Classroom Environments of Respect for Questioning and Discussion

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Abstract

Questioning and discussion techniques are effective instructional methods that develop critical thinking and problem solving skills. There is often inconsistent implementation of these techniques, which can result in a negative effect on student achievement. This case study explored elementary, middle, and high school teachers and evaluators' perceptions of teaching practices regarding exemplary questioning and discussion techniques. Data included semi-structured interviews of teachers and evaluators, evaluation summaries, and lesson plans. Analysis was inductive using constant comparison to identify themes. Findings indicated teachers who earned exemplary marks on evaluations for questioning and discussion techniques created environments of respect and cultures for learning.

Introduction

Student achievement has been a top priority for the United States as evidenced by the Race to the Top (RttT) grant program that was funded by legislation (United States Department of Education [USDOE], 2009). International competition has been the driving force behind the push for heightened student achievement (Central Intelligence Agency, 2012). As a result, individual states were required to make changes in how they managed the business of education as a response to the RttT grant. If the states wanted the grant funding, they had to systemize their reform, emphasizing science and technology, improving learning outcomes, expanding longitudinal data systems, synchronizing curriculum alignment, and reforming school-level innovation and learning (USDOE, 2009).

Any state that competed for the grant was required to change the teacher evaluation instrument, assuring it was thorough, fair, clear, and provided measurable information that was tied to specific student achievement data. This provided a pathway for discussion between faculty and school leadership (USDOE, 2009). The state of Florida allowed each school district to select an instrument from an approved list, or they could develop an evaluation instrument that fulfilled the requirements and then ask for state approval. A large school district in Florida chose the Danielson (2007) framework for teaching as the instrument template. There are four domains within the new instrument: (a) Planning and Preparation, (b) Classroom Environment, (c) Instruction, and (d) Professional Responsibilities. There are several components within each domain (Danielson). Teacher ratings range from 1 to 4: specifically level 1 *requires action*, level

2, *developing*, level 3, *accomplished*, and level 4, *exemplary*. There is allowance for evaluators to code some components as *not observed*. For ease of explanation, teachers who earned a rating of a level 3 or 4 were considered proficient and those who earned a rating of a level 1 or 2 were considered not-yet-proficient.

In 2010/2011 school year, this large school district completed approximately 25,500 teacher evaluations with the new instrument. Seventy-two percent of the teachers were found to be proficient on their overall teacher evaluation score, which included all four domains. However, when considering domain 3, instruction, only 50% of the teachers earned proficient ratings. The division of domain 3 includes, 3b: Using Questioning and Discussion Techniques (49.5%), 3c: Engaging Students in Learning (52.6%), and 3d: Using Assessment in Instruction (54.7%) (RSDOE, 2011).

This evaluation instrument revealed that only half of the teachers in this district were found to be proficient (RSDOE, 2011) in instructional methods that have been determined to be important to student achievement (Danielson, 2007). After the district compiled the data the following year, 2011/2012, a change was observed, but not enough to lower concerns. This is one of the largest districts in the nation (National Center for Educational Statistics [NCES], 2011) and this deficit became a glaring concern for teachers, who did not earn top marks, and school site administrators, who had to provide answers about their programs to parents and the community. This concern worked its way up from the classroom, to the school, to the district, to the state, and finally to the federal government; the concern was great that questioning and discussion, student

engagement, and assessment during instruction was being implemented proficiently by only half of the teachers in this district.

More alarming was the fact that the calculation for the overall teacher evaluation score given at the end of the year doubles for the instruction domain; in other words, it carries twice the weight as the three other domains. Educators agreed that questioning and discussion techniques had to become a focus for improvement. Additionally, teachers have expressed frustration with knowing how to ask higher-order questions, expressing that they tend to focus on facts and basic content rather than critical thinking, problem solving and higher-order inquiry. Teachers indicated that they wanted to observe teachers who have earned proficient marks in questioning and discussion, like the Socratic Seminars, but specifically those who teach their specific subject area and grade level.

A more glaring problem is that teachers tend to ask numerous questions, however, they do not tend to ask higher-order, curious, critical thinking, and problem solving questions that produce large gains in student achievement (Almeida, 2010; Danielson, 2007; Kim, 2010; Marzano & Kendall, 2007; Shen, 2012; Tienken, Goldberg, & DiRocco, 2009). This triggers the question, why do teachers avoid questioning and discussion in their classrooms, or why do they not earn proficient marks by their evaluators if they are attempting questioning and discussion. According to Danielson, there are two purposes for questions in a classroom: helping students explore new ideas and providing teachers with evidence of student learning. These are two overarching and

universal objectives of education, so it should be reasonable that teachers engage in this practice on a regular basis; unfortunately, they often do not.

Because teachers want to know what exemplary teachers do regarding questioning and discussion, rather than focusing on why teachers do not engage students in questioning and discussion that results in top marks, the focus of this study was to explore perceptions of teachers who earned exemplary ratings in questioning and discussion. This information may prove to be useful for teachers in their endeavors to improve their teaching practices by showing current exemplary level examples of questioning and discussion techniques. This information may also be useful to public school stakeholders, including but not limited to parents, administrators, legislators, community members, and university partners. This information may help these stakeholders to understand how they can support classroom teachers in their efforts to get students to higher levels of critical thinking and problem solving through the use of proficient questioning and discussion techniques.

Review of the Literature

Historical Foundations of Questioning

History reveals that purposeful questioning and discussion began approximately 2,000 years ago with Socrates, who strove to engage the intellectuals in rhetorical analysis that required critical thinking to solve the political, medical, religious, and philosophical problems of the day (Gross, 2002). Plato and Aristotle continued to develop and document this innovative and controversial method of questioning and discussion that involved hypothetical analysis of the perceptions and perspectives of

scholars (Adler, 1997; Gross). Bloom (1984) and Adler, 2,000 years later, argued that Socrates' hypothetical questioning and discussion style was one of the most effective instructional methods in the development of critical thinking and problem solving.

The Socratic Method requires application, analysis, and evaluation of existing knowledge with the goal of solving a current problem (Adler, 1997; Bloom, 1984). This method requires thinkers to scrutinize their own paradigms of controversial topics, exploring the various implications of ideas in social settings, in the pursuit of solutions that may in fact expose additional problems (Baer & Glasgow, 2010; Marzano & Kendall, 2007; Tienken et al., 2009). This Socratic Method is a flowing process between thoughts and thinking about those thoughts in a systematic and critical cognitive and metacognitive cycle (Marzano & Kendall). This cycle involves solving problems, but once the solution is found, a different problem is revealed, which requires a solution, requiring further evaluation. Sustaining this cognitive/metacognitive inquiry cycle of critical thinking and self-reflection in a social setting is evidence of a well-developed Socratic seminar (Brown, 2009). Bloom and Adler argued that students who sought to be independent, successful members of society needed to be able to engage in this type of critical thinking cycle on a regular basis.

Unfortunately, even with the documented history of the purposeful inquiry of Socrates, Plato, and Aristotle, confirmed by Bloom (1984) and Adler (1997) 2,000 years later, teachers often continue to struggle with implementing proficient questioning and discussion techniques (Adler, 1997; Almeida, 2010; Bloom, 1984; Cho et al., 2012;

Danielson, 2007; Groenke, 2008; Karabulut, 2012; Kipper & Ruutmann, 2010; Tienken et al., 2009).

Theoretical Framework of Questioning

The modern history examined for this study began in the mid-20th century when Bloom (1984) and over 30 educators and psychologists established educational objectives that provided a common language for discussing learning, curriculum, and assessment. One of the goals for teachers is to observe changes that result from learning experiences, and these changes could then be measured by specific student behaviors as defined by the newly-developed educational objectives (Bloom). This classification system provided educators with operational definitions of hierarchical thinking processes that were observable and measurable through logical questioning (Bloom). Bloom suggested that this observation and assessment cycle would be helpful to teachers as they supported students who were exploring ideas not yet known. In other words, this process helps to prepare students for unforeseen changes in the future by defining "intellectual virtues" (Bloom, p. 40) in a hierarchical manner.

In the analysis and generalization of the taxonomy, Bloom (1984) recognized that there were varying degrees of difficulty within each class defined, each layer preparing a foundation for the next layer, where skills increased in complexity. For example, there are six classes in the cognitive domain and three layers in the knowledge class housed in the cognitive domain, which are recall, application, and abstractions and generalizations of knowledge (Bloom). The remaining five classes in the cognitive domain are comprehension, application, analysis, synthesis, and evaluation, which require higher-

level skills (Bloom). By defining these increasingly complex skills, educators could measure students' cognitive processes and be able to provide instruction more accurately as they facilitate student intellectual growth and development (Bloom, 1984).

Bloom (1984) warned, however, that the levels of thinking were not a static process, but a fluid process that needed further investigation. Marzano and Kendall (2007) argued that Bloom's taxonomy did not account for the element of automaticity. The steps involved in a skill remain constant, but the familiarity with the steps varies between individuals based on experience and instruction (Marzano & Kendall). For example, this idea of familiarity accounts for the discrepancy between the observable low-level recall of muscle and nerve structure for a medical doctor, as opposed to the observable high-level generalization of grammar rules of past tense verbs for a pre-school student who uses "goed" rather than "went." This raises the importance and usefulness of assessing students while learning through the questioning and discussion process.

The Broader Problem: A Lack of Good Questioning

There is an apparent gap between teachers knowing it is important to ask higher order application, synthesis, and evaluation questions and actually asking them (Beghetto & Kaufman, 2009; Danielson, 2007; Groenke, 2008; Hulan, 2010; Kim, 2010; Mazzola, 2009; Ogle, 2009; Purdy, 2008; Weinstein, McDermott, & Roediger, 2010). Critical thinking, questioning, and discussions are natural processes implemented in the initial stages of language development (Mazzola). As soon as children begin talking, they begin asking questions and discussing what they just learned. This curious inquiry process

continues until it is stifled, which is usually by a teacher who has a list of curriculum objectives and a calendar by which those objectives must be met (Mazzola).

Purposeful dialogue supports learning, increases comprehension, and can develop higher levels of language through social interaction (Groenke, 2008). Listening and speaking are the first encounters with language (Vygotsky, 1978). Reading and writing follow these communication processes (Vygotsky). Vygotsky pointed out that listening and speaking like questioning and discussion cycles, are natural processes in a child's development (Vygotsky). This ability to read, write, speak, listen, and compute critically and creatively are required skills for a fully-functioning adult (Coleman, 2010). Educators have struggled with finding the best way to help children acquire these necessary skills, hence multiple attempts to legislate what teachers need to know and be able to do with students in the classroom.

Perceptions of Questioning and Discussion Techniques

Even with an abundance of research, using questioning and discussion has yet to become a common practice primarily because these techniques are often perceived by teachers as contrary to the system of public schooling because of a lack of understanding of how these theories support learning (Shen, 2012; Smith & Lennon, 2011). Many teachers avoid using questioning and discussion techniques for fear of reprisal from parents and administration if the discussions become too controversial, even though it is one of the most effective ways to develop critical thinking (Smith & Lennon). Parents, administrators, and community members can bring a perceived threat to the teachers' security if students misinterpret discussions, even when the teachers and parents hold

similar religious and political views (Smith & Lennon). Smith and Lennon pointed out another barrier to effective implementation of questioning and discussion explaining that teachers hold the belief that they must be the holders of the knowledge, making a discussion a threatening situation if the students venture into an area where the teacher is not adept. Teachers who overcome this barrier do not maintain full responsibility for their students' learning, but teach their students to take the responsibility of learning on for themselves (Smith & Lennon).

Researchers agree that a lack of training for teachers to clarify the difference between questions that assess a student and questions that support a student's comprehension is the cause of some confusion (Fordham, 2006; Hannel, 2009; Marzano, 2007). With the confusion of the purpose for questions comes a lack of security for teachers to feel safe enough to add questions that support comprehension to their assessment questions (Smith & Lennon, 2011). Kucan (2007) and Larson and Lovelace (2013) studied the perceptions teachers and professors had of their questioning practices. Both studies showed that the teachers and professors had a skewed view of their practices; where they thought they were asking higher-order questions and giving extended wait time for mental processing, they discovered after the analysis process that they were asking more low-level questions and giving only a few seconds for wait time. Kucan argued that the transcription and analysis process was the key for teachers to come to their own realization of their actual questioning and discussion practices as opposed to observations completed by outsiders, and that this process yielded positive change in teachers' practices.

Peterson and Taylor (2012) added student data and peer collaboration for videotaping as well as peer observations decreased the gap between how teachers perceived their questioning and discussion techniques and their actual questioning and discussion techniques. This process of reflection with social and collegial discussion increased teachers' accurate realization of classroom practices (Peterson & Taylor). Peterson and Taylor argued that change is most likely to occur when teachers engage in a reflective and metacognitive process that includes documented audio, video, and transcription evidence that is analyzed in a professional collaborative setting.

The Socratic Seminar and Other Questioning Techniques

The Socratic Seminar has been found to be one of the most effective questioning and discussion techniques for over six decades (Adler, 1997). Adler, who perfected the Socratic Seminar, argued that the process could be replicated, as long as the facilitator understands the principles. For example, the Socratic Seminar is not a quiz, lecture, or open forum to express opinions and prejudices, but is a time to learn complex aspects of content and values that have cultural meaning (Adler; Chowning, 2009; Mangrum, 2010). There are three conditions required for a successful Socratic Seminar; these include 90-120 minute blocks of uninterrupted time, a circle type seating where everyone can see everyone clearly, and openness for learning, which requires withholding judgment through the analysis process. The seating arrangement is the easiest condition to meet; however, the time requirement and the lack of judgment paradigm among the participants are more challenging barriers. The public school schedule that allows for 50 minutes of

class time is inadequate for proper discussion development according to Adler. With most secondary schools restricted to this time constraint, teachers are forced to choose between splitting the seminar, truncating the seminar, or eliminating the seminar altogether.

Moreover, the facilitator of a Socratic Seminar must simultaneously maintain integrity and fluidity of discussion by preparing higher-order questions around the intended learning objective and then analyzing answers and drafting follow-up questions immediately (Adler, 1997). Adler pointed out that the facilitator should maintain a position of being a more competent co-learner in the process, not the sage of the discussion. Facilitators must also have well-developed active listening skills and devote full energy to the seminar, adding that a facilitator should facilitate only one seminar per day to maintain integrity of the process (Adler). This presents yet another barrier for teachers who have more than one class to teach during a single school day.

The Methodology

Qualitative Case Study Design

Case studies allow researchers to observe phenomena that are inseparable from context because perceptions within context inform individuals' realities (Wahyuni, 2012; Yin, 2009). Social reality is informed by the perspectives from multiple data points, like the participants in a class discussion, who come with their own realities making the outcome of reality unstable (Wahyuni). Questioning and discussion techniques cannot be examined in a vacuum; they can only be observed with all participants present, the teacher, students, and classroom setting within the school environment. This small

percentage of people, who share a common phenomenon of questioning and discussion, are in a bounded system, which warrants a case study (Glesne, 2011; Hancock & Algozzine, 2006; Stake, 2010).

Participants

Participants for this study came from a bounded system of evaluators and teachers who worked for one of the 10 largest school districts in the nation during the 2010/2011 school year. The teachers earned exemplary marks in the instructional domain, specifically component 3b, using questioning and discussion techniques, on the Danielson (2007) teacher evaluation instrument. The purpose of the study was to understand how teachers, who have earned exemplary marks in using questioning and discussion techniques perceived and described their teaching practices. An additional purpose was to understand the perceptions that evaluators had of their observations of exemplary questioning and discussion teaching practices demonstrated by classroom teachers.

Data Collection

The first data points were the interviews of teachers and evaluators. The teacher participants were those who earned the exemplary marks in component 3b, using questioning and discussion techniques, for the 2010/2011 school year. The evaluators awarded exemplary marks to teachers in component 3b, using questioning and discussion techniques, for the 2010/2011 school year. These evaluators received training and authorization to observe and award marks based on the Danielson (2007) framework for teaching. Data were also collected from examination of related artifacts associated with

the observed lessons. These related artifacts included pre-observation planning documents generated by the teachers prior to their formal observations; evaluators' observation performance reviews; teachers' reflective journal notes; lesson plans for the observed lessons; and graphic organizers, manipulatives, or other supporting materials related to questioning and discussion techniques.

Data Analysis and Evidence of Quality

Data collection and data analysis can occur simultaneously and function interdependently in a qualitative collective case study (Hancock & Algozzine, 2006; Merriam, 2009; Stake, 2010; Yin, 2009). Data were analyzed as soon as the first interview was completed using the constant comparative method (Glaser & Strauss, 2012; Leech & Onwuegbuzie, 2007; Vander Putten & Nolan, 2010). Interviews were transcribed verbatim, coded by hand, and then categories and themes were identified in a constant comparative manner (Glaser & Strauss; Stake; Tesch, 1992; Wahyuni, 2012). In addition, the collected documents were analyzed for consistent or conflicting information vis a vis the interview transcripts.

The categories and themes were compared after completing the code/recode process, which increased dependability (Glaser & Strauss). The researchers used triangulation, code/recode, reflexivity, and verbatim quotes from participants to strengthen trustworthiness. All of these data provided evidence that revealed patterns and consistencies between and among participants.

Findings

Key findings of the larger study indicated teachers identified how their education and experiences promoted successful techniques; created an environment of respect and established a culture for learning prior to teaching students; engaged in collegial interactions with peers; identified approaches, materials, and techniques used for questioning; and discussed processes and techniques used for development of students. For the purposes of this paper, the findings regarding how teachers created an environment of respect and established a culture for learning promoted successful discussion techniques will be discussed.

Creating a Safe Culture for Learning

Participants indicated that they worked to create an emotionally safe environment where students felt comfortable enough to be wrong. They simultaneously created a culture for learning that sustained the importance of engagement with their assigned content area at a rigorous level. Participants indicated that the way they created the emotionally safe environment was by managing classroom procedures, student behaviors, and the physical space in their room to the level that all students knew exactly where everything was, knew exactly what was expected, and took responsibility for the care and maintenance of the materials, physical space, and each other's success.

Participants expressed that they were able to establish a culture of learning by knowing their content and pedagogy extremely well, indicating that they continue to study to deepen their knowledge in their area. They expressed that they also know their students' academic achievement levels as well as their learning styles, personality, and

interests which helps them to orchestrate this culture of learning. Finally, they expressed that they access a variety of resources to support student learning and indicated that there is not just one way to reach all children; many pedagogical and resource avenues need to be taken to be able to reach all children effectively.

Participants followed a flow of instruction that began with designing coherent instruction, developing student assessments, using the assessment frequently throughout instruction, setting instructional outcomes based on the assessments, and communicating this information with the students fluidly, making the students aware of the instructional goal and where each student was on the continuum of that goal. Participants engaged in an ebb and flow of reflection and response between each step of the course of instruction, pushing and probing students when they needed to dig more deeply into the material and supporting students when remediation became apparent.

When asked how they earned exemplary marks in questioning and discussion, all of the teachers stated that they first established an environment of respect and rapport and created a culture of learning defined by high academic standards. As Stella, a second grade reading teacher, so aptly stated,

> If somebody [a teacher] is asking me how to help with discussion and with questions, how do I even know that his classroom environment and rapport is to the level where they could even handle that level of questioning and discussion?

That level of respect and rapport impacts the students', "willingness and desire to discuss," according to Candi, a high school English teacher. Emma, a middle school math teacher, said teachers have to ask themselves about the relationships with and

between their students. She said that if students "are afraid someone is going to laugh at them, they're not going to say anything," and if that is the case, "it's really going to shut everything down." Ella stated that, "even if students are prepared to question and discuss, they will refrain from doing so unless they are in an environment where they feel safe speaking." Ella added that, "as students learn to trust their peers and instructor; they can then begin practicing their questioning and discussion strategies."

Even the evaluators agreed that building respect and rapport was paramount. Maria, a peer evaluator, said, "Having that environment of respect for each other […] is first and foremost." Maria added that the teacher needs to have taught the students to "respect each other and to treat each other politely, even if they don't like or agree with what the other person is saying." Claudia, another peer evaluator, indicated that the environment of respect and rapport was necessary "in order to have every child participating." Settee, an elementary principal evaluator, explained that the teacher must "put in a great deal of time training" so that the classroom environment is "all risk free" and the students know "that whatever the answer, it's going to be okay."

Teacher as Coach, Not Sage, Giving up Control

One of the common threads found with the teacher participants was their ability to get their students to engage with the content at a deep level, but more than that, the students took a social inquiry-based approach to their examination to the topic. These teachers indicated that they had to learn to let go of the control and allow the students to take ownership of their own learning. These teachers participated equally with the students and maintained a role as a co-learner rather than the sage of the classroom.

Although, they were the more competent co-learners, but they communicated a position that everyone in the room was a learner, no matter their starting points.

For example, Serena, a twelfth grade English teacher said,

I don't keep anything secret, I say, "Hey guys, this is what I'm using so that I can ask you the right questions, you can use the same thing. I'm learning along with you." Just being honest with them, showing them my pack of helps [builds trust]. I trust the kids and the kids trust me. I was never out to trick 'em or get them; some teachers have the 'gotcha' attitude, [which destroys trust].

Fiona, fifth grade language arts teacher added, when asked about handing control to the students,

> It's still a little nerve wracking and I'm still a little nervous doing it, you just have to do it more. The kids take over more than you realize. You just have to let it go. The responsibility of learning and questioning is on the kids, and I think that's an area where I had to really let go instead of me talking all the time. The kids are really in control of it, and they're able to dig a little deeper and take it to a higher level of questioning because of one another's interest or another's curiosity. So that part of it I think is a huge part of why my lessons do come out on the exemplary side in that certain area. It's been a natural growth, […] it's been slow, but sure and steady with me releasing the responsibility to the kids.

Serena, twelfth grade English teacher concurred regarding the difficulty of giving control to the students. She stated:

> Part of it was me giving up; I'm a control freak […] I had to come full circle as far as when principals used to come in, they expected quiet in the classroom and they expected everybody to be writing. It was a new mindset for me too when all of this cooperative learning started. I started taking CRISS training and the Kagan trainings […] it isn't easy for me, […] some of my colleagues say, 'you think this really works,' I say, 'yea, it really does work.' I listen to the conversations these kids have and the way they talk to each other and help each other, so yes, I know it does work, and yes, it was hard, really a learning curve for me. It was hard but we all have to change. It works better.

Establishing a Safe Environment of Respect and Rapport

All nine teachers and all three evaluators indicated that the establishment of an environment of respect and rapport was not only a pre-requisite but also a co-requisite to successful questioning and discussion sessions. Stella, a second grade reading teacher pointed out that, "It [respect and rapport] has to be built from day one."

The teachers indicated that this emotionally safe environment started with conscious establishment and management of clear classroom procedures, student behavior expectations, and the physical space in the room so that students knew what was expected, knew where everything was, and took responsibility for the upkeep of the materials, physical space, and their peers' success. According to Candi, a high school English teacher,

> That level of respect and rapport impacts the students' willingness to discuss. [You must allow] for practice so they can be confident in discussing and

> questioning each other. You have classroom procedures, then you have behavior, you have open communication, and higher expectations, and environment of respect and rapport, then all of that helps their willingness to discuss, and their willingness to desire to discuss.

Emma, a middle school math teacher, agreed that teachers must be aware of the relationships with and between the students. She said if, "Students are afraid someone is going to laugh at them, they're not going to say anything, and it's really going to shut everything down." Ella stated, "even if students are prepared to question and discuss, they will refrain from doing so unless they are in an environment where they feel safe speaking." She added, "As students learn to trust their peers and instructor, they can then begin practicing their questioning and discussion strategies."

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Knowing the Students, Content, and Pedagogy

The teachers in this study indicated that they created a culture for learning by establishing the importance of sustained engagement with content at high levels. The teachers maintained high expectations for each student; specifically pointing out that the high level for one student is different from the high level for another student based on their background knowledge. They also indicated that they expected mastery of the curriculum goals and objectives, which meant they had to provide more scaffolding for some students. This required the teachers to know their students' learning styles, ability levels, personalities, interests, and background knowledge in order to support their learning accurately. As an example, Fiona, a fifth grade language arts teacher said,

> I do include some lower level questions to begin, and I build on those so that the kids have the confidence of knowing the answer. As we build, we go through each level […] becoming a little more difficult, until they're analyzing their own knowledge from the beginning.

Melissa, upper elementary gifted science teacher, works on knowing each student to make sure they all participate fully. She said that, "Students that are afraid to answer or timid about being wrong, […] and they don't want to open their mouth because if they're wrong the other people will know that they're wrong." She said she looks for opportunities where she can help them, "build confidence and their ability to get close to

the answer." She said she looks for them to give her something to build on. She explained that,

> If I ask a question and the student gives me something that's close, I'll say 'well you're in the neighborhood, but that's not the right house, so go knock on another door.' Or another child gives me an answer, 'that's the house but the door's locked, give me something more.' […] you just keep pulling on them and take everything that they have and make something positive about what they said […] but get more out of them.

The participants in this study expressed that knowing their content was a key factor to their success in their ability to anticipate students' confusion and expansion. Knowing the material gave the teachers the confidence to let the students take control of the class as they explored solutions to the problems presented.

Candi discussed classroom elements she created that she believed impacted her exemplary demonstration of questioning and discussion techniques.

I have high expectations for performance. But I have a high rapport with my students. And we talk about not being afraid or to be wrong or to take chances in trying out an idea and sort of talking through it. Because that's sometimes where they need practice…Any time there is any text we come across we spend a lot of time asking the deeper questions. We do use a lot of graphic organizers to help. One of the problems they do have is making connection between the meaning and then finding textual evidence. So, a lot of times we'll spend time, especially with a short text not always with a novel, but going through and looking for symbols and looking for imagery, and looking for figurative

language and then talking about how did all that create meaning instead of just identifying it.

The teachers indicated they focused on pedagogy, the way they delivered the material and asked the students to address content, as much as they did the content itself. They all sought multiple resources to support the learning of each individual student, emphasizing that one teaching method would not work for all of the students in their classes. Teachers began with designing coherent instruction that included development of student assessments that were used frequently throughout the instructional period. They set clear instructional outcomes based on prior assessments, and communicated the assessment results with the students so they became aware of their own progress in light of the established goal. The pedagogy required an ebb and flow of reflection and response between each step of the course of instruction. The teachers pushed and probed students to help them to find deeper meaning and connection with the content.

> Melissa and Jenny both discussed classroom elements such as the physical environments that they created for the classes. As an example, Melissa reported that:
>
> For management I have tables that are similar to lunchroom tables. The benches fold up and down and the tables are numbered, 1, 2, 3, 4, and they know what number they sit at and what each number has for duties. I also use index cards with their names on them and will randomly pull from the index cards and this technique allows me to call on everyone. So the one sitting in the back feeling

safe, like he's not going to get called on, knows that when I pick the index cards it could be him or her.

Jenny added regarding the physical environment:

They're in tables, so I have three groups of six, and with desks all clustered into tables. And then they have… small groups within that where they have shoulder buddies or face buddies, that sort of thing…. then depending on what I ask, for instance we're doing a science thing now, they have a different group that they're working with that, within that…Then they have homework buddy that they have to get together with at the beginning of each of the content areas that they have homework in and they review homework with each other. We review any questions that they have based on that. So that's the physical environment that is set up…

All of the participants emphasized that they are constantly seeking information about their content and pedagogy in their area of study. They also stated that they strive to continue to provide an emotionally safe environment by managing classroom procedures.

Implications

The teachers in the current study unanimously agreed that creating an environment of respect and rapport and creating a culture for learning were prerequisites and co-requisites to being able to engage students in learning and engage students with each other in meaningful, authentic, and genuine content-based high-level discussion driven by higher-order questions. This concept is consistent with many studies findings. For example, Andersen, Evans, and Harvey (2012) studied 79 students between the ages

of 8 and 12 in New Zealand. These researchers found that the students who believed they were in a class environment of respect and rapport, felt that the teacher actually liked them as a person, they felt comfortable in the room, they believed their emotions were considered valuable, rules were fair, and students were treated equally (Anderson et al., 2012). Similarly, Zedan (2010) studied 3,786 Arab students in grades 4, 5, and 6, in Israel. Zedan found that these students felt they were in an environment of respect and rapport because they had a sense of unity with the teacher and their peers, they collectively respected the rules, they felt supported and welcomed by the teacher, and competition was low.

Adedoyin (2010) studied 800 middle school age students in Botswana focusing on students' perceptions of mathematics teachers' relationships with them in math class. Adedoyin found that, "establishing authentic teacher interpersonal behavior is a prerequisite to effectiveness in teaching and learning outcomes" (pp. 5-6). Students who had high math scores indicated that their teachers were helpful, friendly, and understanding (Adedoyin).

Fournier (2008) found that using Response Ability Pathways (RAP) training helped when working with extremely angry children. The characteristics of RAP include empathy with the student in distress, opportunity for the student to voice his or her opinion without fear of being wrong, and not laying blame on the student (Fournier, 2008). These findings are consistent with the definition of a classroom that has established respect and rapport. Jones and Sterling (2011) suggested focusing on two strategies that move students from passive and disengaged pupils to active and engaged

learners. These strategies include how and with whom the students are seated and creating cooperative learning scenarios that require equal participation, rotating responsibilities, and pairing before sharing to provide emotional support for all learners (Jones & Sterling; Sterling 2009). This finding is consistent with the findings of the current study where teachers indicated they were careful to focus on the physical environment of the classroom.

Similarly, Doyle (2009) argued that classrooms were not simply empty spaces in which teachers and students happened to convene. He described classrooms as habitats, interdependent sets of complex systems of behavioral sequences (Doyle, 2009). Doyle explained that the teacher must cultivate this habitat and, "recruit, invite, persuade, or convince the students to join forces with her or him in participating in events for specific periods of time" (p. 158). The teacher must select the type of teaching principal, like social/constructivism, the method of delivery, like Socratic seminars, and productive context, like science, that will best match the developmental level of the free agents placed mandatorily in this habitat, sometimes against their will (Doyle, 2009).

Doyle (2009) emphasized that without consideration of the systems of behavior, treating all members of this habitat with dignity, the productive context, like science, will not occur, but without productive context, the systems of behavior have no purpose and will morph into something unproductive and overgrown with weeds, so to speak (Doyle, 2009). Doyle's ecological description of this interdependent habitat, balancing dignity with purpose, illustrates the need for the teachers to be master gardeners who know the complexities of producing a rich harvest. This gardening metaphor is relevant to the

findings of the current study and exemplifies the symbiotic relationship between creating an environment of respect and rapport with establishing a culture for learning in light of the willingness of students to engage and be able to produce a rich harvest asking and discussing higher order questions and topics. Doyle's point was to illustrate that teachers who can learn to cause and maneuver these complex and interdependent behavioral sequences have great power to overcome coercive influences that so often prevent classroom habitats from being productive and allowing students to think critically about solving relevant problems.

In addition to creating an environment of respect and rapport that ultimately provides an emotionally safe environment for attempting to learn challenging material, the teachers in the current study indicated they created a culture for learning simultaneously, which included high expectations and a focus on academic content. Patrick et al. (2011) found that teachers who demonstrated behaviors that supported mastery goal competence, as opposed to performance goal competence, promoted student achievement and engagement. Specific teacher behaviors exhibited in a mastery goal classroom include disallowing students to tease other students when they answer a question incorrectly, allowing students to help each other with their assignments, providing emotional and academic support to students, and exhibiting mutual respect for all students (Patrick et al.). These qualities are very similar to qualities of a classroom that exhibits respect and rapport.

Poulou (2009) completed a perception study with 400 teachers and 526 students in Northern Greece. The study revealed that teachers and students agreed that creating a

culture of respect was the most frequently implemented set of behaviors developed in the classrooms (Poulou). However, activities that promoted a sense of community or peer collaboration were behaviors not implemented with much frequency at all (Poulou). If this were true in other classrooms, it would make sense that discussion at high levels would not be demonstrated at the exemplary level very often. The teachers in the current study indicated that a sense of community and culture of learning needed to be in place in order to support robust discussion and the importance placed on the content of the discussion, in turn, increased the bonds within the community.

Schussler (2009) argued that when classroom discussions are relevant, authentic, and challenging for students, engagement increases. However, she emphasized that flexibility was the key to knowing the level of challenge for each student and indicated that there was a "sweet spot" (p. 116) where the academic work was not too easy and not too difficult (Schussler). Cubukcu (2012) and Schussler argued that teachers' thinking needs to move from getting content into the heads of the students to creating a culture that makes the students want to engage with the content. This shift from teacher ownership for students' learning to students' ownership of their own learning is vital in creating a culture where learning is held as a high value (Cubukcu, 2012; Schussler, 2009). This is consistent with the findings of the current study. For example, Settee, a principal evaluator who taught grades four, five, and six for twenty years before becoming a principal, stated, "There's a certain culture in the room that there's a certain responsibility for all for their own learning but also for team work." She went on to say, "That successful culture, it also helps with everything else."

Solving problems is a natural part of life and asking and answering questions in a social discussion format is the natural strategy of solving those problems (Bandura, 1977; Lim et al., 2011; Mills, 2009; Purdy, 2008; Vygotsky, 1978). In the sorting out of problems, people usually talk out their thinking in social settings (Adler, 1997; Bloom, 1984; Nathan, 2010). Nathan stated it very clearly, "Simply put, critical thinking is social" (p. 7). Taking the stand that critical thinking is social and considering that people will not be social unless they feel emotionally safe, the assumption that developing critical thinking and problem solving skills appears to be contingent upon creating an environment of respect and rapport with a focus on content that is appropriately challenging, relevant, and purposeful (Doyle, 2009; Nathan). In addition, it may be safe to say that students around the world find that being liked by the teacher and being considered a contributing member of the learning community impacts their academic achievement (Adedovin, 2010; Anderson et al., 2012; Jones & Sterling (2011); Sterling (2009); Zedan, 2010).

Recommendations

The obvious solution to increasing the effective implementation of using questioning and discussion techniques in classrooms is not just teaching teachers how to ask higher order questions or teaching them to set up Socratic seminars or cooperative learning structures. The solution to increasing the effective implementation of using questioning and discussion techniques lies in creating proper conditions. These conditions need to allow teachers to select their own professional development using their own evaluation data to determine their own course of study as they work collaboratively

with peers and administrators at their own school site and use embedded project-evaluation and process-evaluation measures before, during, and after the program implementation.

Investigating perceptions of teaching practices regarding questioning and discussion techniques, in light of the need for graduating high school students with well-developed critical thinking and problem solving skills, is a timely and appropriate investigation. Business owners and educators have determined that critical thinking and problem solving are the two skills most coveted in high school graduates and questioning and discussion is one of the most effective methods for teaching students how to master these skills. The teachers and evaluators in the current study indicated that demonstration of questioning and discussion at the exemplary level goes beyond asking students higher order questions. It is more about students having authentic and deep conversations about content, which includes their generation of higher order questions followed by collaborative discussion about those questions. Questioning and discussion cannot happen unless the classroom has an established culture of respect, rapport, and high academic and social expectations.

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