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Comparing Teachers' Paradigms with the Teaching and Learning Paradigm of Their State's Teacher Evaluation System

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Abstract

The field of education has been marked by change initiatives, especially since 2002 and the implementation of No Child Left Behind. Teacher evaluation is a major area of concern in many of these initiatives and the implementation of the Race to the Top in 2009 has place even greater emphasis on Teacher Evaluation. Thirty-seven states made significant changes to teacher evaluation policies between 2009 and 2013. Many state and local education agencies have adopted performance-based teacher evaluation instruments that claim to be based on the constructivist theory of teaching and learning. The obvious question in regard to the adoption and implementation of a constructivist-based evaluation is whether or not the teachers being evaluated share that constructivist paradigm. A person's paradigm often dictates his/her behavior and may obstruct a person's ability to "see" a situation that conflicts with their paradigm. If teachers being evaluated with a constructivist based system do not share the constructivist view of teaching and learning, perhaps education agencies need to address the possible chasm between the constructivist paradigm and the actual teaching and learning paradigm of the teachers. The purpose of this study was to compare the teaching and learning paradigm of a set of teachers with the constructivist paradigm that provides the foundation for the teacher evaluation instrument with which they will be evaluated in the 2014-2015 school year. The qualitative study was conducted utilizing the Content Analysis process to extract the answer to the research question from the open-ended responses of the teachers to questions concerning the characteristics of the constructivist paradigm of teaching and learning. The teacher responses revealed that the teachers, on average, do not possess a constructivist paradigm of teaching and learning. Therefore, the question remains as to an education agency's response to the apparent gap between the paradigm of the teachers and the theory behind the evaluation instrument.

Comparing Teachers' Paradigms with the Teaching and Learning Paradigm of Their State's Teacher Evaluation System

Introduction

This is the age of change and high stakes accountability in American Education. The Coleman Report of 1960 initiated many changes, but also indicated that, effective schooling and teaching might not be enough to overcome the effects of poverty or environment on student achievement. Ensuing research indicated that the effectiveness of the teacher might actually be the strongest correlate with student achievement, which findings brought even more changes.

Perhaps the greatest number of changes in schooling came about as a result of two: the No Child Left Behind Act and Race to the Top. President Bush signed the No Child Left Behind Act into law on January 8, 2002. Race to the Top, a $4.35 billion United States Department of Education contest intended to cause innovation and reforms in state and local district K-12 education was announced by President Barack Obama and Secretary of Education Arne Duncan on July 24, 2009. States applying for the Race to the Top funds were awarded points for satisfying certain educational policies, such as performance-based standards, adopting Common Core State Standards, implementing rigorous teacher and principal evaluation and support systems, lifting caps on charter schools, turning around the lowest-performing schools, and building data systems.
One area impacted by the changes in education policy and practice is the area of teacher evaluation. Many of the changes in this area have been made in the past 6 years. In 2009, *The Widget Effect* (Weisberg, Sexton, Mulhern, & Keeling) heavily criticized teacher evaluation practices in the United States. The report revealed that 73 percent of teachers who were surveyed noted that their most recent teacher evaluation did not identify any areas of practice for needed development. Of the 27% who stated that their evaluation did identify areas for development, only 45% stated that they were given useful support to help them improve. According to The National Council of Teacher Quality (NCTQ), from 2009-2012 36 of the United States enacted major changes to their teacher evaluation policies (2012 State Teacher Quality Handbook, January 2013). NCQT further stated that in 2013, 37 of the United States had raised their overall rating on teacher quality policies by a full grade since 2009 (2013 State Teacher Quality Handbook, January 2014).

Arkansas was one of the 37 states to have improved a full letter grade since 2009. Arkansas received an evaluation rating from NCTQ of C- in 2009, C in 2011, and B- in 2013 (2013 State Teacher Quality Handbook, Arkansas Report.) The 2011 Arkansas General Assembly passed legislation to standardize evaluation and support for Arkansas educators. In the 2013 Legislative Session, Act 709 amended the legislation which resulted in the formation of the Teacher Evaluation and Support System (TESS.) The Arkansas Department of Education created a timeline for implementation of TESS. TESS has been piloted and implemented in many Arkansas School Districts, and beginning in the 2014-2015 school year, all Arkansas public schools must implement TESS for all teachers employed in their public schools.

TESS is a multilayered system for supporting teachers and evaluating their progress as they move toward full implementation of the Common Core Standards and is intended to raise the level of effectiveness of instruction. TESS has many components that range from the creation of a personal growth plan to formative assessment and summative assessment of teacher effectiveness based on

observation and the collection of evidence. TESS includes an evaluation instrument which identifies 4 domains and 22 indicators of effective teaching. That instrument, according to the Arkansas Department of Education was created using Charlotte Danielson's *A Framework for Teaching*. On the Danielson Group's website, the framework is described as follows,

> The Framework for Teaching is a research-based set of components of instruction, grounded in a constructivist view of learning and teaching. The Framework may be used as the foundation of a school or district's mentoring, coaching, professional development, and teacher evaluation process, thus linking all those activities together and helping teachers become more thoughtful practitioners.

TESS is a part of the ESEA Flexibility request the Arkansas Department of Education (ADE) submitted to the U.S. Department of Education; that request was approved by the U.S. Department of Education on June 29, 2012 and amended on October 25, 2012. The ADE sated in the ESEA Flexibility request that the department had chosen three initiatives to implement in order to ensure the students in Arkansas schools would receive a College/Career ready education: Common Core State Standards (CCSS), the Teacher Evaluation Support System (TESS), and the PARCC Assessment.

In the ESEA Flexibility Report, the ADE also articulated a vision for Arkansas school students. The vision states:

> All students in every Arkansas classroom will be engaged daily in rigorous learning experiences that build on students' talents, challenge their skills and understandings, and develop their ability to reason, problem solve, collaborate and communicate. Students will monitor their learning and direct their thinking to become productive and contributing team members. Students will grapple with complex texts and problems, construct viable arguments and persist until solutions are identified and substantiated. Through these learning experiences, students will be confident in their preparation for success in their post-school lives, including college and career.

The ADE stated in the ESEA Flexibility report that, "The combination of CCSS, next generation assessments, a focus on persistently low achieving schools and new professional evaluation systems will create a sense of urgency in the area of improving classroom instruction."

The Theory Behind the TESS Evaluation Instrument

The vision expressed by the ADE for "all students in every Arkansas classroom" enumerates learning experiences that are often mentioned when discussing the teaching/learning known as constructivism. Charlotte Danielson has confirmed that her Framework for Teaching is also based on constructivism. The Danielson Group describes the Framework for Teaching on their website dated 2011 by stating, "The Framework for Teaching is a research-based set of components of instruction, aligned to the INTASC standards, and grounded in a constructivist view of learning and teaching." The INTASC Standards, developed by the Council of Chief State School Officers in

2011, delineated what teachers should know and be able to do to be effective in 21st Century learning situations.

The Constructivist Theory of Teaching and Learning

In 2004, the Educational Broadcasting Corporation posted a website (Concept to Classroom) dedicated to the theory of Constructivism. On this website the theory of constructivism is described by explaining the behaviors of teachers and learners in a constructivist classroom. According to the writers, constructivism is characterized by teachers who use active, engaging learning activities to cause students to create knowledge, and then to reflect and talk about what they are doing as their understanding changes. Teachers utilizing the constructivist model make sure that they understand students' preexisting conceptions and guide the learning activities so that students reform their understandings.

In a constructivist classroom, students learn how to learn. The teacher constantly questions the techniques he or she is using and teaches the students to do the same as they are learning. Also, in a constructivist classroom, the role of the teacher and the student are specific: the teacher designs the activities, such as problem-solving and in-depth inquiry, to guide the students to discover knowledge rather than memorizing facts. Constructivism transforms the students' role from passive recipient of knowledge to active participant in the learning process. This transformation occurs as students become engaged by applying their existing knowledge and real-world experience, learning to hypothesize, testing their theories, and ultimately drawing conclusions from their findings."

The constructivist theory that provides the foundation for the ADE vision for Arkansas School students and the Danielson Framework for Teaching (and ultimately TESS) has roots in classical antiquity. One hallmark of the constructivist theory is Socratic dialogue. This questioning technique provides guidance for constructivist teachers as they assess student understanding and plan learning experiences. Other philosophers prominent in the constructivist theory are Jean Piaget and John Dewey, Lev Vygotsky, Jerome Bruner and Seymore Papert (Concept to Classroom). Many of these philosophers were instrumental in "Progressive Education" which brought about the modern understanding of Constructivism (Ryder, Martin).

In the following table, each of the prominent philosophers is listed along with his theoretical contribution to Constructivism.

Theorist	Tenet of Constructivism Based on the Philosophers' Theory
Socrates: 469 BC – 399 BC	Students build and discover knowledge.
Jean Piaget:	Students' understandings change as they acquire new knowledge.
John Dewey	Learning is grounded in experience.
Lev Vygotsky	Learning is a Social Event.
Lev Vygotsky	Student should be both supported and challenged.
Jerome Bruner	Learning is Active.
Seymore Papert	Technology is a Useful Tool.

Considering the theorists and their theoretical contributions to the modern understanding of The Constructivist Theory of Teaching and Learning, a constructivist classroom could be defined as a classroom characterized by a social situation where students interact with knowledge and each other, sometimes through technology, as they are guided by a teacher who creates an inquiry experience that will lead students' understandings to morph and mature. Some of the hallmarks of Constructivist Teaching and Learning would be higher-order questioning techniques, problem-based learning, cooperative learning, and project-based assessment.

Constructivism as a Paradigm

The Constructivist Theory of Teaching and Learning can be viewed as a paradigm of teaching and learning. Grant Bright, editor of the website Bright Quotes (2008), documented both the dictionary and the "every day" definitions of the word paradigm. Merriman-Webster's Dictionary states that a paradigm is "a philosophical and theoretical framework … which has theories, laws and generalizations … broadly: a philosophical or theoretical framework of any kind." Bright adds that a paradigm is in essence a set of "glasses" that we look through when we view the world. He further states that these "glasses" cloud our vision because we see what we see as "the way things are", even if there is a conflict between our understanding and reality or truth. A person's paradigm, therefore, dictates his/her behavior. Bright quoted Anais Niln to offer an explanation of how a paradigm works thusly -- "We don't see things as they are, we see things as we are."

If constructivism is a paradigm, and a paradigm dictates a person's behavior, and if that person will be evaluated by an instrument designed with the paradigm of constructivism, what then will happen if the person being evaluated using the constructivist based instrument does not possess a constructivist paradigm of teaching and learning? Specifically, the question driving this research was, "Do the teachers in Arkansas who are to be evaluated using TESS, which is based on a constructivist paradigm, indicate that they have a constructivist view of teaching and learning?"

Methodology

In order to answer the research questions, the researchers first created a framework noting 7 Tenets of Constructivism. Those tenets are displayed in the Table below.

TABLE A: The Tenets of Constructivism

Theorist	Tenet of Constructivism Based on the Philosophers' Theory
Socrates: 469 BC – 399 BC	Students build and discover knowledge.
Jean Piaget:	Students' understandings change as they acquire new knowledge.
John Dewey	Learning is grounded in experience.
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Lev Vygotsky	Student should be both supported and challenged.
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A Qualitative Analysis was used to answer the research question. Participants were presented with open-ended questions that would elicit responses that could be used to determine whether or not the teachers had a constructivist paradigm of teaching and learning. The population of interest in this research study was all of the certified classroom teachers in Arkansas. The survey questions were formed utilizing the Tenets of Constructivism Table. The survey was distributed via email to all superintendents of the public school districts in Arkansas. The superintendents were asked to forward the survey to the teachers in their respective school districts. At the end of the survey period, 315 Arkansas teachers responded to the survey.

To analyze the survey results, the qualitative research method of Content Analysis was employed. The Content Analysis research method uses a set of categorization procedures for making valid and replicable inferences from data to their context. The research method began as a quantitatively-oriented textual analysis for the study of mass communications. Content Analysis was being used as early as 1910 by sociologist Max Weber to examine press coverage of political issues in Germany. American communications scholar Harold Lasswell used a similar approach during the 1930s and 1940s to study the content of wartime propaganda. Content Analysis has five basic steps: coding, categorizing, classifying, comparing and concluding.

The **coding** stage is the basic tool of content analysis. It involves determining the basic unit of analysis and counting how many times the unit appears. In this study, the "main idea" was used as the coding unit. **Categorizing** is the next stage in content analysis; it involves creating meaningful categories in which to organize the coded units. In this study, the Tenets of Constructivism were used as the categories. **Classifying** involves verifying that the units of analysis can be repeatedly assigned to the appropriate categories. In this study, the researchers worked together to establish the reliability that coding of the text units and categorizing could be replicated. **Comparing** is the next stage. It involves comparing the categories in terms of numbers of units in each category and performing any relevant statistical analysis. In this study, the percent of the units that fell in each of the categories was compared. **Concluding** involves drawing theoretical conclusions about the content in its context. In this study, the concluding stage led to the findings that are reported.

Findings

The study focused on 2 questions which were posed to the survey respondents,

1) What is teaching?
2) How does leaning happen?

Question 1 "What is Teaching?"

The responses were first coded considering the complete response the teacher made to the question. Second, the responses were coded by thought or phrase. There were 296 total responses from the 315 teachers; some chose not to answer the question. Within the 296 responses there were 284 complete thought responses which fit into one of the categories in the 6 identified tenets of constructivism.

The Complete Responses to the Question

Of the 315 responses to the question, there were 296 identifiable responses. There were 8 responses that did not address the prompt. One example of those responses is, "Teaching is not about teaching students any more. It is about paperwork for administrators, it's about being observed twice a week. It's about lesson plans and making sure students work from bell to bell. Teaching should be fun for students and teachers. Teachers do not enjoy teaching anymore and students do not want to be at school. Things must change." There also were 21 responses that did not address the prompt, but alluded to teaching as being about inspiring students. An example of those responses is, "Teaching is seeing the expression on student's faces as they really understand something for the first time." So, there were 202 responded which could be coded as Constructivist or Not Constructivist using the 6 Tenets of Constructivism as a coding guide. Of those 202 coded responses, 137 (67%) were coded as Not Constructivist and 65 (33%) of the responses were coded as Constructivist.

To clarify the coding process, examples of Constructivist and Non Constructivist responses are recorded in the table below.

TABLE B: Selected Responses to the question, "What is Teaching?"

Examples of Constructivist Type Whole Responses	Examples of Non-Constructivist Whole Responses
Teaching is unlocking doors in the minds of young people and finding a way to enable them to become the best they can be	The formalized process of passing knowledge from one generation to another
Teaching is facilitating children as they explore the many possibilities to solve problems using the available resources	Presenting information and skills that results in learning from a student
Engaging students academically in a differentiated manner, being passionate about learning outcomes, involving co-workers, parents, and community in order to support student learning, always being willing to share, change and/or better instruction for the good of all.	ALE: Biology, Physical Science, Environmental Science, Algebra I, Algebra II
Being there for your students. Presenting new information, helping them discover information for themselves, reading, growing, creating, inspiring, motivating, note-taking, lecturing, staying awake	Giving access to and communicating knowledge.

Thoughts or comments related to the six tenets of constructivism.

The research for this project resulted in 7 identified tenets of constructivism based on the theoretical workings of 6 philosophers. The second part of the analysis of the responses to the question "What is Teaching" resulted in 305 discernable comments about earning that could be tied to one of the 7 tenets. Of the discernable comments, there was obviously more responses to two of the 7 tenets: Socrates' tenet that students build and discover knowledge, and Bruner's tenet that learning is

active. The numbers and percentage of discernable responses to the question are recorded in the table below.

Table C: Thoughts or Comments related to the 6 Tenets of Constructivism

Theorist	Tenet of Constructivism Based on the Philosophers' Theory	Actual Number of References	Percent of Responses
Socrates: 469 – 399 BC	Students build and discover knowledge.	112	36
Jean Piaget:	Students' understandings change as they acquire new knowledge	41	13
John Dewey	Learning is grounded in experience.	20	7
Lev Vygotsky	Learning is a Social Event.	16	5
Lev Vygotsky	Student should be both supported and challenged.	13	4
Jerome Bruner	Learning is Active.	102	32
Seymore Papert	Technology is a Useful Tool.	1	3
Total Number of discernable comments tied to the 7 Tenets of Constructivism		305	100

Question 2, "How does learning happen?"

The analysis of the question, "How does leaning happen?" proved mush more difficult than the analysis of "What is Teaching?" The responses to "How does learning happen?" were much more fragmented. Many of the answers listed learning styles, such as auditory, visual and kinesthetic. Because of the fragmented answers, many times the tenets of constructivism and characteristics that do not fit the tenets of constructivism were mentioned in the same response.

Two hundred and ninety three of the 315 respondents chose to answer this question. The intent of the researchers when asking the question , "How does learning happen?" was to determine to what extent the teachers were considering the cognitive processes associated with learning. Perhaps the wording of the question was inadequate, but the response did not reveal that the teachers consider the cognitive functions associated with learning. There were 2 of the 315 respondents who mentioned, "synapses." Most of the responses were very vague: there were several answers that simply stated that learning happens in many ways. Most of the responses dealt with behaviors, either teacher behavior or student behavior. Specifically, the respondents said learning happens when someone teaches or when someone presents knowledge, and many said learning happens when students listen. There were also several responses that said learning happens auditorially, visually or kinesthetically, and a few teachers commented that learning happens when the students want to learn and the teacher is good at his/her job.

There were no responses that commented on cognitive functioning associated with learning. It was not possible to categorize the answers concerning learning as complete statements to determine if they fit a constructivist paradigm or not.

There were 938 identifiable comments within the 293 answers about how learning happens; however, only 274, or 29%, of the comments could be linked to one of the 7 tenets of

constructivism. The 274 comments that were tied to the tenets of constructivism are recorded in the table below. The tenet that states that learning is active received the highest number of responses, 39% of the 274 responses.

Table D: The Comments on How Learning Happens Related to the Tenets of Constructivism.

Theorist	Tenet of Constructivism Based on the Philosophers' Theory	Actual Number of References	Percent of Responses
Socrates: 469-399 BC	Students build and discover knowledge.	49	18
Jean Piaget:	Students' understandings change as they acquire new knowledge	42	15
John Dewey	Learning is grounded in experience.	37	14
Lev Vygotsky	Learning is a Social Event.	20	7
Lev Vygotsky	Student should be both supported and challenged.	18	6
Jerome Bruner	Learning is Active.	107	39
Seymore Papert	Technology is a Useful Tool.	1	1
Total Number of discernable comments tied to the 6 Tenets of Constructivism		274	100

Conclusions

The two questions, "What is Teaching," and "How does Learning happen?" go right to the heart of the paradigm of constructivist teaching and learning. Three hundred and fifteen teachers who are or will soon be evaluated with a constructivist-based evaluation instrument were given the opportunity to respond to open-ended questions to determine how much of their answers would fit the constructivist paradigm. From the respondents' comments on teaching, it appears that 33% of the teachers view teaching through a constructivist paradigm. Thirty-six percent of that 33% seem to understand that students "build knowledge" and 32% of the 33% with a constructivist paradigm commented that teaching should allow students to be "active."

According to the teachers' responses, only 33% of the respondents viewed teaching through a constructivist paradigm, but it was not possible to determine a percentage of the teachers who view learning through a constructivist paradigm. It was possible to determine that only 29% of the identifiable comments could be tied to a constructivist tenet. Only 2 of the 7 tenets of constructivism received more than 15% of the identifiable comments: "students build and discover knowledge" and "learning is active."

The same two tenets of constructivism received the greatest number of comments on both the teaching and learning question. Of the roughly 1/3 of the teachers who revealed a constructivist paradigm for teaching and learning, most seem to understand that students construct knowledge and that they need to be active in the learning process. Many of the teachers with the constructivist paradigm do not seem to grasp the tenets that understanding grows and changes, that learning happens through experiencing, that leaning is a social event, that students need to be both scaffolded

and challenged simultaneously, or that technology can (and perhaps should) be a part of student learning.

Implications

From this research study, one could conclude that only 1/3 of the teachers who are being, or will be, evaluated with a constructivist based evaluation instrument have a constructivist paradigm through which to view teaching and learning. Additionally, many of those teachers may have difficulty planning and delivering instruction which includes peer interaction such as cooperative learning, project or problem based learning or project/alternative assessments, and all of these practices are alluded to in the ADE vision for students in Arkansas classrooms.

The major implication of this study can perhaps be framed as a question, "What can be done to bridge the gap in perception of the tenets of effective teaching for the two-thirds of Arkansas teachers who will be evaluated with a constructivist based instrument, but who do not possess a constructivist paradigm of teaching and learning?" And, "For that one-third of the teachers who do possess a constructivist paradigm on teaching and learning what will be done to transition them to the classroom activities such as cooperative leaning and project based learning that exemplify the constructivist paradigm of teaching and learning?"

In the world of education, change and accountability are two driving forces. In the move to make someone accountable for student success, one area that has undergone extensive change, especially since 2007, is the area of teacher evaluation. Many teacher evaluation systems, including the Teacher Evaluation and Support System of Arkansas are based on the Danielson Group's Framework for Teaching, a framework based on the theory of constructivism.

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