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Teacher Perceptions of Differentiated Instruction in a Standards-Based Grading Middle School

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Abstract: *Differentiated instruction, an inclusive teaching strategy incorporating essential skills while individualizing curriculum at current instructional levels, has little inquiry into its effect on standards-based grading system within the middle grades setting. This qualitative study was designed to better understand teacher perceptions of differentiated instruction in a standards-based grading middle school. Systems theory framed the study by exploring differentiated instruction and standards-based grading as parts, combining parts toward the whole of the educational system at one specific middle school, and looking at the emergent characteristics of teachers' perceptions that arose through qualitative themes. Focusing on teacher perceptions in a middle grades' context illuminates possible connections while explicating teachers' views of the phenomenon within the larger scope of education at one middle school.*

Key Words: differentiated instruction, standards-based grading, education, middle grades, teacher perceptions

For both teachers and students, the concept of differentiated instruction in education has been regarded as a monumental strategy to incorporate essential skills and standard-based content while individualizing curriculum to reach students at their current instructional needs (Hedrick, 2012; Ismajli & Imanmi-Morina, 2018; Molenda, 2012; Tomlinson, 1999; Washburne, 1953). Alongside this overarching positive consensus of differentiated instruction, the use of additional instructional tools and grading practices in K-12 contexts has intertwined and expanded over time (Bloom & Carrol, 1971; Davis & Autin, 2020; Townsley & Buckmiller, 2020). Schools using differentiated instruction represent an area of educational reform outside of a traditional model with a structure to better serve the individual needs of students as well as incorporating a grading system rooted in standards-based content (O'Connor & Wormeli, 2011; Protheroe, 2007). While the literature agrees on the benefits of differentiated instruction, the implementation of this tool has been predominately reviewed in educational settings with traditional grading systems (Kanevsky, 2011; Santangelo & Tomlinson, 2012; Tomlinson, 1999; 2001; 2014). Still, the limited literature

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of differentiated instruction and standards-based grading (SBG) practices is primarily focused on elementary (Dempsey, 2017) or secondary grade levels (Knight & Cooper, 2019; West & West, 2016), often excluding the specific needs of the middle grade level contexts. Further, the studies that examine these phenomena separately (DiCicco & Faulkner, 2016; Fisher & Pumpian, 2011; Guskey, 2011; Kanevsky, 2011) exclude how differentiated instruction and SBG are perceived by teachers at the middle grades level when used in concert with one another.

The purpose of this phenomenological study was to understand teacher perceptions of differentiated instruction in a SBG middle school at a fringe rural public middle school in the south United States. Fringe rural classification is applied as the school is in a rural territory that is less than five miles from an urbanized area. Differentiated instruction will be defined as customizing instruction to meet individual needs and SBG will be defined as measuring student learning compared to specified learning standards. Exploring teacher perceptions of differentiated instruction in a SBG middle school provides insights to educators and administrators about the implementation of the differentiated instruction teaching strategy within the middle grades educational setting. This study will answer the research questions below in order to extend the current literature on differentiated instruction to include teacher perceptions within the SBG and middle school educational setting:

1. What are middle school teachers' perspectives of differentiated instruction in concert with standards-based grading?
2. How do teachers perceive the role of differentiated instruction in a standards-based grading evaluative process in middle schools?
3. How do teachers perceive the ways in which standards-based grading influences differentiated instruction in middle schools?

LITERATURE REVIEW THEMES

DIFFERENTIATED INSTRUCTION

EFFECTIVENESS OF DIFFERENTIATED INSTRUCTION

As a successful instructional tool, differentiated instruction has become a buzzworthy term in all levels of education as it focuses on the combination of student understanding and student engagement (Tomlinson, 1999). When reviewing three approaches to teaching students about ancient Rome, Tomlinson (1999) describes Ms. Cassell's successfully differentiated classroom in comparison to the memorization, or student understanding, focused Mr. Appleton's classroom and the exciting, or student engagement, focused Mrs. Baker's classroom. Mr. Appleton's classroom followed the textbook reading with direct study questions, implementing a sole focus on student understanding of subject material. While differentiated instruction allows teachers to present a range of learning activities with the same content to reach all learners in their classroom (Davis & Autin, 2020), Mrs. Baker's classroom implemented fun, high engagement, but low understanding activities like dressing in togas and enjoying Roman foods while Ms. Cassell's classroom incorporated successful differentiation through writing, investigation, and comparisons to students' personal lives to the Ancient Romans all through learning-profiles of each learner.

In another study, Kanevsky (2011) reviewed differentiated instructional strategies of student understanding and student engagement through the learning-profiles of both gifted and non-gifted students, grades 3-8. The survey in this study identified both gifted and non-gifted learners favored differentiated strategies as pace of learning, content topics, and choice of workmates. These studies provide exceptional examples of how differentiated instruction is a

successful tool through curriculum modification as learner needs impact content, process, and product (Kanevsky, 2011; Tomlinson, 1999; 2001).

A case study of a single middle school math classroom indicated effective differentiated instruction based upon student learning targets to aid in student growth (Dobbertin, 2012). On-going monitoring of student progress is critical in differentiated instruction as teachers collect, review, and use student data for planning and implementing instruction (Davis & Autin, 2020). Recognizing the essential ties between differentiated instruction and student growth, Virginia Beach City Public Schools added differentiation to the teacher evaluation rubric (Hendrick, 2012). Reviewing the enactment of differentiation in the Virginia Beach City Public Schools in terms of teacher evaluation, Hendrick (2012) found teachers lacking in key areas which negatively impacted their ability to effectively differentiate instruction. Hendrick (2012) noted three major areas where teachers were inadequate when attempting to differentiate instruction: applying assessment data to create lessons, implementation of differentiated teaching practices, and building a strong curriculum foundation.

Teacher Perceptions of Differentiated Instruction

Implementation of differentiated instruction includes flexibility from educators because students' learning styles, abilities, and interest call for multiple instructional strategies such as whole group, small group, student peer pairs, and individual work (DiCicco et al., 2016; Guskey, 2011; Hedrick, 2012; Ismajli, 2018; Wu, 2013). When exploring teacher perceptions of differentiated instruction, Santangelo & Tomlinson (2012) noted teachers felt the focus of covering the prescribed curriculum often negatively impacted student understanding and growth because this pacing does not allow for additional instruction. The questionnaire in Santangelo & Tomlinson's study (2012) was designed to reflect Tomlinson's model of differentiation and results indicated that teachers were not fully implementing a complete model of differentiation. Using the questionnaire, teachers self-reported perceptions of positively administering differentiated instruction, however, excluding vital details of the differentiation model, such as providing a teacher model for students.

Thirty primary teachers' perceptions were collected through questionnaire and interviews regarding both understanding and implementation of differentiated instruction. Results indicated the attention of the teachers were focused on the content knowledge of the subject, not on the learner's interests (Ismajli, 2018). Additionally, results noted that teachers can easily implement differentiated instruction if the instructor has identified the learners' preferences to then apply strategies best suited the needs of the learners. Other data from this study show that extensive hours are needed to ensure teachers hold a strong subject content knowledge for the successful implementation of differentiation to best suit all learners' needs through differentiated instruction (Ismajli, 2018).

When curriculum causes additional barriers, middle grade teachers noted the instructional process was more challenging and complex (DiCicco et al., 2016). Without preparing expectations for student learning from the lesson, classroom management becomes the teacher's focus and differentiated instruction is discarded (Dobbertin, 2012; Wu, 2013). Teachers reported classroom management as a concern when implementation differentiated instruction, as larger class sizes were considered daunting to teachers as they aimed to meet the needs of all students. Most importantly it was noted that teachers need to make the classroom fit to the students in them by providing differentiated instruction through strategies to indicate student progress (Wu, 2013).

Standards-Based Grading

Effectiveness of Standards-Based Grading

Standards-based grading is a philosophy of grading that aims to separate learning goals and work habits, use homework as practice, and emphasize evidence of learning through multiple attempts to master content instead of averaging scores (Townsley & Buckmiller, 2020). The intent of SBG is to provide a more accurate and comprehensive picture of what students accomplish in school (Muñoz & Guskey, 2015) through feedback, documentation of progress, and informed instructional decisions (O'Connor & Wormeli, 2011). Low grades often result in students withdrawing from their education, and some schools have created grading systems and policies that do not use failing grades (Guskey, 2011). While many elementary schools have adopted SBG as it provides necessary support for many young students to work through early learning difficulties (Guskey, 2011), high schools struggle with implementation as most are required to have a conversion to letter grades and grade point averaging (Townsley & Buckmiller, 2020).

One noteworthy case study explored how a public charter high school reformed their grading system to reflect a SBG model by creating course competencies (performance assessment) teachers would use to measure what students know and can do. In this study students increased their accountability for practice work from 50% completion to 70% completion (Fisher et al., 2011). This was successful because students were encouraged by the fact that they were eligible for reassessment only if their practice work was completed. Additionally, implementation of this SBG model within this high school increased grade point averages from 2.89 to 3.36 and this school outperformed similar schools in the state by 11 percent (Fisher et al., 2011). Student learning is at the center of SBG; however, one study noted student motivation initially decreases when implementing SBG as students do not have the immediate payoff for their efforts due to the flexibility of the grading system (Knight & Cooper, 2019). Student attitudes toward learning impacts motivation to learn, preparedness for school, and potential barriers to instruction (DiCicco et al., 2016). Over time, SBG has shown student self-motivation to increase homework completion and understanding of course material. It also exposed students to a college framework where homework is assigned but often ungraded (Fisher et al., 2011).

Teacher Perceptions of Standards-Based Grading

A multi-case study of middle grades teachers through semi-structured interviews noted teachers perceived their primary purpose to be a facilitator of learning while preparing students for a successful future (DiCicco et al., 2016). There is no weighing or combining of non-academic factors in SBG to reflect a student's learning; the system is designed to help ensure that teacher reports promote the progress of the student's proficiency level of the state standards (Muñoz & Guskey, 2015). Teachers implementing SBG noted increased clarity in understanding students' academic needs as multigrade reporting increases validity, reliability, and fairness of the grading process increased (Knight & Cooper, 2019; Urich, 2012). When interviewing middle school teachers, concerns around standards-based education were expressed as the emphasis on testing students has increased instead of additional remedial curriculum programs which focus on student growth (DiCicco et al., 2016).

Teachers report that SBG forces a grade criteria agreement between collaborating educators, thus increasing their personal workload and stress levels to create grading criteria (DiCicco et al., 2016; Townsley & Buckmiller, 2020). When using SBG teachers must have a strong understanding of content learning standards to best develop content that support the state standards, often including cross-curricular considerations and skills (Muñoz & Guskey, 2015). Additional training related to assessment and grading practices was cited in supplementary teacher workload; teachers reported a lack of preparedness to implement PBS from their previous

education training or professional experiences. In one study, middle grades teachers were asked to discuss instructional failures, to which all participants cited lack of preparation (DiCicco et al., 2016). Regarding professional developments for SBG, teachers favored differentiated professional development options based around personal SBG expertise (Urich, 2012). Results from interviews of middle school teachers highlighted a disconnect between teachers' overall beliefs and SBG elements, such as the curriculum, student motivation, and development of the whole student (DiCicco et al., 2016). Furthermore, when reporting on SBG, teachers felt the educational process could be improved by aligning the written curriculum, the pedagogy, and the assessment (Townsley & Buckmiller, 2020). Teachers who strongly supported SBG felt a zero recorded in the gradebook, based on a lack of student work, falsifies the report of what the student does or does not know regarding the content standard (O'Connor & Wormeli, 2011).

CONCLUSION

The literature provides educators and researchers with studies that examine the effectiveness and teacher perceptions of differentiated instruction and SBG. Much research is focused on elementary, high school, or secondary settings instead of the middle grades (Dempsey, M.L., 2017; Fisher et al., 2011; Knight & Cooper, 2019). Due to the interconnectivity of multiple instructional strategies, a direct relationship between differentiated instruction and SBG is limited. Differentiated instruction's impact on the SBG system at the middle grades level has not been exclusively explored in detail. This research expands and extends passed the existing literature specifically as to how middle grade level teachers perceive differentiated instruction in a SBG system. Moreover, the underrepresented perspective of the middle grades' teacher provides a unique point of view of differentiated instruction and SBG.

THEORETICAL FRAMEWORK

In this study, systems theory was implemented as the theoretical framework to help understand how a system's parts impact the whole and create emergent characteristics. The educational system in the middle grades setting was examined through the interconnectedness of two parts, differentiated instruction and SBG, and the emergent characteristics of teachers' perceptions. Systems theory is a framework that allows the investigation of phenomenon from a holistic approach and is considered an interdisciplinary theory as it includes systems in society, nature, and many scientific domains (Capra, 1996). Focusing on the interactions and relationships between parts, systems theory aims to understand the institution's function, outcome, and organization (Mele et al., 2010). In this study, the institution examined was the complex system of education at a single middle school. While the analysis of a phenomenon can start by breaking it into simple parts, to comprehend the phenomenon in its entirety it is important to also observe the phenomenon from a higher level (von Bertalanffy, 1968). These observations demonstrate the basic principle of systems theory in that the component parts of a system can best be understood in the context of the relationships with each other and with other systems, rather than in isolation. Systems theory allows the researcher to examine individual phenomena related to different parts of a system (Mele et al., 2010) while hinged on the larger concept of examining the moving parts to create a greater understanding of the whole while exposing emergent characteristics.

In this study, the aspects of systems theory were employed to understand how the identified parts impact the whole system of education at a middle school through the emergent characteristics of teachers' perceptions. The perspective of teachers was reviewed based on the interaction of the phenomena of differentiated instruction and SBG. Exposing the play of systems theory, the

emergent teachers' perspectives incorporated the phenomena parts in concert with one another and through their roles and influences in the educational system. In the interest of attending to the emergent characteristics of teachers' perceptions of the phenomena, a phenomenological study was conducted. This approach allowed the emergent characteristics to be examined in detail, while embracing the phenomenological parts that interacted with the whole system of education.

METHODOLOGY

A phenomenological research methodology was used to address the research questions which asked teachers who have experienced the phenomenon, who had differentiated instruction in a SBG middle school, what they experienced and how they experienced it (Creswell & Poth, 2018; van Manen, 2017). All teacher participants and the middle school research site were assigned pseudonyms for this study. To contribute to the existing body of research of differentiated instruction and SBG, the phenomena were examined in concert with one another through the perceptions of middle grades teachers. A phenomenological study allows the description of the common meaning of lived experiences of the phenomenon based upon the individual responses provided by each of the participants (Creswell & Poth, 2018; Moustakas, 1994). Additionally, a phenomenological study design encourages the narrowing of individual experiences with a phenomenon to an interpretation of the universal essence (Creswell & Poth, 2018; van Manen, 2017). Phenomenological research holds the philosophical assumption that the reality of an object is only perceived within the meaning of the experiences of an individual (Creswell & Poth, 2018; van Manen, 2017). These elements of a phenomenological study design focus on depicting what all participants share as they encounter a phenomenon (Creswell & Poth, 2018; Moustakas, 1994).

A transcendental phenomenological approach was implemented to collect and reflect upon the experiences of participants (Creswell & Poth, 2018) and bracketing occurred to illuminate the perceived experiences of participants (Moustakas, 1994). The analysis is situated in systems theory, which is concerned with parts impacting a whole and the creation of new characteristics (von Bertalanffy, 1968). The implementation of bracketing is key to diminishing the potentially adverse effects of preconceived ideas that may stain the research process. While completely bracketing experiences is not fully possible (Moustakas, 1994), considering the phenomenon with an open mind and considering it from different perspectives allowed for bracketing to take place. Additionally, conducting interviews of current teachers at a SBG middle school who are currently implementing differentiated instruction allowed for a fresh perspective, or emergent characteristics, toward the existing phenomenon parts to be examined.

DATA COLLECTION PLAN

RESEARCH SITE AND PARTICIPANTS

To reach the specific group necessary, purposeful sampling was used within the setting of Westwood Middle School (WMS). In a large public school district in the southern United States, WMS originally functioned under a traditional grading system when the school opened over 10 years ago; however, WMS transitioned to SBG five years ago. This site was selected because it is a current middle school that implements SBG and differentiated instruction. With an enrollment of approximately 1,200 students, WMS reported a 45% minority student enrollment with a 49% female and 51% male student body. With a reported 15 to 1 student to teacher ratio, WMS employed 17 English teachers, 9 social studies teachers, 9 science teachers, 16 math teachers, and 12 exploratory teachers.

The participants in this study were WMS core content teachers who teach math, English language arts (ELA), science, and social studies for grades 6-8. Participants had to have taught a core subject for a minimum of one full year at WMS to be eligible for the study. Core content teachers were contacted via email about participation (see Appendix A) and participant criteria. Seven participants took part in the study and participant demographic data was collected prior to the interviews. An incentive of a $10 Amazon gift card was provided to participants who completed the interviews.

Data Collection

Phenomenological study design typically involves interviewing individuals who have experienced the phenomenon (Creswell & Poth, 2018). To acquire the experiences, the phenomena are explored as parts of the more complex system of education. Aligning with the principles of systems theory, pairing both phenomenon within a specific middle grades' educational system created teacher perceptions about how parts and whole interact (Mele et al., 2010). To illustrate the participants' experiences, interviews provided a deep and rich understanding of the phenomenon. Data was collected during the 2021-2022 school year and included a semi-structured interview with the selected participants. The semi-structured interview format was selected as questions were used to guide the interviewee, however, following the lead of the participant allowed for additional probing into areas that arose during the interview. The data collection yielded seven total participants with up to two interviews per participant. This phenomenological study reached saturation of themes and/or categories as more than five participants were interviewed (Creswell & Poth, 2018).

Interviews

Using semi-structured interviews in this phenomenological study allowed for a collection of data from persons who have experienced the phenomenon to construct a conglomerate description of the essence of the experience (Creswell & Poth, 2018). Interlaced with systems theory, the use of interviews allowed data to be collected on the individual phenomenon parts, the individual middle schools' whole educational system, and to produce teacher perceptions as emergent characteristics. All interviews took place virtually over Zoom and were transcribed through audio recording via the online software, Otter. The first interview lasted approximately 60 minutes, and when necessary, the second follow-up interview was slated for approximately 30 minutes. The first round of semi-structured interviews focused primarily on personal background and teacher perceptions of differentiated instruction and SBG (see Appendix B). Systems theory informed the interview protocol as the interview questions explored differentiated instruction and SBG as parts working together, the influential parts toward the whole of the school's educational system and inquired about emergent characteristics of teachers' perceptions. After coding the first round of interviews, the second interview was not conducted because it became unnecessary. Data saturation of the true experiences of the participants was completed during the initial interview. The semi-structured format of the interview offered areas for clarification of the teachers' experiences in regard to the phenomenon but also the relationships between the phenomenon and the school's system of education. Credibility was established through follow-up probing in the semi-structured interview process and provided a means of member checking.

Description of Data Analysis Strategies

Data was collected and analyzed from transcribed interviews (Moustakas, 1994). Analysis of collected data informed further data collection strategies and areas of focus. Detailed, extensive

memoing allowed an intricate and evolving description of participants' experiences, including initial codes, emerging themes, and possible interpretations of statements as they developed (Moustakas, 1994). As phenomenological research finds its point of departure in saturation (van Manen, 1997) to better allow for organization and review, all transcripts and memos were entered into a Microsoft Excel spreadsheet.

For this study, data analysis strategies advocated by Moustakas (1994) were utilized, as his approach to analysis contains a detailed form in conducting a phenomenological study (Creswell & Poth, 2018). Phenomenological data analysis steps involved going through interview transcripts to analyze the data for significant phrases, developing meanings and clustering them into themes, and presenting an exhaustive description of the phenomenon (Creswell & Poth, 2018). Horizonalization (Moustakas, 1994) was used by analyzing interview data for significant phrases so statements could be identified about how the participants experienced the phenomenon. After which, significant statements were listed by treating each statement equally. Next, the identified statements were grouped into broader units of information, known as clusters of meaning (Moustakas, 1994), or themes, to provide the foundation for interpretation. In the exhaustive description of the phenomenon, both textual and structural descriptions of the experience were included to create a synthesized description of the phenomenon.

In this study an inductive analysis was conducted throughout data collection and analysis, coded in cycles, memoing, and coded revision. Memoing occurred during the interviews, as van Manen (1997) encourages the recognition of the parts of an interview that are significant for they study while it is happening. As significant statements are vital in phenomenological research, in the first cycle of coding, in vivo coding was utilized to use the participants' actual words and phrases (Saldaña, 2009). Moustakas (1994) focuses on the concept of bracketing, and in vivo coding provides the researcher's interpretations to be limited as much as possible as the participants' words are the focal point (Creswell & Poth, 2018). In the second cycle, axial coding was used as initial codes were reviewed to determine which codes were dominant before creating themes (Saldaña, 2009; van Manen, 1997). The second cycle of coding allowed for inductive analysis as codes were compared, reorganized, and developed into categories before they were synthesized to formulate themes (Saldaña, 2009).

Finally, using the textural and structural descriptions, codes were reviewed using the theoretical framework of systems theory to begin identifying explanations for the categories, themes, and build the overall essence of the phenomena. Here, the focus was the interaction of the phenomenon, the relationships between the parts to understand the whole perspective and to review the phenomenon in entirety to form a holistic perspective (Mele et al., 2010; von Bertalanffy, 1968). Utilizing the theoretical framing in this way allowed for the identification of the perspectives of middle grade teachers and how the phenomenon of differentiated instruction and SBG are perceived holistically in the educational environment. In this final coding review, memoing continued to support a shift in attention from elementary parts to an interactive whole (Mele et al., 2010). This process supported instances where parts, combined parts, and the whole were experienced by the participants and reviewed. After coding all interviews, significant statements were finalized and themes, textual descriptions, and structural descriptions reflected the essence of their experiences with differentiated instruction and SBG (Creswell & Poth, 2018; Moustakas, 1994).

Researcher Reflexivity and Positionality

Qualitative researchers are a key instrument in collecting data and often collect data in the field at a site where participants experience the issue or problem under study (Creswell & Poth, 2018). As a key instrument in data collection, it is imperative to share the researcher's positionality with participants before collecting data. As a former middle grades' teacher implementing differentiated instruction and SBG, the exploration of the experiences of this sample of teachers brings together two encapsulating features of the researcher's teaching career. The researcher resonates with the experiences of the participants in terms of the overall teaching experiences, the expectations of differentiated instruction and SBG, and facilitation at the specific middle grades level.

Ethical Considerations and Trustworthiness

Creswell and Poth (2018) acknowledge three principles that guide ethical research: respect for persons, concern for welfare, and justice. Anonymity of teacher participants and the middle school research site was protected through assigned pseudonyms (Urich, 2012). As ethical issues may arise in different phases of the research process, the research proposal was submitted to, and approved by, the Institutional Review Board of The University of Colorado at Colorado Springs to ensure that the study design followed guidelines for conducting ethical research.

To establish overall trustworthiness in the research, triangulation, member-checking, transparency, and thick description were employed. To establish credibility, triangulation was implemented through the semi-structured interview format which allowed for clarification and constant comparison to confirm participants' quotes. Additionally, after themes were developed and essential participant quotes were selected, the participants received copies of this information to confirm the findings as a means of member-checking (Lincoln & Guba, 1985). Producing writing of the member-checked themes and quotes with thick description, or deep contextual detail, provided the reader with a deeper connection to the experiences described in this study (Creswell & Poth, 2018). Thick description creates transferability by providing details including quotes to exemplify themes that allow readers to make decisions and transfer information to other settings and to judge whether the findings can be transferred (Creswell & Poth, 2018; Lincoln & Guba, 1985).

Results

The seven participants were all middle school teachers for grades 7 or 8, female, and white. Three teachers taught ELA, one taught math, two taught social studies, and one taught science. Teacher participants ranged from 3-22 years of teaching experience and 2-6 years of implementation of standards-based grading. After multiple rounds of coding, four themes around differentiated instruction and SBG emerged from the data; teachers focus on students' needs, student growth is vital through teacher perceptions, teachers' perceptions of expectations impact instruction, and teaching strategies vary according to teacher perception of implementing both differentiated instruction and SBG.

Perceptions Based on Student Needs

All participants perceived student needs within differentiated instruction and the SBG evaluative process. All teachers experienced multiple levels of student needs within their classrooms and articulated that this can and often influenced the differentiated instruction process. Mirroring the ideas of Tomlinson (1999, 2005) in preparing to meet student needs, Ms. Fuller

stated, “With planning, you always have to prepare for all level learners. Differentiated instruction is trying to change what I teach to better meet where my students are.” Ms. Fuller’s perception was shared by Mrs. Stacey, who explained,

> I think that backwards planning and that end game of state testing just helps you to figure out how you're going to teach a standard in multiple ways that's going to impact everybody, and hopefully get your understanding on your grade level content.

Expanding on the interplay of differentiated instruction within the SBG evaluative process, Ms. Andrews respected a disconnect as she reflected,

> Standards aren't built for children, like, the standards themselves, are goals for the children to meet. So, differentiation allows for kids to move standards-based grading levels, apply standards to their own lives, and to take different learning strategies. And kids aren't made the same way. Like, yeah, they're answering the same questions, but they're not built the same way. They don't learn the same way. Taking differentiation out of the question, I mean, ultimately, I don’t think they would master standards because differentiation is where you meet different kids where they’re at in order to teach them.”

All teachers discussed meeting student needs with differentiated instruction in their classrooms, but perceptions were clouded by additional factors. Ms. Andrews noted frustrations of class sizes and the developmental components of the middle grades’ student, “My personal opinion is that differentiated instruction is an amazing idea that it gets really hard to put into practice with class sizes and the needs that we're seeing in students socially and emotionally at the middle grades level.” Ms. Andrews’ reflection of implementing differentiated instruction at the middle grades level shows awareness of difficulty with student social behavior, classroom management norms, and large classroom populations (Wu, 2013). While some teachers focused on student needs in terms of individual parts like planning, standards, differentiated instruction, classroom size, student developmental readiness, Mrs. Wills expressed a level of discouragement when reviewing the important interaction of these parts (Mele, Pels, & Polese, 2010),

> If we're differentiating the classwork, we're differentiating the homework, differentiating the delivery of the content, yet all the testing is the same. I think standards-based grading is basically knowing what the kids know in their head at the time that you asked them. I feel like there's an imbalance between differentiated instruction, standards-based grading, and the state assessment.

While the SBG process provides multiple opportunities for students to demonstrate understanding of standards (Townsley & Buckmiller, 2020), Mrs. Wills’ point noticed that state testing does not meet student needs in the same way. Mrs. May expressed additional frustration when discussing her ability to meet students’ needs on assessment, “I feel like assessments are a little bit harder when it comes to differentiating instruction because based upon what they are being tested at, at a true state level, there's no differentiation.” This theme reflects teachers’ aim to put the needs of their students in both the differentiated instruction and SBG process however, there are additional barriers preventing seamless implementation. This first theme is consistent with systems theory as

it reviews parts and emergent characteristics of student needs, combines working parts of the differentiated instruction and SBG process, and critiques the larger whole of state testing within the educational system (Mele, Pels, & Polese, 2010).

PERCEPTIONS BASED ON STUDENT GROWTH

The second theme that emerged was the vital desire for student growth through the implementation of differentiated instruction and SBG. Teachers understand that student growth represents student learning. Mrs. May links differentiated instruction to student growth by describing, "Differentiated instruction is necessary in all educational classrooms, it's something that is very beneficial for our students. Because if you don't meet the kids where they're at, you can't grow them necessarily." Mrs. Stacey expands to connect SBG to student growth by explaining,

> The way that typically grades are done in education, I think sometimes it's more on compliance, than it is actually a mastery or understanding of a topic. And I don't want a compliance grade, I want to know what my student's thinking is. Standards-based grading allows you to truly see the students' understanding at the different levels at a quicker time. Like, right as you go. With traditional grading and stuff, you're just grading kind of just to be grading.

Mrs. Smith encouraged student growth by noting, "if you get students to work at their standard-based grade level and they perform well and get more comfortable, they learn the skills better, and they're able to increase [their scores]." Reflecting further, Mrs. Smith included a key factor for middle school students, "If you give students something that's way beyond them, they don't build their self-confidence. And they don't make gains." Sensitive to the development of middle grades students, Ms. Andrews' noticed how standards build upon each other and she fills gaps in knowledge quickly to promote student growth: "Structure is very important for middle school, and standards-based grading gave me, and the kids, structure." This structure helps her stay organized, monitor student knowledge, and implement additional differentiated instruction for struggling students.

Teachers also discussed their uncertainty when pairing differentiated instruction and SBG to support student growth. Mrs. Wills chuckled, "I am not a fan of standards-based grading through these past five years, let me back up and say the idea is fabulous." She stressed the importance of helping students grow academically through differentiated instruction, however, felt the implementation of SBG was a disservice to lower-achieving learners as they always score at the lowest level. Mrs. May stressed that student motivation, confidence, and growth were tied to the SBG process but not differentiated instruction as she continued, "I don't think differentiated instruction is supported in the standards-based grading process. I just don't think the two should go together." Mrs. May also expressed concern of the SBG process not being the best for student growth, "My opinion on it is I don't necessarily believe it's the right option for all kids…it's harder to keep them on that track in the middle years." Mrs. Good echoed the concern for ensuring student growth with the SBG system by saying,

> I feel like we've lost a lot of students and let them fall through the cracks by not having a grade on the homework or the classwork. This year, I have seen a huge decline in the effectiveness of standard based grading with these children. And I'm not sure what is the cause of that, whether they have become used to it, or if they

> don't really understand it. I get the attitude, why do I have to do this? I don't care about this.

All teachers in this study outlined the importance of student growth in their classrooms and through their teaching. This is essential because all teachers viewed student growth as a part of the differentiated instruction and SBG processes. While teachers may perceive student growth differently in the SBG process, they all had concern for student learning as it encompasses a whole. This theme is consistent with systems theory as it exposes how an individual part, like SBG, cannot individually connect toward the holistic perspective of student growth in the larger system of education (Mele, Pels, & Polese, 2010).

EXPECTATIONS IMPACT INSTRUCTION

The third theme revolves around perceived pressure. Teachers felt that overarching pressure of external expectations impacted their instruction. Viewed through the lens of systems theory, expectations as an individual part, impacts the emergent characteristic of instruction which when combined with other parts, influences the whole of education. Ms. Andrews explained that SBG has positively changed what she believed to be "worthwhile in the classroom" to "empower students to do the work that's required of the standard" while understanding the importance of differentiating her instruction:

> I need to meet students where they're at, while also targeting the grade level standards that are the state expects me to teach. But making sure to accommodate students' needs and gaps in learning or behavior management, while also professionally meeting the demands of my job.

Mrs. Fuller mimicked Ms. Andrews' perceptions of SBG noting, "With standards-based grading, there's that expectation that you're keeping track of the students and where they are." Additionally, Mrs. Fuller related these expectations back to differentiated instruction as "it forces you to always be aware of where your students are to better meet their needs." This reflects teacher awareness of differentiated instruction and SBG working together within their classrooms. Many teachers held a strong belief of the accurate implementation of the SBG process and meeting student learning needs (Urich, 2012). Ms. Wills felt the expectations of her professional learning community (PLC) from administration were to "do a lot alike because we do have to meet those needs of standards-based grading." Recognizing the demands of SBG as an evaluative process, Ms. Wills explained she does "what's expected of us through our administration, but I have to add a little or take a little away based upon what my students' needs are." Viewing the SBG process as an expectation of administration, the agency of the principal can often contribute to perceptions about policies and implementation strategies (Cohen, Loeb, Miller, & Wyckoff, 2020). Mrs. Good explained how she's adjusted instruction in her classroom as she's "constantly comparing students to the state's specific criteria" when meeting the expectations of SBG. In addition, she has tried to become more organized, "I make my list of all the things that I need on my assessment first, and then that lets me plan out what I'm doing day by day. Which then lets me figure out how I'm going to differentiate for my kids." The principal's role in creating a supportive framework for the teachers through the process of differentiated instruction is vital as its implementation requires more work from teachers (Protheroe, 2007).

Expanding into the negative external expectations, teachers perceived a lack of differentiation within the required state assessment. Exposing how her classroom instruction has

changed since beginning SBG, Mrs. Smith has stopped implementing differentiation during any assessments. “We have to be held accountable from the state. It’s a lot of rigorous questions with stimuluses and they have to answer the questions or read and answer it, it mimics the state test. So, I don't differentiate.” Mrs. May noticed that her time as a special education reading interventionist, she was able to see student growth through her instruction. Thrilled to take these skills into the general education classroom, she found herself frustrated implementing differentiated instruction because she noted that “at a true state level, there’s no differentiation,” yet she provided additional differentiated instruction in the SBG process. Expressing a strong connection to her content, Mrs. Stacey adjusted her instruction because “the endgame is that doggone state assessment” and embedded differentiated instruction through the addition of “test taking strategies on the front end of assessment through classwork.” Summarizing the perceptions of all teachers, Mrs. Fuller shared, “everything is about the state test, and they don’t have differentiation on state testing.” These statements reflect the perceptions of inconsistencies of state testing expectations that impact instruction, while fulfilling the school’s expectation of SBG.

Variation of Teaching Strategies

Teachers often clarified statements regarding differentiated instruction and SBG using examples of teaching strategies. The teacher perception of implementation of differentiated instruction and SBG as a cohesive educational process determined the selected teaching strategies. All teaching strategies described were considered a form of best practice, however, these teaching strategies were varied based on teachers’ perspective of the phenomenon. Mrs. Smith, Mrs. Stacey, and Ms. Andrews all expressed differentiated instruction and SBG as going “hand in hand” as differentiated instruction is necessary in the SBG process. Additionally, these teachers focused on teaching strategies they felt best supported students given their current level of knowledge. Mrs. Smith supported adjusting her teaching strategies to include differentiated instruction because “with standards-based grading, you get a more accurate view of what that kid knows at that time.” Incorporating teaching strategies such as intentional small grouping, student choice, peer tutoring, and isolation of standard skills, Ms. Andrews expressed, “I think that's where I've seen the learning happen is watching students who've been one or two grade levels behind who I've intentionally small grouped with, who I've intentionally peer paired, intentionally differentiated instruction - they did grow.” This quote reflects the connection of the phenomena of differentiated instruction and SBG impacting education in the middle grades’ environment. Applying systems theory, it expresses how teacher perception of the phenomena in concert with one another determine instructional strategies to create not just a grading or instructional reform, but an educational reform that generates benefits for students (Knight & Cooper, 2019).

Mrs. Good and Mrs. Fuller were unsure of a clear connection between differentiated instruction and SBG and included multiple teaching strategies as examples in their interviews. Focusing on the vocabulary of the standard, these teachers’ instruction strategies included scaffolding (see Appendix C), student choice and collaborative learning between whole group and small group. Mrs. Good focused on the correct implementation of SBG; she explained: “I think if you were accurately using standardized grading, then you are differentiating instruction. But could I still do standards-based grading without differentiated instruction? I think you can it just wouldn’t be understood.” While the curriculum and standards explain what to teach, differentiated instruction explains how to teach the material (Protheroe, 2007). Mrs. Fuller included, “I don't necessarily think that because you know, you're differentiating your lesson that you must have standards-based grading. But you can't really have standard-based grading without the mindset that you're gonna have to differentiate.” From the systems theory perspective, these quotes revealed

that these teachers have reflected on the phenomena individually, are leaving them as elementary parts instead of combining them to create new emergent characteristics.

While still participating in both differentiated instruction and SBG, there was still discontentment by Mrs. Wills and Mrs. May when illustrating perceptions of differentiated instruction and SBG as a cohesive educational process. Drawing on differentiated instruction with despondent remarks for SBG, teaching strategies of chunking into levels, station work, small group and whole group instruction, and peer tutoring. Both teachers referenced assessments as the pitfall of combining differentiated instruction and SBG as "you're assessing all kids anyways" and "every child has to take the same test." Moreover, both teachers acknowledged a long-standing implementation of differentiated instruction without SBG to best meet students' needs as individualized instruction is a reoccurring theme throughout education (Molenda, 2012). Mrs. Wills explained, "My first thought is no, differentiated instruction and standards-based grading aren't connected. Second thought is if you differentiate to teach the same standard to all the children, then yes, they do go together." This self-reflection stresses the importance of developing differentiated instruction in her classroom, even when required to implement SBG instead of traditional grading. She's been "continuing differentiated instruction while trying to meet those standards-based grading requirements." Expanding on this concept, Mrs. May expressed, "I think standards-based grading will stay the same regardless of if you differentiate instruction or not. You're still gonna have kids at all levels, and you're still gonna have to understand whether or not they have mastered the standard." Intentionally working in the requirements of SBG, Mrs. May explained, "I think I've always differentiated. But I guess I had to label it something different now. Like rather than station A, B, C, D its by goal scores now." Within systems theory, Mrs. Wills and Mrs. May communicated a transparent perspective where the phenomena were separate and the marriage of these parts were not conducive for the whole of middle grades education, thus, selecting to implement teaching strategies directed toward differentiated instruction.

DISCUSSION

Teachers' perceptions of differentiated instruction and SBG are mixed due to a multitude of reasons such as accurate implementations, perspectives of the educational system, student motivations, assessments, and student needs (Dempsey, 2017; DiCicco et al., 2016; Hedrick, 2012; Kanevsky, 2011; Thessin, 2021; Townsley, 2019; Townsley & Buckmiller, 2020). The findings of this phenomenological study were consistent with previous literature around teacher perceptions of differentiated instruction and SBG, while providing additional insights from teachers within the middle grades' educational environment. The teachers in this study all addressed focusing on students' needs, student growth, expectations impacting instruction, and overall teaching strategies when describing their perceptions around differentiated instruction and SBG.

DIFFERENTIATED INSTRUCTION IN CONCERT WITH STANDARDS-BASED GRADING

Research question #1 was answered by teacher participants with conflicting emotions as implementation of differentiation and SBG was a requirement at the middle school. While all teachers implemented both differentiated instruction and SBG, perceptions about the two in concert with one another were overall muddled. In line with the findings of Knight & Cooper (2019), teachers perceived issues of student motivation to complete coursework and homework, even when differentiating to meet the learner's needs because the gradebook did not reflect these assignments in the SBG system. While Knight & Cooper (2019) noted an initial decrease in student motivation when implementing SBG, another study noted an increase in student self-motivation when using

SBG over time as it aids in understanding and academic performance (Fisher et al., 2011). These conflicting findings could be considered captivating, though not surprising for this research as participants had varying exposure to SBG and differentiated instruction through years of teaching experience. Urich (2012) reported that teachers selected prescribed professional development opportunities to provide themselves with the support they need while using SBG in their classrooms.

Teachers perceived inconsistencies when pairing differentiated instruction and SBG at the middle grades level because when students moved to high school level they were thrust into a traditional grading system with vulnerability to limited differentiation. While Santangelo & Tomlinson (2012) found teachers felt the prescribed curriculum negatively impacted student understanding and growth; teachers in this study praised how differentiated instruction of aided in student academic growth because state-standards are the base of any core content subject curriculum. Additionally, teachers in this study noted how student academic growth was easily celebrated in the SBG system as state standards define academic mastery. Inconsistencies expressed by participants are consistent with literature surrounding differentiated instruction and SBG. Classroom management, student social behaviors, overall perceived effectiveness, and developmental readiness are all vital parts of the phenomena in concert with one another (Tomlinson, 1999; 2005; Mele, Pels, & Polese, 2010; Wu, 2013).

Differentiated Instruction in a Standards-Based Grading Evaluative Process

Research question #2 fielded an overall positive connection between differentiated instruction and SBG, but with uncertainty in terms of the evaluation process of student outcomes. All participants perceived differentiated instruction as necessary within their classroom but not all participants felt differentiated instruction was necessary for SBG. The connection between evaluation of a student, grading, and state testing proved conflicting for the participants as differentiated instruction was only part of their teaching practice not evaluative practices. Teacher participants in this study articulated frustration in regard to the imbalance of in class differentiated instruction against assessment protocols. While differentiation instruction was felt to best meet the needs of students and SBG allows multiple opportunities for students to demonstrate knowledge, participants perceived that the overall evaluative process of the state test did not match the evaluative process established in their classrooms.

The literature expressed concerns around standards-based education through interviews of middle grades teachers because of the emphasis on testing instead of differentiated instruction, or remedial curriculum programs (DiCicco et al., 2016). The perception of additional factors, such as class sizes and development of student puberty, provided barriers for teachers to implement differentiated instruction as a way to best inform SBG. Similarly, previous literature reflected that teachers reported larger class sizes as grueling when aiming to meet the needs of all students; classroom management claimed the teacher's attention instead of providing necessary instruction (Dobbertin, 2012; Wu, 2013). Overall, teacher participants noted that even with proper implementation of differentiated instruction, the evaluative process within the SBG system might not exhibit a student's true knowledge of the state standard due to the influence of standardized testing.

Standards-Based Grading Influences Differentiated Instruction

Research question #3 yielded varied participant responses because most teachers had already applied differentiated instruction to their classroom before being required to implement SBG into their teaching practice. The idea of SBG was well-received by teacher participants, but

it was implied that it would be difficult to move lower-achieving students up a grade score within the SBG system even when using differentiated instruction. Several participants recognized, upon deeper reflection, that SBG influenced differentiated instruction through understanding the student's current knowledge level and adjusting instruction as necessary**.** Removal of compliance grades, such as participation or completion scores, was one of the top praises of the SBG system as it allowed teacher participants to better understand student knowledge levels and provide necessary differentiated instruction. These teacher perceptions reflected the findings of O'Connor & Wormeli (2011); teachers felt that the lack of student work should not result in a zero because it does not reflect the knowledge of the student.

Overall, teacher perceptions regarding the influence of SBG on differentiated instruction were reflected in selected teaching practices. Because the SBG system allows for multiple attempts, teachers perceived opportunities for students to grow academically and promote confidence on state standards with prescribed differentiated instruction. The teachers perceived an overall increase of quality lesson planning and standards-driven coursework due to SBG because differentiated instruction requires teachers to design different levels of mastery for students through classroom assignments. For example, in comparison to Thomlinson's (1999) observational study that compares three different approaches to teaching ancient Rome, teachers who perceived the phenomena as positively paired selected teaching practices that best supported students at their current level of knowledge through student understanding and student engagement with intentional small grouping and student choice. Teachers in this study who perceived the phenomena as negatively paired selected teaching practices around either student understanding or student engagement, such as vocabulary and whole group teaching. Similarly, in a study of 30 teachers, Ismajli (2018) noted teachers were focused on the content knowledge of the subject, not the learner's interest when prescribing differentiated instruction.

IMPLICATIONS

While there have been many educational reforms, teachers need continuous supports, professional development, and professional learning plans to properly implement both differentiated instruction and SBG at the middle grades level (Hendrick, 2012; Miller & Anthony, 2021). There is a clear distinction in teachers' perspectives of differentiated instruction and SBG, but not understanding how to best implement these simultaneously can cause teachers additional work and frustrations with the educational system. Administration and school districts need to carefully examine the implementation of both differentiated instruction and SBG at the middle school level as it impacts students' needs, students' growth, and teachers' instruction (Protheroe, 2007; Tomlinson, 2005). Through the lens of systems theory, the holistic view of education can be broken down into the impacted parts of students' needs, students' growth, and teachers' instruction (Mele et al., 2010). Teachers are experiencing an increase of expectations due to state testing and need additional supports to increase effectiveness of differentiated instruction and SBG in the educational environment of middle school. It is imperative to review student data when considering differentiated instruction and SBG, as assessing, and adjusting based on student learning are necessary to best meet the range of abilities, interests, and development of students (Washburne, 1953). According to Von Bertalanffy (1968), various systems might not be understandable by investigations of their parts in isolation, thus, the addition of student data brings in a wholeness the be considered under the view of systems theory.

LIMITATIONS

As this study involves a single middle school within a single public school district located in the southern United States, the experiences explored are generated by only the teachers in this specific school site. While phenomenological research encourages interpreting phenomena in terms of the meanings people bring to them (van Manen, 1997), one participant did not have experiences with other grading systems outside of SBG. Additionally, all participants identified as white female teachers, and no teachers from the grade 6 level selected to participate. Though teachers of math, English language arts, science, and social studies were selected as participants to represent perspectives of differentiated instruction in a SBG evaluative environment, there are other teachers in exploratory contents and special education who also implement differentiated instruction at the same site, whose voices were not heard in this study. Additionally, interviews were conducted virtually, not face-to-face, potentially impacting rapport and interpretations of nonverbal communications. Finally, no observations of the interviewed participants implementing differentiated instruction in the SBG middle grade environment were conducted.

Recommendations for Future Research

Examining the specific perceptions of middle grades teachers expands on existing literature around differentiated instruction and SBG, but additional research must be conducted within the unique middle grades' educational environment on the mutual entanglement of differentiated instruction and SBG. While the findings of this study noted mixed teacher perceptions about differentiated instruction and SBG, only teachers from all four core content subjects were selected to participate. Future research may benefit from selecting teachers from a single core content subject to better understand specific connections between content state standards and selected differentiated instruction practices. Furthermore, future research is needed on how robustly teachers are prepared to implement differentiated instruction and SBG within the middle grades setting through professional development or teacher education programs. It would also be helpful to capture the perspectives of novice and veteran teachers separately since they may hold different personal and professional experiences with differentiated instruction and SBG. Finally, future research could examine teacher perspectives of differentiation and SBG across multiple middle schools to better amplify the voices of the teacher participants.

Conclusion

The level of differentiated instruction in educational setting is cardinal, however, it is vital that teachers be prepared to implement differentiated instruction within different grading practices both functionally and accurately (Muñoz & Guskey. 2015). Providing additional teacher supports, professional development opportunities, and clarifications is essential for teachers to implement best teaching strategies to satisfy expectations at the individual school, district, and state levels. At the core of both differentiated instruction within the SBG domain, teachers focus revolves around the student. While teachers possessed mixed perceptions of differentiated instruction and SBG within the middle school environment, agreement was established through meeting student needs and desiring student growth. To realistically best help students, the teachers must be equipped with the necessary supports to implement differentiated instruction and flourish in the unique ecosystems of both the SBG system and the middle grades setting.

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Appendix A
Participant Recruitment Email

Hello Staff,

As a Ph.D. candidate at the University of Colorado Colorado Springs, I am writing to request your assistance with identifying participants for a research study focusing on teacher perspectives of differentiated instruction in a standards-based grading middle school. If you or any of your colleagues meet the criteria below, please share this email with them.

- Currently teach a core subject of Math, ELA, Science, or Social Studies for at least one full year using standards-based grading.
- Have at least one full school year of teaching completed at your current school placement.

Two semi-structured interviews will be conducted virtually through Microsoft Teams or Zoom. The expected time commitment is approximately 60 minutes for the first interview, while the second interview will last approximately 30 minutes. Virtual interviews will include questions about differentiated instruction and standards-based grading. Participants will receive a $10 Amazon gift card for their completion of both interviews.

This study will be approved by the University of Colorado at Colorado Springs IRB.

To participate, please fill out the Microsoft Forms link.

https://forms.office.com/r/UHtwuWGFFw

Appendix B
Protocols for Interviews

Interview 1 Protocol

Demographic / Background:

1. Tell me about your pathway to becoming a teacher. Why did you choose middle grades education?
2. What grades and subjects have you taught?
    a. What current grade and subject do you teach?
3. How long have you been teaching?
    a. At the middle grades level?
    b. Using standards-based grading?

Introductory

4. What does differentiated instruction mean to you?
5. What is your opinion of differentiated instruction as a way to help students meet academic goals?
6. What does standards-based grading mean to you?
7. What is your opinion of standards-based grading as an evaluative process of student mastery?

Part-Part-Whole-Emergent Characteristics

8. Do you believe differentiated instruction and standards-based grading are connected?
    a. Why or why not?
9. When backward planning, how do you intertwine differentiated instruction and standards-based grading?
10. Describe how differentiated instruction and standards-based grading impact learning.
11. What would you suggest to a new teacher expected to implement both differentiated instruction and standards-based grading?
12. What are shared characteristics of differentiated instruction and standards-based grading?

Part-Whole-Complex-Emergent Characteristics

13. When teaching a new standard, how does differentiated instruction look in your classroom?
14. When reteaching a standard, how does differentiated instruction look in your classroom?
15. When assessing students, how do you include differentiated instruction?
16. What might happen to the standards-based grading evaluative process if you did not differentiate instruction?
17. Describe a lesson that you felt best met the standards-based grading evaluative process.
    a. Does this lesson include differentiated instruction? Why or why not?
18. How is differentiated instruction supported in the standards-based grading process?

Part-Part-Complex-Emergent Characteristics

19. How do you deconstruct state standards to inform your instruction?
20. How do you address students' needs with standards-based grading?
21. How does standards-based grading tailor instructional needs to individual students?
22. How would you elaborate on the ways the standards-based grading system impacted how you differentiate instruction?
23. Your school requires standards-based grading. How can you support the requirement of standards-based grading through your instruction?

Interview 2 Protocol

After coding interview 1, interview 2 will consist of clarification and additional follow-up questions if necessary. If interview 2 is required, a revision of the IRB will be made once the questions for interview 2 are created.