How Teachers of Different Content Areas Use and Define Rubrics

Abigail Bremer
abigail.bremer@go.mnstate.edu

Follow this and additional works at: https://red.mnstate.edu/thesis

Part of the Educational Assessment, Evaluation, and Research Commons, Educational Leadership Commons, and the Educational Methods Commons

Recommended Citation
Bremer, Abigail, "How Teachers of Different Content Areas Use and Define Rubrics" (2020). Dissertations, Theses, and Projects. 302.
https://red.mnstate.edu/thesis/302

This Dissertation (799 registration) is brought to you for free and open access by the Graduate Studies at Red. It has been accepted for inclusion in Dissertations, Theses, and Projects by an authorized administrator of Red. For more information, please contact kramer@mnstate.edu.
How Teachers of Different Content Areas Use and Define Rubrics
By
Abigail Bremer

In Partial Fulfillment of the Requirements for the Degree of Doctor of Education

May 15, 2020
Moorhead, Minnesota
HOW TEACHERS OF DIFFERENT CONTENT AREAS USE AND DEFINE RUBRICS

By

Abigail Bremer

has been approved

March 2020

APPROVED:

Michael Coquyt, Ed.D., Committee Chair
Sheila Marquardt, Ph.D., Committee Member
David Tack, Ph.D., Committee Member
Heather Giese, M.A., Committee Member

ACCEPTED AND SIGNED:

____________________________________________
Michael Coquyt, Ed.D., Committee Chair
Professor, MSUM School of Teaching and Learning

____________________________________________
Ok-Hee Lee, Ph.D.
Dean, College of Education and Human Services
DEDICATION

This dissertation is dedicated to all of my former students in Lansing, Michigan. I had so much to learn.
TABLE OF CONTENTS

LIST OF FIGURES ........................................................................................................... x

LIST OF TABLES ........................................................................................................... xi

ACKNOWLEDGMENTS ..................................................................................................... xii

ABSTRACT ....................................................................................................................... xiii

CHAPTER 1. INTRODUCTION ......................................................................................... 1

Preface .............................................................................................................................. 1

Problem Statement ......................................................................................................... 3

Nature of the Study ......................................................................................................... 3

Purpose ............................................................................................................................ 5

Theoretical Basis for Research Study ............................................................................. 5

Key Terms ....................................................................................................................... 8

Assumptions ................................................................................................................... 9

Limitations ..................................................................................................................... 10

Delimitations ................................................................................................................ 10

Significance of the Study .............................................................................................. 10

Summary ....................................................................................................................... 11

CHAPTER 2. LITERATURE REVIEW ............................................................................. 13

Introduction ................................................................................................................... 13
Survey Questions ......................................................................................................................... 38
Interview Questions ...................................................................................................................... 39

**Context for the Study** ............................................................................................................... 40

**Methods for the Ethical Protection of Participants** ................................................................. 40

**Role of the Researcher** ............................................................................................................. 41

**Criteria for Selecting Participants** .......................................................................................... 43

**Data Collection Procedures** .................................................................................................. 44

**Data Analysis** .......................................................................................................................... 44

**Methods to Address Trustworthiness** .................................................................................... 46

**Conclusion** .............................................................................................................................. 46

**CHAPTER 4. FINDINGS** ............................................................................................................. 48

**Survey Process** ....................................................................................................................... 49

Secondary Science Teachers’ Survey Responses ................................................................. 52
Secondary Social Studies Teachers’ Survey Responses ......................................................... 54
Secondary Mathematics Teachers’ Survey Responses ......................................................... 55
Secondary Language Arts Teachers’ Survey Responses ....................................................... 56

**Summary of Survey Themes** .................................................................................................. 57

**Interview Process** ................................................................................................................... 58

**Description of the Sample** ...................................................................................................... 61

**Research Methodology Applied to the Data Analysis** .............................................................. 62

**Presentation of Data and Results of the Analysis** ................................................................... 63

Science Teacher Interview Responses ...................................................................................... 63
Social Studies Teacher Interview Responses ............................................................................. 66
Mathematics Teacher Interview Responses ................................................................. 71
Language Arts Teacher Interview Responses .......................................................... 76

**Resulting Themes**................................................................................................ 79

Analytic Category 1: Set Purpose for Using Rubrics in the Classroom.................. 81
Analytic Category 2: Stated Benefits and Limitations Associated with the Use of Rubrics................................................................. 81
Analytic Category 3: Set Schedule for Giving Students Access to the Rubric ....... 83
Analytic Category 4: Perceived Impact on Reliability............................................. 83

**Conclusion**............................................................................................................ 84

**CHAPTER 5. DISCUSSION** ..................................................................................... 86

**Summary of Results** ............................................................................................ 86

**Conclusions Based on the Results** ....................................................................... 87

Conclusion 1: A teacher’s purpose for using rubrics is connected to the benefits and limitations they associate with it. ................................................................. 87
Conclusion 2: There is a connection between the state content standards and the ways that rubrics are used and defined in that discipline. ....................................... 93

**Implications for Social Change** ............................................................................. 99

**Interpretation of Findings** .................................................................................... 102

**Limitations** .......................................................................................................... 104

**Implications of the Study** ..................................................................................... 104

**Recommendations for Future Research** ............................................................... 105

**Reflection on the Research Process** ..................................................................... 107

**Conclusion**.......................................................................................................... 108
REFERENCES........................................................................................................110

APPENDIX A. Qualitative Survey ........................................................................125

Survey .....................................................................................................................128
LIST OF FIGURES

Page

Figure 1. Map of survey themes derived from initial codes..........................5
# LIST OF TABLES

<table>
<thead>
<tr>
<th>Table</th>
<th>Description</th>
<th>Page</th>
</tr>
</thead>
<tbody>
<tr>
<td>Table 1</td>
<td>Participants categorized by disciplinary content area</td>
<td>51</td>
</tr>
<tr>
<td>Table 2</td>
<td>Interview guide</td>
<td>59</td>
</tr>
</tbody>
</table>
ACKNOWLEDGMENTS

I would like to thank my committee chair, Dr. Michael Coquyt, and my committee members, Dr. Sheila Marquardt, Dr. David Tack, and Heather Giese, for their guidance and support throughout the course of this research.

In addition, I would also like to thank my friends, colleagues, the department faculty and staff for making my time at Minnesota State University Moorhead a wonderful experience. I want to also offer my appreciation to those who were willing to participate in my surveys and observations, without whom, this dissertation would not have been possible.
ABSTRACT

This study serves to fill a gap in the research with regard to what we know about the actual implementation of rubrics in secondary classrooms. By discovering the connections between a secondary teacher’s content area and the ways they use and identify rubrics, this study begins the work of clarifying academic language and implementing practices that will be significant to the growth and development of all students. A qualitative case study, this research began with a survey that included responses from teachers in each core content area: mathematics, science, social studies, and language arts. Three hundred thirty-seven secondary teachers from the selected public-school districts were invited to participate in a survey about the ways they use and define rubrics in their own classroom. Of those, one volunteer from each of the core subject areas was chosen for a follow-up interview. Two conclusions were reached; a teacher’s purpose for using rubrics is connected to the benefits and limitations they associate with it and there is a connection between the state content standards and the ways that rubrics are used and defined in that discipline. Pragmatically, this study makes clear the areas of importance for the professional development of secondary teachers about best practices around rubrics. It also serves as a template for the future design of action research studies in school districts with similar demographics. Finally, it offers valuable information for higher education professors of preservice teachers to reflect on their curriculum as it pertains to the use of rubrics in every discipline.
CHAPTER 1. INTRODUCTION

Preface

Walking to the front of the science classroom after the bell ended a session of seventh grade environmental science, I sat down on the corner of a desk to talk to the science teacher in the room. As a literacy coach, I followed a push-in model to help embed literacy strategies into the core disciplines. The teacher tossed a pile of papers towards me.

“I have had students write summaries of science articles every week for eight weeks and they are not getting any better,” she said.

"Have you taught them how to write a good summary?” I asked.

“They know how. They just aren’t good.”

“Well, what kind of feedback are you giving them?” I asked.

“They get a grade based on the quality of their work,” she said.

“Have you considered using a rubric to give them specific qualifiers on what would make it good?”

Her eyes narrowed. “Every article is about something completely different” she said, “It wouldn’t work.”

Thinking through my experiences as a teacher and educational leader, many moments have included tensions based on a disparity between the ways that we use and define educational terminology. Teachers sometimes disagreed on what qualifies as a rubric. The fact that there are multiple varieties of rubrics only added to this confusion. My experience as a literacy coach, working with mathematics, language arts, science and social studies
classroom teachers to embed disciplinary reading strategies revealed certain trends in the frequency with which teachers of different subjects used rubrics. I began to question whether this was because they were not aware of the varieties and selective purposes of rubrics, or if it was something more focused on how they understood the nature of knowledge and knowing in their content area.

Research around rubrics shows the potential to provide reliable and valid evaluation (Moskal & Leydens, 2000). This can be improved further by the facilitation of training on the purpose and design of the rubric at hand (Marzano, 2002). Rubrics also serve to benefit communication between the teacher and the students. Understanding the evaluation of an assignment or project lends clarity to its purpose. Detailed descriptions that indicate quality in work can also serve to benefit students who struggle to understand how to improve. As learning tools that provide detailed qualifications and specific feedback, rubrics can make a significant difference in closing the opportunity gaps for students with learning disabilities, low socio-economic status, English learners and students of color (Kearns, 2011). As such, developing the most effective use of rubrics in secondary schools could make a huge impact in the academic success of traditionally underserved students.

As a methods professor in the field of teacher education, I have had the opportunity to create and evaluate lesson plans with secondary preservice teachers from every content area. Various beliefs about the appropriate use of rubrics have abounded. This study explored the relationship between a secondary teacher’s content area and the ways that they defined and used analytic, holistic, generic and task-specific rubrics. It was my hope that, in analyzing the data, this research could add to the potential future success of professional development in the area of scoring, with the goal of creating equitable educational assessments for all
students.

Problem Statement

Rubrics have the potential to be both reliable and valid evaluation tools (Dawson, 2017; Jonsson & Panadero, 2017; Marzano, 2002; Moskal & Leydens, 2000; Popham, 1997; Whittaker & Salend, 2001). Professional development focused on how to score rubrics has shown to improve reliability even more (Marzano, 2002). Based on the purpose of an assignment or project, a holistic or analytic, task-specific or generic rubric would serve as the most appropriate evaluation tool.

Also, teachers sometimes define a task list or Likert scale as a rubric, when in fact, this does not meet the criteria. To be a rubric, the assessment must include evaluative criteria, quality definitions, and a scoring strategy (Wiggins, 1998). A task list does not include quality definitions. A Likert scale does not include evaluative criteria. An assessment that does not include all three pieces is not a rubric.

Students in public school classrooms cannot benefit from the use of rubrics if they are not being identified correctly. Clarification is necessary to indicate whether teachers of different content areas define and use rubrics in the same ways. This information may serve to improve professional development workshops focused on providing equitable assessments for all students.

Nature of the Study

This study explored the ways rubrics are being used and defined by secondary teachers in the rural Midwest. This study is a qualitative case study, beginning with a survey that included responses from teachers in each core content area: mathematics, science, social studies, and language arts. Three hundred thirty-seven secondary teachers from two public school districts in the northwestern Midwest-region were invited to participate in a survey
about the ways they use and define rubrics in their own classroom. Participants had the opportunity to volunteer their participation in a follow-up survey or interview. Using stratified random sampling (Creswell, 2007), I was able to identify one teacher from each core subject area (language arts, social studies, science and mathematics) as a volunteer for the interview.

For the survey, secondary teachers were given the definitions of key terms and examples of holistic, analytic, generic and task-specific rubrics. Rubrics can be categorized into two groups: analytic and holistic. Analytic rubrics divide a product into essential components or traits, and a separate score is given for each trait. Holistic rubrics give a single score or rating for an entire product or performance based on overall impression of a student’s work (Wiggins, 1998). The rater considers all quality judgments in one big component and comes up with one single score. Rubrics can also be categorized another way: task-specific or generic. Task-specific rubrics can be used only for one particular task or assignment. Any time the rubric includes detailed components particular to the assigned problem or project, it is task-specific. A generic rubric can be used to evaluate similar tasks. In using generic rubrics, the evaluation criteria will be very broad, but able to be used across multiple projects. These rubrics still provide several qualitative levels so that teachers can ostensibly distinguish among students’ performances. Using these definitions, each participant was asked with what frequency they use these types of rubrics and why they think that is. For the follow-up interview, teachers were asked about the purpose of rubrics in their classroom, the benefits and limitations of these assessments, when in the course of the project they give access of the rubric to the students, and their beliefs about whether rubrics enhance the reliability of scoring performance assessments.
Purpose

The purpose of this research project was to look for connections between a secondary teacher’s content area and the frequency with which they used analytic, holistic, task-specific, and generic rubrics. The research study was descriptive in nature, creating a picture of how teachers used and understood rubrics differently. In analyzing the experiences of secondary language arts, mathematics, science and social studies teachers, this research could add to the future success of professional development in the area of creating and using rubrics more effectively. This information can also give educators and educational leaders some insight into the ways that teachers think about the nature of knowledge and knowing with regard to their discipline. By asking teachers to define their terms and to share their beliefs about expectations, shared language can be clarified in ways that enhance every teacher’s effective use of scoring rubrics. This increases the potential for academic achievement among all students (Whittaker, Salend & Duhaney, 2001).

Theoretical Basis for Research Study

In an age of accountability to standardized test scores, educational banking methods have resurfaced in classrooms. This, in spite of the fact that project-based learning proves far superior for student development. Piaget (as cited in Piers, 1972), a prominent theorist who focused on how humans make meaning in relation to the interaction between their experiences and their ideas, wrote:

Children should be able to do their own experimenting and their own research.

Teachers, of course, can guide them by providing appropriate materials, but the essential thing is that in order for a child to understand something, he must construct it himself, he must re-invent it. Every time we teach a child something, we keep him from inventing it himself. (pg. 27)
Rubrics offer educators an assessment tool that can go beyond an evaluation of correctness, to an evaluation of process and critical thinking strategies (Andrade, 2000). This fits a constructivist paradigm and inductive methodology that has been widely adopted as best practice in elementary and secondary education (Koch, 2005). Constructivists believe that all knowledge is constructed. This means that knowledge is not passively received, but actively created by the learner as they come to experience the world (Piaget as cited in Piers, 1972). Although this sounds simple, it actually describes a very complex process by which learners engage in experiences, think about those experiences, and make sense of them within their own understandings of the world. The teacher’s role, then, is to help students as they consider what they know, how they know it, and how they should evaluate their performance. In this way, rubrics have the potential to enable a constructivist methodology even in the process of assessment.

Different rubrics serve different purposes. They also all have benefits and limitations in their design. Wiggins (1998), in his seminal text *Educative assessment: Designing assessments to inform and improve student performance* wrote:

> The ability to design a valid rubric thus depends a great deal on how criteria are defined. An analytic-trait rubric isolates each major trait into a separate rubric with its own criteria. The reverse, a holistic rubric, yields a single score based on an overall impression. The holistic approach may be simpler, but it may also compromise validity, reliability, and the quality of the feedback to the student in the name of efficiency. (p. 165)

Although there are some drawbacks to holistic rubrics, there are also some benefits. As Wiggins implied, holistic rubrics are significantly less time consuming. There is also an
argument that holistic rubrics are significantly more open to interpretation. Analytic rubrics, on the other hand, may be so specific that they limit the student’s creativity and restrict their ability to produce something new.

Another way to distinguish rubrics is as generic or task specific. Again, there are benefits and limitations to each. Wiggins (1998) wrote:

We face many choices in designing rubrics and descriptors and one of them is whether to use task-specific or generic rubrics. Reliability is no doubt served by using a rubric that is unique to a task and to the samples of performance that relate to that task. However, we also have a feasibility problem: it is too prohibitive in time and energy to design a rubric for every task. Sound assessment thus argues in favor of using a general set of analytic-trait rubrics. (p. 176)

Reliability and validity are critical to assessment, but efficiency of use of the teacher is also of importance. Certainly, different types of rubrics serve different purposes and function with separate strengths and weaknesses.

Rubrics also hold the potential to positively impact traditionally underserved students as they develop academic skills (Lacelle-Peterson & Rivera, 1994). When used as teaching tools, rubrics can offer clear expectations for what high level performance looks like on a given assignment. This use of rubrics can be most important when the students are novices with respect to a certain task (Bresciani, Zelna, & Anderson, 2004). All rubrics ensure that students receive specific feedback about their work, but analytic, task-specific rubrics offer the most potential for giving students a detailed record of their progress in multiple areas of a project or assignment. This is vital to the success of English learners, students of color, students with learning disabilities, and impoverished students (Darling-Hammond, 1994).
The main goal for this study was to determine how teachers are using rubrics and whether there is a connection between a teacher’s content area and their definition and use of holistic, analytic, task-specific, and generic rubrics. As opposed to a quantitative study that uses a positivist approach, I chose to begin with a survey that provided feedback from a number of teachers in language arts, science, mathematics and social studies to look for patterns, trends, and shared ideas around the use of rubrics. Follow-up interviews with teachers in each core area offered a more descriptive and thorough explanation of their ideas about types of rubrics, value and drawbacks of rubrics, and of the nature of knowledge and knowing in their subject area. Qualitative research was the best design for this study, as it allowed for depth of investigation and the opportunity to follow the insights uncovered throughout the process, as they became known. As I explored the ways that secondary teachers of different content areas use and define rubrics, the research questions that guided the study included:

1. What purpose, if any, do rubrics serve in your classroom?
2. What are the benefits and limitations associated with the use of rubrics?
3. When, in the course of the project, do you give the students access to the rubric? Why?
4. Have rubrics impacted the reliability of scoring projects and performances? How do you know?

These questions served as an anchor as I worked to both follow the research and also dive deeply into the focus of the study.

**Key Terms**

Although the definitions and uses of rubrics have changed over time, these terms,
identified by Wiggins (1998) have stayed static. A rubric has three essential features:

evaluative criteria, which are used to distinguish work that is exceeding, meeting, or
approaching the marked standard, quality definitions, which give specific qualifications for
the differences in how work will be judged and evaluated and a scoring strategy, which can
either be analytic or holistic in nature that will assign an evaluative score to the work (pp.
154-160).

Analytic rubrics divide a product into essential components or traits, and a separate
score is given for each trait. Holistic rubrics give a single score or rating for an entire product
or performance based on overall impression of a student’s work. The rater considers all
quality judgements in one big component and overall judgment and comes up with one single
score (p. 164).

Another way that rubrics can be categorized is as either task-specific or generic.
Task-specific rubrics can be used only for one particular task or assignment. Any time the
rubric includes detailed components particular to the assigned problem or project, it is task-
specific. A generic rubric can be used to evaluate similar tasks. In using generic rubrics, the
evaluation criteria will be very broad, but able to be used across multiple projects. These
rubrics should still provide several qualitative levels so that teachers can ostensibly
distinguish among students’ performances (pp. 176-182).

Assumptions

The participants have provided honest responses to the questions that were asked in
the Scoring Rubrics Survey and the follow up interview questions. Participants were asked to
look only in the previous semester to assess their frequency of use with different rubrics. It is
important to the study that these responses are accurate.

The participants have read and understood the definitions and examples provided in
the survey, using them to answer the survey with accuracy. Although the definition of these
terms have not changed over time, it is possible that a misunderstanding could cause a
participant to answer inaccurately.

**Limitations**

It should be understood that the data collected is from within a very small
geographical region. This choice was made intentionally by the researcher so that the study
can be used by the teaching universities and school districts nearby. As a result, the gathered
data, analysis and recommendations cannot necessarily be generalized to other areas in the
country. This study, could be used as a template for studies in similar regions, but the
conclusions of this study should be contained until broader research has been completed.

**Delimitations**

Delimitations are bounds of the study. Although these boundaries place restrictions
on the generalizability of this study, they also enhance the usability of the conclusions for the
local school districts. Some of the delimitations for this study are:

1. The study was delimited to secondary teachers in two public school districts in the
   northwestern Midwest region of the United States.
2. The study focused only on teachers of language arts, mathematics, science and
   social studies.

**Significance of the Study**

This study fills a gap in the research with regard to what we know about the actual
implementation of rubrics in secondary classrooms. This knowledge could serve to
significantly improve professional development about rubrics. In understanding how teachers
currently use and define rubrics, we can improve the reliability and validity of these
assessment tools. What we have learned from this study can be used in the future design of action research studies in school districts with similar demographics. Further, we can explore ways that rubrics, as teaching tools, can clarify expectations and levels of quality for traditionally underserved students that benefit from this communication. This work is vital to our community, as our population grows and diversifies.

**Summary**

Chapter 1 introduced the reader to the potential of rubrics as reliable assessment tools, as well as descriptive teaching tools. There is a question, though, as to whether teachers are using and defining rubrics in different ways. This study sought to find any connections between a teacher’s content area and the ways they use and define rubrics.

This chapter also suggested that different forms of rubrics can serve different purposes. Whether analytic or holistic, task-specific or generic, all rubrics can be useful. Benefits and limitations are associated with each one. It is not simply the use of rubrics that is beneficial to student academic achievement, but how teachers and students use rubrics that can make a significant difference. This study has unearthed the types of rubrics that are being used and their intended purposes in language arts, mathematics, social studies and science classrooms.

A qualitative case study design that used both a survey, including open-ended questions, and follow-up interviews with language arts, mathematics, science and social studies teachers to explore the ways that teachers of different content areas define and use rubrics in secondary classrooms offered descriptive feedback from current teachers in the field. This data was used to tell about the use of rubrics as classroom assessments and also as teaching tools. This design also helped the researcher consider who benefits most and who is limited when rubrics are used in a classroom. The intended purposes of rubrics told us
something about the ways that teachers of different content areas think about the nature of knowledge and knowing.
CHAPTER 2. LITERATURE REVIEW

The literature review explored the body of knowledge surrounding the major research questions: what purpose rubrics serve in a classroom, what benefits and limitations are associated with the use of rubrics, when students should have access to different rubrics, and do rubrics have an impact on the reliability of scoring assessments. There is a wealth of knowledge pertaining to these questions. Synthesized into major themes, this literature review looks at the outcomes attached to using rubrics as assessment tools, using rubrics as learning tools, and at the ways in which rubrics function to close the opportunity gap faced by traditionally marginalized students. The historical context of how the use of rubrics in classroom has changed over time is also discussed, as is a synthesis of how teachers of different content areas are using rubrics in their classrooms. Together, this literature review presents a body of past research that helps to understand the benefits and limitations of rubrics, as well as the purpose and outcomes affiliated with their use. It also shows a gap in the research: is there a connection between a teacher’s content area and the ways they use and define rubrics? This study hopes to answer that question and fill that gap.

Introduction

Educators do not always define *rubrics* using the same terminology. A commonly accepted definition among scholars is that a *rubric* is a document that includes evaluative criteria that distinguishes the completeness or profundity of the work, quality definitions that give specific qualifications for the differences in how the work will be evaluated, and a scoring strategy that will assign an evaluative score to the work (Wiggins, 1998). Rubrics, when created and used correctly, have proven to be incredibly useful across content area, grade level and discipline. A substantial amount of research has been conducted over the last
two decades that examines their reliability and validity. Because of this, school leaders have worked to create professional development opportunities aligned with the value of supporting all teachers as they begin to create, find and use rubrics.

It is questionable, however, whether the term *rubric* has the same intended purpose or semantic interpretation for each individual teacher. Dawson (2017) wrote, “As the use of rubrics has increased both in research and practice, the term has come to represent divergent practices. These range from secret scoring sheets held by teachers to holistic student-developed articulations of quality” (p. 347). This range of understandings may serve to limit those participating in the discussion, by restricting the scope of possibilities that could create the strongest effects for students’ academic development. Different rubrics have the potential to serve different purposes. Without the knowledge about how to create and use the most effective rubrics, educators may consistently underserve their students.

**Rational for Research**

This literature review illuminates the conclusions and gaps related to the use of rubrics in secondary language arts, mathematics, science and social studies classrooms. This study answers the question: What is the relationship between a secondary teacher’s content area and the ways that they identify and use rubrics? Rubrics can be qualified as holistic, scored using descriptive quality indicators as a whole or analytic, and broken down into multiple parts, each with a set of quality indicators. When to use each type is debatable, but both forms are relevant to indicating academic growth and success (Chappuis, J., Stiggins, Chappuis, S. & Arter, 2012).

Task-specific rubrics, those written for one particular task to reflect performance, can also be separated from generic rubrics, which could be used for any project that uses the same mode of communication or domain of thought. Again, there are assets and limitations
to each (Chappuis, J., Stiggins, Chappuis, S. & Arter, 2012). The question that emerges asks how teachers in different subject areas might describe and use these various forms of assessments. Further, what might say about the nature of teaching and learning in these content areas? In combination with the body of literature that has come before, the answers to these questions provide significant findings for educators.

Criteria for Inclusion

Leading scholars in the field of assessment in education authored the remaining textbooks. Wiggins’ (1998) textbook *Educative Assessment* is considered a seminal text in the area of knowing and understanding best practices associated with rubrics. Areas of the literature that were given the greatest consideration were those that pertain to a constructivist viewpoint and illuminated the emerging themes of rubrics as assessment tools, rubrics as learning tools and rubrics as a tool to improve equity in education spaces.

The consideration of where a student begins, what each individual wants and values, and how their self-assessment compares to that of the teacher are very important in providing assessment that is authentic and differentiated in a way that is useful to all students. As stated in Turley and Gallagher (2008), "Rubrics should be used to create conversation about aspects of quality in writing, to compare the evaluation of the professor with that of the students and then to discuss the discrepancies" (p. 90). This view establishes the recommended course of looking for constructivist ideals in using rubrics as formative tools.

Equity in education can be increased by considering the needs and interests of every student. Further research is needed in describing the current identification and usage of rubrics in secondary content area classrooms, as identified by the gap in the literature.
Review of the Literature

Benefits and Limitations of Rubrics as Assessment Tools

Rubrics began to evolve as an assessment tool in secondary education as schools started to revise their ideas about what they wanted their students to be able to do (Wormeli, 2006). In a move away from traditional testing, teachers wanted students to do more than display their rote memory abilities (Montgomery, 2000). This was, and still is, a difficult transition for many teachers (Gipps, 2015). Objective unit tests are easy to score, can be administered to a large group easily, and offer a precision of measurement that refutes any argument over grades. Still, many teachers see that rote memorization is rarely useful. Instead of the most basic levels of Bloom’s Taxonomy (Bloom, 1956, p. 200), which focus on recall, many teachers want students to apply their knowledge in meaningful ways or even construct new ideas or creations using their knowledge (Koch, 2005). This implies that learning is constructed and grows in depth over time. Formative assessments, such as rubrics, are integral to identifying the skills that students must learn in order to progress in their achievement (Rigbie et al., 2015).

The Intended Purpose of Rubrics as Assessment Tools

This move from selected response to performance assessments added subjectivity to a highly competitive system, causing some contention in grading (Dawson, 2017). Rubrics were used as a solution to this issue, as they have the potential to be reliable and valid modes of assessment. Perlman (2003) wrote:

Because a performance assessment does not have an answer key of the type that a multiple-choice test does, scoring a performance assessment necessarily involves making some subjective judgements about the quality of a student’s work. A good set
of scoring guidelines or rubrics provides a way to make fair and sound judgments by setting forth a uniform set of precisely defined criteria or guidelines for judging student work. (p. 3)

When used to assess performance tasks, rubrics are extremely valuable. This reliability can be improved even further based on the configuration of its design. Jonsson and Svingby (2007) concluded that the reliability of rubrics created to assess performance tasks should be analytic, task-specific and include rater-training for each scorer.

Rater-training is usually done by asking multiple scorers to use a rubric to score the same assessment and then see how their score compared to the scores of others (Marzano, 2002). It can also be done by walking carefully through the rubric and discussing the meaning of each word included (Wormeli, 2006). This brings clarity and invariability to the rubric. Crotwell Timmerman, Strickland, Johnson and Payne (2011) concluded that analytic and universal (or generic) rubrics for scientific writing are also extremely reliable assessments.

**Student Access to Rubrics as Assessment Tools**

Rubrics are also useful in helping a teacher plan and analyze the expectations of the assignments, units, and overall course (Skelton, Rodgers, Ellis & Lyles, 2014). In curriculum planning, the creation of a rubric can lend clarity to their own expectations in their students’ work. This is powerful, as it allows teachers to prioritize information and facilitates explicitness in teaching. Used formatively, rubrics can give consistent feedback to the teacher about what is needed to support student academic achievement. Wilkie (2016) wrote, “It is important for teachers to use the information they ascertain from their assessment of their students’ current level of understanding to modify the direction or approach of their
subsequent teaching” (p. 38). When rubrics are created in collaboration with other educators, the impact can be amplified. Schlitz et al. (2009) concluded that establishing their objectives and creating their rubrics in collaboration with others added synergy to their team and enabled for even deeper reflection on the outcomes of the assessment.

**Reliability of Rubrics as Assessment Tools**

Some authors present some of the limitations of using rubrics as assessment tools. Nitko (2001) wrote about some of the common errors that can occur when teachers rate their students’ work using rubrics. These include leniency errors (where the teacher focuses on the higher end of the rubric and avoids the lower end), severity errors (where the teacher focuses on the lower end of the rubric and avoids the higher end), and the halo effect (where teachers use the information they know about the student personally and allow it to influence their score). Meier, Rich & Cady (2006) also show that the scorer’s level of content knowledge (in this case, mathematics) can cause great disruptions to reliability in interrater reliability. These findings are certainly relevant, however, they do not diminish the potential that rubrics bring to reliable assessment. Instead, they point to a need for increased training for scorers.

**Benefits and Limitations of Rubrics as Learning Tools**

In the last three decades, scholars have researched the effects of rubrics on student learning in secondary mathematics, language arts, science and social studies classrooms. Certain studies emerged that analyzed the different outcomes based on when students attained access to the rubric, whether the students were allowed to self-score, who was involved in the creation of the rubric and how and when feedback was being articulated to students. Chappuis, Stiggins, Chappuis, and Arter (2012), described seven strategies for using rubrics as instructional tools in the classroom:
1. Provide students with a clear and understandable vision of the learning target.
2. Use examples and models of strong and weak work.
3. Offer regular descriptive feedback.
4. Teach students to self-assess and set goals.
5. Design lessons to focus on one learning target or aspect of quality at a time.
6. Teach students focused revision.
7. Engage students in self-reflection and let them keep track of and share their learning. (pp. 245-248)

The research focused on the use of rubrics as a learning tool provides many studies that indicate positive outcomes for students.

The literature also pointed out some limitations to using rubrics as learning tools. One major concern was in limiting students in their creativity by implying that there is only one correct way to do something. This was especially evident in literature where the rubric was imposed by the state department of education: “Ultimately, state rubrics represent the consummation of the positivistic dream of a science of education that would overcome teachers’ subjectivity in the name of precision and efficiency” (Turley & Gallagher, 2008, p. 89). Rubrics, whether formulaic, inauthentic (as in a five paragraph essay rubric) or, without teacher buy-in can turn into task lists. The authors go on to say, though, that not all rubrics are designed with the same qualifications nor the same purposes. I agree that rubrics can be used in ineffective or limiting ways. I do not, however, believe that this is flaw in the assessment as a rule. Professional development could help teachers develop and use rubrics in a way that advances student academic and social learning.
The Intended Purpose of Rubrics as Learning Tools

Clarity of expectations is so important in student learning. Rubrics can clearly communicate the expectations set by the teacher, which is a key requirement for successful implementation (Jonsson & Pandero, 2017). Analytic rubrics can offer even more descriptive and specific criteria to be measured, as well as a scale that gives specific qualifiers to show levels of proficiency. Clarity also improves student reflective practice. If students are given the ability to self-assess or even to help in the creation of the rubric, these processes can spur the development of their ability to become self-directed and help them develop insight into how they and others learn (Allen & Tanner, 2006).

Student Access to Rubrics as Learning Tools

Assessment has the potential to direct student learning when the students are engaged in the creation of the rubric, as well as trained to self-assess their work. This constructivist approach to assessment has shown to improve both the understanding of the content and the motivation of the students to participate (Andrade, 2000; Sadler & Good, 2006; Turley & Gallagher, 2008; Sharma, Jain, Gupta, Garg, Batta and Dhir, 2016). Engaging students with the rubric has also been shown to encourage intellectual risk-taking (Siegel, Halverson, Freyermuth & Clark, 2011). This behavior is so important to learning, as it enables students to try out an idea or create something new with the knowledge that it might not turn out right. This intellectual risk-taking, as opposed to waiting to be told how to complete a task, is imperative to the construction of knowledge (Koch, 2005). It asks learners to consider what they know and take a solid guess in solving a problem or creating an idea.

Enabling students to clearly see the objectives of the lesson, as well as its purpose as an authentic assessment, engages them in a way that pushes them beyond completion or
correctness. Instead, each individual learner can construct the learning and the rubric can be easily differentiated:

To be so integral to students’ success, differentiated assessment is formative, not saved for the end of the unit. This is where differentiating teachers spend the majority of their assessment energy. These teachers are ceaseless assessors, valuing informal, formal, and varied assessments over time instead of one-shot declarations of masters. Because they want to assess what they think they are assessing, they use more rubrics and standards-based assessments than pure averaging of scores from tests. Differentiating teachers are not coy with assessments, either; they keep everything visible so that students can hit the target. They see assessment as the pivotal instructional tool that it is. (Wormeli, 2006, pp. 41-42)

Differentiating rubrics helps each individual learner where they are in their journey to develop and grow at their rate. Differentiating also allows learners to clearly see the objectives and goals set for them.

**Rubrics as Equitable Assessments**

The body of literature surrounding rubrics displays the hope and potential for providing a more equitable assessment of student work in the American public school system. Historically, underserved populations of students have been further limited by a perennialist educational philosophy that there is one cannon of knowledge that should be passed down generationally (Nunez, Michie & Konkol, 2015). This view is steeped in the dominant culture. In this way, those who do not identify as members of the dominant culture stand at a disadvantage:

If assessment is to be used to open up as many opportunities as possible to as many
students as possible, it must address a wide range of talents, a variety of life experiences, and multiple ways of knowing. Diverse and wide-ranging tasks that use many different performance modes and that involve students in choosing ways to demonstrate their competence become important for this goal. Substantial teacher and student involvement in and control over assessment strategies and uses are critical if assessment is to support the most challenging education possible for every student, taking full account of his or her special talents and ways of knowing. (Darling-Hammond, 1994, pp. 17-18)

Although some work has been done to progress toward a focus on multicultural education, there are still major problems. Recently, Arizona not only outlawed bilingual education, but also banned ethnic studies, specifically affecting the Latino and indigenous communities (Nunez, Michie & Konkol, 2015). This represents a strong push toward an education system limited to the dominant culture. Fortunately, rubrics, when created and used to promote student-learning, can promote equity in education. If educators can use rubrics as a tool for learning, as opposed to a tool for accountability to the established cannon, students can be empowered to see themselves as decision-makers and learners (Parkinson, 2015).

As a learning tool, rubrics have the ability to influence the social and academic success of traditionally underserved students. Research on the impact of rubrics has focused on gender, ability/disability, language proficiency, and culture (both racial and socio-economic). Findings from research have been inconclusive about the differences between how boys and girls respond to rubrics. One study showed that female students tend to hold more positive perceptions about rubrics than male students (Alkharusi, 2011; Anderman & Midgely, 1997). This study does not imply why that might be the case, but it aligns with
another study explaining that girls are more confident when they create their own feedback (Pajares & Valiente, 1999). Although female students are more likely to read and use feedback presented on rubrics, all students benefit when assessments are aligned to their objectives, authentic in nature, and when students are included in the creation and scoring of rubrics (Alkharusi, Aldharfi, Alnabhani & Alkalbani, 2013). It is important to continue investigating the influence of gender, in order to further clarify the relationship between gender and the use of rubrics.

English learners also benefit when rubrics are created collaboratively. Students, English language educators, and assessment experts should work together to develop meaningful assessment policies and learning tools that will benefit all students (LaCelle-Peterson & Rivera, 1994). When many voices are present, the strengths of all students can be used to create inclusive assessment tools that work for all students. The use of rubrics has also been shown to benefit students with Individual Education Programs. Because rubrics offer clear objectives and specific criterion to determine quality, as well as promote the use and understanding of academic language, rubrics can make expectations known and offer meaningful feedback. Because Individualized Education Program goals include benchmarks that relate to students’ progress within the general education curriculum, rubrics can also be used to develop next steps for students (Whittaker, Salend & Duhaney, 2001). Martin-Kniep (2011) wrote:

When teachers accompany their assignments with clear and descriptive performance criteria, and, when necessary, accompany such criteria with rubrics and models, they communicate their expectations for student’s achievement in ways that students can understand and use. This is especially important to students who are often considered
to be at risk of failure. (p. 246)

When rubrics are created intentionally to elevate the strengths of all students, they have the potential to provide a more equitable tool for assessment and learning.

One major potential flaw with using rubrics in classrooms is that they often reflect the knowledge and language of the dominant culture (Flynn, 2015). When created by only one person, a single-voiced perspective has the potential to limit what knowledge should be considered. “Despite the declaration of objectivity, rubrics are only as objective as the person(s) who created them. They are laden with imposed assumptions of quality, imposed assumptions of order, imposed assumptions of worth, and imposed assumptions of fairness” (Flynn, 2015, p. 212). Constantly redefining ways of knowing and knowledge with students and the community, and then co-creating rubrics to match can address this potential downfall. “If we can reframe rubrics as technologies of learning rather than technologies of discipline or accountability, the potential exists for rubrics to empower both instructors and students as decision-makers and learners” (Parkinson, 2015, p. 52). Framed in constructivism, a rubric can be used as a tool to help a group of learners constantly reflect on how they define quality. In this way, rubrics can give a voice to marginalized students, promoting their strengths and identities, making both learning and assessment authentic to their values.

**Historical Context**

Use and understanding of what rubrics are and how they work has changed dramatically. In the beginning, rubrics were essentially a scoring guide. It was not for many years that a sense of clarity was added to the definition by the proposal that all rubrics must include evaluative criteria, quality definitions for those criteria at particular levels and a
scoring strategy (Popham, 1997; Wiggins, 1997). Types of rubrics and their intended purposes continue to change. The authors included in this review, whose work was originally published between 1998 and 2002, assigned the purpose of the rubric as providing detailed feedback, to teaching students to self-assess, to instruct students on how to complete an assignment at the highest quality and to increase the interrater reliability (Andrade, 2000; Marzano, 2002; Montgomery, 2000; Siegel, Halverson, Freyermuth & Clark, 2001; Whitaker, Salend & Duhaney, 2001; Wiggins, 1998). Interrater reliability refers to the degree of agreement among raters. It is a score of how much homogeneity exists in the ratings given by various scorers (Jonsson & Panadero, 2017).

The authors wrote about the importance of discussing the rubric and how they scored it with the students. Turley and Gallagher (2008) set the purpose of using a rubric as a space to create conversation about aspects of quality in writing, to compare the evaluation of the professor with that of the students, and to discuss those discrepancies. Wilkie (2016) talked about the purpose being the opportunity to share task related feedback, not grades. This shift to thinking about the process of assessment as subjective, yet still generalizable when indicators are clear and feedback is detailed, is important. Jonsson and Panadero (2017) set the important purpose of encouraging intellectual risk-taking and self-regulated learning through the use of rubrics in formative assessment. When students are empowered to try new ideas, without concern that only correctness will be used as evidence of successful learning, students can feel more empowered to take chances, try new ideas, and even change course if they realize their idea is not working. This speaks less to the quality of the criterion or correctness of the content, and more to offering a range of possibilities and guidance for potential exploration.
Rubrics by Discipline

Rubrics in many public education classrooms are made to align with the standards and benchmarks assigned by the state (Persman, 2003). Secondary science and social studies benchmarks in some northwestern Midwest states are heavily focused on content recall. Many benchmarks begin with the words, “describe”, “define”, and “explain” (Minnesota Academic Standards Science K-12, 2009, pp. 17-44; Minnesota Academic Standards Social Studies K-12, 2011, pp. 67-151). Language arts and mathematics standards are written with a strong focus on using information to complete analysis or solve problems, using words like “create”, “solve”, “and “draw evidence” (Minnesota Academic Standards English Language Arts K-12, 2010, pp. 48-88; Minnesota Academic Standards Mathematics K-12, 2007, pp. 23-45). In this way, the definition of what a rubric is meant to do may vary along with secondary content area. This disparity in meaning might lead to teachers missing the mark when working towards best practices in the creation of a rubric that measures academic content standard proficiency (Perlman, 2003). This concern raises the question: is there a relationship between a secondary teacher’s content area and the ways that they identify and use rubrics? This inconsistency could be important, as it could lead to misunderstandings among teams of teachers, insufficient or unproductive professional development with regard to assessment practices, as well as an invalid and unreliable assessment of the content benchmarks with regard to student work.

Articles written about the use of rubrics in specific content areas shared two repeated themes with regard to best practices. Marzano (2002), Gallavan and Kottler (2009) and Whittaker, Salend, and Duhaney (2001) explained that students and teachers must have discussions with one another and with other teachers to discuss how performance should be
assessed. This sets a clear purpose and increases validity and reliability. The second theme to emerge talks about the importance of communicating students' current level of knowledge and then providing them with options for how to proceed in their learning (Wilkie, 2016; Siegel, Halverson, Freyermuth & Clark, 2001). This process of differentiating the short-term goals and also the long-term assessment can be compelling for helping each student individually. A rubric that includes evaluative criteria, indicators of quality, and a scoring guide can truly help all students to work from their current level of knowledge in meaningful ways.

This is in sharp contrast to what I had anticipated. Backward Design in lesson planning asks us to begin our planning by developing an assessment that will accurately evaluate growth in relation to a specific learning standard or benchmark (Wiggins & McTighe, 2005). I believed that the writing of the standards would have a huge impact on the creation and purpose of rubrics used in social studies and science classrooms. I wonder if more literature espousing constructivist ideology is available in the areas of social studies and science as an attempt to solve a problem or stop an increasing trend where rubrics are prescriptive and designed to check for completeness. It is also likely that states outside of the northwester Midwest have very different standards and benchmarks written for secondary classrooms. In this way, the review does not necessarily reveal a trend, nor does it necessarily negate my original hypothesis that the state learning standards would clearly match the rubrics used by classroom teachers.

**Methodology Selection**

**Qualitative Design**

The main purpose of this study was to identify connections between a secondary
teacher’s content area and the way that they use and identify rubrics. There could be potential for conducting a quantitative study, utilizing a survey to determine frequency of use of analytic or holistic, task-specific or generic rubrics. The limitation of such a study would be the positivistic belief that a correlation between frequency of use and content area would provide empirical data. Ontologically, social constructivists do not believe that reality can be measured quantitatively. Instead, social constructivists believe that knowledge is built with others, contextually. In this way, qualitative methodology is the strongest choice for interpreting truth. “Qualitative researchers use an emerging qualitative approach to inquiry, the collection of data in a natural setting sensitive to the people and places under study, and data analysis that is inductive and establishes patterns or themes” (Creswell, 2007, p. 37). A qualitative survey with follow-up interviews allowed for the opportunity to explore why connections between a secondary teacher’s content area and the way they use and define rubrics may exist. This methodology asked the participants to interpret the reality of their use of rubrics in their classrooms.

In synthesizing the literature, many of the research studies have also been conducted using a qualitative design (Goodrich-Andrade, 2001; Brown, et al., 2004; Sadler & Good, 2006; Schamber & Mahoney, 2006; Wilkie, K.J., 2016; Timmerman, et al., 2011). Sometimes descriptive and sometimes done as an action research project with a quasi-experimental design, these studies were conducted alongside an interview or survey that allowed the participants to explain their understanding and perspective with regard to the study. When a study seeks to explore the diversity of certain behaviors or cognitions within a given population, a qualitative design is often used (Creswell, 2007).
**Case Study**

A case study uses multiple sources of information in data collection to provide a detailed picture of the case (Creswell, 2007). I chose to use a qualitative survey and interview protocol to conduct my research. My goal for this study was to seek connections between a secondary teacher’s content area and the ways that they use and define rubrics. This goes beyond a frequency correlation and instead asks teachers to talk about their purpose and understanding of rubrics in their own classroom. A case study method is most advantageous when the researcher is seeking answers to how or why questions or when boundaries between the phenomenon and the context are not clear (Yin, 1989). My interest was in studying the case, not the variables. In this way, a case study best served the purpose of this study.

Many researchers focus solely on one case, as it enhances the depth of the study (Creswell, 2007). Although the study of multiple cases can dilute the overall analysis of the study, it increases the generalizability of the data (Creswell, 2007). In an effort to look for connections between a teacher’s subject area and the ways that they use and define rubrics, the use of multiple cases was inevitable.

**Survey**

In qualitative research, cross-sectional surveys are used to collect information from a large sample that has been drawn from a predetermined population (Fraenkel, Wallen & Hyun, 2015). The use of an electronic survey gave me access to many voices of educators in our region. Academic language, survey aesthetics and question order are all critical to attracting your subject’s attention and collecting accurate information (Jones, Baxter & Khanduja, 2011). For this reason, Qualtrics software was used to create a qualitative survey that would gather information using a Likert Scale and open-response questions. The data
from the qualitative survey was used to code for themes. “A theme captures something important about the data in relation to the research question and represents some level of patterned response or meaning within the data set” (Braun & Clarke, 2006, p. 82). The purpose of the survey was to provide themes that directed the questions used in the follow-up interviews.

The survey was used to gather information from a large targeted population of teachers. As opposed to a one-shot survey that involves only the data collection, analysis and report, this survey explored the teachers’ intended purpose for rubrics, the limitations and benefits they have found, their procedure for using rubrics and any effects they have had on reliability in scoring assessments. Jansen (2010) wrote, “The qualitative type of survey does not aim at establishing frequencies, means or other parameters but at determining the diversity of some topic of interest within a given population” (p. 2). In this way, a qualitative survey was used to seek a larger picture. The survey also looked for similarities in how teachers of different subject areas use and define rubrics. By starting with a qualitative survey, researcher bias was minimized in the creation of the interview protocol (Jansen, 2010).

Interviews

A structured open-ended interview was the final data collection piece. This choice is most desirable when trying to obtain some specific or focused information from your participants (Schwandt, 2001). The interview was used to gain direct access to four educator’s experience, one from each core subject area of language arts, mathematics, social studies and science. Using Braun and Clarke’s (2006) process for thematic analysis, coding elicited important themes. From these themes, approximately ten follow-up questions were
created to ask the participants. Survey participants were offered an opportunity to volunteer for follow-up interviews. Random stratified sampling was employed to choose one teacher volunteer from each content area. The randomness of this type of sampling increased the generalizability of the study. The stratification of the sample ensured that one teacher from each content area was included. This was imperative to this study that sought connections between subject area and classroom use and definition of rubrics.

The use of volunteers was crucial to finding participants who would feel comfortable engaging in conversation during the interview. “For one-on-one interviewing, the researcher needs individuals who are not hesitant to speak and share ideas, and needs to determine a setting in which this is possible” (Creswell, 2007, p. 133). For this reason, participants were interviewed in their own classrooms during their planning period or after school. Interviews served to provide the most detailed information about how or why these teachers use and define rubrics in their own classrooms. These stories are the basis of this study.

**Summary**

To conclude, rubrics can serve different purposes based on context. However, the body of research around rubrics shows a correlation between the use of rubrics and improved student performance. When used as an assessment tool for educators, reliability is increased. When given to students at the beginning of a project or unit, rubrics can be used as learning tools that lend clarity to purpose and the ability for students to participate in self-assessment strategies (Andrade, 2001; Andrade & Boulay, 2003).

Rubrics also have the ability to help close the opportunity gap for students traditionally underserved by the public education system. By comparing the results of different studies, in relation to different parameters such as content area or variety of rubric (holistic or analytic, task-specific or generic) factors that may influence the ways
that language arts, mathematics, science, and social studies secondary teachers use and define rubrics in their classrooms. Specifically, I aimed to answer the following questions:

1. What purpose, if any, do rubrics serve in your classroom?
2. What are the benefits and limitations associated with the use of rubrics?
3. When, in the course of the project, do you give the students access to the rubric? Why?
4. Have rubrics impacted the reliability of scoring projects and performances? How do you know?
CHAPTER 3. METHODOLOGY

Introduction

Working in a racially diverse city school, where 98% of students qualified for free and reduced lunch, I was regularly consulted by core subject teachers about how to motivate students who were two grade level or more below in their reading. It seemed that students would try in certain classes, and then just completely check out in others. As I developed professionally and became a literacy coach, co-teaching in a core classroom for two weeks at a time to help every teacher incorporate reading and writing strategies, certain themes began to shape. Classroom teachers that modeled skills and strategies metacognitively seemed to have students who were more engaged with the content and significantly more motivated to participate. Classroom teachers who gave feedback and allowed for revision of work seemed to have more students willing to do the work. And, classroom teachers who used rubrics as learning tools seemed to have more highly motivated students.

Often, I would try to help classroom teachers who were not utilizing these strategies, to see their value. Very often, I was met with resistance. For many years I have wondered, what is at the stem of that resistance? Does it have to do with the content that they teach? Does it pertain to their teaching philosophy? What do they know that prevents them from seeing the value of these methods in their classrooms? In the case of my introductory vignette, the teacher seemed to believe that a rubric must be a task-specific scoring sheet, capable of being used in only one context. I have worked with other teachers who simply checked off boxes as tasks of a project were completed, and then referred to that as a rubric, in spite of the fact that it did not include quality definitions or a scoring strategy, two essential components of a rubric (Wiggins, 1998). Perhaps, then, is it not the nature of the
content they teach, but rather their level of education pertaining to the use of rubrics as assessment tools? These thoughts are the basis of my research question, is there a connection between a secondary teacher’s content area and the ways that they use and define rubrics?

My experiences teaching students whose culture, language, socio-economic status and geographic region were not the same as my own have influenced my ontological views. Growing up in a small mostly homogenous community, I had believed that everyone’s perspectives would mirror my own. I could imagine only one way of knowing. Once I left that community, I was consistently confronted with multiple ways of knowing. I found perspectives completely different from my own, yet completely valid and compelling. I found that all knowledge is socially constructed. I found that in listening to many people tell their stories, I could understand in a way that most closely resembled evidence of truth.

It is for this reason that I chose a qualitative case study research method. Beginning with a survey including Likert scale and open ended questions, followed by four semi-structured interviews with one teacher from each core discipline, I created a method that got to the heart of my research question, while still reflecting my own beliefs about the nature of knowing and knowledge.

**Qualitative Design**

Qualitative research uses a reciprocal approach of constructing and deconstructing knowledge in context. The researcher must first immerse themselves in the stories of others, allowing them to explain their own realities in context (Creswell, 2007). Only after taking in these stories thoughtfully, does the work of analysis and deconstruction begin. “For interpretivists, reality is not ‘out there’ as an amalgam of external phenomena waiting to be uncovered as ‘facts’, but a construct in which people understand reality in different ways” (Briggs, Coleman & Morrison, 2012, p. 20). The understanding that all knowledge is socially
constructed separates qualitative design from the positivistic ontology used in quantitative research that everything is measurable and that data can be empirical. My understanding of knowledge as contextual is what made qualitative research my obvious selection for this research.

Interpretivists working in qualitative research must also see themselves and their work as a researcher as a part of the study. “For interpretivists, the core task is to view research participants as research subjects and to explore the ‘meanings’ of events and phenomena form the subjects’ perspectives” (Briggs, Coleman & Morrison, 2012, p. 20). A strong qualitative researcher is capable of listening to a research participant with both objectivity, listening with the goal of understanding not judging, and also empathetically, by trying to stand in their shoes. In this way, qualitative design identifies every aspect of the research as a part of the study.

Qualitative design is sometimes criticized as overly complicated (Creswell, 2007). This complexity, though, seems right when attempting to discover something so profound as the truth. So much care and precision must go into every choice made by the researcher to make completely transparent their thinking, their pursuit, and their biases:

One has to decide which issues to study, which aspects to consider as relevant, whether one will focus on local problems and thus perhaps jeopardize opportunities to publish in highly-regarded international journals, whether one follows fashion or instead explores new paths, whether one dares to confront given truths and questions what is held as self-evident. (Smeyers, 2001, p. 488)

Every decision made in the course of qualitative research must be read as a portion of its truth. It is complex, but it is thorough. This transparency and openness to criticism is what
makes it useful to others hoping to build from the research. For me, it is the complexity of qualitative design that brings it credibility.

**Case Study**

In choosing a qualitative approach to inquiry, I needed to consider two pieces. First, I wanted to consider which approach would allow me to collect the most important data pertaining to my research question. The research question at the root of this design looked for connections between a secondary teacher’s content area and the ways they use and define rubrics. Many qualitative methodologies would work to answer this question in different ways. I considered collecting rubrics used by teachers in the surrounding districts and then categorizing them to unearth some grounded theory from which to start. As the person doing the categorizing, though I felt as though I would not get an answer to my question. I want to know how teachers of specific content areas define and use rubrics in context. “Knowledge has the trait of begin culturally derived and historically situated. The interpretive paradigm does not question ideologies; it accepts them” (Scotland, 2012, p. 12). I need the teachers’ voices in order to learn the answer to my question, otherwise I am simply gathering evidence of my biases.

Case study is the methodology most closely aligned to my question, as it is bounded by a set of cases and searches for contextualized truth from multiple perspectives. Data will come in the form of teachers’ interpretation of their use of rubrics in their classroom.

The second consideration for my choice of methodology was that I wanted to use the approach that seemed most clearly aligned with my epistemological views about how I can know reality:

Case study research is a qualitative approach in which the investigator explores a
bounded system (a case) or multiple bounded systems (cases) over time, through detailed, in-depth data collection involving multiple sources of information, and reports a case description and case-based themes. (Creswell, 2007, p. 73)

Case studies collect data specific to a system. This ensures that what is collected reflects on a very specific set of experiences. Further, case studies use multiple sources for collecting information. This may take away from the depth that might come from a narrative method, but it lends credibility to the data by ensuring that is well-rounded, not singular. A case study methodology helps ensure that the stories being told will be understood in context and accepted as the participant’s truth. This aligns perfectly with my beliefs as a constructivist.

**Research Questions**

My research question stemmed from my own experiences as a teacher and literacy coach, as well as the extensive reading that I had done in the area of educational assessment. Teaching remedial reading to middle schoolers during the era of No Child Left Behind gave me a unique understanding of how high-stakes testing changed the nature of teaching from the responsibility of helping our students grow and develop academically and socially, to being accountable to a standardized test scores that informed the community of our success and failures. I saw schools put on probation plans, administrators and teachers removed and relocated in the district, and test scores published in local newspapers, without context. The fear that grew out of this system drove many teachers back to a traditional method of educational banking that sought to ensure students would indicate the “correct” answers on high-stakes tests. A change in school culture occurred, as seen by the many students who refused to participate in certain classes at all. Still, some teachers were finding ways to engage students. It was the qualities of these teacher, the similarities in their teaching and assessment methods, and the overall success of these teachers to motivate students during a
difficult time in public education that inspired my research.

**Central Research Question**

My research study sought to answer the question: What is the relationship between a secondary teacher’s content area and the ways that they identify and use rubrics? The use of rubrics is widespread among many different professions, which sometimes define rubrics as check lists or scales. In education, it is generally agreed upon that, “Rubrics are assessments that must include evaluative criteria, quality definitions for those criteria at particular levels and a scoring strategy (Popham, 1997, p. 75). Still, when educators talk about rubrics, we could be considering very different assessments.

Rubrics can be further qualified as holistic, scored using descriptive quality indicators as a whole or analytic, broken down into multiple parts, each with a set of quality indicators (Wiggins, 1998). When to use each type is debatable, but certainly both forms are relevant to indicating academic growth and success. We can also separate task-specific rubrics, those written for one particular task to reflect performance from generic rubrics, which could be used for any project that uses the same mode of communication or domain of thought (Wiggins, 1998). Again, there are assets and limitations to each.

I wonder how teachers in different subject areas might describe and use these various forms of assessments. Further, I wonder what that might tell us about the nature of teaching and learning in these content areas.

**Survey Questions**

A qualitative electronic survey was used to collect data from a large group of teacher participants. Questions posed on the survey first asked about the participant’s general use of rubrics. The following questions helped categorize rubrics as either holistic or analytic, task-
specific or generic, and ask them whether they have used those rubrics in the last semester and why that may be. Finally, participants were asked how influential they believe rubrics are to student academic growth, and why that might be. With regard to the integral nature of direct survey questions, Jones, Baxter and Khanduja (2001) wrote, “Collected data are only useful if they convey information accurately and consistently about the topic in which you are interested” (p. 5). These survey questions were meant to capture many voices and perspectives pertaining to secondary teachers’ use of rubrics in their content areas. Answers to these questions provided a big picture of how teachers use and define rubrics in these public-school systems.

**Interview Questions**

The design of the interview guide was partly based on the data collected from the survey. After coding for themes in the survey data, the four follow-up interviews were an opportunity to explore the most common patterns found therein. Although the survey provided important data for moving forward, some questions were already formulated, based on the survey itself. These questions were very similar to those asked on the survey and provided the participants the opportunity to elaborate on their answers and explain their thinking in context. These questions included:

1. What purpose, if any do rubrics serve in your classroom?
2. What are the benefits and limitations associated with the use of rubrics?
3. When, in the course of a project, do you give the students access to the rubric? Why?
4. Have rubrics impacted the reliability of scoring projects and performances? How do you know?

These questions reflect the research question that formed the impetus for the study.
Context for the Study

The context for this study is directly related to its design as a collective case study. I have chosen to sample from two northwestern school districts in the Midwest region, who share similar student demographics and district mission statements. These schools were chosen for their proximity to the university for which I work and my ability to gain access through known gatekeepers at each of these districts. Limiting the sample to one region kept the sample from becoming too massive. This was done to improve the generalizability of the data for educational leaders in this area.

Only secondary teachers were included in this study. This included sixth through twelfth grade teachers working at the alternative community schools, middle schools, and high schools within the two districts. The decision not to include elementary teachers was made to limit the size of the sample. For this same reason, I have included only teachers of language arts, mathematics, science and social studies. Teachers who instruct in more than one content area were asked to focus on one subject and to answer questions specifically and only for that content area. Including teachers from other subjects would offer interesting insight but would expand the scope of the study beyond an appropriate size for a case study design.

Methods for the Ethical Protection of Participants

Obtaining Institution Review Board approval was the first step in ensuring the ethical protection of the participants in my study. My design asked teachers to volunteer to take an online, anonymous Qualtrics survey. This survey was made available through an anonymous link. Participants who decided to take the survey were provided an electronic letter of informed consent that included a space for electronic signature, ensuring that each person knew their rights within the research. These volunteers were also able to provide their contact
information if they were interested in receiving feedback about the study, or if they were interested in participating in a follow-up interview. Because this study did not put the subjects at more than minimal risk, did not include children or other vulnerable populations, required consent of the participants, and names of participants were kept confidential, I was granted exempt status from the IRB for this study.

The interpretive nature of the research prevented the participants from risk or discomfort associated with this study. Names of participants, whether associated with the survey or the interviews, were not used in the published research. Interviews were audiotaped. Those files have been securely stored in a secure computer or locked in a restricted-access office throughout the study and will be kept there until July 2020, when all audiotaped files and transcriptions will be destroyed. Only teachers who volunteered their participation were included in the study. They have been notified in the letter of informed consent that they may withdraw from the study at any time and for any reason without penalty and that any of their input will be removed from the research project.

**Role of the Researcher**

I have not participated in any professional roles in the secondary schools that will be sampled in this study. As an Assistant Professor of education at a university near the two school districts, I have met, worked with, and even taught some of the teachers of these districts. This familiarity may have had an impact on participation in the study, although I am not sure what that impact might be. As an elementary methods professor, I have observed many pre-service teachers in these districts, but never at a secondary school. I also have one child who attends an elementary school in the district. None of my family members are currently working in, or a student at, any of the schools included in the study.

Each relationship I created with the participants working in this study was established
using appropriate and professional methods. The anonymous link to the survey was posted or emailed to the teachers in each district after I completed a research study request and received approval from the Associate Superintendent or Superintendent. This assured that the research conducted was considered beneficial to each district and that there would be no perceived risk to any person involved.

In all qualitative research, all biases must be stated and transparent (Creswell, 2007). This is a complicated task. In the case of my research, three main researcher biases seem relevant. First, I realize that I believe rubrics have the potential to serve as equitable assessment tools, as well as motivational tools for learning. My belief in the potential positive implications that the purposeful use of rubrics could elicit in students, is important in this study. In order to mediate this bias, I have asked open-ended questions and avoided implying that there is a correct answer to any of the questions posed.

Another bias that is relevant to the study is that I believe that a lack of shared language often thwarts the potential of educational tools. Experientially, as a teacher and professor, I have felt frustrated in conversations and meetings where I could tell that people were using the same language to describe totally different things. My research study asked the participants to define their terms. As such, my bias, that a lack of shared terminology often limits professional growth, should be included as a part of this study. In order to prevent this bias from impacting my results, I have had the interview participants review my results and verify that my analysis correctly reflected their definitions in context.

Finally, I hold the belief that all content knowledge can be learned through a constructivist approach, regardless of the subject area. In my own work as a middle school teacher, as well as my work as a professor teaching methods of education, I push against the
notion that science or math should be taught as a series of steps, or that language arts or social studies should be composed of lists of vocabulary words. Instead, I advocate for performance tasks authentic to students’ lives. This is a bias. That bias could relate to questions about connections between the use and definition of rubrics and a teacher’s content area. It may also be reflected in the findings with regard to ideas around the nature of knowledge and knowing in each content area. To address this bias, I have consistently checked for alternative explanations during the analysis of the data, to ensure that my own preconceived notions have not clouded the truth.

Criteria for Selecting Participants

The study began with a ten to twenty minute electronic Qualtrics survey. Any secondary core-discipline teacher interested in participating was accepted as a survey participant. In order to ensure that all participating teachers were secondary language arts, science, social studies or mathematics teachers, two identifying questions were used at the beginning of the survey to indicate each teacher’s grade level and subject area. Teachers who did not meet the set criteria were immediately transitioned to the end of the survey and thanked for their time.

The survey was made available to 337 teachers who met the set criteria. This sample size was chosen as a way to access the ideas and beliefs of many voices in a bounded system. The interviews were conducted on four participants, one from each core content area. This was an appropriate number. “There is not a set number of cases. Typically, however, the researcher chooses no more than four or five cases” (Creswell, 2007, p. 76). All volunteers were sorted by their content area and assigned a numeral. Using an online numeral randomizer, I contacted the first number generated from each content area.
Data Collection Procedures

The survey was made available at the discretion of the school districts for approximately four weeks. This amount of time was sufficient to collect an appropriate sample. The survey data was particularly useful in this study, as it provided direction for the questions created for the interview. The survey data did not serve as empirical evidence, but rather a broader view of what could be learned from this study. Looking for connections in frequency use among teachers of specific content areas gave me an understanding of how these local schools are utilizing rubrics. Further, the open-ended questions offered the opportunity to code for themes and then use these major themes to write probing questions that led to connections between a secondary teacher’s content area and the ways that they use and define rubrics. The survey is available in Appendix A.

The interviews were conducted in the location most convenient for the participant. Each interview was recorded using an iPad and then transcribed by the researcher using trint.com (Automated Transcription of Audio and Video, Powered by AI, n.d.). Each participant was asked the same questions. Variations on follow-up questions were used, based on the responses of the participants as a way to clarify a statement or to follow-up on a new idea of theme that emerged. The interview guide questions helped the researcher to understand each teacher’s use of rubrics, their definition of the set purpose, and the context of their understanding.

Data Analysis

Analysis of the data was done in two parts. First, the surveys were collected and coded based on patterns that emerged from the survey responses. Coding is the process of disaggregating data into small and more manageable segments and then naming those segments (Schwandt, 2001). I used both pre-set and emerging codes to explore the
conceptual framework, but also to follow the data in whichever direction it pointed (Gibbs, 2007). This process helped to illuminate patterns that emerged. In order to produce the most accurate analysis, I needed to be mindful of my biases:

Perhaps the three most troublesome tendencies to be aware of in coding are (a) the tendency to code largely at the descriptive level rather than to code for the purposes of explaining or developing an understanding of ‘what’s going on here’; (b) the tendency to think of coding as a mechanical, straightforward, algorithmic process, thereby ignoring the prior conceptualization and theoretical understanding that are involved; and (c) the tendency to regard codes or categories as ‘fixes’ or unchanging labels, thereby ignoring their organic, dynamic character. (Schwandt, 2001, p. 27)

Coding involves a certain objectivity toward the data, but also the understanding that the interpretation of the data is of most critical importance. This places the research both inside and outside of the process. Keeping this balance was at the forefront of my mind.

Thematic analysis was used throughout the analysis. Thematic analysis is a method for identifying patterns within the data (Braun & Clarke, 2006). Thematic analysis allows the researcher to take a broad reading of the data and analyze it to find emerging themes. As set by Braun and Clarke (2006), I followed the six-stage process for thematic analysis; stage one: data familiarization, stage two: generating initial codes, stage three: searching for themes, stage four: reviewing themes, stage five: defining and naming themes and stage six: producing the report (pp. 87-93). I used these steps as guidelines, remembering that thematic analysis is not a linear method, but a complex and reciprocal approach that develops over time.

For the purpose of this research study, the only discrepant cases that could occur
would have to do with a teacher misidentifying the grade level of content area in which they teach. Two checks were put in place with regard to the survey. Information was included in the letter of consent and also two questions were immediately posed asking the participants to identify the grade level and content area in which they teach. In the interview, I had the participants state the grade and subject they taught during the previous semester. This ensured that all participants met the criteria of the study.

Methods to Address Trustworthiness

In a qualitative study, a lot depends on the perspective of the researcher and the biases that they hold. Certain methods can be used to enhance the reliability of the analysis. Trustworthiness criteria, such as credibility, transferability, dependability and confirmability are used for judging the quality or goodness of qualitative inquiry (Lincoln & Guba, 1985). The credibility and trustworthiness of this study were enhanced through a process called member checking. Member checking enhances the reliability of a study by asking one or more of the participants to review the accuracy of the research analysis report (Fraenkel, Wallen & Hyun, 2015). By sharing the research findings and obtaining feedback from those interviewed, I was able to ensure that I did not misrepresent any of their ideas, nor misunderstand any unfamiliar contextual elements or vocabulary terms. This is an integral part of the process, as it establishes the truth of the research study’s findings.

Conclusion

The goal of this chapter is to outline the research methods I have employed and explain how they can be used to answer the research questions I have posed. A constructivist case study methodology will be used to explore connections between a secondary teacher’s content area the ways they use and define rubrics. Immersing myself in the research literacy has helped me employ recommended practices and procedures that will provide the most
impactful data for this research.
CHAPTER 4. FINDINGS

The purpose of this research study was to explore any connections between a secondary teacher’s content area and the ways they use and define rubrics. Initially, it was my work as a classroom teacher and literacy coach that helped me see certain disparities in how teachers of different content areas viewed the purpose of their assessments. In my experience, assessments were valuable in providing specific information about a student’s knowledge, but only when they were balanced with the type of relationship that allowed for the interpretation of such data with respect to the individual. Further, the point of assessment in a constructivist classroom is as a strategic planning tool for a path forward. I was motivated to investigate this particular topic because it speaks to a connection between content area and purpose in assessment; whether to evaluate content knowledge or to enable construction of knowledge.

The methodological approach matches these goals, giving voice to teachers as they discuss their use of rubrics and their assigned purpose for this assessment tool. Using a qualitative survey gave breadth to the data, while interviews gave depth. My questions sought answers that could give teachers the opportunity to describe their intentions with rubrics, further signifying their beliefs about the nature of knowledge and knowing in their content areas.

To be transparent in my role as the researcher, some factors emerged that should be shared. Although I have not participated in any professional roles in the secondary schools that were sampled in this study, as an Assistant Professor of education at a university near the two school districts, I have met, worked with, and even taught some of the teachers of these districts. Of the four teachers, selected through random stratified sampling methods, I had a
past professional relationship with two of them. One I knew as a student in my disciplinary literacy course. This past relationship made our conversation easy, but also may have pushed the participant to try to please me in some way. I did not see the student attempt to tie any responses back to work we had done together in our past experiences. The other known participant had introduced himself to me when he saw me present at a national convention on multicultural education. I am not sure if he remembered me out of context. Nothing from the interview suggested that his answers were influenced by our past relationship.

Having completed the design of the study, chapter four provided the data necessary for discerning important themes that were used for analysis. After distributing, collecting, and analyzing the survey results, I was able to conduct four interviews. The survey results were used to write interview questions integral to the key population included in the interviews. The interviews were interpreted for themes and organized for analysis. The organization of this chapter is done chronologically, focusing first on the survey results and creation of interview questions, then the interview findings, the resulting themes and finally the concluding summary of the chapter results. I hope that the results of this study can be used to clarify academic language, seek best practices for educational assessment, and inform further research into ways that rubrics are currently being used and defined in classrooms.

**Survey Process**

The process for data collection began with the distribution of surveys to secondary language arts, mathematics, science and social studies teachers in three regionally-based school districts. The purpose of these surveys was to seek out information about the use and contextual understanding of different rubrics inside each of the four core disciplines. This information was used to write the interview questions posed to one teacher from each content-specific discipline. By tracking the results gathered in the survey, the subsequent
interview questions removed any bias of researcher and instead, focus on the lines of thought created by the study participants. In an attempt to help teachers think about the ways that they use and define different rubrics, the survey questions asked teacher’s to look at two different ways of categorizing rubrics; as analytic or holistic, and as task-specific or generic. Analytic rubrics divide a product into essential components or traits, and a separate score is given for each trait. Holistic rubrics give a single score or rating for an entire product or performance based on overall impression of a student’s work. Task-specific rubrics can be used only for one particular task or assignment. A generic rubric can be used to evaluate similar tasks. In using generic rubrics, the evaluation criteria will be very broad, but able to be used across multiple projects. All four types of rubrics can be used effectively to achieve different means.

In generating questions that asked teachers to consider which types of rubrics they use more often, the intention was to enhance the depth of the description for why these rubrics were chosen and the purpose they served for these teachers. In each instance, the questions asked teachers to consider why they used a certain type of rubric more than another. A culminating question was written to determine teachers’ perceptions about how influential rubrics are to student academic success and why that might be. The survey questions were generated to explore teachers’ ideas around four research questions:

1. What purpose, if any, do rubrics serve in your classroom?
2. What are the benefits and limitations associated with the use of rubrics?
3. When, in the course of the project, do you give the students access to the rubric? Why?
4. Have rubrics impacted the reliability of scoring projects and performances? How do you know?

Two school districts consented to participation in the survey portion of the study. In the first district, the Associate Superintendent placed the anonymous link with a survey description attached on the district employee page. When logging into their system computers, teachers in this district were able to see the link and read the attached description. In the survey, teachers had to self-select the grade level they taught the previous semester, ensuring that only secondary teachers would participate in this survey. The survey was made available to the first district on February 4th, 2019 through April 19th, 2019. In the second district, the Superintendent sent the anonymous hyperlink via direct email to every secondary teacher in the district. Again, teachers self-selected their grade level and area of discipline to establish that they met the set criteria for inclusion in the research study. The survey was made available to the second district on March 8th, 2019 through April 19th, 2019.

The survey was created, distributed, and recorded using Qualtrics software. All respondents’ information was collected and could be sorted by participant, by question number or by discipline. Using each participant’s self-selection as a language arts, mathematics, science or social studies teacher, the data was organized to look for patterns and trends. Approximately 300 teachers were invited to participate in the survey. 73 teachers signed on to take the survey. 51 of those teachers self-selected as sixth through twelfth grade teachers of one of the core subject areas included in this study.
Table 1. *Participants categorized by disciplinary content area*

<table>
<thead>
<tr>
<th>Discipline</th>
<th>Number of Participants</th>
</tr>
</thead>
<tbody>
<tr>
<td>Science</td>
<td>9</td>
</tr>
<tr>
<td>Social Studies</td>
<td>9</td>
</tr>
<tr>
<td>Math</td>
<td>14</td>
</tr>
<tr>
<td>Language Arts</td>
<td>19</td>
</tr>
</tbody>
</table>

*Secondary Science Teachers’ Survey Responses*

Nine of the 51 survey participants identified as science teachers. Six out of nine of these teachers indicated their belief that rubrics are either very influential or extremely influential to student academic success. Many of the science teacher wrote about the ways rubrics match their commitment to using proficiency scales and standards-based grading. This grading philosophy eliminates letter grades and instead focuses on specific feedback for students with regard to the learning standard they are studying. These proficiency scales are rubrics that emphasize evidence of conceptual understanding rather than task performance. One teacher wrote:

Rubrics go beyond assessing student’s performance and work. I think that rubrics are necessary for each standard and major assignment for students to understand and work toward the learning targets. I use rubrics forms [sic] like proficiency scales to help students take more ownership through their own progression of the learning targets. The rubrics and scales provided a guided plan to what they need to know, what will be tested on, and what skills/knowledge they will become proficient in. The rubrics and scales are also important for structuring my classroom lessons from the
standards and design formative/summative assessments for each unit. I use rubrics and scales to determine a lesson’s goals, allow for student tracking, and to help students be proficient in the learning targets for a particular standard. I believe that rubrics and scales enhance how I plan my lessons and also determine what is critical content for all my assignments. By having rubrics and proficiency scales, I create more meaningful content lesson and assessments that more accurately assess student knowledge and understanding within the standard’s learning targets and skill.

Many teachers have moved to standards-based grading as research continues to confirm the overwhelming benefits of this system. Marzano (2006) wrote, “Standards-based assessment has the potential to dramatically enhance student achievement because of the specificity and timeliness of feedback” (p. 143). Some of the science teachers in this region have adopted standards-based grading as their assessment tool.

Some of the science teachers wrote about limitations to the use of rubrics in their classrooms. One teacher worried that rubrics were oversimplifying things for students. He wrote, “If given to students ahead of time, it reduces higher level thinking and allows students to just ‘find’ answers.” Another teacher worried that the academic language of the proficiency scales doesn’t work for all students. She wrote:

I think that rubrics can be very influential depending on their use and student access. Right now, we are using a lot of rubrics with our students, but some are not easily understood by all of our diverse learners. For example, the proficiency scales that are being used are based directly off of the standards – to make them understandable we are re-writing some of the standards in more student-friendly language, but this is not perfect. For my ‘high-flyers’ these rubrics are extremely influential to their success.
because they can easily read and utilize the information on the rubrics. For students who struggle in school, the constant push to proficiency, or a score of three on our Proficiency Scale rubrics becomes daunting and many of these students don’t believe that they will ever get to the goal of a three. I do believe that rubrics help students understand how they are being assessed and rubrics allow educators to be more transparent about exactly what students need to understand.

This teacher pointed out the important benefits of rubrics, but also the importance of language choice when creating these rubrics. Without a clear understanding of the terms, the students could not benefit from the detailed descriptions and quality feedback. These responses helped me create interview questions that followed up benefits and challenges of creating rubrics that would enhance the academic development of all students.

**Secondary Social Studies Teachers’ Survey Responses**

Out of the 51 survey participants, nine were social studies teachers. Of the four disciplines, the survey results showed that social studies teachers were least likely to value rubrics as influential to student academic success. Some of the benefits listed to using rubrics included clarity of guidelines, specific scoring structures, and opportunity to encourage student self-reflection of their own work. One teacher wrote:

I use them for projects; along with a self-reflection before and after students turn them in. I like to go over the rubric before submission and then allow students a chance to make corrections to their project based on their self-reflection. They know exactly what is expected of them and what to look for. I only do one project per quarter as they end up being a lot of outside work for 7th graders.

Some of the limitations that social studies teachers wrote about the impact of using rubrics in
their classrooms included limiting the students’ creative thinking, confusion and lack of interest or utilization of the rubrics. One social studies teacher wrote, “Some kids never actually read the rubric. They only seem to care about the grade on a task, rather than where they land on the rubric.” Another teacher wrote, “Many students today want to know exactly what is expected of them. They are less inclined to infer things and think ‘outside the box,’ over just working to a rubric.” These statements led to one of my interview questions inquiring specifically about how the use of rubrics in the classroom might limit teachers or students.

Secondary Mathematics Teachers’ Survey Responses

Fourteen of the 51 survey participants were mathematics teachers. This group, when asked how influential rubrics are to student academic success, did not have any responses indicating the extremes of “not at all influential” or “extremely influential”. Instead, this group fell very much in the middle. Many teachers brought up both the challenges and the benefits of using rubrics in the classroom. Some of the benefits included clarity of feedback, clarity of expectations, and quality definitions that help students see how to improve their work. One teacher wrote, “I think if the rubrics are well-made, they can point the student to specific mistakes.” Clarity was a major focus of the responses of mathematics participants.

Almost all of the teachers described the positive and negative impacts of rubrics with regard to grades. One teacher wrote, “Students don’t care about the rubric. They care about their grade.” Another wrote, “Typically, the rubrics I use specifically state/relate to what it would take to earn exemplary scores on work – my students seem genuinely interested in performing well.” Even teachers focused on the benefits of clarity, still related this to grade measurement. One wrote, “Rubrics can be influential because students know ahead of time
what is expected and/or what is necessary for a given score.” This is an interesting
distinction, as it conveys the way that mathematics content is often seen as objectively
correct or incorrect, making grading very clear. These statements let me know that teachers
who were committed to using rubrics were concerned that this assessment tool wouldn’t
align with traditional methods of grading. They helped me write interview questions that
asked about how this changed the ways students interacted with the class content.

**Secondary Language Arts Teachers’ Survey Responses**

Nineteen of the 51 survey participants were language arts teachers. Similar to the
mathematics teachers, when asked how influential rubrics are to student academic success,
they did not have any responses indicating the extremes of “not at all influential” or
“extremely influential”. The benefits most commonly stated focused on clarity in scoring,
clarity in student expectations, opportunities for students to reflect on their work, and as a
way to provide quality feedback. One teacher wrote, “I think rubrics can be very influential if
written in a way students understand. If a student understands the expectation of an
assignment, they are more able to meet or exceed the expectation.” Another teacher wrote, “I
think it is nice for students to know what is expected of them. It is also nice for them to have
something to look at and compare their work to.” Many teachers shared these same potential
benefits.

At the same time, many teachers cautioned that some rubrics are far less useful than
others, depending on how they are used. One teacher wrote, “A good teacher gives good
feedback – good rubrics do not make good teachers or good feedback all by themselves.”
Another teacher wrote, “They have the potential of being very influential because it provides
direct, specific feedback to the student. However, that is completely dependent on the
student’s use of and reflection of the feedback provided.” Some teachers indicated that certain groups of students seemed to benefit more than others. One teacher wrote, “It depends on the class. My AP students use them for reflection and peer-editing, but my regular English 4 only want to see a numerical grade.” These specific statements, warning that rubrics are not a “silver bullet” seem indicative of a systemic frustration. This was flushed out in the interview by asking questions about how students appeared to respond to the rubrics.

**Summary of Survey Themes**

These survey results were analyzed and coded thematically. Eighteen initial codes were identified during the first stage of the thematic analysis of the open-ended survey question responses. Four key themes were identified from these initial codes: benefits, limitations, purposes, and potential application as a learning tool. A mind-map depiction of the themes is presented in FIGURE 1. The mind map of survey themes derived from initial codes.

The initial codes and themes that emerged led to the creation of interview questions that reflected the current definitions and use of rubrics in language arts, mathematics, social studies and science classrooms. The data from the survey demonstrated that teachers across all four disciplines held predominantly positive perceptions about the use of rubrics in their classroom. Benefits, such as increased reliability, efficiency of grading, and clarity to the teacher’s purpose were all benefits that emerged thematically across all areas of discipline. One limitation that emerged in only the language arts teachers’ surveys focused on the potential limitation to students’ academic language. Another discrepancy that emerged was that some teachers in all four subject areas described rubrics as though they were writing them personally, while others described rubrics as something that was provided for them by someone else. This led to specific questioning about where rubrics come from, as well as the
pros and cons to creating rubrics personally. Overall, the four major emerging themes of benefits, limitations, purpose and function as a learning tool guided the creation of each question asked in the interview.

Figure 1. *Map of survey themes derived from initial codes*

Interview Process

Built upon the themes established from the survey research, the follow-up interview questions asked participants to elaborate on their use of rubrics in general, holistic and
analytical, task-specific and generic rubrics in their classrooms. Specific questions were asked to each interview subject about correlations to their content area and the types of rubrics they used. Questions about which students benefit the most, how they know, and why they think that is were also asked. Their own experiences using and creating rubrics were directly questioned, as were their ideas about when students should gain access to the rubric and any drawbacks that they have experienced using rubrics. Finally, participants were asked where and when they were originally taught about rubrics and whether they have participated in learning about rubrics in professional development in-service activities or Professional Learning Communities (PLCs) within their district or otherwise. These questions helped me hear the stories of participants using and defining rubrics in context. The interview guide (Table 2) includes the questions asked to each participant.

Table 2. Interview guide

<table>
<thead>
<tr>
<th>Question</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Would you mind stating your name and the school you teach in?</td>
</tr>
<tr>
<td>2. Would you describe the grade and content of the classes you taught last semester?</td>
</tr>
<tr>
<td>3. Do you use rubrics in your classroom?</td>
</tr>
<tr>
<td>What purpose do rubrics serve?</td>
</tr>
<tr>
<td>When do you give your students access to the rubric?</td>
</tr>
<tr>
<td>Do you believe that using rubrics enhances the reliability of teacher scoring?</td>
</tr>
<tr>
<td>4. How influential are rubrics to student academic success?</td>
</tr>
<tr>
<td>Which students do you see benefiting the most from this?</td>
</tr>
<tr>
<td>How do you know?</td>
</tr>
<tr>
<td>Question</td>
</tr>
<tr>
<td>-------------------------------------------------------------------------</td>
</tr>
<tr>
<td>Why do you think that is?</td>
</tr>
<tr>
<td>5. Are there any drawbacks to using rubrics?</td>
</tr>
<tr>
<td>For the teacher?</td>
</tr>
<tr>
<td>For the students?</td>
</tr>
<tr>
<td>6. Where and when were you first taught about rubrics?</td>
</tr>
<tr>
<td>Are they ever a part of school PLCs?</td>
</tr>
<tr>
<td>Are they ever a part of district PD?</td>
</tr>
<tr>
<td>7. Here is an example of an analytic and holistic rubric (see Appendix A). Which do you use most often?</td>
</tr>
<tr>
<td>Why do you think that is?</td>
</tr>
<tr>
<td>Is there a relationship between your subject area and the types of rubrics you use?</td>
</tr>
<tr>
<td>8. Here is an example of a task-specific and generic rubric (see Appendix A). Which do you use most often?</td>
</tr>
<tr>
<td>Why do you think that is?</td>
</tr>
<tr>
<td>Is there a relationship between your subject area and the types of rubrics you use?</td>
</tr>
<tr>
<td>9. How many times last semester did you create your own rubric to use in your class?</td>
</tr>
<tr>
<td>What are the benefits to creating your own rubric?</td>
</tr>
<tr>
<td>What are the challenges to creating your own rubric?</td>
</tr>
<tr>
<td>10. How many times last semester did you use a rubric provided to you?</td>
</tr>
<tr>
<td>Where did the rubric come from?</td>
</tr>
<tr>
<td>What are the benefits to using a rubric that has provided by your school district or the textbook company?</td>
</tr>
<tr>
<td>11. Is there anything else that you would like to add with regard to the use of different</td>
</tr>
</tbody>
</table>
To select four interview participants that reflected each content area, I categorized my data by subject and checked to see how many survey responders had volunteered to participate in a follow-up interview. Then, volunteers from each content area group were listed chronologically by the date they had participated in the survey. This was done to ensure that the same process for sample selection was used for all participants. An electronic random number generator was used with limits of one to the number of participants. As the random number generator listed the numbers, an order was chosen for who would be contacted first for a follow-up interview. The first participant contacted in language arts, mathematics, science and social studies each agreed to meet with me for a follow-up interview. The interviews were conducted in the classroom of each individual teacher during their planning period or after school in late May and early June 2019.

Interviews were recorded using HD Audio Recorder software on an iPad. These recordings were sent to Google Drive and uploaded to trint.com for transcription. Through a process of reading and rereading the transcriptions while listening to the audio recording, accuracy was ensured. Handwritten notes and journaling were used to conduct a thematic analysis of the data. All information was locked securely in password-encoded technology or in a locked office.

**Description of the Sample**

The purpose of the sample description is to offer more detailed information about each participant. This is useful, as generalization is seldom objective. The description added here may be more important than the general information previously supplied. The secondary science teacher, referred to as Science Teacher, is a second-year teacher in her school district.
As a woman teaching upper level science courses, she has participated significantly in the last two years in helping to establish a standards-based grading program to be utilized throughout the district.

The secondary social studies teacher, referred to as Social Studies Teacher, is a sixteen-year veteran. She described her passion for social studies as “giving kids a chance to really think about the world they live in.” She has also participated on a team of social studies teachers to create a district-wide learning path and set of common assessment materials.

The secondary mathematics teacher, referred to as Mathematics Teacher, is in his second year of teaching. As a male upper level math teacher, he has been working to establish a standards-based grading program to be utilized throughout the district. Some of the courses he teaches are not taught by anyone else in the district, giving him significant control over his curriculum and assessments.

The secondary language arts teacher, referred to as Language Arts Teacher, is an eleven-year veteran teacher, currently teaching classes focused on writing. He described his favorite part of teaching as, “a chance to help students use their voices to be powerful in the world.” He has taught in several schools in the district.

**Research Methodology Applied to the Data Analysis**

Qualitative research seeks to hear stories and infer their meaning in context. Listening to the experiences, opinions, and ideologies described by these four teachers offered an opportunity to uncover patterns and themes that underlie their pedagogical and philosophical beliefs. Through the process of thematic coding, the data came together in new and meaningful ways.

During my own interpretation process, my experience as a former middle school
teacher informed my understanding of the participants’ stories. To convey the participants’ perceptions of their experiences accurately, I focused specifically on what they were saying, the conclusions they drew, and their intentions for future practice. The themes that emerged from this study came directly from my awareness of the healthy tension between my own biases and the participants’ own meaning-making processes.

Member checking was used to establish the trustworthiness of this study. Each interview participant was given access to the portion of the findings relating to their statements to make sure that their statements were understood correctly and in the right context. Each participant confirmed that what has been written in the findings accurately reflects what they said, as well as what they meant.

**Presentation of Data and Results of the Analysis**

The results of this study seek out connections between a secondary teacher’s content area and the ways that they use and define rubrics. The questions were designed to follow-up on themes that emerged from the survey data analysis. An analysis of each participant’s responses has been categorized into the original four research questions: 1) What purpose, if any, do rubrics serve in your classroom? 2) What are the benefits and limitations associated with rubrics? 3) When do you give students access to the rubrics? Why? And, 4) What impact have you seen to the reliability of your scoring? How do you know?

**Science Teacher Interview Responses**

The science teacher described her purpose for using rubrics in her class as helping her facilitate excellent instruction. She wrote, “I use rubrics to help match up my instruction and my assessments. You use it so that you can match your assignment to how you plan to evaluate it. So that you’ve got consistency.” She went on to say, “I want to make sure the
rubric matches up, not only with my students’ learning, what they need to know, but also how I teach it; my instructional purposes.” These statements reflect her use of rubrics as an assessment to inform instruction. She also looked at rubrics as a way to help her differentiate instruction. She stated:

Rubrics are a good way to make sure things are being taught that need to be taught and I think also to check your own teaching and instruction, as well. I think rubrics are a good skill for re-teaching, so when you collect your data, how many kids are still at a level two? So, you can use those rubrics almost as data to see where you need to go from there.

As a teacher committed to standards-based teaching, she felt that rubrics functioned as a way to establish strong lesson planning and focused on student achievement of the learning target.

The science teacher described the use of rubrics as advantageous to the learning process for a variety of reasons. She said, “My instruction is more meaningful. The kids are growing a lot more in the learning process itself. I have had better test scores than another teacher in the building teaching the same thing with traditional teaching without rubrics.” These benefits were significant for this teacher. When asked about limitations to students, she stated, “I don’t know if there’s drawbacks to using rubrics, but I have a lot of positives.” She did note some of the challenges associated with creating rubrics. She explained:

It takes a lot of time and takes effort to be smart. If you want to create something, you need to know exactly. You need to plan out your instruction and your assessments so they match correctly. So, even with some basic assessments I do Backwards Design. Like, what’s the standard? What are the learning goals that we need to get to? And then, how does the rubric match up with that assessment?
For her, time and energy was a factor in creating useful rubrics. When asked to consider using pre-made rubrics, she struggled to imagine that being particularly useful to her students. She stated:

If someone just gave a rubric, I don’t know how it would fit in. If someone gave me a general rubric for like a lab report, I would still want to tweak it to make sure that I’m teaching to the rubric. I don’t want to be different than the rubric or have things that my kids don’t like.

This teacher indicated that for a rubric to be useful, it has to match the teacher’s views and language explicitly. Otherwise, a disconnect might prevent it from being useful to the teacher or the student. Again, this speaks to the time and energy that she felt must be spent on creating rubrics useful for guiding instruction and providing meaningful learning experiences.

Whether generic or task-specific in nature, the science teacher always provided the rubric to the students at the beginning of the unit or task. She said, “I use a generic rubric for our learning path. They get it at the beginning of the unit and then we use that same rubric throughout for multiple assignments.” She also stated, “We have more test-based or assignment-based rubrics and they get that at the beginning of the project or assessment.”

The science teacher indicated that her purpose in this was to clearly communicate her expectations and her learning objectives to her students. In speaking about who benefits from the use of rubrics in the classroom, she stated:

I’ve just noticed that lower level students, with the path, they know exactly where they need to be to succeed and they know exactly what they need to get done to be successful. And, so I see them that it’s almost like they can achieve it. It’s not just like
these random points and percents [sic]. And, so I just see that the lower end kids are doing way better this semester.

The clarity of expectations and scoring procedures offered by access to the rubric at the beginning of the unit, enabled her lower performing students to reach higher levels of success.

The science teacher only made one response with regard to reliability, but it spoke to her deep self-reflection within this space. She explained:

I don’t know if this is bad, but I just feel like we can have biases. We have been discussing this a lot this year, because we have something called performance tasks for units. They’re like a central learning outcome. And, our district is coming out with them for every unit they would like. But, we’ve done four this year and I just feel like there’s biases between teachers. And, you might be like, ‘Great. I’m more rigid for grades,’ or ‘I’m more lenient.’ And, so the rubrics I think help, at least for keeping every kid without bias and seeing what they’re doing exactly. So, that’s been a big key for us. That way, for me, they keep me in check, but I also really like them because I can evaluate where the kid is. So my general rubric I have, I can evaluate the kid at the beginning - where he is on the rubric – versus where he ends up after the unit is done.

Teacher bias can be a huge problem in the reliability of non-standardized assessments. This teacher uses rubrics to reduce these biases and improve the overall reliability of her scoring.

Social Studies Teacher Interview Responses

The social studies teacher described four different purposes for using rubrics in the classroom. Producing clear expectations was important to the teacher. She said, “I think
probably the biggest thing is that the kids know what I’m looking for. And, I don’t have to say it. Their parents can see it. I mean, I post it in the classroom for them and so it just kind of answers a lot of questions for them.” Later in the interview she repeated this idea saying, “It’s for clarity for your students and their parents.” The social studies teacher also used rubrics to improve her grading. She stated, “Honestly, selfishly, I think it makes grading easier for me.” She also explained how a good rubric could help her students understand their grades more clearly. She explained, “Some of them can go through that rubric, boom, boom, boom, and they can almost predict what their grade is going to be. They’re not surprised when they get their grade.” She also chose to use rubrics because they helped her give specific feedback about different facets of big project or assignment. She stated:

I think, at least at this level, with this age, the things I’m looking for are sometimes very different. Maybe I’m old fashioned, but if they’re writing a paper for me, there’s always mechanics or conventions or whatever you want to call it. And, I’ll put things on there like sentence structure, you know, some of those language arts things. I take them right off the language arts rubric and put it on here. And so, then I think it would be kind of hard sometimes to mesh those together because sometimes their ideas are really good, but maybe their conventions are lacking a little. So, I want them to see that their conventions need work, but their ideas are strong and they’re thinking about the social studies stuff. But, I think it’s good to have the language arts stuff on there. This belief that there are many facets that add value to a project or assignment is examined again as she talks about her preference for analytic rubrics. She stated:

The work we’ve done in social studies has become so skill-based. I think it just lends itself to say, here’s the skill. It’s very specific, what we want you to be able to do. I
think, sometimes, soft skills maybe lend us more to a holistic one. But when it’s content, I think it lends us to analytic because then we can help the kids really see where their weakness is. Rather than a holistic one, where you can’t specify.

Lastly, she talked about the purpose of rubrics as helping show a student’s growth over time. She stated, “I like generic rubrics because our skills stay the same throughout the year even as our content changes.” She explained this more completely later in the interview saying:

We try to use our content to teach the skills. So, really what we want kids to do is interpret new information. Can you interpret the main idea? Well, that could be on anything I give you. It could be a cartoon, it could be a quote, it could whatever. And so, again, I think the generic rubric kind of works better because then we just have the same rubric. And, then the kids can see, actually we’re doing this next week. The kids can see how they’ve grown across the year.

Giving students an assessment that could show growth over long spaces of time was something that the social studies spoke about extensively.

The social studies teacher indicated one of the benefits to using rubrics as having a clear scoring guide for students. She stated:

My high flyers want to get the points. You know, that’s what drives them. So, I think they are probably the ones that like it the most. They want to know what their grade is going to be because they’re very concerned about it.

She went on to talk about the ways that rubrics can make grading more efficient. She explained, “Rubrics are a lot of work upfront, but I think it pays off. Then, you know, when you sit down to grade 120 papers, it’s nice to have a roadmap to tell you.” These benefits to scoring efficiency and reliability were stated multiple times.
She also talked about how using rubrics is beneficial because it gives her the flexibility to include very specific criterion across multiple curriculums for a project. She stated:

I think sometimes it’s nice to have flexibility. I will take rows and build my own rubric based on what I want to see. So again, the kids have seen that row in language arts and now they’re seeing the same row, the same terminology, right in social studies. I mean, it’s like Legos. I can kind of pick which pieces I want.

She spoke often about the ways that rubrics allowed students to see their growth over time in multiple contexts.

The social studies teacher spoke about many limitations to using rubrics, both for herself as the teacher and for the students as learners. One of the challenges of using rubrics was described as an inability to get the students to use them. She stated:

I think I have some kids who don’t even look at the rubric. This rubric says, I want three similarities and one difference and then they don’t give that to me. And, I’m like, well what can I do? It’s on the rubric.

She also worried that certain groups of students might look at the rubric but wouldn’t be motivated to attain a high score. She said, “The kids on the lower end of the spectrum, I mean they might look at what’s expected, but I don’t know that it drives them to meet that proficient line on the rubric, necessarily.” It is hard to value a rubric that isn’t being utilized by both the teacher and student effectively. She also talked about the difficulties associated with qualifying levels of success on a three-point rubric. She stated:

I think the hard part is really delineating what is a one and what is a two and what is a three? You’re like, ‘Yeah, but what would the middle look like? What would the two
look like or the partially proficient?’ So, that’s what I think is sometimes hard is just kind of delineating it so that the kids will understand why they got a two versus why they got a three.

Clarity in expectations was an important aspect of rubrics in the social studies teacher’s classroom.

The social studies teacher indicated in multiple responses that she uses mostly generic rubrics in her classroom so that they can be used to monitor progress with social studies skills over time. She stated:

We have some that we use the same rubric all year. So, I just post it in the classroom. It’s there all year. Here’s the rubric we use for big ideas, or whatever. So they have it, if not before I assign it, the day I assign it grades.

This comment shows that she often gives the students access to a rubric multiple times, sometimes before they begin their work, but also sometimes not until the day she scores them.

The social studies teacher explained that all of the district teachers of her grade level and discipline use the same rubrics. She said, “And, I think it also helps me be more in line with my course, so like, people across the district. Because we all just use the same rubric. And, so I think it’s kind of helped me.” She elaborated about the process of a district-wide rubric system. She stated:

All of the (grade level) social studies teachers across the district, we get together.

And, sometimes it’s just a one-line rubric. Here’s a quick reading prompt, but here’s what we’re looking for in this one little five sentences. Here’s what you want to see. But we all use the same thing and we have it in a shared drive and if we want to
change it we discuss it all together.

She went on to describe the work she has done with her PLC to improve the reliability of scoring across the district. She explained:

Then, sometimes we’ll get together and say, ‘Okay. These are my papers. Where would you have put them on the rubric?’ So, we can kind of get the continuity, too. Or, someone will read a prompt, you know a student response, and then we all just hold up our fingers to see if we’re all kind of looking for the same thing so that we have that continuity across the district.

She also described how this process of talking about scoring rubrics together has helped her gain confidence in her scoring. She stated:

So, it’s kind of reassuring that I’m not super easy on the kids and I’m not being super mean on the kids. We kind of all fall about the same and sometimes there’s a little variation, but then we just say, “Okay, so why did you give it a two? What else are you hoping they’d have?” We can kind of lock in what exactly we want the kids to come up with.

Improved reliability was clearly something focused on by her and her department throughout the district.

**Mathematics Teacher Interview Responses**

The mathematics teacher indicated two main purposes for using rubrics in his classroom. Like the science teacher, he was changing over to standards-based grading. He described his utilization of rubrics, stating:

I rate from a one, which is below proficient, all the way up to a four, which is advanced proficient. And, that’ll ultimately give them what grade they get overall.
And then in algebra, we have what are called essential learning outcomes and each of those have a rubric from one to four. Again, kind of not yet, all the way up to advanced proficient.

He explained that this transition was new and that in the past he had mainly used rubrics for projects. He said, “I use rubrics primarily when it comes to projects, but I’m trying to implement more as we move toward a standards-based grading.” He also described his purpose for using rubrics as a way to differentiate instruction. When asked about who benefits the most from the use of rubrics, he stated:

On the high achieving end, some of those students go into a class thinking, ‘Hey, I know everything. I don’t really need to pay attention.’ But sometimes they are at that three and not at that four, that high achieving level right away. So, it shows them that even though they know a lot, they don’t know everything. So, there’s still room for improvement. But then, on the low end, as well. Obviously, they’re seeing more rapid and more frequent growth.

Regardless of the starting place, rubrics help to show students they can continue to grow academically. He described how using rubrics has changed his purpose in grading assignments to look for that growth. He stated:

Differentiating rubrics is not really that much work on my end. I’m surprised because my homework assignments, I can have different level questions and I don’t necessarily do homework grades for correctness. I do it more for, are you proficient at this level? Or, can you make it to level two, level three and so on? So, it’s more of a progress check than anything.

The complexity of his shift in thinking away from correctness toward progress checking
comes up throughout the interview.

Some of the benefits indicated by the math teacher included a rubric’s inclination toward a growth mindset, as well as an analytic rubric’s usefulness in scoring multi-step problems. About growth mindset, he states, “It shows more of a growth mindset instead of just, you’re wrong or you’re right.” An example of this is given as he described his ability to rubric score a multi-step problem. He explained:

I think math is very task oriented. So, it’s easy to kind of narrow in on exactly what they need to do. I could see a holistic rubric being really useful in a language arts setting where it’s a little more fluid, but like I said, math is a little more objective in content. So, I think with analytic you’re able to outline exactly what you need to be able to do. If you’re trying to solve a quadratic equation, maybe you’re really good at factoring, but you can’t actually solve to find what the solutions are. So, there’s like separate tasks within the overall task. And, I think this analytic rubric would be helpful in scoring each of those individually.

These benefits speak to the math teacher’s ideas about the nature of knowledge and knowing within the mathematics curriculum.

The limitations to using rubrics included the time and energy necessarily to create rubrics, along with a mismatch between college entry requirements and a standards-based grading approach. About the time and energy, he stated:

When you are first getting things started like I am, it can be a lot of work on the front end. But again, you can modify and use that baseline as you go into further years. Once I get more into it, the differentiating may become more laborsome on my end. But, at the same time, once you have it the first couple of years, you get it down. You
The math teacher was clear in his statement that he believed that amount of time and energy needed to produce excellent rubrics would diminish over time. The mismatch between the traditional college admissions requirements and a new grading procedure came up as a limitation to the use of rubrics in the classroom. He explained:

One thing that worries me with going towards a standards-based, which is very rubric heavy, grading is that ultimately, I think the colleges are going to look for that A, B, or C grade or the 90%, 80%. Personally, I’ve not quite mastered how to balance the two. Because, we’re kind of on this one to four scale, but I’m so used to a zero to one hundred scale. So, I guess for me personally, that is a drawback.

The math teacher later elaborated that the district was moving to standards-based grading so the colleges would have to find a way to make it work. This is an interesting idea about the limitations to using rubrics in the classroom.

The math teacher made two statements about when and how students could access the rubric. First, he stated, “I give them to them right at the start of the project. And, that way they can know what is expected.” Later in the interview he reiterated, “I give that to them right at the start of the project. And, that way they can look. This is what I need to get to show I really know what I’m talking about.” In both statements, the math teacher indicated that the students should have access to the rubric as soon as possible so that they can use it as a learning tool that makes expectations and academic language clear.

In comparison to the previous year when he did not use rubrics, the math teacher felt that these assessments have done a lot to improve the reliability of his scoring. He stated:

I am a lot more consistent with my grading. Because, I’m sure even looking back at
last year’s tests – I didn’t use a lot of rubrics – I’m sure if I put two very similar answers side by side, I may have given one a different grade than another. And, where using a rubric come in handy is that you’re going to be consistent no matter what.

He also talked about how he believes his scorer reliability will improve as he grows in experience. He explained:

I’m the only teacher that teaches this class. For the others, I can kind of cater them to what I’ve seen in past years. But for this class, I’ve only got one year to base it off of. But, when it comes to distinguishing between a three and a four, a proficient and advanced proficient, I have a better idea because of what I saw last year that might distinguish the two groups. Maybe not necessarily on the low end but thinking about what it actually means to be advanced. So, a benefit, I can use prior knowledge to kind of cater my rubrics for this year and for next year and years to come, if that makes sense.

Thinking about how his experience impacted the way he was interpreting rubrics also led to a conversation about how a more experienced teacher might disagree with his scoring. He said:

This is my second year, so what I think is proficient may not align with what other math teachers think is proficient. It’s also, if you’re doing everything on your own without the input of higher math courses, maybe they expect that students know more going into the subject than what you think they should know.

The math teacher went on to explain that the use of PLCs in his school district to increase reliability across the district was making a significant impact.


**Language Arts Teacher Interview Responses**

The language arts teacher explained the benefits that come with using rubrics in a classroom including the explanation of academic language and the application of specific feedback. About academic language, he stated, “I know what I’m after and they’ve heard my language I’m using that language in the rubric and they’re at least familiar with what I’m asking them to do and the terminology I’m using.” He explained the importance of using academic language on the rubric and in his teaching, saying:

I think if it’s done properly, a rubric can be sort of a wealth of information for the student. They are reminded of the things that it’s a repetition of the instruction that they’ve been given before. Feedback is always given in some kind of code, right? And, that rubric provides some kind of a code-cracking guide for the students.

The use of quality indicators could make improve every student’s understanding of the academic language.

Limitations stated by the language arts teacher included a frustration with the use of labels. He stated:

The students come into my class at all different levels and I don’t want to tell a kid who’s really working hard and making progress that, ‘Sorry, you have limited proficiency,’ if they’ve worked hard and made progress in that area.

He also described the potential fallout of poorly written or utilized rubrics. He explained, “A rubric, standing alone, can’t provide them the kind of feedback that I would like to be able to provide them.” Later, when talking about holistic rubrics he elaborated, stating:

If I only give rubric feedback, you know, there’s still some concern that they might, especially, I’ve seen these holistic rubrics, you know? There’s like these 55 different
things and then you’re supposed to rate them one, two, three or four. And, I don’t know how that helps a kid figure things out. That doesn’t do very much for a student, I don’t think. So, if the teacher sort of relies on that as a way to simplify their work, then, yes, that’s going to be a problem for the student.

In this way, quality of feedback was expressed as both a concern and a limitation depending on the type of rubric and the way it was used.

The language arts teacher explained that he always creates his rubric before he teaches a unit, using Backward Design, but that he does not usually give the students the rubric at the beginning of the unit. He stated:

So, I guess I give it to them in pieces. I don’t necessarily give them the rubric before the unit. I create the rubric before the unit, but they, as we go through many lessons or whatever, as I instruct, then I’ll show them the different components of what I expect from that different part of the assignment. And, then before they do a final draft, they’ll look closely at a rubric, essentially. They are called revision checklists at that stage, because that’s how they’re using it.

He also explained the ways that students use the rubric to self-score. He explained:

I give students the revision checklist, but also, after the assignment is over – a couple days later – I want them to reflect on their own performance and evaluate themselves. And I guess, in that respect, I guess I ask them to use a more generic rubric. I don’t know why. I think probably, actually, I don’t think they have the patience to go through as detailed a look at their own work as I am wanting to do with their work. So, I ask some more free-form questions that allow them to say, you know, what do you think you did well in this assignment? What do you think you need to work on?
And, I say, ‘Here are some things that you might reference.’ But that feels more like a
generic rubric, I guess, then. But it’s one that they do for themselves, so it’s not
necessarily for me.

This same belief that students must reflect on the feedback to maximize academic growth
was reflected when he said:

Students who are willing to go back to their work and dig in again benefit the most
from rubrics. And, I don’t know how to describe that group. It’s not always the kids
who are, you know, most motivated to complete all of their assignments, right? And,
it’s also not always the students are the best students. Some students I think do a good
job of looking at their feedback and thinking about it even though they haven’t maybe
done the best job on the assignment. They’re very curious to see how they stack up.

In the end, he hoped that students would not simply perform in a way that met the
expectations of the rubric, but truly try to utilize the feedback to progress in their writing

skills.

The language arts teacher indicated that rubrics could improve reliability of scoring,
but that there were both positive and negative aspects to that. He described the powerful
impact that rubrics can have on communication and how that improves reliability of scoring,
but also of interpretation of that score. He stated:

I think that rubrics can be useful in terms of helping both teachers and students
communicate with each other about the teacher’s expectations, as well as how the
students are meeting the expectations. And then, the students can see very – if the
rubric is well-designed – you know this particular component. How did I do this?

He also explained how his professional learning community has worked to establish
reliability in grading across the district. He explained:

In the past, I think we have spent a lot of time in PLCs kind of digging into our rubrics and comparing how we grade students and the kind of feedback that we give students and comparing how different students across different cases are doing with the same rubric on the same assignment.

In a past job, though, he indicated that standardization of rubrics across a school or district could be limiting to the students’ acquisition of language. He stated:

A school-wide rubric might create a common language between different grades so that students get familiar with language. But I also push against that for a couple of reasons. One, our school is big enough that we don’t have an opportunity to build consensus about what really matters. I often will disagree with, you know… This was a while ago, but at a different school, people talked about writing a sentence that included the main idea or something like that. And, I was like, ‘It’s a thesis.’ This is what I would call this in the paper and I’m going to call it a thesis because that’s what I think you’ll hear the most going forward. And I think you need to understand the concept of a thesis. Main idea seems a little simplified and basic. So, I think there’s perhaps, some value in it, but I also think that sometimes students need to be exposed to different ways of hearing the same things so that they have a more complex understanding of things, not just an understanding of how to operate within the system.

This limitation is something the language arts teacher considered as a potential detriment, in spite of the fact that it could lead to higher inter-rater reliability.

**Resulting Themes**

The purpose of this research was to explore any connections between a secondary
teacher’s content area and the ways they use and define rubrics. By asking teachers to consider how and when they use these different forms of rubrics, they were pushed to justify these choices with elaborating statements. In unearthing the ways that teachers use and identify rubrics, professional learning communities may expand upon and reconstruct possible ways to improve upon the academic success of all students. Furthermore, this research may serve to help individual teachers be more specific in the ways that they think about the potential for rubrics within their discipline. By comparing the results of different studies, in relation to different parameters such as content area or variety of rubric (holistic or analytic, task-specific or generic) it may influence the ways that language arts, mathematics, science, and social studies secondary teachers use and define rubrics in their classrooms.

This research project was based on the following four research questions:

1. What purpose, if any, do rubrics serve in your classroom?
2. What are the benefits and limitations associated with the use of rubrics?
3. When, in the course of the project, do you give the students access to the rubric? Why?
4. Have rubrics impacted the reliability of scoring projects and performances? How do you know?

The four research questions were answered in the collection of the interview data. The major findings have been presented in this chapter. They are organized by the following analytic categories:

1. Set purpose for using rubrics in the classroom
2. Stated benefits and limitations associated with the use of rubrics
3. Set schedule for giving students access to the rubric
4. Perceived impact on reliability

These analytic categories mirror the four research questions and were used to code the data. Using thematic analysis, concepts and themes emerged from the data within and across the categories.

**Analytic Category 1: Set Purpose for Using Rubrics in the Classroom**

The first research question sought to investigate what purpose, if any, rubrics serve in classroom of each content area teacher. Some of the teachers interviewed described their purpose in relation to their practice. For instance, the science and mathematics teachers described their purposes for using rubrics as helping facilitate excellent instruction through careful alignment between lessons and goals, differentiation for students at multiple levels, and increased focus on each student’s achievement of the learning target. The social studies teacher felt that the purpose of rubrics was as a communication tool that could clearly convey expectations, as well as provide feedback about skills used across content units. The language arts teacher looked at the purpose dually, thinking about how they are used to drive his instruction, and also to provide feedback, critical to student academic growth. Data collected from the first research question also helped the researcher uncover how exactly teachers of different content areas were using rubrics in their classroom. Their purpose often uncovered their procedure.

**Analytic Category 2: Stated Benefits and Limitations Associated with the Use of Rubrics**

The second research questions looked for perceived benefits and limitations associated with the use of rubrics in their classrooms. The science teacher listed the major benefits she associated with using rubrics as inspiring more meaningful instruction and
student academic growth as evidenced by motivation to participate, movement toward the learning target, and even higher district test scores. The social studies teacher also talked about the benefit to having a clear alignment between assessments and expectations. She described the importance of showing students how they could improve their skills in multiple contexts over time. She also appreciated that rubrics increased her efficiency in grading faster. The mathematics teacher spoke extensively to the ways that rubrics lent to the students participating with a growth mindset. He also felt that multi-step math problems could be scored efficiently, while providing sufficient feedback for learners. Finally, the language arts teacher perceived the major benefit to using rubrics in his classroom by emphasizing their ability to give students extensive feedback that could be used to improve various elements of quality in writing. He also discussed the ways rubrics can contextualize academic language in important ways.

In terms of limitations, the science teacher described the creation of rubrics as taking a lot of time and energy. She also discussed how being forced to use a rubric she did not create would negatively impact the alignment between her lesson plans and her assessments, as there may be a discrepancy in academic language and values. The social studies teacher worried that students would not even read the rubrics, nullifying their effects. The difficulty in creating rubrics that included sufficiently clear levels of expectations was also a limitation that she had experienced. The mathematics teacher elaborated on the time and energy requirements to creating good rubrics. He also discussed the mismatch between using rubrics in a standards-based approach, with college admissions requirements that focus on grade point average. He was unsure how this mismatch would be resolved. The language arts teacher emphasized that rubrics still place a label on the learner and that this could be a
significant limitation. He also described the danger of using poorly written or utilized rubrics as providing even less feedback than a more traditional model.

**Analytic Category 3: Set Schedule for Giving Students Access to the Rubric**

The third research question revealed when teachers gave students access to the rubric. This helped to uncover more about their procedure with using and creating rubrics. Both the mathematics and science teachers described always giving students access to the rubric at the beginning of the unit or task. They both discussed their desire to clearly communicate expectations and learning objectives to the students. The science teacher went on to elaborate that she believes this process enables her lower performing students to reach higher levels of academic rigor and success. The social studies and language arts teachers described different instances that would require rubrics to be passed out at different times. For overarching skills, the social studies teacher said that the students would be introduced to a rubric focused on the skill at the beginning of the year, and then have constant access to that same rubric all year. Other times, however, she would keep the rubric to use as a scoring guide, not revealing it until after she had completed scoring the assessment. The language arts teacher often gave the rubric to the students at the beginning of the project as a tool to communicate expectations and values. He also worried, though, that a rubric could be constricting to students. In this way, he would sometimes keep the rubric from the students throughout most of the writing process and then give them the rubric towards the end so that they could self-score before submitting their published work.

**Analytic Category 4: Perceived impact on reliability**

The fourth research question asked students about how the use of rubrics has, or has not, impacted the reliability of their scoring. Although clearly a subjective perception, this
question seeks to uncover how teachers value and measure reliability of their assessments. The science teacher described reliability as a way to thwart teacher bias. She felt that rubrics let her evaluate a student’s progress using very carefully designed elements of quality that eliminated her and her colleague’s teacher biases. The social studies teacher talked extensively about how common rubrics helped to ensure a reliability in grading across all social studies teachers in her district. She valued the work she had done within her department to group score certain assignments. She felt that this process helped her make sure her expectations were on par with other teachers in her field. The mathematics teacher felt that the reliability of his scoring had improved since he began his implementation of rubrics. He also felt that as he gained experience, the reliability of his scoring would increase even more. The language arts teacher felt that rubrics could certainly improve the reliability of scoring, but he worried about the impact that this standardization might have on learning. He explained that common rubrics could improve reliability among the teachers in a building or district, but that maybe a student’s ability to differentiate their writing based on the requirements or values of the teacher could be a positive for students, as they would be considerably more flexible in their thinking and writing.

**Conclusion**

This chapter presents the findings of the survey and interviews conducted to uncover any connections between a secondary teacher’s content area and the ways they use and define rubrics. The results of this study showed that the majority of secondary teachers in all four content areas are using rubrics in their classrooms. As districts shift to standards-based assessments, rubrics are actually becoming the norm in some classrooms. The purpose assigned to these rubrics spans from the improvement of teaching to the efficiency of grading. A more nuanced discussion about the set purpose and design of these rubrics has
opened up some different perspectives on the benefits and limitations of these variations. Benefits included increased student academic achievement and increased feedback to students, while limitations focused on time and energy consumption. The decision for when teachers gave students the rubrics was closely connected the purpose that they assign to the use of rubrics. Finally, all teachers felt that the reliability of their scoring had increased when they implemented the use of rubrics in their classrooms.

Using a reciprocal approach of constructing and deconstructing knowledge in context through thematic analysis of the responses of the participants, Chapter Five will shed light on any connections between a secondary teacher’s content area and the ways they use and define rubrics. The interpretation of findings, implications for social change, recommendations for action, recommendations for further study and reflection on the research process will also be discussed.
CHAPTER 5. DISCUSSION

Summary of Results

This study was conducted with the goal of answering the question: what is the relationship between a secondary teacher’s content area and the ways that they identify and use rubrics? Data discovered in this study created a picture of how teachers of different content areas within the northern Midwest region are currently utilizing and defining rubrics in their classroom. It may also tell us something about how these teachers think about the nature of knowledge and knowing in the context of their discipline and with relation to their state standards. This information can provide fodder for a deeper conversation among educators on the ways we think about the nature of knowledge within our content area, as well as offer the opportunity to critically analyze the precision and efficiency with which valuable assessment contributes to student academic success. This study also reveals the opportunity for teachers to consider the purpose of rubrics in their classroom, how they are shared and implemented, and finally how they have impacted the reliability of scoring projects and performances within their subject.

This research project began with a qualitative survey, meant to gather content area-specific information from a larger sample. Data from these surveys was analyzed for emerging themes that served as the basis for the follow-up interview questions. These interviews included one secondary teacher from each of the four core disciplines; mathematics, language arts, science and social studies. Teachers were asked questions geared toward the elaboration of their ideas about the purpose rubrics serve, the benefits and limitations associated with the use of rubrics in the classroom, their ideas about when students should have access to the rubric, and the ways they have seen rubrics affect the
reliability of their scoring. These questions unearthed a wealth of information about district-wide moves away from traditional grading methods, as well as provocative discussions about differences in beliefs about the nature of knowledge and knowing as it pertains to different content areas. More than anything the findings show that the educational purpose set by the teacher is connected to the ways they use and define rubrics in their classroom. Further studies would be necessary to determine whether this is directly related to the discipline of the teacher.

Conclusions Based on the Results

Conclusion 1: A teacher’s purpose for using rubrics is connected to the benefits and limitations they associate with it.

From each interview, teachers were asked specific and indirect questions that gave the participants the opportunity to share their intended purpose for using rubrics in their classroom. Both the science and the language arts teachers spoke specifically about using the data from rubrics to guide their future instruction in way that would support the academic growth of all of their students. Both teachers described using the data taken from the rubrics to reflect on the effectiveness of their lesson planning, to see where students are and consider what is needed to help all students develop their skills and to consider which lessons should be retaught.

The benefits that the science and language arts teachers associated with the use of rubrics in the classroom included many similarities. More meaningful instruction, clear explanation of expectations and the ability to give specific and significant feedback to students were all described as resulting from the use of rubrics with their students. These benefits speak to the teachers’ views that the students and teacher work together in a learning
community where the communication of values and ideas is key. These benefits also imply that these teachers believe it is their job to facilitate instruction in such a way that all students achieve academic success.

One of the challenges described by the science and language arts teachers focused on their frustrations with what they described as either poorly made rubrics, or rubrics created by an outside source. For the language arts teacher, poorly made rubrics were a huge source of frustration. He described these as holistic rubrics with fifty-five criterion and a four-point scale. He stated, “I don’t know how that helps a kid figure things out. That doesn’t do very much for a student, I don’t think.” This reinforces his previously stated purpose that focused on specific feedback, clear communication and an opportunity to use data to guide instruction. When the rubric became too vague, he could not see its purpose.

The science teacher spoke about how difficult it would be for her to use a rubric that she did not have any input in making. She talked about the disconnect she felt if the rubric was not specific to her own views about student learning or if it did not communicate using the language she uses in class. She stated:

If someone gave me a general rubric for like a lab report, I would still want to tweak it to make sure that I’m teaching to the rubric. I don’t want to be different than the rubric or have things that my kids don’t like.

Again, this speaks to her beliefs about clear communication and expectations being critical to student growth. It also supports the way she conveys her purpose for using rubrics as both a learning tool and an assessment piece for guiding instruction.

The math and social studies teachers also described the purpose for using rubrics in their classrooms as providing clear expectations and feedback, but these were explained in
the context of providing grades for students. This may seem like a small difference, but there is a significant variance between using rubrics to guide instruction versus using rubrics effectively and efficiently to provide feedback to students about grades. In both cases, teachers are working to help students develop and succeed. It has more to do with the onus of responsibility; the teaching philosophy of those involved. The mathematics and social studies teachers give students clear expectations with the intention of providing them every opportunity to succeed on an assignment, thus scoring well on the rubric. The science and language arts teachers clearly communicate expectations and then use the rubrics to evaluate what more they need to do with instruction that will facilitate student growth.

The teacher of mathematics described the benefits associated with using rubrics in his classroom as creating a much more growth minded learning environment. He stated, “I think probably the biggest thing when it comes to success of students is that more often now they are more comfortable making mistakes. And, I think for me personally, that’s been a huge part of learning in general.” He described his appreciation for analytical rubrics, in that he could score each piece of a multi-step problem separately, enabling students to score credit for each step instead of for only the correct final answer. He also described the importance of being able to differentiate homework assignments and rubrics to fit the current abilities of all students. These benefits align with his beliefs about the purpose of rubrics. He could see the frustration that students felt when receiving a grade based on only the final answer to a multi-step question. He stated:

(With rubrics) they see that they’re growing. Maybe not as fast they want. Maybe not to the level of their friend, but personally they’re making growth. So, I think for them individually they’re seeing more success. And ultimately at the end of the unit they
know more and they’re willing to reflect on their mistakes instead of just giving up. Rubrics gave him the opportunity to provide specific feedback about each step of the process and enhanced his students’ motivation to try.

Constraints described by the mathematics teacher included his concern that the new system for standards-based assessment may not match up with college admissions requirements. He stated:

The one thing that kind of worries me with going towards a standards-based, which is very rubric heavy, grading is that ultimately, I think the colleges are going to look for that A, B, C grade or the 90%, 80%. Personally, I’ve not quite mastered how to balance the two. Because we’ re kind of on this one to four scale, but I’m so used to that zero to 100 scale. So, I guess for me personally, that’s a drawback.

This statement matches the purpose that he has set for using rubrics in the classroom. He appreciates the value in focusing on student growth, but also sees his professional responsibility to assess students. In the past, a traditional model has emphasized ranking students based on grades and then offering more opportunities for college admission or scholarships to students with excellent marks. The rubric system of standards-based assessment does not clearly parallel that system.

The interview with the social studies teacher revealed her purpose for using rubrics as a way to provide clear expectations, specific feedback, and to ensure grading efficiency and clarity so complete that students and families would have no question about the objectivity of the grading. She also described how almost all of her rubrics were created in district teams and organized as analytic and generic formats with the intention of being used over and over in many units. She described:
Our skills stay the same throughout the year even as our content changes. We try to use our content to teach the skills. So really what we want kids to do is interpret new information. So, can you interpret the main idea? Well, that could be on anything I give you. Could be a cartoon, it could be a quote, it could be adapted, whatever. And so, again, I think the generic one kind of works better because then we just have the same rubric. And, then the kids can see, actually we’re doing this next week. The kids can see how they’ve grown across the year. It’s the same skill like interpreting visual representations. But we used it for the Revolution. We used it for the Civil War. We used it for expansion. I mean we used it for all the different content. And, so I might be looking for different main ideas, but the skill is still main idea.

Her purpose is to help students see their growth over time by using the same rubric in multiple contexts. She does not talk about using this to change her instruction. Instead, she describes providing accurate feedback to show how progress could be made next time.

The benefits that she associates with using rubrics in the classroom were focused on grading efficiency and the way the rubric makes clear the expectations in a way that students won’t be surprised by or complain about their earned score. By having clear rubrics for grading, students would be in the best position for growth, as they would have a clear path toward quality and completeness. This matches her purpose for using rubrics.

The limitations that the social studies teacher talked about also connect to her purpose. First, she described her students as refusing to use the rubrics. She said that this was not an issue for her high achieving students, but the rubrics had done nothing to motivate low performing students. This made me wonder if she was using rubrics solely as a scoring guide, and not at all as a learning tool. For instance, if the same generic rubric is used without any
other feedback specific to the assignment, students may feel unable to improve their skills. One drawback to generic rubrics is that they are limited in the specificity of their feedback and therefore less focused on utility for the students (Wiggins, 1998). This ties back to her primary purpose of showing growth over time, as her frustration is that many students are not showing the development. Another limitation she talked about was how difficult it could be to qualify levels of proficiency using a rubric. She said:

I think the hard part is really delineating what is a 1 and what is a 2 and what is a 3? What’s the difference? And, sometimes it’s really easy to do the one end and the other end and then you’re like, ‘Yeah, but what would the middle look like? What would the 2 look like? Or the partially proficient?’ So, that’s what I think is sometimes hard is just kind of delineating it so that the kids will understand why they got a 2 versus why they got a 3.

Again, this ties to her purpose for using rubric, in that it signifies her desire to give very specific feedback that promotes student growth. This quote may also be significant to the nature of the social studies content benchmarks, discussed later in this chapter.

The limitations and benefits associated with the use of rubrics tied directly to their purpose for each teacher interviewed. These limitations and benefits can be better understood in the context of the subject area, as state standards and benchmarks are more or less content specific than others. In this way, it was difficult for the mathematics teacher to engage the rubric in a way that sought out critical thinking and was used primarily to signify success on different pieces to a multi-step problem. In social studies, the teacher used generic rubrics in multiple contexts to determine success on disciplinary literacy skills like determining importance, summarizing, making connections, and visualizing. Alternatively, she would
have needed to attach levels of quality to knowing or not knowing the major people and events of the Civil War. Can that really be qualified in a meaningful way?

Overall, the teachers whose purpose for using rubrics was to guide their instruction and communicate their goals with their students shared the belief that specific feedback based on personally constructed rubrics would positively impact student academic achievement. These same teachers had more concerns about the potential harmful effects of using rubrics that require standardization of work or that gave generic feedback that would be useless to the students. Teachers whose purpose for using rubrics was to show student growth over time and create excellent scoring guides had more concerns about student motivation and grade translation. These same teachers valued rubrics for their ability to provide feedback analytically and to provide clarity in the grading process.

*Conclusion 2: There is a connection between the state content standards and the ways that rubrics are used and defined in that discipline.*

All of the teachers interviewed described using rubrics to assess skills that reflected the state standards for their grade. Referring to them as learning targets, ELOs (Educational Learning Objectives) or benchmarks, all teachers felt that their professional responsibilities were tied to these state standards. Each set of standards, though, has been created distinctly. The amount of content required to be taught in each discipline is very different. Marzano (2006) wrote, “As powerful as the standards movement has been in the United States, it has probably generated as many problems as it has solutions. One of the most glaring is that standards documents articulate an inordinate amount of content” (p. 13). This is particularly true in mathematics, where a study on U.S. math textbooks showed that they attempt to cover 175 percent as many topics as do German textbooks and about 350 percent as many topics as
Japanese textbooks in a school year (Marzano, 2006). The rubrics that teachers use in their classrooms are tied to state standards, changing the purpose and style to match.

This was confirmed in the interview with the mathematics instructor, who explained how he had written ten rubrics for one of his classes to match each of the ten ELOs for the class. He also explained that an additional four rubrics were created by all of the math teachers in his department to look for student proficiency within the benchmarks. When describing his teaching he stated:

It's (math is) very task oriented. So, it's easy to kind of narrow in on exactly what they need to do. I could see this (holistic rubric) being really useful in a language arts setting where it's a little more fluid, but like I said, math is a little more objective in content. So, I think here you're able to outline exactly what you need to be able to do.

In this way, the mathematics teacher used analytic rubrics to function in his classroom in a way that gives feedback to each student, specific enough to help them see what they did correctly and what they missed. This kind of rubric also allows the teacher to move to the next subject, while still looking for improvement in specific skills for each student. This made analytic and task-specific rubrics effective for matching the mathematics standards.

Social studies benchmarks in the Midwestern states are much more content specific than in mathematics, language arts or science (Au, p. 7). When Common Core national standards were created in other subject areas, social studies did not create such a curriculum. Instead, the Common Core State Standards for Literacy in Social Studies/History (National Governors Association Center for Best Practices & Council of Chief State School Officers, 2010) were created, which treated social studies as a vehicle for disciplinary literacy instruction. Au (2013) described them:
A striking aspect of the Social Studies/History CCSS is that they essentially exchange the pure content of previous era’s ossified standards for a new focus on pure skills. While existing content-focused social studies/history standards have never been particularly good, in exchanging pure content in favor of pure skills, as my *Rethinking Schools* colleague, Bill Bigelow, remarked in conversation, the CCSS for Literacy in Social Studies/History literally take the ‘social’ out of the ‘social studies.’ (p. 7)

In the learning of civics, economics, geography and history, it can be very difficult to get a group of scholars to agree on what should be included in the curriculum. Disciplinary literacy skills like interpreting complex texts, giving evidence to support claims, and looking for relationships between events or people has been easier to adopt into each state’s curriculum regardless of content specifics.

This was described, in part, by the social studies teacher interviewed. She started by explaining the shift from content-focused to skills-focused standards and how that has impacted the assessments her department used. As she described her reasons for using more analytic than holistic rubrics, she stated:

I would say that most of us use this kind of analytic rubric. The work we’ve done in social studies has become so skill based. I think it just lends itself to say, here’s the skill. It’s very specific what we want you to be able to do.

She emphasized this again when she described using primarily generic rubrics. She explained:

And, so you can use the same generic rubric all year. This one (task-specific rubric), you’d have to make it new every time, because our content changes all the time. But
the skills are consistent. So, I feel like we kind of put our emphasis on the part that is consistent the whole time.

Clearly, there is a connection between the ways that the state standards are written and how teachers are using and defining rubrics in their content areas.

The science curriculum has also changed in the last decade, expanding from a set of standards focused primarily on specific content knowledge to including the scientific process and practices. These Next Generation Science Standards include what a student should know, and also what a student should be able to do. Wilson (2013) described them:

The Next Generation Science Standards (NGSS) press for a vision of science teaching that emphasizes students’ active engagement in genuine scientific problems, a commitment to ‘less is more,’ and an approach to make science appealing to all students. Of central importance are scientific practices and the integration of students’ learning of core disciplinary concepts with active engagement in doing science.

New science curricula have taken an integrated approach to teaching where students learn the content and experiment with the content at the same time. This gives students the opportunity to construct their own knowledge through the process.

In the interview with the science teacher, she explained how she uses both holistic and analytic rubrics in her teaching and that they each serve a different motive. When asked whether she used holistic or analytic rubrics more often she stated:

I think maybe more often I’m using the holistic one because of the proficiency scales. Because, the proficiency scales I use on every single assessment. But I’m using analytical on things like projects; bigger formative assessments. Like, if we have a lab. We do tons of labs, but on an everyday thing, we use the holistic.
As she described the ways she used rubrics, she explained using two separate types of rubrics; holistic for checking content knowledge and analytic for assessing projects and labs. This accurately reflects the way the Next Generation Science Standards have been written.

The Common Core English Language Arts Standards were created in 2010 and adopted or partially adopted by states across the nation. Similar to the goals of the science standards, those creating the standards wanted to teach content knowledge and also ask students to participate in reading analysis, writing, listening and speaking. This active construction of knowledge was set as a criterion before the standards were even created.

Taken from the Common Core State Standards Initiative website, the criteria included:

- Provide sufficient guidance for the design of curricula and instructional materials.
- The standards must be reasonable in scope, instructionally manageable, and promote depth of understanding. The standards will not prescribe how they are taught and learned but will allow teachers flexibility to teach the students to learn in various instructionally relevant contexts. (Common Core State Standards Initiative Standards-Setting Criteria, p. 2)

This criterion exemplifies the constructivist approach to teaching content knowledge alongside project-based learning in a way that encourages students to explore and create their own knowledge in a context that is relevant to them.

The language arts teacher spoke about how he used rubrics to facilitate growth in writing. He talked about using generic rubrics when he wanted to offer students more choice, but always using analytic rubrics so that he was giving specific feedback that would be useful to student growth. One thing that he said that stuck out was related to the subjectivity of his discipline in comparison to other subjects. He stated:
Writing can be quite subjective. But I can see where math, you know, if they know how to do the problem or they don’t. I mean there’s, there’s a lot more, sort of, there’s a lot less gray area in other content areas, I think.

This statement reflects the Common Core ELA Standards, as it shows the freedom that the teachers and students have to move around within the benchmarks. The teacher makes this statement as though it may have something to do with the nature of knowledge and knowing in writing, but I wonder if that belief is held because the standards were written to allow for subjectivity. Mathematics is often described as a language. Why doesn’t this teacher think of math as subjective?

Each teacher interviewed uses rubrics for purposes that align directly to the standards that they teach. Each set of standards has been written at different times and with different criterion in mind. This study concludes that mathematics, language arts, social studies and science secondary teachers use and define rubrics in their classroom in connection with the nature of knowledge and knowing conveyed through the standards.

**Comparison of the Findings with the Framework and Previous Literature**

In comparing these findings with the review of the literature, it is clear that there is significant agreement between the benefits and limitations associated with rubrics, a rubric's intended purpose, ideas around student access to rubrics, and the best conditions for enhanced reliability of rubric scoring. All four teachers interviewed shared that they felt some major benefits of using rubrics included their ability to clearly communicate expectations and student progress. These teachers also described the major challenge associated with creating and using rubrics as being time consuming. The math teacher also discussed the difficulty in transitioning rubric scores to grades. This matches with the
With regard to a teacher’s purpose in using rubrics, the literature review focused on the movement from assessment of rote memorization skills to the assessment of performance of tasks. The four interviewed teachers did speak to this shift. More specifically, though, the coding of the transcripts uncovered an important distinction between teachers whose purpose for rubrics resided in their ability to teach effectively to individual students, versus a desire to accurately assess and score student progress with regard to the benchmark. None of the four teachers spoke to the value of rote memorization skills.

**Implications for Social Change**

When considering when and how students should receive access to the rubric, there was both agreement and conflicting ideas between the teachers interviewed and the literature review. A review of the literature indicated that rubrics could be used both formatively and summatively, as well as shared early or saved until scoring. This was also described by the interviewed teachers. The literature review also shed light on the value of allowing students to participate in the creation of the rubrics, adding authenticity and cultural relevance to the assessment tool. The teachers interviewed did not talk about creating rubrics with students. Instead, many created their rubrics with their content area colleagues across the district, adding some standardization to the process. The language arts teacher described his frustration with the idea of standardizing a rubric across the district, indicating that writing, in particular, is subjective and should be assessed that way. All of the interviewed teachers made it clear that giving students access to the rubric early would clarify expectations, as well as improve communication.

The literature review describes some of the pitfalls to reliability that exist in the form of leniency errors and severity errors, and the impact that each scorer’s level of content
knowledge plays on interrater reliability. The four teachers described these issues somewhat differently. Where the science teacher described her concern with using a rubric she did not help create, for fear that she wouldn’t do it justice in her instruction, she also described the importance of collaborating with her peers on the creation of each rubric. The social studies teacher shared her experiences practicing interrater reliability at content area meetings. The language arts teacher shared his belief that the subjectivity of a writing performance makes the assessment of a series of pieces individualized to each learner and reliable across time, not among students. The mathematics teacher described the difficulty in distinguishing between levels of quality, revealing an understanding of both leniency and severity errors.

There is also a subtle mismatch between my original hypothesis and these findings. Originally, I wondered if the language with which the content area benchmarks were written, science and social studies using naming words like, “describe,” “define”, and “explain” and language arts and mathematics standards using action language like, “create”, “solve”, and “draw evidence”, would relate to the ways that teachers used and defined rubrics in their classrooms. This is because levels of quality cannot be written to describe success with rote memorization skills. The findings of this study show that the standards do impact the teacher’s use of definition of rubrics, but that it is not simply the difference in verbs that creates this connection.

The mathematics and social studies teachers design their rubrics to be accurate and effective ways to show student growth and assign grades. In mathematics, the amount of content included in the curriculum connected to his belief that rubrics should be analytic and task-specific. This allowed him to teach and score the most content effectively. The social studies benchmarks have historically been extremely focused on specific pieces of content
information but were transformed under Common Core. The writers of the common
standards could not agree on which information was most important to include, so instead
agreed that all content would be taught using disciplinary literacy skills. These are what are
used for scoring the understanding of social studies content. The social studies teacher
interviewed expressed how this impacted her use of assessment tools, using rubrics that were
both analytic (giving qualifiers for literacy skill development) and generic (able to be used in
many content specific contexts).

The language arts and science teachers used rubrics to give them individual feedback
on student progress, allowing them to design their instruction to meet the needs of their
students. The Next Generation science standards were designed to have students create their
own content knowledge through experiential learning. This connects to the interviewed
science teacher’s description of using both analytic and holistic rubrics, depending on her
goal. For the assessment of content knowledge, she used a holistic rubric. I would describe
this as more of a task list. For the assessment of projects and labs, she used analytic rubrics.
The language arts standards were written with the stated goal of being reasonable in scope
and general enough to allow teachers to facilitate learning in context. This aligns with the
interviewed language arts teacher’s description of using generic rubrics to facilitate
opportunities for student choice and analytic rubrics to provide specific feedback for each
student in context.

The purpose of this research project was to look for connections between a secondary
teacher’s content area and the ways that they use and define rubrics in their classrooms. For
the wider field of professional educators using rubrics, it sheds light on the impact that our
teaching objectives have on the ways we think about the nature of knowing and knowledge in
our content areas. By asking teachers to define their terms and to share their beliefs about the purpose that rubrics serve, two connections have been found, a tie between the way a teacher defines the purpose of rubrics to the benefits and limitations they assign to these tools and a tie between the teaching standards and the ways teachers define and use rubrics in their classrooms. These connections serve to deepen the conversation around pedagogy within and across disciplines, requiring educators to consider the nature of their subject and a continued shift away from rote memorization into significantly deeper and more challenging levels of critical thinking.

**Interpretation of Findings**

Undoubtedly, these conclusions combine in an important way. When a teacher experiences benefits and limitations that correlate with their set purpose, and that purpose is motivated by the nature of knowledge and knowing created by the state standards, it becomes clear that if we change the state standards it will affect the pedagogy of every content area. On a five-point Likert scale where teachers of different content areas were asked how influential do you believe rubrics are to student academic success, I looked to see what percentage of language arts, mathematics, science and social studies teachers answered in the top two tiers; very influential or extremely influential: 47% of language arts teachers and 67% of science teachers responded in this way. This corresponds with standards that require a student to both know content and be able to create and apply content in authentic ways. This stands in contrast to the survey responses from social studies and mathematics. 25% of math teachers answered in the top two tiers, and none of them believed rubrics were extremely influential. Just less than 13% of social studies teachers answered in the top two tiers, and again, none of them believed rubrics were extremely influential. This corresponds with standards that are not set up to include both content knowledge and authentic
application. Although rubrics have proven to be an extremely valuable tool for increasing student academic success, the mathematics and social studies teachers are not seeing that value in relation to their application to the state standards.

Whereas the language arts curriculum has maintained the need for both content knowledge and authentic application, science has only recently made the move (Wilson, 2013). Even so, the science teacher interviewed had already made a district-wide transition to the use of rubrics for standards-based assessment. Mathematics standards are written in a way that allows for the duality of content knowledge and active construction of knowledge, but the sheer amount of content required removes any opportunity for exploration without fear that some content may be left out. Would switching from a “snapshot” approach to one focused on limited content and depth transition math standards in such a way that active construction of knowledge is the dominant teaching strategy? Two separate sets of social studies standards exist, one focused solely on content standards so dense that they could not be completed in a school year, and another focused completely on disciplinary literacy skills. Would combining these in a meaningful way, while significantly limiting the amount of content knowledge improve student academic success in social studies? Is it possible for social studies to be considered as subjective a subject as language arts, or is it too dangerous to leave open which historical, political, and geographic content gets left out?

It is only fair to point out that it also makes sense, eliminating state standards while improving pedagogical knowledge may also serve to raise student academic achievement across the board. Teaching without standards, though, may significantly and disproportionately impact the standard of education, negatively affecting traditionally marginalized students. Although I believe it is important to trust the teacher, it is also vital to
push a teacher’s knowledge in a way that it encompasses the experiences, values and needs of all students.

**Limitations**

This research study has been conducted completely inside a very small geographical region. Although this choice was made intentionally so that the findings would be more valuable to teaching universities and school districts nearby, it has also limited the generalization of any findings that have resulted from the analysis of the data. This study could be used a template for similar studies in other regions, but the conclusions of this study must be considered in the context of the upper Midwest region of the United States.

Delimitations associated with this study include that only secondary teachers were surveyed and interviewed. Further, teachers from two public school districts in the northwestern Midwest region were selected for this study. Finally, this study included answers from only teachers who self-selected their subject areas as language arts, mathematics, science and social studies. This was done with the intention of narrowing the study to what are commonly considered core teaching subjects, but the researcher can see the potential damage that this delimitation could cause to teachers of other content areas who might feel that this was dismissive or undermining.

**Implications of the Study**

This study serves to fill a gap in the research with regard to what we know about the actual implementation of rubrics in secondary classrooms. Teachers of all four core-subject areas were already using rubrics in their classrooms. Where the science and language arts teachers were using rubrics with the purpose of guiding instruction, the mathematics and social studies teachers were focused on providing a reliable assessment about growth over time. This impacted the benefits and limitations they experienced, with the math and social
studies teachers more concerned about students not using or reading the rubrics at all and the science and language arts teachers worried about the standardization that poorly constructed rubrics can create.

Certainly, this should be a topic of conversation among professional learning communities, both within discipline across district, and including all disciplines inside each school. Giving professionals the opportunity to consider their own pedagogical beliefs and how they can commit to those within their state standards would generate a learning community that could positively impact the academic growth of all students. Further, district administrators who make decisions about curricula should participate in conversations that look for opportunities to rewrite state standards in a way that would benefit all students. Although this study represents a very small sample size, now that we have a better understanding about how teachers in these districts are using rubrics within their discipline, we can look more closely at teachers experiencing success to find ways of encouraging growth for students in every classroom.

The top-down nature of education requires that not only the district policymakers, but also the state and national policymakers be informed about the difference in amounts and classifications of content knowledge within each set of content-area standards. If research shows that constructivist approaches to teaching and learning significantly impact academic success for all students, they may call for a change in the way standards are written to limit the quantity of content included and enhance the authentic application and construction of knowledge for students.

**Recommendations for Future Research**

Numerous possibilities for further study have emerged. First, it would be interesting to conduct a study looking to replicate the conclusions found in this one on a larger scale.
The limitation of the geographic region reduced the study’s generalizability. A larger study could check to see if this is a statewide or even nationwide trend. This could be important to policy makers engaging in the adoption of curricular standards for districts and states.

Expanding the study to include arts, physical education and technical subjects is also a topic that need closer examination. These subjects are equally important in providing a democratic education for our students. Arts and physical education courses include state and national standards. Other technical subjects may not. A study that includes subjects without standards would need additional interviews and possibly the inclusion of specific curriculum maps to uncover all of the ways that rubrics are used in the classroom and the specific purposes they serve.

The ways that a teacher’s philosophical beliefs about responsibility in teaching and learning connects to their use of rubrics has also emerged as a theme of this study. Are students more likely to use rubrics and reflect on their work if the purpose of the rubric is to guide instruction, not to provide a grade? Research that looks at outcomes where a teacher tells students the results will be used to guide instruction, versus having the teacher tell students the results will indicate each individual student’s academic progress, may lend to a deeper understanding of the roles that attribution theory and drive theory plays in student development. Potentially, rubrics focused on providing feedback to the teacher about what students need could change the nature of competition or fixed-mindset in a classroom.

A study that compares district social studies textbooks with the state social studies standards, as well as the content area literacy in the social studies/history standards may bring clarity to a path forward for a constructivist curriculum approach. This study could illuminate what is included and what is being left out in our current teaching curriculum,
expanding our ideas about how to prioritize specific content in a way that is least harmful to all of our citizens.

Finally, a study that allows math teachers to narrow their curriculum and try a pedagogy focused on depth, not breadth, could produce results that might be relevant to this study. Although mathematics standards have been written to include creative application, the sheer quantity of the content knowledge expected for each year reduces the teacher’s ability to allow for experimentation in problem solving. Would math education be different if the pace was slowed down? Many scholars refer to mathematics as a type of language for thinking. If so, could immersion in mathematical thought and experimentation with theory be seen the same as learning a new language, where best practices show that being taught specific words and phrases is significantly less effective than being inundated with the language in natural ways?

**Reflection on the Research Process**

Throughout this process, I had imagined gaining insight into the ways teachers of different subject areas think about the nature of knowledge and knowing within their discipline. I did not, however, anticipate that the standards would so completely reflect these beliefs. This is even more pronounced for me as I compare my experience co-teaching with science teachers with the way science is being taught today. The difference in the standards used then and now is significant, as is the pedagogy ascribed. I do not believe that my preconceived ideas about how science used to be taught impacted this study, although it is possible that my surprise may have been noticeable in the interview.

I have also been extremely moved by the complexity of creating a solution for social studies standards. Nowhere in education does the explicit, implicit and null curriculum feel more important (Flinders, D. Noddings, N & Thornton, S., 2014). Deciding whose
experiences, histories, values and perspectives are shared takes balance that seems too significant to standardize. And yet, without standards, only the stories of the dominant culture will be understood as truth. Focusing on disciplinary literacy strategies allows teachers (or textbooks) to decide what content matters. Clearly this will have both positive and negative effects. Truly, I do not know how to proceed in a way that is not steered by my own social, economic and political agenda.

**Conclusion**

This case study investigated the connections between a secondary teacher’s content area and the ways that they use and define rubrics in their classroom. A total of 51 secondary teachers in language arts, social studies, mathematics and science contributed to a survey exploring teachers’ use of and definitions of rubrics. Follow-up interviews with one teacher from each subject area revealed two conclusions that tied together in an important way. First, a teacher’s purpose for using rubrics is connected to the benefits and limitations they associate with it. The purposes were distinctly different in that one wanted the data from rubrics to guide instruction, while the other wanted the student assessment to indicate growth and produce a meaningful grade. Second, there is a connection between the state content standards and the ways that rubrics are used and defined in that discipline. Only science and language arts standards were created intentionally with the purpose of balancing content information with the authentic construction of knowledge through doing.

Rubrics have enormous potential to provide reliable and valid evaluation, communicate expectations, provide specific feedback and even show potential for closing the opportunity gap for students with learning disabilities, low-socio-economic status, English learners and students of color (Moskal & Leydens, 2000; Marzano, 2002; Kearns, 2011). Students in public school classrooms cannot benefit from the use of rubrics if they are not
being used in ways that both students and teachers find purposeful. Overall, results showed that when we create the standards, they set the pedagogical stage, as well. Until teachers and educational leaders create ways to expand constructivist pedagogy throughout every curriculum, especially social studies and mathematics, student apathy toward academic achievement and growth may diminish, and the use of rubrics may be fruitless.
REFERENCES


Institute.


doi:10.1080/03626784.1986.11075989


doi:10.3200/tsss.100.4.154-159


Scotland, J. (2012). Exploring the philosophical underpinnings of research: Relating ontology and epistemology to the methodology and methods of the scientific, interpretive, and critical research paradigms. *English Language Teaching, 5*(9), 9-16.

doi: 10.5539/elt.v5n9p9


Stiggins, R. & Chappuis, J. (n.d.) Using student-involved classroom assessment to close


APPENDIX A. Qualitative Survey

Letter of Informed Consent

You are invited to participate in a research study conducted by Abigail Bremer, an associate professor in the School for Teaching and Learning. The following information is provided for you to decide whether you wish to participate in the present study. You should be aware that you are free to decide not to participate or to withdraw at any time without affecting your relationship with this department, myself, or the university.

This email includes detailed information on the research to help you decide whether to participate in this interview. Please read it carefully and ask any questions you have before you agree to participate.

Purpose

The purpose of this research project is to look for connections between a secondary teacher’s content area and the frequency with which they use analytic, holistic, task-specific, and generic rubrics. The research will be descriptive in nature, creating a picture of how teachers may use and understand rubrics differently. It is my hope that, in analyzing your experiences that this research may add to the potential future success of professional development in the area of scoring rubrics.

Procedures

Your participation will involve a survey that should take approximately ten to fifteen minutes to complete. A sample of teachers has been chosen to include participants from every content
area.

Do not hesitate to ask any questions about the study either before participating or during the time that you are participating. I will be happy to share the findings with you after the research is completed.

**Risks**

There are no known risks and/or discomforts associated with this study.

**Benefits**

The expected benefits associated with your participation include the new information collected pertaining to relationships between a secondary teacher’s subject area and the frequency with which they use different types of rubrics, and the opportunity to participate in a research study.

**Confidentiality**

I can ensure anonymity in this process. Your name will not be used in published research. I will collect your information through an anonymous hyperlink. This information will be securely stored in a secure computer or locked in a restricted-access office. Information from this study will be kept until July 2020 when all information will be destroyed.

**Voluntary Participation**

Your participation in this research is completely voluntary. If you agree to participate now
and change your mind later, you may withdraw at any time by emailing me at abigail.bremer@mnstate.edu. If you choose to withdraw after I have already collected information about you, I will destroy the information and remove you from the research project.

**Acceptance to Participate**

Your signature indicates that you have read the information provided above, and you have given consent to participate. You may withdraw from the study at any time without penalty after signing this form.

Thanks you for your time.

Sincerely,

Abigail Bremer
Survey

The following questions will be asking you about the frequency with which you use different types of rubrics in a specific semester. Choose one course in the subject area indicated above. Be sure that you keep the same class in mind throughout the survey.

A rubric has three essential features:

1) Evaluative criteria, which are used to distinguish work that is exceeding, meeting, or approaching the marked standard.

2) Quality definitions, which give specific qualifications for the differences in how work will be judged and evaluated.

3) Scoring strategy, which can either be analytic or holistic in nature that will assign an evaluative score to the work.

Last semester, approximately how many times did you use a scoring rubric as an assessment tool in your class?

- more than once a day
- once a day
- once a week
- once a month
- once a semester
- never
Rubrics can be categorized into two groups: analytic and holistic. Analytical rubrics divide a product into essential components or traits, and a separate score is given for each trait. In the example below, critical thinking is broken into six different criteria that all receive an independent score based on quality.

Example of an analytic rubric

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Re-Limited Proficiency (1 point)</th>
<th>Some Proficiency (2 points)</th>
<th>Proficiency (3 points)</th>
<th>High Proficiency (4 points)</th>
<th>Rating (4-5 scale)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Identifies Essential Issues</td>
<td>Fails to identify, summarize, or organize the main issues in the text.</td>
<td>Fails to identify, summarize, or organize the main issues in the text.</td>
<td>Successfully identifies and summarizes the main issues, provides clear and logical connections between ideas.</td>
<td>Clearly identifies and summarizes the main issues, provides clear and logical connections between ideas.</td>
<td>1 (1-2) 2 (3-4) 3 (5-6)</td>
</tr>
<tr>
<td>2. Recognizes Applicable Concepts and Theories (e.g., scientific, historical, or theoretical concepts)</td>
<td>Fails to identify, summarize, or organize any applicable concepts or theories.</td>
<td>Fails to identify, summarize, or organize any applicable concepts or theories.</td>
<td>Successfully identifies and summarizes the applicable concepts or theories, provides clear and logical connections between ideas.</td>
<td>Clearly identifies and summarizes the applicable concepts or theories, provides clear and logical connections between ideas.</td>
<td>1 (1-2) 2 (3-4) 3 (5-6)</td>
</tr>
<tr>
<td>3. Evaluates and Synthesizes Other Perspectives</td>
<td>Fails to identify or summarize a central issue or central theme.</td>
<td>Fails to identify or summarize a central issue or central theme.</td>
<td>Successfully identifies and synthesizes other perspectives, provides clear and logical connections between ideas.</td>
<td>Clearly identifies and synthesizes other perspectives, provides clear and logical connections between ideas.</td>
<td>1 (1-2) 2 (3-4) 3 (5-6)</td>
</tr>
<tr>
<td>4. Identifies Assumptions</td>
<td>Fails to identify any assumptions.</td>
<td>Fails to identify any assumptions.</td>
<td>Successfully identifies and synthesizes other perspectives, provides clear and logical connections between ideas.</td>
<td>Clearly identifies and synthesizes other perspectives, provides clear and logical connections between ideas.</td>
<td>1 (1-2) 2 (3-4) 3 (5-6)</td>
</tr>
<tr>
<td>5. Evaluates Evidence</td>
<td>Fails to evaluate evidence.</td>
<td>Fails to evaluate evidence.</td>
<td>Successfully evaluates and synthesizes evidence, provides clear and logical connections between ideas.</td>
<td>Clearly identifies and synthesizes other perspectives, provides clear and logical connections between ideas.</td>
<td>1 (1-2) 2 (3-4) 3 (5-6)</td>
</tr>
<tr>
<td>6. Connects Evidence, Assumptions, and Concepts</td>
<td>Fails to make logical connections between evidence, assumptions, and concepts.</td>
<td>Fails to make logical connections between evidence, assumptions, and concepts.</td>
<td>Successfully connects evidence, assumptions, and concepts, provides clear and logical connections between ideas.</td>
<td>Clearly identifies and synthesizes other perspectives, provides clear and logical connections between ideas.</td>
<td>1 (1-2) 2 (3-4) 3 (5-6)</td>
</tr>
</tbody>
</table>

Figure 1. Analytic rubric. (Northeastern Illinois University, 2005).

Last semester, how many times did you use an analytic rubric as an assessment tool in your class?
- 0 or more times
- 0-1 times
- 2-4 times
- 5-7 times
- 1 time
- never
Holistic rubrics give a single score or rating for an entire product or performance based on overall impression of a student’s work. The rater considers all quality judgments in one big component and overall judgment and comes up with one single score. In the example below, the rater takes all information into account and provides a single score.

### Holistic Critical Thinking Scoring Rubric

<table>
<thead>
<tr>
<th>Score</th>
<th>Description</th>
</tr>
</thead>
<tbody>
<tr>
<td>4</td>
<td>Consistently does all or almost all of the following:</td>
</tr>
<tr>
<td></td>
<td>- Accurately interprets evidence, statements, graphics, questions, etc.</td>
</tr>
<tr>
<td></td>
<td>- Identifies the salient arguments (reasons and claims) pro and con.</td>
</tr>
<tr>
<td></td>
<td>- Thoroughly analyzes and evaluates major alternative points of view.</td>
</tr>
<tr>
<td></td>
<td>- Draws warranted, judicious, non-fallacious conclusions.</td>
</tr>
<tr>
<td></td>
<td>- Justifies key results and procedures, explains assumptions and reasons.</td>
</tr>
<tr>
<td></td>
<td>- Fair-mindedly follows where evidence and reasons lead.</td>
</tr>
<tr>
<td>3</td>
<td>Does most or many of the following:</td>
</tr>
<tr>
<td></td>
<td>- Accurately interprets evidence, statements, graphics, questions, etc.</td>
</tr>
<tr>
<td></td>
<td>- Identifies relevant arguments (reasons and claims) pro and con.</td>
</tr>
<tr>
<td></td>
<td>- Offers analyses and evaluations of obvious alternative points of view.</td>
</tr>
<tr>
<td></td>
<td>- Draws warranted, non-fallacious conclusions.</td>
</tr>
<tr>
<td></td>
<td>- Justifies some results or procedures, explains reasons.</td>
</tr>
<tr>
<td></td>
<td>- Fair-mindedly follows where evidence and reasons lead.</td>
</tr>
<tr>
<td>2</td>
<td>Does most or many of the following:</td>
</tr>
<tr>
<td></td>
<td>- Misinterprets evidence, statements, graphics, questions, etc.</td>
</tr>
<tr>
<td></td>
<td>- Fails to identify strong, relevant counter-arguments.</td>
</tr>
<tr>
<td></td>
<td>- Ignores or superficially evaluates obvious alternative points of view.</td>
</tr>
<tr>
<td></td>
<td>- Draws unwarranted or fallacious conclusions.</td>
</tr>
<tr>
<td></td>
<td>- Justifies few results or procedures, seldom explains reasons.</td>
</tr>
<tr>
<td></td>
<td>- Regardless of the evidence or reasons, maintains or defends views based on self-interest or prejudices.</td>
</tr>
<tr>
<td>1</td>
<td>Consistently does all or almost all of the following:</td>
</tr>
<tr>
<td></td>
<td>- Offers biased interpretations of evidence, statements, graphics, questions, information, or the points of view of others.</td>
</tr>
<tr>
<td></td>
<td>- Fails to identify or hastily dismisses strong, relevant counter-arguments.</td>
</tr>
<tr>
<td></td>
<td>- Ignores or superficially evaluates obvious alternative points of view.</td>
</tr>
<tr>
<td></td>
<td>- Argues using fallacious or irrelevant reasons, and unwarranted claims.</td>
</tr>
<tr>
<td></td>
<td>- Does not justify results or procedures, not explain reasons.</td>
</tr>
<tr>
<td></td>
<td>- Regardless of the evidence or reasons, maintains or defends views based on self-interest or prejudices.</td>
</tr>
<tr>
<td></td>
<td>- Exhibits close-mindedness or hostility to reason.</td>
</tr>
</tbody>
</table>

---

Last semester, how many times did you use a holistic rubric as an assessment tool in your class?

- [ ] 1 or more times
- [ ] 5-7 times
- [ ] 3-4 times
- [ ] 1 time
- [ ] never
Of the two types of rubrics, which do you use most often?

- Analytic
- Holistic
- Both equally
- Neither

Why do you think that is?
Another way that rubrics can be categorized is as either task-specific or generic. Task-specific rubrics can be used only for one particular task or assignment. Any time the rubric includes detailed components particular to the assigned problem or project, it is task-specific. Below, is a rubric that can be used only to score a student’s ability level playing basketball.

### SAMPLE: Advanced Basketball Skills Rubric

<table>
<thead>
<tr>
<th>Skill</th>
<th>Points</th>
<th>Criteria</th>
</tr>
</thead>
<tbody>
<tr>
<td>Apache (Basketball)</td>
<td>100</td>
<td>Shoot free throw to score back.</td>
</tr>
<tr>
<td>Apache (Basketball)</td>
<td>90</td>
<td>Stays on appropriate lines and picks up defenders</td>
</tr>
<tr>
<td>Apache (Basketball)</td>
<td>80</td>
<td>Tries to score from outside the court area.</td>
</tr>
<tr>
<td>Apache (Basketball)</td>
<td>70</td>
<td>Tries to score from inside the court area.</td>
</tr>
<tr>
<td>Apache (Basketball)</td>
<td>60</td>
<td>Tries to score from outside the court area.</td>
</tr>
<tr>
<td>Apache (Basketball)</td>
<td>50</td>
<td>Tries to score from inside the court area.</td>
</tr>
</tbody>
</table>

### Taxonomy and Analysis

- **Knowledge:***
  - Stays on appropriate lines and picks up defenders |
  - Tries to score from outside the court area. |
- **Understanding:***
  - Stays on appropriate lines and picks up defenders |
  - Tries to score from inside the court area. |
- **Application:***
  - Stays on appropriate lines and picks up defenders |
  - Tries to score from outside the court area. |
- **Analysis:***
  - Stays on appropriate lines and picks up defenders |
  - Tries to score from inside the court area. |
- **Synthesis:***
  - Stays on appropriate lines and picks up defenders |
  - Tries to score from outside the court area. |

---

Figure 3. Task-specific basketball rubric. (Kleinman, 2009).

Last semester, how many times did you use a task-specific rubric as an assessment tool in your class?

- 5 or more times: 1
- 1-10 times: 2
- 5-7 times: 3
- 2-4 times: 4
- 1 time: 5
- never: 6
A generic rubric can be used to evaluate similar tasks. In using generic rubrics, the evaluation criteria will be very broad, but able to be used across multiple projects. These rubrics should still provide several qualitative levels so that teachers can ostensibly distinguish among students' performances. Below, is an example of a rubric that could be used generically to assess any form of dance.

**SAMPLE: Assessing Dance**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Dance 1</th>
<th>Dance 2</th>
</tr>
</thead>
<tbody>
<tr>
<td><strong>Dance Skills</strong></td>
<td></td>
<td></td>
</tr>
<tr>
<td><em>sequence of moves</em></td>
<td>Good</td>
<td>Poor</td>
</tr>
<tr>
<td><em>coordination with partner in group</em></td>
<td>Good</td>
<td>Poor</td>
</tr>
<tr>
<td><em>pace to music</em></td>
<td>Good</td>
<td>Poor</td>
</tr>
<tr>
<td><em>expression</em></td>
<td>Good</td>
<td>Poor</td>
</tr>
<tr>
<td><em>exit and entry procedure</em></td>
<td>Good</td>
<td>Poor</td>
</tr>
<tr>
<td><em>specific dance movement</em></td>
<td>Good</td>
<td>Poor</td>
</tr>
<tr>
<td><em>emotional expression of dance</em></td>
<td>Good</td>
<td>Poor</td>
</tr>
</tbody>
</table>

**Group Behavior**

<table>
<thead>
<tr>
<th>Criteria</th>
<th>Level 1: Very Limited follower</th>
<th>Level 2: Occasionally follower</th>
<th>Level 3: Accustomed follower</th>
<th>Level 4: Strong follower</th>
<th>Level 5: Outstanding follower</th>
</tr>
</thead>
<tbody>
<tr>
<td><em>cooperative</em></td>
<td>Good</td>
<td>Poor</td>
<td>Teacher</td>
<td>Comments</td>
<td>Good</td>
</tr>
<tr>
<td><em>listen and follow teacher’s instructions</em></td>
<td>Good</td>
<td>Poor</td>
<td>Teacher</td>
<td>Comments</td>
<td>Good</td>
</tr>
<tr>
<td><em>offer and accept feedback appropriately</em></td>
<td>Good</td>
<td>Poor</td>
<td>Teacher</td>
<td>Comments</td>
<td>Good</td>
</tr>
</tbody>
</table>

Figure 4. Generic Dance Rubric. (Prince Edward Island Physical Education Student Resource, 2014).

Last semester, how many times did you use a generic rubric as an assessment tool in your class?

- [ ] 15 times
- [ ] 14 times
- [ ] 13 times
- [ ] 12 times
- [ ] other
Of the two types of rubrics, which do you use most often?

- Task-specific
- Generic
- Both equally
- Neither

Why do you think that is?
Overall, how influential do you believe rubrics are to student academic success?

[ ] Not influential
[ ] Slightly influential
[ ] Moderately influential
[ ] Highly influential
[ ] Extremely influential

Why?

If you would be willing to participate in a follow-up interview, please include your name and email address below.


If you would like to be provided with feedback about this study, please include your name and email address below.


References


We thank you for your time spent taking this survey. Your response has been recorded.