

Texas Elementary Teachers' Perceptions of Data Chats

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ABSTRACT

A gap in practice at CES Elementary School (pseudonym) was the lack of data driven instructional decision making that contributed to the problem of low school scores on the State of Texas Assessments of Academic Readiness (STAAR). Low STAAR scores have negatively impacted student, teacher, and administrator retention. Unsuccessfully, data chats were implemented to help overcome the problem and improve practice. Hence, the purpose of this study was to explore the perceptions of data chats that occurred within CES's professional learning communities. The study was conceptually guided by the theory of action. Teachers' perceptions of data chats were the focus of the research question. A basic qualitative design using interviews of 5 teacher participants was conducted to collect data. Interview data were analyzed using an open coding approach. Analysis revealed teachers perceive the need to participate in data chats, believe data chats have an impact on improving instruction, and they could benefit from more professional development surrounding ways to use data.. By understanding teacher perceptions of data chats and creating a professional development plan, this project study has the potential to improve teacher effectiveness of student learning through data driven decision making in CES and similar school districts.

Keywords: data chats, data driven decision making, professional learning communities, theory of action

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Introduction

Data chats are defined as teacher team meetings in which teachers, teacher leaders, and administrators focus on reviewing student data looking for practices in which impact student learning to gain knowledge. A local Texas elementary school had a problem with students performing on state assessments; third and fourth grade students in the local school consistently underperformed 20% lower than state averages on reading and math. The standard was based on the percentage of students who meet state test score expectations within the school. In response to low performance, data chats were implemented in the school in the 2013-2014 school year and were being held every other week to discuss how data can be used to improve student performance, yet, student performance had not improved.

Data-driven instructional practices have been shown effective for improving instruction and student performance. Third and fourth grade teachers, intervention specialists, administrators, and instructional staff all attended bimonthly data chats. The gap in practice was that teachers were exposed to ways to use data to improve their instructional decisions but did not.

Purpose of the Study

Data-driven instructional improvements are important to multiple stakeholders yet data chats at a local elementary school have not yielded improved student performance. Therefore, the purpose of this qualitative study was to explore the perception of data chats. A better understanding of participants' perceptions of data chats will inform the local site and other audiences regarding data chats as a method of professional development for improving data-driven instruction.

Review of Literature

The Review of Literature is comprised of the Background, Conceptual Framework, Standards and Accountability in Education, High Stakes Testing and Data as Evidence, and Data-Driven Decision-Making

Background

The local problem was presented as a rationale for the study. The study focused on a Texas elementary school that had a problem with students performing on state assessments; third and fourth grade students in the local school consistently underperformed 20% lower than state averages on reading and math assessments as evidenced by local, state, and national evidence (see Appendix A). The guiding research question focused on probing are teachers' perceptions of data chats in a Texas elementary school. The study was framed in the theory of action, a concept that reflects the process of teacher learning impacting teacher classroom practice and student learning.

Several key points were revealed about data and its use in instructional decisions from a synthesis of literature. First, data driven decision-making is viewed as a positive practice for its potential to improve student learning. Second, data were used by federal government and state agencies to rank schools and set priorities for funding Third teachers' leadership skills improve when teachers use data to make decisions about their classroom practice.

Conceptual Framework

The theory of action was the conceptual framework for this project study. Action theory was historically rooted in the United States around the 1940s. Sociologist Parsons (1937) integrated the study of social order with individual factors that were acted upon both voluntarily and in response to social structure. Around the same time, action research became an evaluation model in education and other fields (Weiss, 1998). Chen (2018) described the action model as the “nuts and bolts” of program or professional development implementation (p. 69). The Wallace Foundation, which funded educational research, offered processes for developing theories of action in schools adopting programs or professional development efforts (Center for Educational Leadership, 2013). Haertel (2009) described a theory of action as a logical set of activities that were expected to produce results. A theory of action is a set of steps applied within a broader theory of change. Applied to education, the theory of action (see Appendix B) explains how any innovation leads to improved student learning (Keane, 2016).

Standards and Accountability in Education

Jimerson and Wayman (2015) completed a study that focused on the accountability of schools at both levels, state and federal, in which the expectation was for teachers to work with data in ways that were structured through professional learning. They examined the needs of a teacher when specifically looking at data-related professional learning and explored whether the professional learning that teachers were exposed to support these needs (Jimerson & Wayman, 2015). Teachers attended professional development for data analysis, and Jimerson and Wayman wanted to know if it made an impact on the teachers and recommended that professional development on how to use data be a part a teacher’s routine.

Farley-Ripple and Buttram (2014) stated that across the world, those who serve in education are faced with growing expectations to use data in an effort to improve instruction in schools. Support is a vital necessity in achieving that goal. These expectations have been embedded in educational policies, including federal, state, and local entities in the United States.

High Stakes Testing and Data as Evidence

Supovitz and Klein (2003) suggested that the number of high-stakes testing was growing, and the states were taking input from schools on improvement in student performance and high-stakes testing. The major dilemma for school leaders was that high-stakes tests were used as strict evidence of schools’ effectiveness. However, the annual testing results and adequate yearly progress were merely helpful when teachers and leaders are looking for instructional guidance in an effort to improve their performance on the high-stakes tests. Professional learning that includes the use of data is rare and studies that address professional learning and the use of data can assist the work of the district and campus leaders (Jimerson & Wayman, 2015).

CES Elementary, a school in an urban district, had data that showed student performance was poor in terms of state assessments; students took standardized tests beginning in third grade. With the goal of improving student performance, data chats were implemented as a regular professional development activity at CES, yet performance had not improved.

Data-Driven Decision-Making

According to Mandinach (2012), data-driven decision making (DDDM) is related to the assembly, systems, review, inspection, and understanding of data to inform practices and policies in an educational setting. The process is generic and applicable to teachers who want to make their instruction better, in addition to nonteaching staff members who have an administrative role. Personnel who may apply this process include all stakeholders who are part of the education community, campus-level personnel such as instructors and leaders, district level personnel including data specialists, and state and federal official level personnel such as state representatives and governors.

Mandinach (2012) offered an example of DDDM: A rural district was attempting to understand why a subgroup of students struggled with their academics. Teachers, administrators, and other district administrators searched for an explanation through reviewing student performance data, medical records, behavioral data, attendance, and other quantitative data; however, no useful correlation surfaced. Administration looked at what would seem to be unrelated data, such as transportation, and that was where a direct link was found; struggling students had the longest bus commute. Due to this new information, administration modified the transportation plan so that the time students spent commuting via bus was shortened with hopes that time would now be productive and students more focused on their academic work (Mandinach, 2012).

According to Ledesma (2013), this emerging prominence on teacher use of data and the examination of the literature is imperative. Administrators use the research from DDDM to gain a better understanding of how to prepare teachers to use these new expectations, which implied that preservice teacher education programs had a role in this process. Park, Daly, and Guerra (2013) showed that DDDM in schools was apparent in research, but not much priority had been given to how leaders make sense of strategically using data. Park et al. explored the officials of both schools and districts and their use of DDDM in an urban high school. School and district officials cultivated frames that were reviewed for further diagnosis, inspiration, and predictions in an effort to push using data on a consistent basis for the purpose of improvement (Park et al., 2013). Park et al. exhibited how both school and district leaders innovated understanding frames of DDDM that assisted others to understand the purpose for using data to make decisions as well. The data showed that going through the frame making process and reviewing how they were used was beneficial (Park et al., 2013).

Despite the widespread use of coaches and DDDM, Marsh, McCombs, and Martorell (2010) stated that there was still limited information about the support of DDDM from school instructional coaches and how these practices related directly to improvement in both teaching and student improvement. Marsh et al. researched a program that took place in Florida that included reading coaches and investigated research questions that were connected to reading coaches and their daily work surrounding data analysis and the support that coaches provided regarding data analysis.

Methodology

The methodology to address the research question regarding perceptions of data chats in a Texas elementary school are described in this Methodology section. The Setting and Participants, Research Design and Approach, and Data Collection, Coding and Analysis.

Setting and Participants

CES, an elementary school in Southwest Texas, had an enrollment of 928 students. Of these 928 students, 907 were economically disadvantaged, and 817 were at-risk. The school had a mobility rate of 260 out of the 928 students and an attendance rate of 95.3%. The school employed 53.5 total professional staff members as indicated in the campus school improvement plan. In addition to the professional staff, there were two members who made up the school leadership team, and four educational aides. Although the school was nestled in a small, retirement neighborhood, the students who attended did not live in the homes within the neighborhood. The students were bused in from neighboring apartment complexes. The school had a renovation, but the main building only held the common areas such as the cafetorium (cafeteria with a stage), offices, and classrooms from Kindergarten through first grade students; all other grades held classes in the temporary buildings.

Purposeful sampling was used to select participants. Purposeful sampling is used when information-rich cases are sought (Creswell, 2009). Participants were eligible if they had participated in at least one data chat. Ten potential teacher participants were invited to be interviewed. I interviewed participants who volunteered and gave consent until I reached saturation, a point at which no further insight was gained from addition data (Charmaz, 2006). Saturation was reached prior to interviewing all 10 invited voluntary participants; data collection ceased, and data analysis was completed using the data from five participants. Access to teachers was sought through a letter of cooperation that was sent to the principal for signature and subsequent submission to Walden University's Institutional Review Board. I previously worked at the local school study site from where data were collected, which allowed me direct access to the principal and teachers. Once approved by the local school site and Walden University's IRB, approval number 0710-19-0138873, potential participants were contacted via email. An invitation was sent through my Walden University email account that described the study and enlisted next steps with the consent form attached.

Research Design and Approach

A basic qualitative design using interviews was the approach taken to conduct this study (see Merriam, 2009). Basic qualitative research "is used when the researcher is interested in the meaning a phenomenon has for those involved" (Merriam, 2009 p. 23). The study probed teachers' perceptions of data chats, which made the basic qualitative approach appropriate.

Data Collection, Coding, and Analysis

Interviews were held with five participants based on basic qualitative research data collection methods, as suggested by Merriam (2002). Interviews were completed using the following procedures:

- Interviews with teachers took place at the study site, in 30-minute increments per teacher.
- Written consent to conduct the interview.
- The interview protocol included a brief explanation of the purpose of the study and several open-ended questions.

- During the interviews a digital audio recorder was used and notes were taken.
- No personal identifiers were present in recordings or notes. Each participant was assigned a number to maintain confidentiality.

Interviews were transcribed in Google Talk. Corrections to transcriptions were made by listening to the audio recording and referring to notes. The data was then manually coded data by interview questions that directly related to the research questions.

An open coding approach was used to initially code data (see Saldaña & Omasta, 2016). Open coding is a process used during qualitative data analysis in which researchers label concepts and define and develop categories. Completing open coding during qualitative data analysis includes researchers going through a cycle of noticing things, collecting the data, and analyzing the data (Khandkar, 2009). After completion of the open coding process, axial coding was then used to search for patterns to develop emergent themes (see Saldaña & Omasta, 2016). There were no discrepancies identified within the data.

Results

Three important themes related to the research question about what teachers' perceptions were of data chats in a Texas elementary school. The first theme was that participating in data chats helped the teacher self-reflect on their best practices that had a direct impact on planning and instruction. The second theme was that data chats had a direct impact on the students because they were able to use the results for goal setting. The third theme was the need for more staff development or training on data disaggregation protocols in their interview responses.

Participating in Data Chats Helps Teachers Self-Reflect

The theme that participating in data chats helped the teacher self-reflect on their best practices emerged from data analysis. All five participants' discussed that they liked participating in data chats because chatting drives instruction, adds value to the learning, provides an opportunity to look at misconceptions, and create target goals. Although Participant 1 originally thought data chats were "a waste of time," Participant 1 continued by stating even though data chat procedures were tedious, they were helpful for the teacher's "psyche." They went on to say that seeing students grow was satisfying and felt like what they were doing, day-to-day, actually worked.

Participant 2 stated that data chats were important "so that you can know where your students are." All wanted to reach the goals they had set during the data chats. Working to reach goals was connected to teachers working toward the accountability systems of the schools, from both state and federal aspects. Jimerson and Wayman (2015) completed a study in which teachers focused on the accountability of schools at both levels, state and federal.

Data Chats Directly Impact Students

Participant 3 observed that teachers who participated in data chats realized that gains were motivated by students feeling good. Student gains, in turn, motivated teachers. Participant 3 said that the process "makes the students feel good and their success motivates them [the teachers]." This is in alignment with Bernhardt (2009), Marsh and Farrell (2015), and Mandinach

and Gummer (2013), who stated that teachers benefit from using data to improve their instruction. The problem was that students at a local elementary school consistently underperformed 20% lower than the state in reading and math. In an effort to close that gap in practice, teachers were exposed to ways to use data to improve their instructional decisions during data chats. Participants 1 to 5 shared the consensus that “growth is growth.” Participants 3 to 5 shared that both the students and teachers were happy when students’ scores “grew” or increased from the 30s to the 50s.

Participant 5 shared an actual data tracking sheet that the campus used with students after stating how the students track their data after each “big assessment.” The sheet included an area for the student to input their name, assessment name, date of the assessment, scores that ranged from 0% to 100%, and boxes for students to color or shade in their grade.

The Need for Staff Development

Being able to share strategies with each other was a pattern among all participants’ responses. Each participant stated that they benefited from getting together as a team to look at the data. Participant 1 and 2 felt the need for more trainings to know exactly what data points needed to be met. The state had provided a chart to indicate the numbers, both raw scores and percentages, to meet standard. In addition, the chart also included information such as grade level, subject, race, and socioeconomic factors like Limited-English proficient (LEP), special education, or Title I indicators.

Participant 3 stated that the process “allows for teacher learning” stating that during data chats, they were able to look at one class who mastered one objective and another who did not do as well. Being in the setting of data chats allowed for the teacher whose students mastered the objective to share their “tricks of the trade” when they taught that particular objective. Participant 4 thoughts were, “I can look how I taught it, going deeper, being able to reflect on concepts and skills, and showing that there isn’t just one way.” Participant 4 also share that the self-reflection trait and the ability to dissect the teacher’s own data did not come easy, that “training and time is necessary.” During the data collection process, Participant 4 discussed that it was crucial to receive the data in a timely manner so that it was disaggregated, and discussion points were noted about trends before going into the data chat PLC. The school leaders such as the assistant principal and instructional specialists were responsible for “running” or scanning the answer documents in order to create the student data documents and provide it to the teachers.

Participants 3, 4, and 5 stated that the data presented had to be organized and they wanted more opportunities for training or staff development on using data. Participant 2 and 3 also stated the environment played a part in the data chats was dependent upon who led them, what protocols were used, and what type of data were disaggregated (i.e. snapshots of campus assessments and district level assessments). Participants felt that they learned how to have a cohesive environment through more exposure to training. Specifically, Participant 3 stated that “participating in data chats adds value, but only if you know what to do with the data.” Support is a vital necessity in achieving the goal of improving instruction in schools and administrators can provide support to the teachers by providing staff development (Farley-Ripple, & Buttram, 2014). From these findings, the project that was delivered is a 3-day plan for staff development that addressed the organization of data, finding trends to make instructional decisions, and celebrating growth for students and staff.

Conclusions

Three themes emerged from several rounds of data analysis using open, axial, and theming: participating in data chats helped the teacher self-reflect on their best practices that had a direct impact on planning and instruction, data chats had a direct impact on the students because they were able to use the results for goal-setting, and the need for more staff development or training on data disaggregation protocols in their interview responses.

These themes were consistent with the theory of action, the conceptual framework of the study portion of this project study. The theory of action (Keane, 2016) posits, “teacher learning impacts classroom practice which in turn impacts student learning.” Haertel (2009) described a theory of action as a logical set of activities which are expected to produce results. Data chats included a “set of activities” for teacher learning. Teachers used student data achievement to make improvements to their teaching practices which effected student learning. To address the needs of teachers for more staff development or training on data disaggregation protocols, a 3-day professional development workshop was introduced as a project deliverable based on study findings.

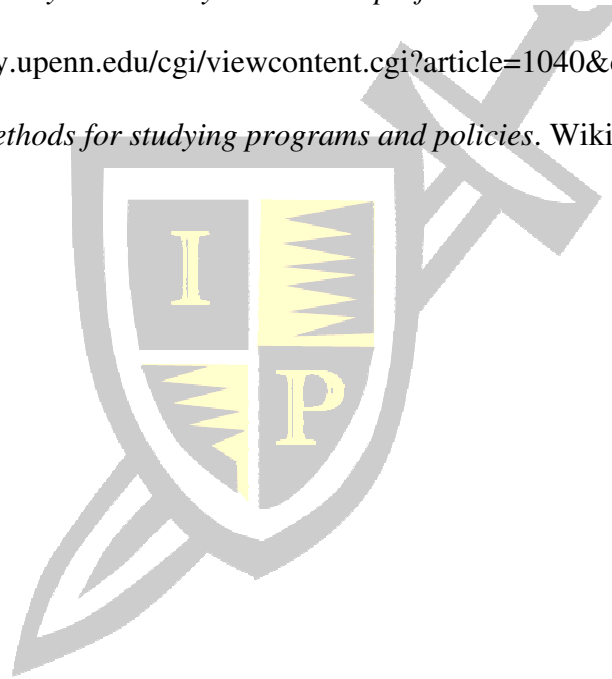
Recommendations

This study may add value to teachers’ perceptions of participating in data chats and could potentially have a positive impact on social change in terms of teacher effectiveness and resultant student achievement. Schools wishing to change teacher practices in addition to improving student achievement could benefit from this study. The staff development project is flexible and could be revised and adapted for use in any public school. All public schools in Texas administer a state assessment starting in grade 3, annually until grade 12. Although this qualitative study was limited to one elementary school with interviewed participants, this study can be extended to include any combination of settings at the district, state, or national level to make informed decisions about improving education in the United States.

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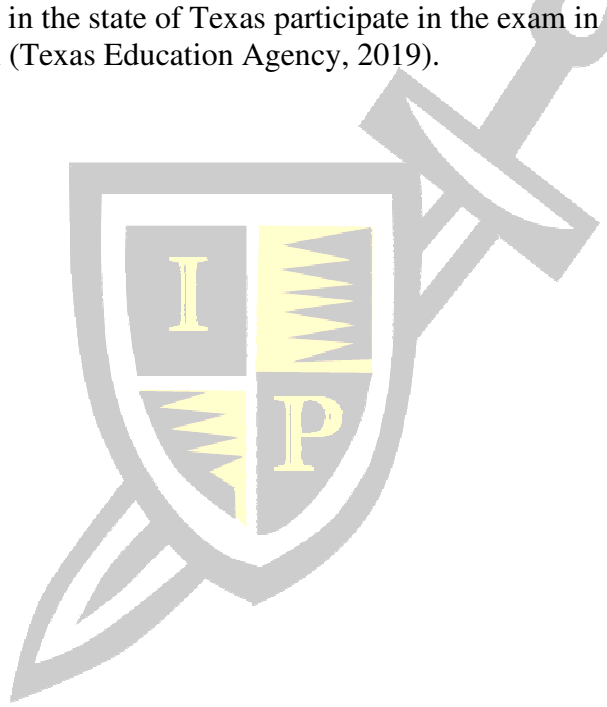


Appendix A

Table 1
School Report Card Data (All Grades Tested)

Year	Subject tested	State average	School average
2016	Reading	66%	47%
	Mathematics	71%	59%
2015	Reading	75%	47%
	Mathematics	76%	59%
2014	Reading	76%	52%
	Mathematics	71%	52%
2013	Reading	81%	59%
	Mathematics	70%	63%

Note. Adapted from *State of Texas Assessments of Academic Readiness (STAAR) test or exam*. Students in Grades 3-11 in the state of Texas participate in the exam in different subject areas based on the grade level (Texas Education Agency, 2019).



Appendix B

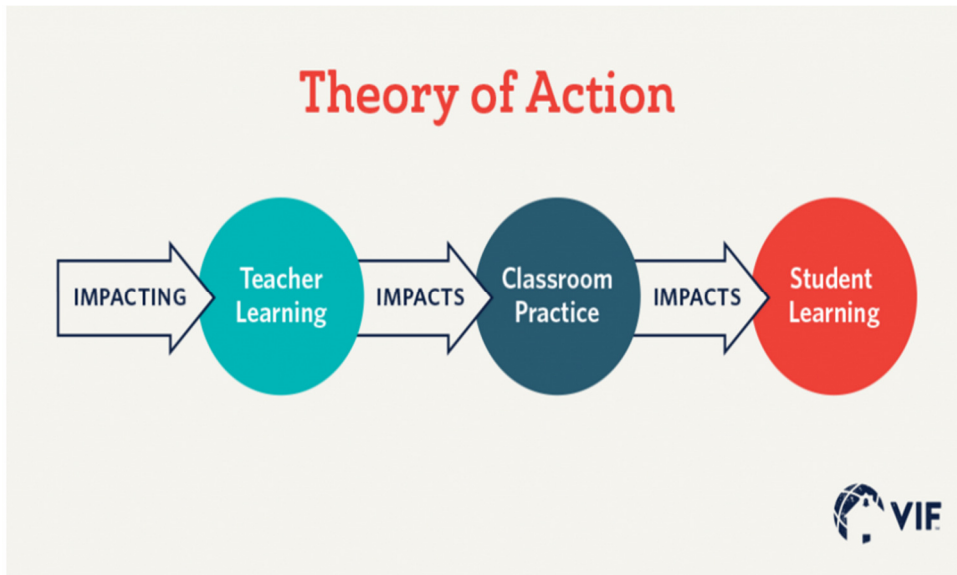


Figure 1. Theory of action.

Note. Adapted from *Theory of Action: Positive Impact on Teaching and Learning* by J. Keane, 2016, VIF International Education