist were collected. This information from the summer practicum experience of the Brigham Young University students helped to rate these students in those areas.

**Professionalism.** The Professionalism Checklist was used every day during the six-week experience and the student was rated by a supervisor (mentor teacher) and rated on the following categories: teacher candidate preparedness, professional attitude, and the ability to collaborate with others. Each category could be scored either a 1 or 0 and each week was added up to receive a maximum of 15 points. In order to receive full credit for teacher candidate preparedness, the student was required to dress professionally, arrive promptly at 8 a.m., remain until 12:30 p.m., hand in lesson plans based on daily data by 8 a.m., be punctual to all obligations, have daily data forms, and be prepared for all obligations. For the teacher candidate attitude, the supervisor (mentor teacher) looked for the student indicators to show that he or she was teachable through professionally accepting feedback, implementation of feedback, and a positive demeanor towards supervisor (mentor teacher), university supervisor, peers, students, and self. Finally, to receive full credit in teacher candidate collaboration, the student had to help plan electives, follow elective rotation guidelines, prepare elective materials, complete group work, and submit cooperative assignments and social skills lessons in a timely manner. The



elective rotation and preparation consisted of the student's teaching physical education, music, or art on a daily basis.

**Lesson plans.** Throughout the six-week experience, a reading lesson plan and a math lesson plan was rated and scored by the supervisor each week. Depending on the week, the student could earn up to 5 or 10 points according to how well the lesson plan was laid out, written, and presented. For the math lesson plan, the practicum student was scored in the areas of lesson components, review, instruction/modeling, and instruction/guided practice. In regards to the reading lesson plan, the practicum student was scored in these areas: book, level, reviewing behavior, reviewing academic/previous words, new letters/sounds/words, correct Exemplary Center for Reading Instruction (ECRI is a methodology for teaching using a direct instruction approach), dictionary information, comprehension/writing/grammar skills, model/prompt/practice, examples attached or printed on back, practice time routines, individual conferences, timed reading practice, penmanship, and spelling.

**Behavior management.** Each teacher candidate was required to write a behavior management plan for his or her individual class. The plan consisted of specific expectations of the students written in a positive format and then the consequences the students would receive when they either followed or did not follow the expectations. The candidate also developed a reward system and a reinforcement menu. At the end of each week, the supervisor (mentor teacher) used a rubric to award up to 3 points if the student implemented each part of the rubric correctly and completely. One point could be earned for each of the following criteria: daily positive consequences linked to stated class management plan for each student, one praise note has been given to each student during the week (documented on a teacher candidate-created log), and negative consequences used in sequential order in consultation with mentor teacher.

Each of the instruments described above was used to see if there was a difference in the scores of the teacher candidates who had experience as paraprofessionals prior to entering the program compared to the teacher candidates who had not been paraprofessionals prior to entering the program.

### **Procedures**

University Institutional Review Board (IRB) permission was obtained through the specified University procedures. The data for this research already existed and were collected from the Counseling Psychology and Special Education program at Brigham Young University. Specifically, the data were collected during two summer practicum experiences, 2006 and 2007 at the Alpine, Nebo, and Provo school sites. The data used in this research were the same data collected during the BYU teacher certification program practicum semester; the data collected were part of the program's already established requirements. For this study, existing research was used to determine which types of data would be used to analyze the differences between those with paraprofessional experience to those without paraprofessional experience. Along with the data being used from the practicum experience, additional data from the student's consent form were used to determine if the applicant was or was not a paraprofessional prior to entering the program.

All the information was entered into the SPSS program and multiple t-tests with a Bonferonni inequality to adjust for cumulative type I error across the multiple tests were run and analyzed to determine if a significant difference existed between those students with prior experience as a paraprofessional before entering the program compared to those students who did not have prior experience as a paraprofessional.

## Results

The following question was used to guide this study: Is there a significant difference in the scores of special education teacher candidates with experiences as paraprofessionals before entering the program compared to those teacher candidates who had not been paraprofessionals prior to entering the program?

The study operated on the hypothesis that the students who worked as paraprofessionals prior to entering the special education teacher certification program at Brigham Young University would score higher on the assessments given during their course of study to become certified special education teachers due to their prior experience in the school setting. The data used to determine this difference included professionalism points and scores from the candidates' reading lesson plan evaluation, math lesson plan evaluation, and behavior management plan evaluation.

Table 2

*Descriptive Statistics*

	Paraprofessional experience	<i>N</i>	Mean	SD
Professionalism score	Yes	12	2.8250	.13932
	No	25	2.8440	.12021
Reading lesson plan	Yes	12	4.8242	.24659
	No	25	4.8932	.12219
Math lesson plan	Yes	12	9.3242	.58915
	No	25	9.4660	.29764
Behavior management plan	Yes	12	2.9308	.13118
	No	25	2.9396	.10628

To analyze the data and answer the question, multiple t-tests were used to determine if a significant difference exists between the test scores of those students who were paraprofessionals prior to entering the program to those students who were not paraprofessionals prior to entering the program. In order for a significant difference to exist, the multiple t-tests must indicate a p-score of less than .0125.

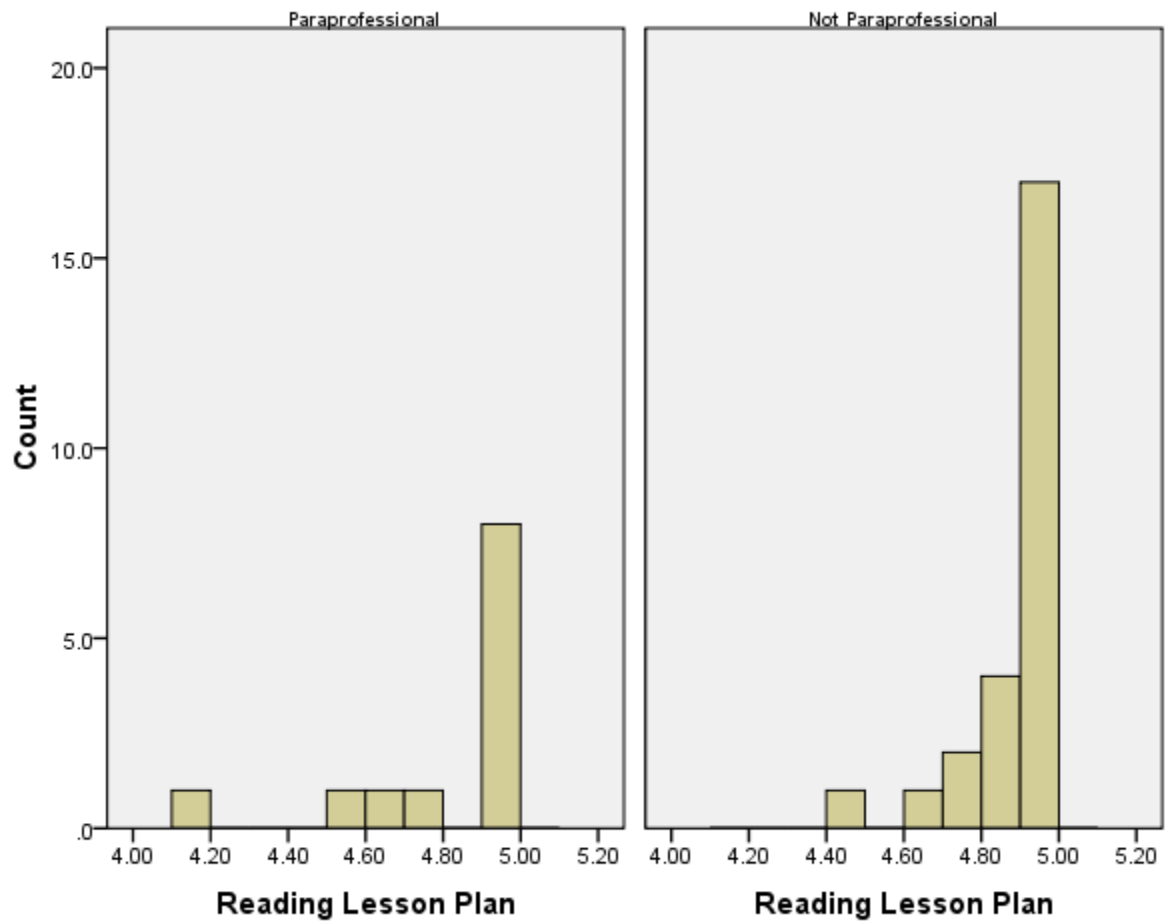
As shown in Table 3, a t-test was run for each area being assessed: professionalism, reading lesson plans, math lesson plans, and behavior management plans. There were no significant differences between the groups in any of the dependent variables. This indicates that there is not a significant difference between the scores of students who were paraprofessionals prior to entering the program and those students who were not paraprofessionals in each of the four areas assessed.

Table 3

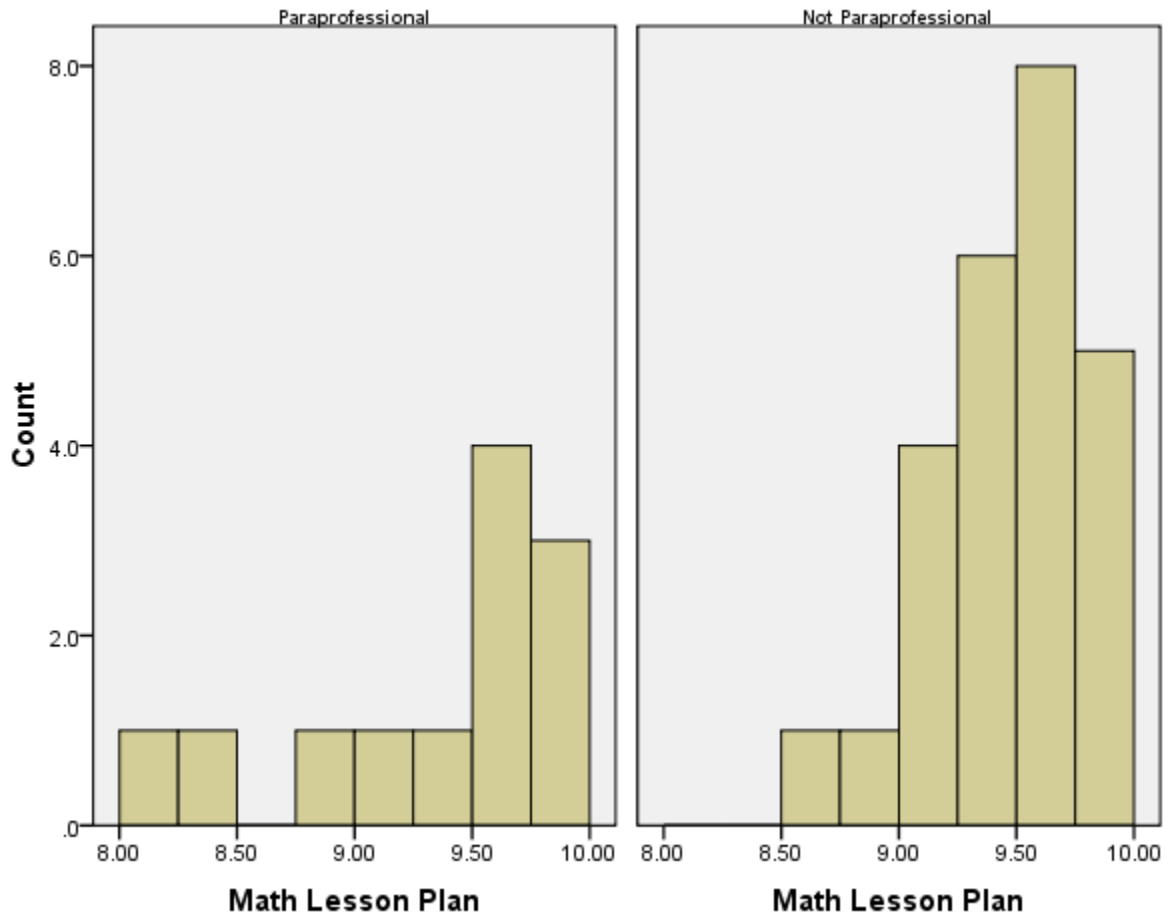
*Independent Samples t-Tests*

	Levene's test for equality of variances		t-test for equality of means		
	F	Sig.	<i>t</i>	df	Sig. (2-tailed)
Professionalism	.269	.607	-.428	35	.672
Reading lesson plan	5.811	.021	-.917	35	.375
Math lesson plan	9.964	.003	-.787	35	.445
Behavior management plan	.562	.458	-.218	35	.829

Although there were no significant mean differences between the groups, Levene's test of equality of variances showed that there were significant differences in the variances of the two groups in terms of the reading lesson plan scores and the math lesson plan scores. This indicates that although the mean values between the groups were not significantly different the spread of the distributions were statistically different from each other. In both cases, the distributions for the paraprofessionals were broader than the distributions for the non-paraprofessionals. Figure 1 illustrates the distribution of the reading lesson plan scores. It is noted that the highest and lowest value of the distribution are populated by paraprofessionals. The same holds true for the distributions of the math lesson plan scores as illustrated by Figure 2. Table 4 also illustrates that the higher and lower scores in the distribution are populated by paraprofessionals.



*Figure 1.* Histogram of reading lesson plan scores for participants with and without paraprofessional experience.



*Figure 2.* Histogram of math lesson plan scores for participants with and without paraprofessional experience.

Table 4

*Distribution of Scores on Reading and Math Lesson Plans*

Reading lesson plan scores		Math lesson plan scores	
Score	Paraprofessional	Score	Paraprofessional
<b>4.17</b>	<b>Yes</b>	<b>8.17</b>	<b>Yes</b>
4.5	No	<b>8.4</b>	<b>Yes</b>
<b>4.58</b>	<b>Yes</b>	8.7	No
<b>4.7</b>	<b>Yes</b>	<b>8.8</b>	<b>Yes</b>
4.7	No	8.93	No
4.71	No	9.05	No
4.72	No	<b>9.1</b>	<b>Yes</b>
<b>4.75</b>	<b>Yes</b>	9.12	No
4.82	No	9.2	No
4.83	No	9.23	No
4.87	No	<b>9.25</b>	<b>Yes</b>
4.88	No	9.36	No
<b>4.92</b>	<b>Yes</b>	9.37	No
4.92	No	9.4	No
4.92	No	9.4	No
4.92	No	9.43	No
4.92	No	9.47	No
4.92	No	9.52	No
<b>4.92</b>	<b>Yes</b>	9.53	No
<b>4.92</b>	<b>Yes</b>	9.55	No
4.92	No	9.6	No
4.95	No	<b>9.6</b>	<b>Yes</b>
4.95	No	<b>9.62</b>	<b>Yes</b>
4.95	No	<b>9.65</b>	<b>Yes</b>
<b>4.95</b>	<b>Yes</b>	9.7	No
4.96	No	<b>9.7</b>	<b>Yes</b>
4.97	No	9.71	No
<b>4.98</b>	<b>Yes</b>	9.72	No
5.0	No	9.73	No
5.0	No	9.75	No
5.0	No	9.75	No
5.0	No	9.75	No
5.0	No	<b>9.8</b>	<b>Yes</b>
5.0	No	9.83	No
<b>5.0</b>	<b>Yes</b>	9.85	No
<b>5.0</b>	<b>Yes</b>	<b>9.88</b>	<b>Yes</b>
<b>5.0</b>	<b>Yes</b>	<b>9.92</b>	<b>Yes</b>

*Note.* Paraprofessional's scores are bolded



## Discussion

The call for highly qualified certified teachers has left educators and administrators debating about what type of candidates for teacher certification programs would make the best highly qualified certified teachers. Many believe that paraprofessionals would make effective teacher certification program candidates due to their prior experience in the school setting. From the research literature, it is believed that certain factors indicate whether a teacher candidate will make an effective certified teacher. These skills of effective teachers that should be possessed by teacher candidates include effective classroom/behavior management, competent/knowledgeable, and professional/organized.

From the statistics indicated by Table 4, one may infer that some paraprofessionals had high scores in the areas of math and reading plans, some average scores, and some low scores. The paraprofessionals with higher scores in the area of reading and math lesson plans could have had prior experience with writing math and reading lesson plans, which helped them receive higher scores. During their time as a paraprofessional, math and reading lesson plan writing training may have been provided to them by their supervising teacher or school district which allowed the paraprofessionals to develop adequate skills in writing reading and math lesson plans. Hoffman and Sable (2006) explained that many paraprofessionals are employed as support staff in the areas of instruction assistance to certified teachers and these paraprofessionals who scored higher in the areas of reading and math lesson plan writing may have been this type of paraprofessional. This experience led them to performing well during their training program at Brigham Young University, where they scored high in reading and math lesson plan writing and deliverance of those plans. Other employed paraprofessionals may have been used more for clerical purposes such as making bulletin displays, grading papers,

organizing paperwork and tending to behavioral problems, as explained by French (1999b).

These paraprofessionals would not have received training from their school districts or from their certified supervising teacher thus causing them not to develop these lesson plan writing skills during their time as a paraprofessionals, which could have contributed to their lower scores during their training to become certified teachers.

Along with variation in job training for paraprofessionals in the area of reading and math lesson plan writing, another possibility that exists which could have influenced the difference in variance scores is the number of years the paraprofessionals spent as paraprofessionals. This information was not collected from the participants used in the study, so no conclusive research can be presented, but it could have influenced the scores. Individuals who spent more years being paraprofessionals would have had more time and experience in the areas measured, which could have caused them to score higher in the areas of reading and math lesson plan writing.

From this study, no significant differences were found between the students who were paraprofessionals prior to entering the teacher certification program and the students who were not paraprofessionals prior to entering the teacher certification program in the areas assessed, other than the difference in the variances of the reading and math lesson plan scores. Several different reasons may exist to explain this lack of significant differences between students in a special education teacher certification program who were or were not paraprofessionals before entering the program.

One possibility may lend its self to the type of individual who applies to be a paraprofessional. The personal or individual characteristics that lead one to be an effective paraprofessional may be different than the characteristics that make an effective certified teacher. An individual may work well as a paraprofessional taking direction from the certified teacher in

his or her class by providing small group instruction and assistance to the teacher but may not perform as well when taking on the lead role as a teacher.

Another possible explanation for the lack of a significant difference may be the small sample size used to determine if a difference existed. A larger sample size may be needed in order to more accurately determine if a difference exists between the two groups. Along with this possibility, the small difference in grades among the 37 students analyzed made it difficult to detect a difference: the students who chose to participate in this study were all earning extremely similar grades in the areas measured.

The assumptions expressed in the literature are that because paraprofessionals have worked in the classroom, they have gained additional skills suitable for teaching. However, the roles of paraprofessionals are different from teacher's roles and cover a wide range of duties, so the paraprofessionals may not have been in a situation to observe the teacher and learn from his or her work; thus they do not bring additional skills to a teacher preparation program.

There is a possibility that the areas measured (behavioral management plan, professionalism, reading lesson plan, and math lesson plan) during the special education teacher certification program at Brigham Young University may not have actually tapped the areas that make a highly qualified certified teacher. This may be another reason a significant difference was not found between the two groups assessed.

### **Recommendations**

Highly effective certified teachers are a needed resource in today's education system according to the No Child Left Behind Act of 2001, and many feel paraprofessionals could fill this void (Smith, 2003). In seeking to fill this void, all resources need to be investigated, and paraprofessionals with different types of backgrounds or varying years of experience may also

differ in the skills they bring to teacher training programs. It may be beneficial for the education field to continue utilizing paraprofessionals as a source of potential future effective certified teachers and train them towards this particular means. If another study is conducted in a similar fashion, a larger sample size may be needed in order to detect a difference between paraprofessionals and non-paraprofessionals.

Further studies into different types of paraprofessionals need to be conducted in order to measure the differences in paraprofessionals who work entirely as instructional assistants to certified teachers and those who work in a more varied capacity. Also, researching the skills of paraprofessionals who have worked for two to three years and those who have worked 10 to 15 years could shed light on whether years of experience leads to more effective teaching skills and if the types of jobs they perform during those years influence their abilities. Admissions committees that are considering paraprofessionals may do well to ask them the specific nature of their paraprofessional experience. If the applicants' experience was restricted to clerical duties, they may not be as prepared by their paraprofessional experience as those who were allowed to participate and/or observe the creation of math and reading plans.

### **Limitations**

This research study came with several different types of limitations. First, the sample size used for this research study was small. The researcher had 86 teacher candidates available but was only able to receive consent from 37 teacher candidates, which limited the amount of data that was used in the final analysis. Second, it was important to match up the areas of current research regarding the skills that are empirically seen to make effective certified teachers with the data Brigham Young University had collected on their teacher candidates in the program. This limited the number of areas that were assessed. Third, the research may not have measured

the areas of actual teacher effectiveness, or the scores used to rate the teacher candidates in different areas possibly could have been measuring completely different skills than those proposed. Finally, since this research dealt with human subjects, there is a high degree of variability between individuals. The basic differences between their skills could be based more on the person as an individual than on their experience as a paraprofessional before entering the teacher certification program. Each of these limitations impacted the research in one form or another.

Within the area of participants, several limitations also existed. Due to the use of a convenience sample, there were a couple of limitations that existed from allowing this information to be generalized to all teacher candidates across the United States. In order to attend Brigham Young University, a private religious institution, the teacher candidates must meet and commit to living by a certain moral standard. These standards include a dress code which states, “the dress and grooming of both men and women should always be modest, neat and clean, consistent with the dignity adherent to representing The Church of Jesus Christ of Latter-day Saints and any of its institutions of higher learning” (Brigham Young University, 2009). The honor code also includes statements such as: “live a chaste and virtuous life, use clean language, abstain from alcoholic beverages, tobacco, tea, coffee, and substance abuse, and participate regularly in church services” (Brigham Young University, 2009). Due to these specific codes, applicants accepted at Brigham Young University differ from other applicants across the nation, thus limiting the generalizability of the data found.

### **Implications for Further Research**

Further research is needed regarding the qualities of a highly qualified certified teachers. An understanding of these qualities will help drive the field of research that can be used to

examine teacher certification programs and their requirements for acceptance into their programs. When training programs identify the qualities of candidates necessary to predict the most effective teachers, and then determine how to measure those qualities in acceptance applications and interviews, the programs can accept the applicants who are most likely to become the most effective certified teachers. If paraprofessional math and reading lesson plan skills are found to be especially effective in becoming effective certified teachers, university programs and other types of programs will use this information to determine which applicants will be accepted and rejected. Researchers need to determine which other factor of paraprofessionals make them a strong math and reading lesson plan writer and implementer. In order to reach this level of understanding, current students in teacher certification programs need to be studied to help determine what group of individuals, paraprofessionals or non-paraprofessionals, and perhaps a group within these groups are becoming the most effective certified teachers and what areas can be researched within the programs to help make these determinations.

### **Summary**

Throughout the United States, effective certified teachers are trained in various teacher certification programs in various universities, colleges, and other programs. Each individual program pulls potential effective certified teachers from their pool of applicants and seeks to train them to become those effective certified teachers. In seeking promising candidates, paraprofessionals are believed to be a resource teacher education programs can pull from. Researchers have found that skill sets such as competent/knowledgeable, ethical/professional, and effective classroom/behavior management are predictors of effective teachers.

This current research compared two groups of teacher candidates along these different teacher skills to determine if a difference existed between paraprofessionals and non-paraprofessionals in a teacher certification program. From the tools used, a significant difference was not found in the areas of math lesson plan scores, reading lesson plan scores, professionalism scores, and behavior management plan scores between teacher applicants who had or had not been paraprofessionals prior to entering the program.

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