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Standards-based grading at the secondary level: A review of literature

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Standards-based grading at the secondary level: A review of literature

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A Literature Review Presented
in Partial Fulfillment of the Requirements
For the Degree of Master of Education

Abstract

Grading systems have become a topic of interest at the secondary level. Even though the shift to standards-based grading is a daunting task for districts, post-secondary educational institutions are taking on grading reform at even higher educational levels. It is challenging for secondary teachers to narrow down the key elements of grading and prepare for the shift in mindset needed for a standards-based system. Research shows beneficial elements for learning after implementing a full standards-based system, but transforming a district's grading system is a major undertaking. While there are benefits for all stakeholders involved when reforming beliefs about grading practices, many districts recognize several elements that make this implementation such a difficult shift. The review examines standards-based systems at the secondary and post-secondary levels to find key elements of a standards-based system, benefits, drawbacks, and to analyze implementation at both levels of education.

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Standards-based grading at the secondary level: A review of literature

Grading systems in education have become more of a debate amongst education systems, and more specifically amongst various educational levels. While there seem to be many different types of grading, each presents justifiable data as to which system is most beneficial for students. Today in education, first-year teachers are often subject to learning grading systems based on their first teaching placement, and teacher education programs need to take a responsibility to prepare and support early career teachers in developing aspects of curriculum and instructional alignment (Battistone et al., 2019). Many schools utilize the grading system implemented years prior simply because that is how their systems are set up (Townesley et al., 2019). Schools lack the time, understanding, and knowledge of grading reform to pursue a new grading system (Townesley et al., 2019). It takes a group of teacher leaders and administration to challenge the status quo of a grading system to truly reform it. Some grading systems are more prominent at the primary level, while other systems are prominent at the high school level; these systems do not always align with post-secondary grading systems because post-secondary has to have consistency and standardization for accreditation purposes (Sadik, 2011). One prominent system that has been coming into conversation for the last two decades is standards-based grading. Because the grading systems between multiple levels are not unified, we often find stakeholders misinformed on what proficiency means and need to spend the time to learn about how proficiency-based grading is shifting education and providing a stronger, more immediate feedback practice (Twadell et al., 2019). Communication on achievement needs to be clear, consistent, and unified, and traditional grading systems lack these elements (Schimmer et al., 2018). Traditional grading systems carry the message of failure while standards-based grading motivates to strive for higher achievement in education. According to research by Griffin and

Townsley (2021), grade inflation causes students who would have failed a course based on performance to actually pass a course due to inflation by other behaviors graded in the classroom. Not only is grade inflation and lack of communication an issue with grading policies, but there is also a lack of consistency from secondary to post-secondary schooling. While high schools may be jumping on board to more effective grading practices, many parents, students, and other stakeholders are concerned with the lack of alignment for students pursuing college as a post-secondary education route (Townsley et al., 2019).

The problem is that some teachers are willing and ready to implement a more effective grading system, such as standards-based grading, in their own classroom, but district policies, stakeholder pushback, and lack of consistency for college-bound students are holding them back. Schimmer (2016) highlights crucial steps to quality implementation and crucial conversations to have with stakeholders at all levels throughout the implementation to help move the process forward. In order to truly implement strategies to make learning proficiency communication more effective and informative in classrooms, teachers need a replacement of the traditional view of grading to shift to a reflection of learning that students earn (Schimmer 2016). Some secondary teachers recognize that standards-based grading communicates more effectively than its traditional counterpart but are unable to implement a true standards-based system because it requires a full district implementation plan. Many teachers and districts are unwilling to overhaul their grading and reporting policies in favor of a total shift away from a traditional grading mindset (Schimmer, 2016). Often, the reforms of new grading systems are not implemented in an effective manner. Poor implementation deters districts from analyzing how they could effectively shift their practices through action steps which provide adequate professional development during multiple years prior to implementation (Townsley et al., 2019). Districts

looking to make the shift need to analyze and plan for implementation as well as supports for teachers who are integrating standards-based grading in their classrooms. For many teachers, a standards-based system is not an option even though their classroom would benefit from the implementation of standards-based practices. However, there is currently a lack of literature for the implementation of standards-based grading theories within a traditional grading system and information on whether teachers can experience the best of both worlds with their grading practices.

The purpose of this literature review is to analyze the implementation of standards-based systems at the secondary level and analyze if grades can translate for students who are planning to pursue education at the post-secondary level. Through the analysis of grading elements, stakeholder perceptions, implementation strategies, and data that highlights the effectiveness of different grading models, teachers will be able to identify ways to improve communication through grades with their students and parents. For teachers who are ready to reform the grading accuracy in their classrooms but lack the ability of a full grading reform in their respective districts, there seems to be little grading reform that can happen due to district requirements. This literature review will shed light on crucial standards-based elements and shed light on the transition at the post-secondary level that is beginning to occur in order to inform stakeholders of grading practices at both secondary and post-secondary levels.

Research in this literature review was obtained from peer-reviewed journals in the ERIC library, various online journals, and several comprehensive works from leaders in standards-based grading. Peer-reviewed research data provided information on implementation effectiveness for grading reform within districts as well as data on the effectiveness of various grading practices. Research studies were used to find evidence of the grading practice

effectiveness at both the secondary and the post-secondary level. This information was used to analyze how grading practices could create a more aligned transition for secondary students who are pursuing post-secondary education. Other research on the necessary elements of effective grading practices was obtained from books written by experts in the field of educational grading systems. The data and research collected will identify key elements in grading reform practice at the secondary level and the connection of those practices to the post-secondary level.

Review of the Literature

Shifting to Standards-based Grading

Standards-based grading systems have become a prevalent topic of discussion in education. Since the mid-1990s, education has been making a shift to incorporate more formative assessment to use that formative assessment to benefit learning, and teachers have learned that formative assessment reveals gaps in learning for students (Schimmer, 2016). This emerged as states adopted their own standards to develop more rigorous standards (Schimmer, 2016). The No Child Left Behind Act of 2001 assumption that high standards and measurable goals lead to increased educational standards led to adoption of Common Core as a measure of proficiency of all standards across those content areas (Schimmer, 2016). For many classrooms (at any level of education), a grade is determined by how a teacher grades assignments. Much of the controversy of quality grading comes down to the question of *who* teaches rather than *what* is being taught.

Standards-based grading is a grading system that bases grades on student mastery of skills, and the shift to this mindset can cause teachers to focus on learning that demonstrates change (Twadell et al., 2019). It is designed for teachers to intentionally communicate mastery, or lack thereof, of crucial skills by communicating expectations for student knowledge at any stage of instruction. A traditional grading system uses letter grades as a widely accepted form of grading and is based on points, weighted grades, and other factors, such as behaviors, that either increase or decrease a student grade; an inflated grade can create complacency in students according to a study by Gershenson (2020). Many districts wrestle with implementation of either a standards-based system or a traditional system. This conflict stems from the complications of having to implement a new grading system in a district as well as determining which system is best for students and learning. According to studies, many administrative teams are planning to

implement standards-based grading systems within the next five years (Townnsley et al., 2019). This review looks at elements of standards-based grading systems, implementation strategies within a district as well as a classroom, and provides insight into standards-based grading systems at secondary and post-secondary levels of education for teachers, administration, and higher education institutions.

Elements of Standards-based Grading

Grading Homework

One element that often comes into question with standards-based grading system is the grading of homework. According to Peters and Buckmiller (2014) many students and parents believe this often implies that homework is no longer an important part of learning; however, ongoing formative assessment and formative practice are foundational to standards-based grading. Schimmer (2016) also notes that repurposing homework is necessary to shift the focus from achieving a grade to student learning. This shift in mindset is a crucial element to implement a standards-based system effectively. Homework is a factor in the issue of grade inflation in today's education system. A study by Griffin and Townnsley (2021) found that grades were positively impacted when homework was included. The study noted that homework grades factored into course grades causes a significantly lower number of students to fail compared to those students who would have otherwise failed without the inclusion of homework in their grade. These findings show that grades were inflated so much so that students who were not proficient in the skill were scored as proficient because of homework. If grades are a reflection of student understanding of content then homework inclusion can distort that reflection. Standards-based grading is also known as outcome-based, and this system has brought to light a

need to provide more accurate assessment, verified learning, and achievement reports (Schimmer, 2016). Standards-based grading takes the emphasis off of graded and scored homework so that ongoing formative assessment and feedback becomes the more important foundation of grade communication (Peters & Buckmiller, 2014). Schimmer et al. (2018) highlights the need for formative assessment which ensures that students are on track to work toward proficiency. Due to the nature of formative assessments, it should be used by teachers to determine their next steps and therefore teachers do not need to grade it (Schimmer, 2018). This mindset shift to ongoing assessment feedback contradicts our traditional grading system which penalizes noncompliance and incomplete work, and teachers have become unwilling to question the relevance of such penalties on grades (Schimmer, 2016). Schimmer (2016) also notes that schools need to make sure that their grades are based solely on achievement so that the message they communicate is clear and consistent. If learning is the goal, homework should align to a learning target as practice and allow for differentiation for students to practice specific skills they learned in class, rather than learn new skills outside of class (Schimmer et al., 2018).

Redefining Accountability

If homework no longer receives a grade, teachers may question how to hold students accountable to complete their practice work, but teachers must demand that learners actually do the work (Schimmer et al., 2018). If students have incomplete work we need to create a system that requires completion before they are able to move on rather than treating homework as optional (Schimmer, 2018). Standards-based grading highlights a need to legitimize grades as an accountability measure. In a study conducted in Sweden on the reform of grading, Lundahl et al. (2017) collected data on the analysis and revision of the country's grading system. The study found that tests are not an important issue in changing accountability, but rather an indicator of

how effective the grading system is (Lundahl et al., 2017). Up to this point, grades have only been high stakes for students and not high stakes for teachers, but standards-based grading can hold both students accountable and teachers accountable (Lundahl et al., 2017). Desimone (2013) conducted a study that detailed an examination of teacher perceptions of standards-based learning after implementing it in their classrooms and found that teachers noted a positive change in their classroom and an increased sense of accountability for students' learning that was not evident prior to implementation. A similar study by Knight and Cooper (2019) explored the perceptions of high school teachers on their perceptions of standards-based grading. The study showed that some teachers redefined student accountability by requiring students who are below proficiency to reassess work; other teachers redefined account ability by requiring students to demonstrate proficiency on all standards to pass general education courses.

Knight and Cooper (2019) noted that there is a lack of ways to promote and enforce desirable behaviors and that teachers needed to establish appropriate and effective policies that improve student accountability over time rather than just in the first part of standards-based grading implementation. A reassessment policy allows teachers to redefine accountability (Schimmer, 2016). A quality reassessment policy combines the homework as practice concept with the redefinition of accountability. Reassessment practices come as a source of validity of student grades. If grades are to be accurate, then reverification of understanding through assessment should allow for redo, retake, and reassessment for students (Schimmer et al., 2018). While summative assessment will not happen every day in a classroom, teachers should consider student learning as a more important factor than *when* students learn (Schimmer et al., 2018). The reassessment policy can also be linked to teacher accountability to determine if students cannot do the skill or if they chose not do the skill (Schimmer et al., 2018). Implementing an

effective reassessment policy highlights four areas for teachers to help teachers with student accountability (Schimmer, 2016). Students who infrequently cannot do the skill need extra support from the teacher on the skill, while students who chronically cannot do the skill will need regular and targeted instructional supports (Schimmer, 2016). Schimmer (2016) also notes that students who infrequently cannot complete skills could indicate that the student needs time, is refusing, or has other various reasons for incompleteness. Teachers must make learning mandatory and require students to still complete the work needed. Student who chronically do not complete skills may be capable of completing those skills, but require behavioral interventions to support productivity (Schimmer, 2016). By implementing a reassessment policy, teachers are better able to identify these four areas and help determine students' level of skill.

Grading Behaviors & Grade Inflation

Grading behaviors is another key and controversial element to a true standards-based system. Tierney et al. (2011) conducted a study to determine how teachers calculated students' final grades on report cards. Teachers in the study reported that they lowered grades due to incomplete assignments and agreed that their students' assigned grades are based on a student's ranking compared to their peers. Gershenson's (2020) study of how grading standards of teachers affect content mastery noted that grading standards adjust based on teacher experience and school settings. This study highlights that grade point averages have risen while SAT scores and other measures of performance have either fallen or remained stable. Good grades are no longer a reliable indicator of knowledge and skills because of the grade inflation that is occurring in American high schools; which is evident in the relationship of SAT scores and other measures of performance (Gershenson, 2020). Teachers can still implement behaviors and other scores in

grades so that there is still value placed on those skills within a grade, but in a way that does not inflate the content grade.

Separating behaviors from standards does not take away from the importance of teaching those, but rather it allows teachers the opportunity to teach them as they would any other standard in their classroom (Schimmer, 2018). If teachers base grades solely on standard achievement, then the compliant students with good behavior and good attendance are still given a failing grade. Teachers also fear that grades that do not match students' efforts deter students who worked hard while and students with poor behavior and work ethic that demonstrate proficiency are not reflected on their grade (Pollio & Hochbein, 2015). If teachers believe that the behaviors they are grading are important then there needs to be a formal lesson on those behaviors and teachers need to conduct their lessons in a way that ensures students are learning those critical skills (Schimmer, 2016). Students in a traditional grading system are able to behave their way up or down a grading scale in the classroom, but no other misstep of behaviors that occurs outside the classroom affects their grades, such as a fight in the hallway (Schimmer, 2016). In order to have accurate grading systems, students must first be taught the skill that is being graded; otherwise, grades will be fundamentally flawed and no longer a valid reflection of student proficiency (Schimmer, 2016). Grades should reflect proficiency rather than reward behaviors and a traditional grading system lacks this component; parents need to know that grades they see for their student are an accurate representation of their student's understanding in that moment (Schimmer, 2016).

Benefits of Standards-based Grading

Test Score Correlation

Several studies have been done to show the correlation of test scores to standards-based grading systems and analyzed whether skills in standards-based systems correlate to higher test scores and achievement (Lehman et al, 2018; U.S. Department of Education, 2017; Adams et al., 2016). Lehman et al. (2018) conducted a study to understand the relationship between classroom grades and scores on Scholastic Math Inventory (SMI). This study found that there was a moderate correlative relationship between the end-of-course grades from both a traditional system and a standards-based system and SMI scores. Middle school levels showed a positive correlation between standards-based grading and SMI scores. The study found that standards-based grades correlated more highly to SMI than corresponding traditional grades (Lehman et al, 2018). Schoen et al. (2003) conducted a study which found that teacher expectations were the main factor in high student achievement and that assessment methods did not correlate with growth in student achievement. Teachers who gave more grade weight to quizzes and tests and less to behaviors had students who achieved at higher levels.

The U.S. Department of Education (2017) completed a study that identified a correlation between the days of instruction and student competency levels on math and reading performance in one academic year. Students in a standards-based grading system who were behind their grade level completed their performance levels in three or fewer quarters than it took in a traditional system. This study also showed that very few students took more than five quarters to complete their level in a standards-based system (U.S Department of Education, 2017). The results of this study do not show association between teacher ratings and state achievement test performance. Another study was conducted by Adams et al. (2016) to examine the informational significance of Oklahoma's A-F grades relative to achievement equity. Results of the study showed school grades did moderate achievement gaps, but gaps moved in a direction opposite from what an

accountability system that measures achievement equity would want. Grades need to reflect the performance of all students and student subgroups in order to be meaningful (Adams et al, 2016). The grading system was not tied directly related to student letter grades, but rather shows the lack of evidence when determining the difference between an “A” and a “B” when using letters to communicate proficiency.

Stakeholder Perceptions

Other studies in standards-based education studied the perception of students who were graded in a standards-based system in the classroom (Peters et al., 2017; Buckmiller et al., 2017; Norton et al., 2021). The study by Peters et al. (2017) delved into high school student resistance and concerns with standards-based grading. This study showed that students were most concerned for standards-based implementation process, grading issues, preparation for university and future employment, social issues, and issues related to current teaching, learning, and motivation (Peters et al, 2017). Students noted that they were concerned that a grade could go down after reassessment (Peters et al., 2017). Other students noted that some teachers did not know how to properly use the grading system, but rather graded traditionally and converted them to standards, which Peters et al. (2017) noted was detrimental to students’ grades. This study also reported that based on student perceptions on the inconsistencies of the implementation suggests that teachers require greater clarity or buy in of the implementation of the standards-based grading.

Buckmiller et al. (2017) conducted a study in which post-secondary student attitudes and experiences were recorded on the first day of class, midpoint, and in the last week of class to collect qualitative data on student perception of standards-based grading. Students believed the new assessment system was going to be more rigorous but were also concerned that it was

intimidating (Buckmiller et al., 2017). Students noted that their workload was dependent upon how well the standard was comprehended. Students also have greater ownership in the learning process. Students in the teacher education program indicated they would be using parts of standards-based grading in their future classrooms (Buckmiller et al., 2017).

Norton et al. (2020) completed a study based on post-secondary implementation in clinical education. Students felt more in control of their grades throughout the hands-on learning involved with clinical studies because they could focus more on what they were learning rather than focusing on deadlines of homework packets and other things that needed turned in (Norton et al., 2021). Faculty noted that the all or nothing grading rubrics put more responsibility on students rather than teachers, which was a positive outcome of the implementation of standards-based grading (Norton et al., 2021). The findings of the study indicated that students and faculty felt that standards-based grading effectively measures their learning, provided clear grading and expectations, increased motivation, improved course grading consistency, and minimized conflict between students and faculty (Norton et al., 2020).

Teachers are another key stakeholder when looking at grading reform. In the study by Knight and Cooper (2019) teachers were interviewed as a means to collect qualitative data on their experience with the implementation of standards-based grading. The data showed that standards-based grading made communication more transparent and open-ended because students understood expectations better, and there was much clearer feedback given to students and parents, which lead to more learning-centered conversations (Knight & Cooper, 2019). Teachers felt that standards-based grading is a viable reform because it makes teaching and learning more focused, effective, and enjoyable (Knight & Cooper, 2019). Teachers also voiced a change in how students asked questions, and because of that, felt that they were able to better

communicate where they needed help (Knight & Cooper, 2019). The success of this implementation and student feedback caused the university to adopt standards-based grading in the nursing clinical capstone course, with potential additions in other nursing courses in the future.

Effect on Classroom Instruction

A theme that is seen throughout several research studies is the shift in classroom instruction and the positive changes that teachers recognized with their classroom instruction. Shifting to a standards-based mindset caused teacher teams to shift their focus to evidence of student learning that demonstrates change (Twadell et al, 2019). Prior to the shift to standards-based grading, many teachers do not discuss student learning until summative assessment occurred. According to Twadell et al. (2019) proficiency-based focuses on the role of assessment, the standard or learning target, whether the content is content or competency focused, as well as the anticipatory set and what it looks like in proficiency-based instruction.

Shifting to this mindset engages students in the mastery experience and creates an urgency for students to learn (Twadell et al., 2019). After implementing proficiency-based instructional practices in their own classrooms, teachers also became more aware of how changes in their instructional practices were affecting student learning (Twadell, 2020). Desimone's (2013) study showed that teacher respondents focused more on struggling students in their classroom by trying new approaches and increasing expectations for students following the implementation of a standards-based system; teachers began paying attention to *all* learners, especially struggling learners, when designing instruction. Standards-based grading implementation also forced teachers to start looking at gaps in student achievement and used that to drive teaching (Desimone, 2013). Teachers recognize that once assessments are aligned to

specific standards, analyzing the data that is collected causes planning to become more effective and differentiation to become easier because results are a clearer indicator of student understanding (Knight & Cooper, 2019). This is also supported by Marbouti et al. (2016) who found the implementation of standards-based grading allows for a more accurate prediction of at-risk students because it is possible that students start with good performance but perform poorly in the middle of the semester. Standards-based grading cannot predict the fluctuation of grades because there are so many factors that influence behaviors and success in a course, but it can hint at a more accurate real-time prediction for students at risk because it is based on proficiency scales that result in a course grade (Marbouti et al., 2016).

Drawbacks of Standards-based Grading

Parent Perceptions

One study (Townesley et al, 2019) showed that parent perceptions and parent resistance are key factors in the implementation of a standards-based system. Townesley et al. (2019) noted that principals view parent resistance as a barrier to implementation. While this study showed that parent perception and resistance are barriers to implementation, there is little data and research that support this idea. Teachers and administration fear parents as barriers, but there is little evidence to support whether parents are a barrier in implementation or not. Schimmer (2016) in his comprehensive work notes several important ways to include parents in the implementation process to help overcome parents as barriers, but no data shows that parents are the biggest barrier to implementation in the first place. Welsh and D'Angostino (2013) as well as Knight and Cooper (2019) conducted studies that found that the implementation of a standards-based grading report card encouraged improved communication between teachers and parents

and gave clearer feedback to parents. The adjustment from a traditional grading system to a standards-based grading system was a rough transition for parents, but studies lack detail on what made the transition difficult (Knight & Cooper, 2019). Much of the research that is available shows data on student, teacher, and administration perception throughout implementation of standards-based grading systems but lacks feedback or data from parent perception on standards-based grading.

Transfer to Post-secondary

One barrier to the implementation of standards-based grading is the question of how grades transfer from the secondary level to the post-secondary level. Peters et al. (2017) delved into student resistance to standards-based grading and found that students were most concerned with the implementation process, grading issues, and preparation for university. According to the study, students were concerned with how standards-based grading would not prepare them for college due to universities having traditional grading systems (Peters et al., 2017). A qualitative study by Guskey et al. (2020) noted that students who transitioned to a university from a secondary standards-based system indicated no evidence that the shift from standards-based to a traditional system created hardship or negative influence in their transition to post-secondary schooling. While one study showed that standards-based grading did not affect the transition to a traditional system in college, another study notes that ACT scores have a correlation to the grading system used in the classroom. Townsley and Varga (2018) completed a study that compared students in both a standards-based and traditional grading settings that compared ACT scores in each of the grading settings and found that high school students in a traditional classroom scored higher on the ACT than students in the standards-based setting. These studies contradict each other; while Guskey et al. (2020) studied student perception after transitioning to

a university, Townsley and Varga (2018) studied data on one entrance exam to university. These studies indicate that the implementation of standards-based grading practices need more research in regard to student transition and admittance into post-secondary institutions.

There are several studies that support the implementation of standards-based grading at the post-secondary level and studies of the effectiveness of the implementation (Buckmiller et al, 2017; Scarlett, 2018; Akinde, 2020). Buckmiller et al. (2017) found that college students in the education program believed that a standards-based system was more rigorous and indicated that they would be using parts of standards-based grading in their future classrooms. The implementation of standards-based grading in undergrad courses facilitated conversation with students because the focus of the conversation shifted from the grade on an assignment to a more substantive conversation with students that focused on learning (Scarlett, 2018). Graduate students in a standards-based graduate program increased their effort in response to addressing rubric criteria (Akinde, 2020). Research supports the idea that colleges and universities are beginning to consider the shift in grading practices at the post-secondary level.

Technology to Support Grading Practices

Technology that is used for grading platforms, specifically at the post-secondary level, lacks the versatility that is needed for high quality feedback (Diefes-Dux, 2019). Standards-based learning has ample research to show stakeholder perception of better communication to students as well as parents, but the technology to support the grading system has not been widely researched. Further research is needed to find effective technology to support standards-based grading. Diefes-Dux (2019) conducted a study that highlighted the issues around the ease of access to student feedback via Blackboard and noted that it became too time consuming to access feedback which resulted in students ignoring feedback due to the lack of availability of

information. When feedback is timely and easily accessible, students are able to more effectively monitor their progress (Diefes-Dux, 2019). While there are many platforms, there is little research on the effectiveness of technology used to report standards-based grading. Schimmer (2018) notes that a grade should report growth, achievement, and student attributes. Traditional grading systems and platforms rely on algorithms and calculations, which do not take those three factors into account (Schimmer, 2018). Ultimately, the grade comes down to teacher determination rather than calculation, and teachers need to be able to organize evidence to determine the most accurate grade for students (Schimmer, 2018). Technology is a necessary piece to quality standards-based implementation because in today's society the learning management system is the ultimate communication tool for teachers, students, and parents to receive direct and timely communication on student grades.

Implementing Standards-based Grading

Implementation at secondary and post-secondary levels

Many post-secondary institutes have to consider accreditation requirements, and therefore, resist standards-based grading because of the consistency that is needed for accreditation at the college and university level. Standards-based grading is more of an undertaking for those institutions because they have accreditation standards to meet. Standard assessment, grading, and reporting tools ensure that assessment meets acceptable levels of standardization (Sadik, 2011). Because post-secondary institutions need the standardization to be accredited, combining the practices with technology can help to create a more standard grading system. Implementing a standards-based grading system is a worthwhile approach at the post-secondary level, but the implementation process is very challenging (Scarlett, 2018). In order to

achieve a standardized and effective system, the implementation plan is crucial to accomplish both areas. In order to implement effectively, faculty must have clearly defined outcomes for a course that align assessments to rubrics so that a student's final grade reflects mastery of those outcomes (Norton et al., 2021). Faculty who have implemented standards-based systems feel that standards-based grading does provide that consistency and clearly defined outcomes that would align with the need for consistency when seeking accreditation at the post-secondary level.

Teacher preparation programs at post-secondary institutions play a role in the implementation of standards-based grading implementation in K-12 educational systems. Teacher prep programs need to prepare students to make connections to assessment practices by modeling these progressive strategies (Battistone et al., 2019). It is possible that teacher preparation programs can start looking into a system that defines how grades for standards and course objectives can be converted to letter grades so that those teachers can begin to develop a standards-based mindset (Battistone et al., 2019). While it is not a true standards-based system, this idea can help K-12 schools overcome some of the barriers with teacher perceptions of standards-based grading.

Stakeholder Perception throughout Standards-based Grading Transition

Stakeholder perceptions include those perceptions of teachers, students, parents, and administration. Many of these groups are vocal with feelings of standards-based systems. Lee et al. (2018) examined the effect of standards-based grading on faculty perception throughout implementation of standards-based grading. Teacher perception became a barrier of implementation because of the workload and time to prepare and implement (Lee et al., 2018). Transitioning to a non-traditional grading system requires teachers to reframe current beliefs about grading (Lee et al., 2018). This transitional process will take years to implement fully, and

educational systems need to expose teachers to this shift in mindset as early as possible in their careers. Teachers were better prepared for their teaching placements if they had student teaching placements that engaged in authentic ways with grading and assessing student work (Battistone et al., 2019).

Teachers who have implemented standards-based systems note that best practices are clear and timely feedback so that students are able to self-evaluate (Lee et al., 2018). Faculty believe that by providing students with those elements the students become more self-regulated because they are able to make clear connections between grading and learning (Lee et al., 2018). Teachers who have transitioned to standards-based systems note that after developing clearly aligned assessments, it becomes much easier to analyze data, lesson plan, and differentiate instruction based on student needs (Knight & Cooper, 2019). Desimone's (2013) study found that teachers in standards-based systems feel they pay more attention to struggling learners and all learners when preparing instruction. Other teachers note that they like that standards-based grading gives freedom to students to demonstrate proficiency however they want as long as the work related to the standards that are assessed (Knight & Cooper, 2018). Desimone (2013) found that teachers feel that standards-based grading forces teacher teams to begin looking at gaps in student achievement and using the data to drive teachers in their respective classrooms. Students who have learned within a standards-based system often recognize positive shifts within their own classrooms as well. Buckmiller et al. (2017) collected qualitative data on student perceptions at the post-secondary level which found that students felt instructors gave them more freedom rather than choosing the projects they complete which allowed them to demonstrate their understanding in a way that was less repetitive and provided a true picture of understanding.

Many K-12 districts move to a standards-based system without preparing for the shift in grading by first preparing stakeholders with knowledge of the system. Townsley et al. (2019) conducted a study to understand principal perception of standards-based implementation and found that administrators need to influence key teacher leaders with shared understanding of the standards-based system in order to implement the system successfully. Administrators should consider focus groups with stakeholders to understand better the benefits and drawbacks of standards-based grading (Townsley et al., 2019). The study also noted that the biggest barriers that administration came across were parent resistance, preference of traditional systems, and the resistance of the lack of transition to post-secondary schooling (Townsley et al., 2019). Zimmerman (2020) also noted that stakeholders perceived a lack of buy-in from students and faculty as a barrier of implementation of standards-based grading.

Parents need to be informed of the system in order to understand how the shift from traditional grading to standards-based grading will change because they are crucial stakeholders (Schimmer, 2019). Parents need to know what standards-based grading is, but more importantly why and how the grading system works, which is where many administrators fall short when implementing standards-based systems (Schimmer, 2019). Students are also a key stakeholder, and in many studies students seem to prefer standards-based grading to a traditional grading system. Zimmerman (2020) found that students preferred standards-based practices because they appreciate the control of their own learning through the use of feedback and tools that standards-based systems provides. In the same study, students also noted that they did not have to do all of the unnecessary work for a grade (Zimmerman, 2020). While many stakeholder groups perceive negative effects of barriers, much of the data and research collected shows that there is a positive

perception from teachers, students, and administration; the disconnect in positive perception is parents.

Future Research

Much of the research that exists to support the effectiveness of standards-based grading versus traditional grading systems is qualitative data that looks at stakeholder perceptions. Qualitative data that is collected exists relies heavily upon experience, which is impacted by the effectiveness of implementation as well as effectiveness of teachers. There is little quantitative data to support the implementation of a standards-based system with long-term effects. Research is also lacking for teachers who are ready to implement a standards-based system in their own classroom but are unable to implement because of the confines of their district grading policy. Schimmer (2016) highlights a conversion for scores to compute to a percentage system but a conversion system should only be used when compromising between theory and practice with a standards-based system. Knight and Cooper (2019) note that the lack of evidence on the effects of standards-based grading makes it difficult for administration to close the gap between recommended grading practices and stakeholders' beliefs of grading systems. Future research should study how teachers can implement the effective standards-based strategies, such as better communicated grades, within a traditional grading system. Data should be collected to find out if traditional grading systems can implement the same quality communication of grades that standards-based systems have.

Future research should engage in analysis of data on the long-term effects so that administrators at both the high school and the post-secondary levels can begin to close the gap between theory and practice. Much of current research compares traditional classrooms to standards-based counterparts, or data from a traditional system compared to the same schools

after implementing a standards-based system (Schoen, et al., 2003). While this data gives a great comparison of standards-based systems to traditional systems, it lacks evidence of the long-term effects because it only highlights short-term effects of the shift in grading systems. Future research also needs to close the gap in data collected in Career and Technical classes and other elective areas. Much of current research revolves around core classrooms such as math and English due to the core access to state/comprehensive testing data available for quantitative data.

Conclusion

The goal of this literature review was to analyze the implementation of standards-based systems at the secondary level and determine if standards-based grades can translate for students who are planning to pursue education at the post-secondary level. Grading homework is a common factor that allows for better communicated grades and also keeps grades from becoming inflated, which makes homework grading a crucial element of standards-based grading. When looking at crucial elements of standards-based practices, grading homework is a common factor that allows for more effectively communicated grades and keeps grades from being inflated. Standards-based grading also redefines accountability through the separation of behavior grades from academic grades. By implementing those elements, teachers are better able to communicate the meaning of a grade to students and parents.

Research shows several positive effects after implementing standards-based practices. Data recognizes a positive correlation between standards-based grading and test scores. Students at the secondary as well as the post-secondary level show a positive perception of standards-based grading systems. Teachers also perceive standards-based practices as a positive shift in grading practice because of the quality communication with students that it facilitates. Many teachers also recognize the positive effects on their classroom instruction after implementing standards-based practices. The shift in mindset causes teachers to focus more on gaps in student learning and look at ways to better assess students.

Standards-based systems are continuing to be implemented at both the secondary and post-secondary level. According to research, stakeholders at both levels have positive perceptions of implementation. Oftentimes, district policies, stakeholder pushback, and lack of consistency for college-bound students are holding schools back from implementing standards-

based principles. Research presented shows that there are several post-secondary schools that are beginning to look at the transition to more effective grading practices, but secondary schools also need to begin to implement the practices more effectively in order to create a shift in grading mindset for stakeholders. While parents use post-secondary grading practices as a pushback for standards-based policies, research shows that other faculty and students show positive perceptions of the effectiveness of standards-based grading. Because of this positive shift in mindset, standards-based grading is now being implemented beyond secondary classrooms.

Upon review of implementation at the secondary and post-secondary levels, data showed there is disconnect between our current educational grading mindset and the mindset necessary for a standards-based grading system. Teacher preparation programs at the post-secondary level are key in preparing teachers for the shift in belief about what grading practices entail in order to begin shifting student mindset on what grades represent. Educational systems from K-12 and post-secondary need to do a better job of providing consistency in practice across all levels for quality implementation of standards-based mindset and practices. Standards-based practices provide quality communication and a positive mindset of learning for students. The shift to standards-based grading does not require teachers to drastically change their grading practices, but rather naturally transition to a mindset that reforms our idea of how grades are communicated (Schimmer, 2016). This review shows that there is a need to improve grading practices, but that those elements may also be implemented in a traditional system to better communicate grades to students. By implementing standards-based practices more effectively at the secondary and post-secondary levels, we can begin to see a shift in both learning and teaching practices at both levels.

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