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An Analysis of Effective Support Structures for Novice Teachers

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Abstract
Teachers are leaving the profession at alarming rates. As a result, retaining novice teachers has become a major concern for policy makers, school districts, administrators, and teaching staff throughout the United States. The purpose of this study was to evaluate the effectiveness of novice teacher induction support structures in a southwestern US state. The conceptual framework is based on research examining teacher attrition; this study extends the research by examining school-based and university-based programs. Research questions focused on the perception of novice teachers regarding mentoring experiences at their certifying universities and employing school districts. Three research questions examined school district comprehensive induction support, certifying university support induction programs, and other support services that supported novice teachers' decisions to remain in the profession. The method used to conduct research was a sequential exploratory mixed methods design to gather data. Quantitative research analyzed survey responses through descriptive statistics. Qualitative research utilized semi-structured interviews. The results revealed strong school support can compensate for the lack of university support, but strong university support did not compensate for a lack of school support.

Keywords: Novice teacher mentoring, induction support, professional development, classroom, university, school districts

Introduction

Public schools in the United States are experiencing a crisis in retaining novice teachers. Inadequate teacher preparation as well as a lack of support for new teachers are acknowledged as primary reasons for why teachers leave their profession (Podolsky, Kini, Bishop & Darling-Hammond, 2016). There is a lack of priority given to take proactive measures to retain novice teachers so they may successfully move into a second stage of teaching. As a solution, various states are implementing induction programs to help novice teachers' progress into and beyond the second stage of teaching. Induction programs refer to programs that provide a comprehensive support system for novice teachers who eventually will transform schools into high-quality learning communities (Sweeny, 2008). Research studies attribute teacher induction programs as an accommodating resource for retention and support of beginning teachers (Davis & Waite, 2006; Ronfeldt & McQueen, 2017).

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The purpose of this study was to evaluate the effectiveness of novice teacher in-induction support structures in Texas. This study explored two levels of support with in a variety of comprehensive induction programs. The areas of support that were evaluated are provided to the novice teacher through their employing school district and their certifying university. Specifically, the employing school districts provided support through classroom mentors and professional development opportunities. The certifying university provides support through supervision via university liaisons and electronic mentoring through online support. This study contains a critical analysis of educational research on attrition and its causes with public school teachers.

The foundation of this study was based on the theory that beginning teachers require supportive and structured induction programs as they begin their careers. During the late 1970s, Veeman (1984) examined ideas to support new teachers as they began their first year of teaching. While many states have differing views on what comprises a successful induction program, there are agreements on valuable facets of such programs, such as providing quality mentors, allowing for new teacher professional development, and providing multiple-year support for new teachers (New Teacher Center, 2013). Morin, Collis, and Smith (2015) found that mentoring training sessions were found to be effective in a division-wide induction program they studied. Langdon et al. (2016) found that having an external mentor, as opposed to a mentor onsite, complicated the feedback process between the mentor and mentee.

Retaining new teachers through the use of effective support structures is a goal shared by many researchers, universities, and school districts. In Texas, the Center for Research, Evaluation and Advancement of Teacher Education (CREATE) is focused in this area. A study was performed utilizing four universities and 14 Texas public school systems. Data were collected from 451 novice teachers (CREATE, 1998). It was discovered that providing ample opportunities for new teachers to become professional experts requires effective induction support structures to guide their beginning year of teaching in the classroom. Huling, Resta, and Yeargain (2009) indicated high levels of teacher attrition resulting from lack of induction support make it difficult to achieve a critical mass of faculty who possess the skills and experience necessary to engage in the type of professional reflection that leads to refinement of education practices.

Induction programs provide newly-hired teachers an introduction to the culture of the hiring district and the hiring school by making the teacher feel welcomed into the school, the community, and with the staff and curriculum (Bland, Church, & Luo, 2014). Darling-Hammond (2006) pointed out that partnerships between schools and teacher education programs "can more systematically prepare prospective teachers to learn to teach in professional learning communities" (p. 311). She also warned against watering down the teacher preparation program merely for the sake of increasing the output of teachers, such as through skipping student teaching.

In attempts to retain and support new educators, various states are analyzing in-

duction programs to ameliorate the needs of first year teachers. An analysis of national data by Ingersoll (2003) concludes that effective teacher preparation programs can significantly reduce the attrition of first year teachers. He found that when teachers come into the classroom unprepared to deal with the classroom teaching environment, their attrition rate is 25%. But when teachers have engaged in a coherent preparation program that assesses knowledge and teaching skills, including extensive clinical experience during teacher preparation programs, and when the new teachers are provided induction support in their first years of teaching, rates of beginning teacher attrition drop to 12%, comparable to attrition rates in other professions. Kutsyuruba and Walker (2015) go farther, stating that survival as a teacher is not enough for neophyte teachers but that they need to learn "how to thrive and develop into teacher-leaders" (p. 32). Online mentoring, as studied by Alemdag and Erdem (2017), was shown to be beneficial for novice teachers but with different benefits than traditional mentoring.

In Texas, a comprehensive induction program is recommended to align vertically with teacher preparation programs as well as emphasizes standardized skills and knowledge in public education (ICF, 2009). The Texas Education Agency (2011) has stated standards for mentor teachers in a Beginning Teacher Induction and Mentoring program. Such a comprehensive induction program includes a combination of mentoring, professional development and support, and formal assessments for new teachers during their first years of teaching. Such programs have proven to be highly effective in keeping quality teachers in the profession, identifying teachers who perform poorly, providing clinical training, and building a strong community of teacher learners (National Partnership for Teaching At-Risk Schools, 2005). In a study by Oliver (2016) of an urban Texas school district, structural arrangement (mentor-mentee pairing, classroom location, identical classes taught, time for observation of mentor by mentee) was ensured by school principals and believed to be effective. Oliver also found that efforts made to help novice teachers break into the school culture among veteran educators encouraged the novice teacher to want to become a member of the school's educators team. The Texas Teacher Mentoring Advisory Committee (2015) recommended the mentor-mentee relationship last at least two years and that they meet in a professional capacity for 45 minutes per week or 12 hours per semester.

Research Questions

The purpose of the quantitative data was to address the first two research questions of the study:

1. What are the perceptions of novice teachers relating to their employing school district on comprehensive induction support service?
2. What are the perceptions of novice teachers relating to their certifying university support services in their induction program?

A third research question was also answered, based on the data collec-

tion and analysis of the qualitative data:

3. What induction support structures better address the needs of the novice teacher in their decision to remain in the teaching profession?

Method

This study used a sequential explanatory mixed method design to gather data from novice teachers in Texas universities through surveys and interviews. The mixed method approach is characterized by the collection and analysis of quantitative data in the first phase of research, followed by the collection and analysis of qualitative data in a second phase that builds on the results of the initial quantitative results (Creswell, 2009). The study incorporated a quantitative survey and employed qualitative, open-ended interview questions. Although quantitative research has been done in the past on novice teacher support systems and retention, conclusive results were not obtained and required additional research. The researcher decided to use mixed methods to take advantage of the strength of qualitative methods to interact directly with novice teachers.

Participants

The sample for this study was drawn from a population of novice teachers in a large university system in Texas during their first year of teaching experience. These teachers were chosen because of their novice teacher status and their involvement in a comprehensive induction program. The criterion for the selection of participants in this study was based on the fact that participants have first-hand interaction with induction support structures in Texas including certifying university and employing school districts supports.

For the quantitative component of the study, 500 hundred novice teachers were randomly selected from a population of 2,000. Because of cost, inaccessibility, and time constraints, samples were drawn from the population for testing purposes, and statistics were computed so the results can be generalized to the larger population (Lunsford & Lunsford, 1995). It was anticipated that in utilizing a population of 500, a large return rate would be expected. Approximately 41% of teachers receiving the survey completed the study, yielding a sample size of 206 teachers for analysis.

For the qualitative component of the study, six teachers were chosen through purposeful selection, unknown to the researcher, by administrating principals at Texas public school districts. Three teachers who chose to remain in the profession and three teachers who chose not to remain in the profession were interviewed.

Data Collection and Analysis

The first phase of the study utilized quantitative design through survey research. It employed a survey instrument developed by the researcher, entitled *Novice Teacher Support Structure Evaluation Survey.* Since there has been little research in the area

of support structures for novice teachers, an established instrument was not available. This survey was designed specifically for this study by the researcher. The survey involved the two components of support: *School District Support* and *Certifying University Support.* Under *School District Support,* participants were asked to comment on administrative support, classroom mentor support, and professional development support. In the area of *Certifying University Support,* the participants will be asked to comment on support provided by their university including university supervisor/ liaisons, electronic mentoring, and course preparation. A five-point Likert-type scale was utilized to measure novice teachers' perceptions on effective support structures in Texas universities. Responses options were interval in nature with the following choices: *1= strongly disagree, 2= disagree, 3= undecided, 4= agree, and 5= strongly agree.* The survey was distributed as an online survey utilizing the survey platform Survey Monkey.

The survey approach provided novice teachers an opportunity to answer direct questions regarding the effectiveness of support structures for novice teachers in Texas. Survey research was the chosen data collection method due to several advantages. First, a survey design has a user friendly approach and is less intimidating for novice teachers to express their views about teacher support structures at their school of employment. Fink (2017) pointed out,

> Surveys can be used in deciding policy or in planning and evaluating programs and conducting research when the information you need should come directly from people. The data they provide are descriptions of feelings and perceptions, values, habits, and personal background or demographic characteristics such as age, health, education, and income. (p. 22)

The data collection process was done in two phases using sequential explanatory as the research strategy in this mixed method study. Phase one was quantitative in nature, utilizing online survey methodology. Survey design was chosen because of the economy of the design and the rapid turnaround in data collection. Surveys were digitally encrypted to maintain security and privacy. The prospective participants received and email with a letter of explanation of the study and importance Automatic electronic reminders were sent out by email at two, three, and four weeks into the study to all that did not previously respond.

The second phase of the research process was qualitative, utilizing case study as the strategy of inquiry. Case studies are inquiries in which the researcher explores in depth a program, event, activity, process or one or more individuals (Creswell, 2009). Interviews were conducted to give the study more depth. The idea behind qualitative research is to purposefully select participants that will best help the researcher understand the problem and research questions (Creswell, 2009).

This phase of the data collection allowed the researcher to have input on all aspects

of teacher attrition and retention in regards to induction activities. The interviews were recorded to help prevent misinterpretation of behave of the researcher. In addition the researcher took extensive notes after all the teachers had given their consent. The interviews took approximately 60 minutes to achieve and accurate representation of each participant's thoughts and experiences. The study incorporated an indirect method of questioning the participants. In this technique, the interviewer asked projective questions. Projective questions are questions that allow respondents to answer questions indirectly by imposing their personal beliefs, and attitudes of others. This technique can be particularly useful for eliciting responses on a topic which participants may be reluctant to express their own true feelings openly or directly (Powell, 1997).

Data was analyzed to determine the effectiveness of support structures for first year teachers. Step 1 of the analysis process was to report information about the number of members of the sample who did and did not return the survey. Step 2 of the analysis process discussed the method by which response bias was determined. Fowler (2009) refers to the effect of nonresponses on survey estimates as response bias. Wave analysis is used to determine biases. Leslie (1972) states that in wave analysis, the researcher will examine returns on select items will be exampled by the researcher weekly in an effort to determine changes in average responses. This was based on the assumption that those who return surveys in the final weeks of the response period are nearly all non-respondents; if the responses begin to change, a potential exist for response bias (Creswell, 2009). Step 3 involved identification and discussion of a plan to provide a descriptive analysis for the study. Descriptive statistics were conducted to determine the means, and standard deviations, of quantitative items that are interval in nature. With descriptive statistics you are simply describing what is or what the data shows.

Phase two utilized open-ended structured interviews. Once this data was collected, the analysis were conducted and presented in table format.

With regards to the first research question posed, this was answered by calculating descriptive statistics on school based support items. The corresponding survey headings and items that were analyzed for this research question were as follows:

Administrative Support

1. I felt the administration was supportive of me and my professional growth.
2. I felt the classroom visits/evaluations that my administration performed were beneficial in my effectiveness as a teacher.

Classroom Mentors

3. I felt my classroom mentor was helpful in giving me guidance and support.
4. I felt teacher collaboration/networking-talking with other teachers in

my building/district was helpful in allowing me to express ideas and frustrations and gain effective ways to deal with them.

Professional Development

5. I felt professional development provided during the school year for the whole faculty was helpful in giving me strategies to use in my classroom to be a more effective teacher.

6. I felt staff development provided to new teachers only before the start of school was helpful in giving me guidelines for the first days of school.

Descriptive statistics were also utilized to analyze the second research question. The corresponding survey headings and items that were analyzed for this research question were as follows:

University Liaisons/Supervisor

7. I felt my university liaison/supervisor was supportive of me and my professional growth.

8. I felt the classroom visits/evaluations that my university liaison/supervisor performed were beneficial in my effectiveness as a teacher.

Electronic Mentoring

9. I felt the support from the electronic mentors I received from my certifying university during my first year of teaching was beneficial to me in my first year of teaching.

10. I felt the networking and the resources from the electronic mentoring website were beneficial to me in my first year of teaching.

Course Preparation

11. I felt the education courses I took at my certifying university were helpful in giving me strategies to use in my classroom to be a more effective teacher.

12. I felt the clinical experiences I experienced at my certifying university were helpful in giving me guidelines for the first days of school.

Finally, frequencies and percentages were used to assess the following nominal question (with response options being school-based support vs. university-based support):

13. What support system better fit your needs as a first year teacher?

A component of the data analysis involved the identification of the statistical computer program for testing the major inferential research questions in the study. Statistical Package for the Social Sciences (SPSS) was used for the data analysis. Data was

transferred from SurveyMonkey to SPPS. SPSS was chosed as it is among the most widely used programs for statistical analysis in social science. It is used by market researchers, health researchers, survey companies, government, education researchers, marketing organizations and others.

The final step in the data analysis process involved the presentation of the data. The results were presented in tables with the interpretation of the results following each table in the text. All research questions were answered and the implications of these answers are discussed.

Qualitative Data

Qualitative data was derived from semi-structured interviews with the use of indirect questioning. These interviews answered the third research question of the study: *What induction support structures better address the needs of the novice teacher in their decision to remain in the teaching profession?* The analysis process involved five steps as suggested by Creswell (2009, p. 185-190).

Step 1: involve transcribing the interviews, optically scanning materials, tying up field notes and sorting and arranging the data into different types depending on the sources of information.

Step 2: a general sense of the information was obtained to reflect on its overall meaning. The researcher asked herself questions regarding what general ideas the participants were saying, the tone of ideas, and the impression of the overall depth, credibility, and use of the information.

Step 3: Begin detailed analysis with a coding process.

The process of coding data involves gathering and organizing the information collected. Part of this data analysis involves looking at sentence fragments within the data gathered and putting these into categories, and further refinement involves labeling these categories in terms used by the study participants, if possible. Rossman and Rallis (2008) defined coding as the organization of data into these smaller components and then bringing out the meaning from that information.

Tesch (1990) provided a useful analysis of the process in eight steps:

1. Get a sense of the whole. Read all the transcriptions carefully. Perhaps jot down some ideas as they come to mind.

2. Pick one document - the most interesting one, the shortest, the one on the top of the pile. Go through it, asking yourself, "What is this about?" Do not think about the substance of the information but its underlying meaning. Write thoughts in the margins.

3. When you have completed this task for several participants, make a list of all the topics. Cluster this task for several participants; make a list of all topics. Cluster together similar topics. Form these topics into columns, perhaps arrayed as major topics, unique topics, and leftovers.

4. Now take this list and go back to your data. Abbreviate the topics as codes and write the codes next to appropriate segments of the text. Try this preliminary organizing scheme to see if new categories and codes emerge.

5. Find the most descriptive wording for your topics and turn them into categories. Look for ways of reducing your total list of categories by grouping topics that relate to each other. Perhaps draw lines between your categories to show interrelationships.

6. Make a final decision on the abbreviation for each category and alphabetize these codes.

7. Assemble the data material belonging to each category and alphabetize these codes.

8. If necessary, recode your existing data. (p. 186)

In Step 4, the coding process was used to generate a description of the people and responses, as well as categories or themes for analysis.

Description involves a detailed rendering of information about people, places, or events in a setting. Researchers can generate codes for description. These descriptions generated a small number of themes that were consistent with the quantitative survey themes regarding types of school-and university-based support.

In Step 5, the description and themes were represented in the qualitative narrative. A narrative passage was used to convey the findings of the analysis. This narrative included a detailed discussion of the themes. Tables were used to help convey the analysis.

Finally, Step 6 involved interpretation of the data. This step discussed the lessons learned by the research on the analysis. This included the researcher's personal interpretation of the findings in relation to the school-based and university-based themes explored in the quantitative categories. A comparison will also be made between the study's findings and the findings from other studies found in the literature review.

Preliminary Analyses

Of the 500 novice teachers randomly selected for the study, only 206 teachers responded to the survey request. Of these 206, only 198 teachers completed all the items in the survey, resulting in a final sample of 198 for statistical analyses. Before conducting analyses, reliability estimates for the measures and wave analysis to detect response bias were conducted.

Reliability estimates for each of the school-based and university-based support measures were calculated using Cronbach's alpha. Administrative support (2 items; $\alpha = .85$) and classroom mentor support (2 items; $\alpha = .71$) had acceptable reliability, though professional development support (2 items; $\alpha = .50$) was lower than the .70 cut-off for acceptable reliability. All six of these items, representing school-based support, maintained acceptable reliability ($\alpha = .80$). In terms of aspects of university-based support, university/liaison support (2 items; $\alpha = .92$), electronic mentoring support (2

items; α = .90), and course preparation support (2 items; α = .83) all had acceptable reliability. All six of these items, representing university-based support, maintained acceptable reliability (α = .87). Thus, overall, it appears the instrument for this study was reliable.

Second, wave analysis was conducted to determine the response bias (Creswell, 2009). The sample was divided into six equal groups of 33 responses. Means for each group of responses were calculated for items averaged for school-based support (six items) and university-based support (six items). Two one-way analyses of variance were used to determine if there were differences in response groups (independent variable) on school-based and university-based support factors (dependent variables). There were significant mean differences in terms of school-based support, $F(2, 192) = 4.54$, $p < .01$, but not university-based support, $F(2, 192) = .15$, $p = .98$. Figure 1 shows how means for Group 3 and Group 6 were much lower than the others in terms of school-based support.

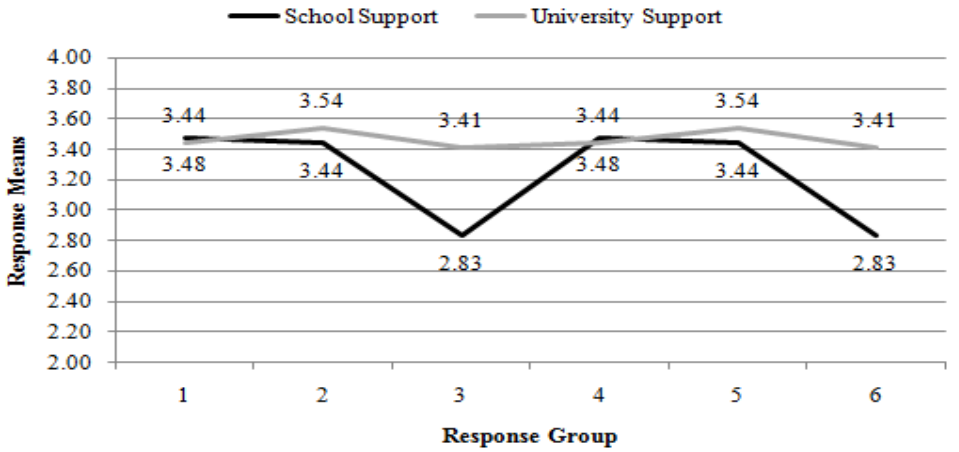

Figure 1. Mean responses for school-based and university-based support across response groups

Specifically, it appears that teachers who responded quickly after the initial survey request (e.g. Groups 1 and 2) and reminder (Groups 3 and 5) reported more school-based support than those responding more slowly. This indicates some evidence of response bias on school-based items (but not university-based support items), as teachers who did not respond to the survey may have less school-based support than those who completed the survey.

Results

The results of this research study include a description of the research behind teacher retention and the components of effective novice teacher support programs.

These interviews helped to support quantitative findings from the first two research questions, and also helped to answer the third research question of the study. The quantitative data was coded and analyzed using descriptive statistics. The qualitative data were analyzed using thematic analysis.

Perceptions of Novice Teachers Regarding School-Based Support

Descriptive statistics for each item measuring the three types of school-based support are shown in Table 1. Teachers reported that collaboration/talking with other teachers was the most helpful (M = 3.57; SD = 1.29; 61.2% agreement), while staff development before the start of the school year was least helpful (M = 3.07; SD = 1.29; 39.8% agreement). The majority of teachers also agreed that the administration support for their professional growth (56.3%) and classroom mentors (50.5%) were helpful. Although not the majority, when compared to teachers who disagreed or were undecided, well over one-third of the teachers responding also felt that the classroom visits or evaluations from administrators (44.7%) and professional development during the school year (48.6%) were beneficial.

Table 1.
Descriptive Statistics to Responses to School-Based Support by Percentages and Frequencies

	Percentage (Frequencies)					Response averages
	Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree	$\overline{x}$ (SD)
Administrative Support						
The administration was supportive of me/my professional growth	12.6 (26)	16.5 (34)	14.6 (30)	35.9 (74)	20.4 (42)	3.35 (1.32)
The classroom visits/ evaluations from my administration were beneficial	13.6 (28)	23.3 (48)	18.4 (38)	31.1 (64)	13.6 (28)	3.08 (1.28)
Classroom Mentor Support						
My classroom mentor was helpful in giving me guidance/support	16.5 (34)	18.4 (38)	14.6 (30)	24.3 (50)	26.2 (54)	3.25 (1.44)
Collaboration/ talking with other teachers was helpful	10.7 (22)	10.7 (22)	17.5 (36)	33.0 (68)	28.2 (58)	3.57 (1.29)
Professional Development Support						
Professional development during the year was helpful	10.7 (22)	14.6 (30)	26.2 (54)	36.9 (76)	11.7 (24)	3.24 (1.16)
Staff development before the start of school was helpful	12.6 (26)	21.4 (44)	26.2 (54)	26.2 (54)	13.6 (28)	3.07 (1.24)

Perceptions of Novice Teachers Regarding University-Based Support

Descriptive statistics for each item measuring the three types of university-based support are shown in Table 2. Teachers reported that having a supportive liaison/ supervisor was the most helpful (M = 3.92; SD = 1.16; 75.8% agreement), while networking and resources from the electronic networking website was least helpful (M = 2.82; SD = 1.17; 26.3% agreement). The majority of teachers also agreed that classroom visits/evaluations from their supervisor

(72.7%), education courses (62.6%), and clinical experiences (54.6%) were helpful. Only a little over one-third of teachers responding to the survey felt that support

from electronic mentoring (37.3%) was beneficial.

Table 2.
Descriptive Statistics to Responses to University-Based Support by Percentages and Frequencies

	Percentage and Frequencies					Response averages
	Strongly disagree	Disagree	Undecided	Agree	Strongly agree	*M* (*SD*)
University liaison/supervisor						
My university liaison/ supervisor was supportive of me and my growth	7.1 (14)	6.1 (12)	11.1 (22)	39.4 (78)	36.4 (72)	3.92 (1.16)
The classroom visits/ evaluations that my supervisor performed were beneficial	4.0 (8)	9.1 (18)	14.1 (28)	41.4 (82)	31.3 (62)	3.87 (1.08)
Electronic mentoring						
Support from electronic mentors was beneficial to me	11.1 (22)	16.2 (32)	35.4 (70)	23.2 (46)	14.1 (28)	3.13 (1.18)
Networking and resources from the electronic mentoring website were beneficial to me	16.2 (32)	21.2 (42)	36.4 (72)	17.2 (34)	9.1 (18)	2.82 (1.17)
Course preparation						
The education courses were helpful for me to be a more effective teacher	8.1 (16)	10.1 (20)	19.2 (38)	38.4 (76)	24.2 (48)	3.61 (1.19)
The clinical experiences I experienced were helpful	9.1 (18)	10.1 (20)	26.3 (52)	36.4 (72)	18.2 (36)	3.44 (1.17)

Perceptions of Novice Teachers across the Three School-Based and Three University-Based Support Types

Overall, the results indicated more teachers (122; 61.6%) reported school-based support as fitting their needs better than university-based support (76; 38.5%). However, it was unclear how the three school-based and three university-based aspects of

support compared to one another. Items for each of the six main types of school-based and university-based support were averaged to create overall mean scores for administrative, classroom mentor, professional development, liaison/supervisor, electronic mentoring, and course preparation support.

Figure 2 shows that, across all six types of school-based and university-based support, teachers found support from their liaison/supervisor to be the most helpful ($M = 3.89$; $SD = 1.08$) and electronic mentoring to be the least helpful ($M = 2.97$; $SD = 1.12$).

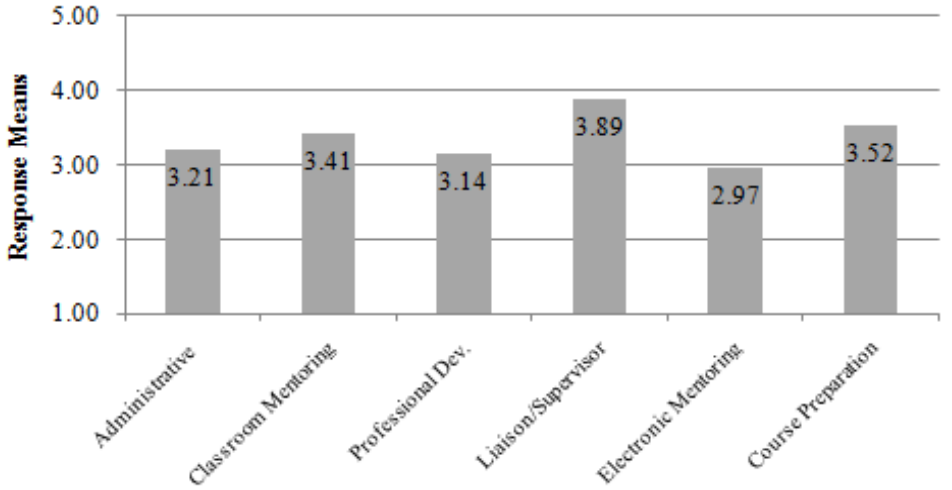

Figure 2. Mean responses for the six types of school-based and university-based support

Qualitative Data Analysis

Personal face-to-face interviews were conducted with six first-year teachers, three that remained and three that left the teaching profession. The interviewees were a diverse group of teachers and teaching experiences from Grades K-6 (see Table 3). The interviews were used as a guide to reflect on their first-year teacher support from their certifying universities and employing school districts.

Table 3.
Demographic Information for Interview Participants

Teachers remaining in profession			Teachers who left profession		
Participant	Grade level	Years in teaching	Participant	Grade level	Years in teaching
Teacher 1 (Hispanic female)	1	1	Teacher 2 (Caucasian female)	4	1
Teacher 4 (Asian American female)	2	1	Teacher 3 (African American female)	2	1
Teacher 6 (Caucasian female)	1	1	Teacher 5 (Asian American female)	3	2

Four interview questions were asked to help teachers reflect over their first-year support structures from their certifying universities and their employing school districts.

The interview questions focused on teachers' employing school district support, university support, support activities, and other types of support that helped or did not help become a better teacher. The interview data, which was audio recorded, used member checking to help improve the accuracy, credibility, validity, and transferability of a study (Yanow & Schwartz-Shea, 2006) and margin notes taken during the interview. In addition, the transcribed notes were peer reviewed and verified.

Qualitative Responses to School-Based Support

The first interview question asked, "When you reflect on the support that your employing school district gave you during your first-year teaching experience, what support was the most effective in helping you become a better teacher?" Shortened responses to interviewee responses are presented in Table 4, organized by teaching status (still teaching/left teaching) and the emotional nature of the comment (positive/negative).

All three of the teachers who are still teaching had only positive things to say about their school-based support, and their comments hit on all three of the themes examined in the quantitative phase: administrative, classroom mentoring, and professional development. In contrast, all three of the teachers who left the profession had negative experiences with school-based support, specifically the absence of any support from administrators, other teachers/mentors, and even parents. It is interesting to note that the issue of parental support arose, given this topic was not explored in the quantitative survey.

Qualitative Responses to University-Based Support

Table 4.
Qualitative Responses to School-Based Support

	Responses	
Teaching status	Positive comments	Negative comments
Still teaching	Teacher 1: Mentor....went above and beyond the expectations assigned...made sure that I understood all of the lesson plans as well as materials needed to be successful. Teacher 5: Our team leader helped my team to become stronger teachers.... I managed my first year well, thanks to my team leader. Teacher 6: My school district is great! My school administrators are even greater. They care, about students and staff and it shows in our professional development meetings. The principals in my employing school seek out training opportunities to help new teachers become more effective in the classroom.	None
Left Teaching	Teacher 3: A reading coach....was very helpful. After she finished working with my struggling readers, she would stay over to offer teaching suggestions based on what she saw while visiting my classroom.	Teacher 2: I did not receive help from teachers, administrators, or parents. Teacher 5: My employing school district was not resourceful to new teachers. I searched for help by myself.... I was disappointed with the lack of help and concern our school district had for new teachers. Teacher 3: "I wouldn't say I had support to become a better teacher, but the little support I did have helped me survive my first year classroom experience.

The second interview question asked, "When you reflect on the support that your certifying university gave you during your first-year teaching experience, what support was the most effective in helping you become a better teacher?" Shortened responses to interviewee responses are presented in Table 5, organized by teaching status (still teaching/left teaching) and the emotional nature of the comment (positive/negative).

Only two of the three teachers who are still teaching had positive things to say about their university-based support (specifically noting university liaison/supervisor support), while the other comment was negative and focused on feeling courses did not prepare her for real life disruptive students and her university liaison/supervisor's visits were too brief and unstructured to be helpful. Surprisingly, two of the three teachers who left teaching also had positive things to say regarding course preparation, student teaching experiences, and university/liaison support. This might indicate that, despite strong university-based support, the comparative lack of school-based support was the most important factor contributing to those who decided to leave teaching. This is consistent with the quantitative results that indicated teachers reported school-based support as most relevant to fulfilling their needs, and more specifically the helpfulness of having a mentor at the school.

Table 5.
Qualitative Responses to University-Based Support

	Responses	
Teaching Status	Positive Comments	Negative Comments
Still Teaching	Teacher 1: I had a mentor from the university who also supported me through frequent visits. Teacher 6: My university only did what was required...for supervisors to visit their student teachers in their classroom at least once after graduation. My supervisor visited my class a couple of times. She would leave a list of positive teaching skills observed as well as things I needed to work on...it was a positive experience.	Teacher 4: I was not prepared with classroom management strategies and had many disruptive students. First, I only understood classroom management from course text, which was not aligned with real life. Second, although my university supervisor visited my classroom several times during the semester, I never knew what to ask on her. The classroom issues seemed to happen so fast I did not have time to reflect, and my supervisor's visits were shot and quick.
Left Teaching	Teacher 2: My student teaching experience helped prepare me to be a better teacher. Also my classroom management courses helped to guide my actual classroom experience. Teacher 3: The most effective support I had from my university was being taught how to develop effective lessons. I was prepared how to write lessons and apply standards to what I was teaching. Teacher 5: My certifying university was very helpful. My supervisor visited my class three times after I graduated and provided constructive advice, the things I learned from her during my first semester in public school was a blessing.	

Qualitative Responses to Desired Support Activities

The third interview question asked, "When you reflect on your first year of teaching, what support activity, if any, would have made your teaching experience better?" Interviewee responses are presented in Table 6, organized by school-based versus university-based support. All six respondents unanimously mentioned forms school-based support, specifically in terms of classroom mentor support (e.g., team teaching and colleague support), the administration (e.g., appreciation of diversity) and profes-

sional development activities. None of the responses discussed aspects of university-based support. Again, this is consistent with the quantitative data suggesting school-based support best fit the needs of first-year teachers, with an emphasis on classroom mentoring.

Table 6.
Qualitative Responses to Support Activities to Improve Experiences

Responses	
School-based	University-based
Teacher 1: My experience would have been better if th school district appreciated diversity. Instead I sper many hours of my day translating between parents an the Caucasian counselor. Teacher 2: A mentor to guide me through my first yea as well as understanding the logistics of the benefit package for new teachers in addition to district lesso planning. Teacher 3: Team building skills and team teaching. Teacher 4: Professional development, teache collaboration and team teaching this way I could se experienced teaching being modeled and understand hov to use teaching strategies in my classroom. Teacher 5: Professional development, and grade leve planning, this would help teachers feel more connecte as a teams. Teacher 6: I think if my colleague's would learn t accept first year teachers in a positive way, would hav had a better teaching experience.	None

Qualitative Responses to Closing Comments

The fourth interview question asked, "Is there anything else you would like to tell me regarding the support you received during your first year of teaching?" Interviewee responses are presented in Table 7, organized by teachers who remained versus those who left the teaching profession. Two of the teachers who remained in the profession referenced the school district (one of which switched school districts), while the other cited a rough classroom experience (though did not elaborate). Among teachers who left the profession, all responses were overwhelming negative with respect to school-based support. That is, they found the district to be unsupportive, and one teacher even

mentioned having demeaning work colleagues.

Table 7.
Qualitative Responses to Closing Comments

Responses	
Teachers who remain in profession	Teachers who left profession
Teacher 1: Although, I had a rough class experience, my heart is with teaching low income students and I will continue to teach. Teacher 4: I am still teaching but went to another school district. Teacher 6: I learned a lot during my first year teaching. School district support was very helpful.	Teacher 2: I always thought teaching was my calling until I was employed in a school district with no support. I am currently employed as a make- up artist. Teacher 3: I couldn't believe the language that came from the other kindergarten teachers. They spent their day yelling and screaming at children and I refused to hear it for another year. I tried talking with my colleagues and they were so full of hatred that they demeaned me for approaching them with these issues. I feel that I would not have been productive as a loving and supportive teacher at this school and I didn't want to be like them. I am not teaching now. Teacher 5: I love teaching and I believe I will always want to teach. But public school districts are missing important elements in understanding how to retain a new teacher. I quit my first teaching job because the district was not supportive.

Discussion

Providing effective support structures for first-year teachers is a goal shared by many universities, school districts, and administrators. Induction programs provide a precise and comprehensive structure of new teacher support (Sweeny, 2008). The purpose of this study was to understand effective induction components that lead to retention of first-year teachers. This study was designed to evaluate the effectiveness of university- and school-based support structures. In addition, this study provided face-to-face interviews with six teachers to explore the subject in depth.

A sequential explanatory mixed method design was used to gather data from novice teachers in Texas universities through surveys and interviews. Both quantitative and qualitative data were analyzed and interpreted. Quantitative data were collected using a 5-point Likert-type scale to measure novice teachers' perceptions on effective support structures. The survey instrument was developed by the researcher and entitled *Novice Teacher Support Structure Evaluation Survey* (see Appendix A). Data

were coded and analyzed using descriptive and inferential statistics. The data allowed the researcher to understand whether or not, school-based or university-based support was more fitting to the needs of first-year teachers.

Conclusions

This study sought to contribute to the broader literature on support systems that may contribute to first-year teacher retention. Using a mixed-method design, this study shed light on how school-based versus university-based support was perceived among first-year teachers. The quantitative findings in reference to university-based support and school-based support indicated more teachers found school-based support fit their needs better than university-based support. Findings for qualitative research indicated all three teachers who are still teaching had positive things to say about their school-based support, and their comments reflected the three themes examined in the quantitative phase: administrative, classroom mentoring, and professional development.

In contrast, all three of the teachers who left the profession had negative experiences with school-based support, specifically the absence of any support from administrators, other teachers/mentors, and even parents. Taken together, both the quantitative and qualitative findings may indicate that school-based support is perceived the most integral to first-year teacher success and decisions to stay within the profession. Specifically, it appears that (a) strong school-based support can potentially compensate for the lack of university-based support, and (b) strong university-based support cannot compensate for the lack of school-based support for a novice teacher. Thus, this study suggests that school districts should strive to increase administrative, classroom mentoring, and professional development support for first-year teachers in order to increase first-year teacher retention. Additionally, universities should provide better teacher preparation and training through more "real-world" classroom experiences and discussion forums with experienced teachers.

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APPENDIX A

Novice Teacher Support Structure Evaluation Survey

This questionnaire was designed to help get a better understanding of how the various components of induction impact a teacher's perceived effectiveness. Please indicate your opinions about each of the statements below by clicking on the appropriate number. The represented numbers are indications of your perception regarding each item. The numbers are as follows:

1. Strongly disagree
2. Disagree
3. Undecided
4. Agree
5. Strongly agree

SCHOOL DISTRICT SUPPORTS:

Your employing school district offers several forms of support to you as a first year teacher. Please rate to what degree you feel your school has provided you the support you need to become an effective teacher.

Administrative Support:

1. I felt the administration was supportive of me and my professional growth.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5

2. I felt the classroom visits/evaluations that my administration performed were beneficial in my effectiveness as a teacher.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5

Classroom Mentors:

3. I felt my classroom mentor was helpful in giving me guidance and support.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5

4. I felt teacher collaboration/networking-talking with other teachers in my building/district was helpful in allowing me to express ideas and frustrations and gain effective ways to deal with them.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5

Professional Developments:

5. I felt professional development provided during the school year for the whole faculty was helpful in giving me strategies to use in my classroom to be a more effective teacher.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5

6. I felt staff development provided to new teachers only before the start of school was helpful in giving me guidelines for the first days of school.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5

UNIVERSITY SUPPORTS:

Your certifying university has offered several forms of support to you as a preservice teacher.

Please rate to what degree you feel your university has provided you the support you need to become an effective teacher.

University Liaisons/Supervisor

7. I felt my university liaison/supervisor was supportive of me and my professional growth.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5

8. I felt the classroom visits/evaluations that my university liaison/supervisor performed were beneficial in my effectiveness as a teacher.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5

Electronic Mentoring

9. I felt the support from the electronic mentors I received from my certifying university during my first year of teaching was beneficial to me in my first year of teaching.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5

10. I felt the networking and the resources from the electronic mentoring website were beneficial to me in my first year of teaching.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5

Course Preparation

11. I felt the education courses I took at my certifying university were helpful in giving me strategies to use in my classroom to be a more effective teacher.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5

12. I felt the clinical experiences I experienced at my certifying university were helpful in giving me guidelines for the first days of school.

Strongly Disagree	Disagree	Undecided	Agree	Strongly Agree
1	2	3	4	5

13. What support system better fit your needs as a first year teacher?

School-based Support University-based Support