Online Training Module for Classroom Teachers in Use of Science Scoring Rubrics

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Project Prospectus

Instructional and Performance Need

With common core standards coming to Oklahoma in the very near future, many school districts are re-examining current grading practices. In particular, Norman Public Schools has started by looking at current grading practices in science. There is a district science curriculum coordinator who has worked with a science advisory board in the development of new rubrics to assess student learning. The advisory board consists of elementary classroom teachers from each school site in the district.

Traditionally, elementary science is graded on an S/U scale. Teachers are required to assign a grade of either satisfactory or unsatisfactory based largely on their own observations without any real record of whether or not the students are achieving specific objectives. A transition is being made to a standards based grading system. This will allow parents, teachers, and students to see precisely which learning goals have been achieved. Currently, classroom teachers in grades 1-5 do not use a standards based grading system in any subject area, so they will be transitioning to a completely new grading system. With a new grading system not currently used in elementary classrooms, there will be an innovational type need for classroom teachers to be trained on how to effectively use the rubrics, interpret the information gained from using the rubrics, and translate that information into a grade that is accessible and understandable to parents and students.

Context

I expect the learning environment to be flexible. Every classroom in the Norman school district has been equipped with Intelligent Classroom technology. One component of this technology is an internet equipped laptop computer. By creating an online training session, all learners will have access to the training and I am ensuring that learners will be able to complete the training at a time and location that is convenient to them. The school district currently utilizes Global Compliance Network online training tutorials as a content medium to meet annual training required of all certified and support staff.

Learner Profile

While the new standards based rubrics will be implemented in all elementary classrooms, I initially want to narrow the target group of learners. The learners receiving this training are current 3rd grade teachers in Norman Public Schools. The scope of experience ranges from inexperienced first year teachers to veteran teachers with 15+ years of experience in the classroom. A majority of teachers have a BS in either elementary or early childhood education. Some have earned Masters degrees, and a few have degrees in other subject areas but have been alternatively certified. In the future, the learners could also include 3rd grade teachers new to the district and potentially extend to all grade levels PK – 5. Being a classroom teacher myself, I understand that time is going to be a concern with the

learners. It is my belief that they will expect and appreciate the training being concise, direct, and immediately applicable in their own classrooms.

Instructional Strategy

When I consider the time constraints and workloads facing public school teachers, I want to think about convenience to teachers alongside effectiveness of the training when considering possible instructional strategies. I believe that an online tutorial will be most effective in transmitting the information in a practical and appropriate way. Videos can be used to show the rubrics in use in a real 3rd grade classroom along with narrated slides to explain the various portions of the rubric. A printable handout can also be made available for future reference and application to actual 3rd grade science lessons. By making the training available online, learners can also refer back to the training as necessary.

NPS teachers are currently familiar with Global Compliance Network online tutorials. When using this system, staff log in to the GCN and complete tutorials assigned to them by an administrator. Tutorials consist of a series of narrated slides that the learner progresses through at their own pace. Upon completion of the tutorial, a series of questions are asked to ascertain the level of understanding of the learner. Administrators can access the GCN to ensure completion of and competency in the assigned tutorials. Given the learners' current familiarity with GCN online tutorials, the presentation of material should not have any adverse affect on learners achieving the learning goals.

Assessment Strategy

I plan to assess the effectiveness of the training through 2 different methods. First, I will rely on feedback from the participants. Surveys will be used to determine whether or not the training met the learners' needs and expectations. The surveys will provide data on the ease of use, applicability, perceived effectiveness, and comprehensiveness of the instruction. Second, I will collect samples of the rubrics that have been used and the student work evaluated. These samples will be compared against 'base students' determined by the Elementary Science Advisory Board. Analysis of the collected work and rubric samples will determine whether or not the learners met the prescribed learning goals.

Needs and Context Analysis

Context

Since standards based grading is a direction that the district would like to move toward, and since the district has not previously used rubrics or standards based grading, training must be made available so that teachers within the district will be comfortable and successful using the new rubrics. Both the district as a whole (district level administrators) and classroom teachers have a stake in this training being successful. Classroom teachers will be required to use the new rubrics and have a desire to be successful and glean useful information from the use of the rubrics. Administrators are requiring the use of rubrics, and want them to be used in a manner that provides meaningful information to parents, teachers, and students, and an accurate measure of student success in mastering Oklahoma PASS process standards in science. In designing instruction to address this need, I will be

considering the instructional needs of the target learners (3rd grade classroom teachers) and the instructional goals and expectations of district level administrators, specifically the district science coordinator.

Innovation

Since the instructional problem identified involves training teachers to use a new grading system, and innovation plan of design is proposed. There has been a change in the tools that teachers will be using to assess students' learning in science. Norman Public Schools has been using an S/U system of grading students in elementary science. With an increase in the need to be held accountable for students' learning, teachers need to be able to prove what exactly students have learned and to what extent they have learned it. This is accomplished through the use of end of instruction testing (beginning in 5th grade). Rather than teachers having to wait for the results of "the test", teachers need to be able to regularly assess students' learning and progress. According to the Norman Public Schools 2011-2012 Student/Parent Policy guide,

"The Norman Public Schools, in partnership with the community,

- Ensure academic excellence
- Create safe, positive schools, and
- Develop responsible citizens"

The innovation of the science grading rubrics addresses the mission of Norman Public Schools to ensure academic excellence. The rubrics allow teachers, parents, and students to accurately and effectively assess student learning and progress toward stated Oklahoma objectives. This innovation does not change the mission of

Norman Public Schools, but rather enhances the ability of teachers to ensure academic excellence.

Learning Goals:

After receiving the proposed training, 3rd grade teachers in Norman Public Schools will be able to:

- Accurately and efficiently assess students' demonstration of Oklahoma Science Process Skills
- Use the assessment to make informed instructional decisions

According to Jeff Patterson, the district science curriculum coordinator, the above stated learning goals are the first step in a process designed to move Norman Public Schools toward a standards based grading system. Mr. Patterson believes that using standards based scoring rubrics allows teachers to pinpoint strengths and weaknesses of both students' understanding and their teaching. Since moving towards standards based grading is a priority for the district, and using standards based rubrics in science for grading is the first step in that direction, Mr. Patterson believes that mastery in the skills required for using rubrics to assess students' learning is an important goal for Norman Public Schools.

Currently, there is a need to design instruction specific to the use of the science rubrics. The rubrics were created by Norman Public Schools elementary science advisory board, and thus are unique to the district. Training using rubrics may be currently available, but since the design of these rubrics and the

expectations for using them to gain useful insight are unique to the district, unique training will need to be developed.

Based on my interview with Mr. Patterson, and the responses to the survey provided to 3rd grade teachers within the district, there are no significant conflicts or objections to the learning goals stated above. In fact, there was an expressed desire among classroom teachers to be able to more accurately assess students' mastery of the Oklahoma PASS science process standards. They were excited to be provided a tool that would allow them to assess mastery of specific science skills and were open to the idea of having training provided. Any objections expressed by classroom teachers were concerns about the amount of time formal training would take, and the amount of time it would take to assess individual students. Providing a training to teachers that is sensitive to their concerns about time, and demonstrates the manner in which they can efficiently score students' progress will address these minor concerns and provide meaningful training that will be appreciated by and appealing to 3rd grade teachers across the district.

Moving towards a standards based grading system is a current topic of discussion among district level and building level administrators. Using science rubrics based on science process standards is the first step that district level administrators have decided to take in implementing this new initiative. Because district level administrators have initiated this innovation, there is no conflict or objection expressed at this level. The district science curriculum coordinator expects teachers across the district to begin using the newly designed rubrics and has acknowledged and expressed the need for teachers to be effectively trained in

using the rubrics. It is also Mr. Patterson's belief that using the rubrics will address gaps in student learning earlier, and thus provide opportunities for classroom teachers to address the gaps before end of instruction tests. By addressing learning gaps before end of instruction exams, Mr. Patterson believes that student learning will improve and this improvement will be reflected in district science test scores.

The biggest issue in designing instruction for the use of the new science rubrics will be addressing the expressed concern by classroom teachers for the use of their time. In order to make the training appealing to the target audience, I will need to be conscious of the length of the training and sensitive to teachers' busy schedules. I think by creating an online training module, teachers will be able to complete the training at their convenience and will be much more engaged than if they were required to attend a mandatory training that took up an afternoon or more of their time. Also, assessing the target learning group's current level of knowledge and expertise regarding the use of rubrics for standards based assessment may pose a challenge. Based on my survey of third grade teachers across the district, I am able to see that there are varying levels of experience (both in teaching and with using rubrics), and perceived competency levels with the use of rubrics. Addressing the varying levels of experiences and learning styles will be challenging.

Resources, Data Collection, Data Analysis, and Assessment

The primary source of information about the need is based on my own observation. As a member of the elementary science advisory board, I have been involved in the development of the rubrics that will be used to assess students'

mastery of the Oklahoma science process standards. Throughout the process of creating the rubrics, I became aware of the need to train teachers in the use of these rubrics. My observations were confirmed through an ongoing e-mail interview with Mr. Jeff Patterson, Science Curriculum Coordinator for Norman Public Schools. After confirming my observations, I proceeded to contact teachers in 3rd grade across the district, the potential target learning group, in order to determine the orienting context described by Morrison, Ross, Kalman, and Kemp (2010). I wanted to determine whether or not they also felt the need to attend a required training to properly utilize the newly developed rubrics. I chose to use a survey to solicit responses from 3rd grade classroom teachers. The survey asked questions to determine information used in the learner analysis and also to determine the perceived need for training, the general attitudes toward training, and the preferred methods of completing required training.

After gathering the data from Mr. Patterson and several 3rd grade teachers across the district, and thoroughly reading and analyzing it, I have determined that the primary need is for teachers to be able to effectively use the rubrics to assess student learning and understanding and to make necessary instructional adjustments based on the information gathered from the assessment. It is also a priority of Mr. Patterson's that teachers feel comfortable using the rubrics, so that they are more likely to use them effectively, and to see the value in using them. While it will be a district expectation that teachers will use the rubrics to assign science grades to students, he wants teachers to see the value in using a standards based system as opposed to an S/U system and readily accept the change.

In order to address the learning goals stated by district level administration and in order to meet the stated needs of teachers I plan to develop an interactive web based training tutorial. To do this, several resources will be necessary. First of all, I will need access to a Subject Matter Expert (Mr. Patterson) to refine the goals, help determine the most appropriate method for meeting the stated learning objectives, and make decisions on the content presented in the tutorial. I will also need someone with the technical expertise to be able to develop the online training based on the content decided upon by the subject matter expert, and the presentation decided upon by myself with input from the subject matter expert. Support of building level administrators will be required to ensure that all 3rd grade teachers in their individual buildings complete the training within a given time frame. Building level administrators will have access to a roster of their staff, and receive reports regarding the staff who have completed the training and with what level of success. Building level administrators should use this information to offer incentives/punishments for completion/incompletion of the training. I will also need to meet with the members of the elementary science advisory board in order to discuss evaluation of the learners upon completion of the training, and to evaluate the effectiveness of the training.

My proposed plan for evaluating the effectiveness of the training involves several different factors. First, within the tutorial, I would like for teachers to be able to see video of a student involved in a science lesson. The teacher would also have access to written responses given by the student in their science notebook. With the given information, the teacher would be asked to evaluate the student

using the new rubric. Based on the score assigned to the student, the teacher will be asked to make an instructional decision, and justify the basis of their decision on the students' scores. Ideally, the teacher would be asked to evaluate student work that has been determined to be high, medium, and low based on the use of the rubrics by members of the elementary science advisory board. I will be able to see their responses, and the scores assigned to the student. Based on this, and input from the elementary science advisory board, collectively we can determine whether or not the teacher has used the rubrics effectively and whether or not they have made appropriate instructional decisions based on the information gathered. I would also like to solicit feedback from participants in the training. It will be useful to know whether or not they found the training helpful, if it met their expectations as far as the amount of time spent, and whether or not they believe the training was effective and necessary. An open response section for suggestions could further improve and refine the training for future use.

Learner Analysis

For this project, the target learner group is 3rd grade classroom teachers in Norman Public Schools. These teachers currently teach science in their classrooms and use a Satisfactory/Unsatisfactory grading system to evaluate their students. 3 sources of information used in data collection for this analysis. Surveys were sent to 3rd grade teachers at 4 different sites across the district (where I have personal contacts), information was collected from school web pages, and some information

was gathered from the NPS District Profile, a document posted on the Norman Public Schools website. Surveys were used to collect a significant amount of data in a concise manner. I believed that this method would be easiest and less time consuming for the respondents, thus hopefully prompting more teachers to respond. I also felt that concise data would be analyzed more efficiently and effectively for this project. For this document, I divided the questions presented to the target group of learners into 4 categories: cognitive characteristics, physiological characteristics, affective characteristics, and social characteristics. In each section, I present the questions asked, aggregated data collected, an analysis of the data collected, and the design implications based on the data collected.

Cognitive Characteristics

General Characteristics

All learners within the target group are current 3rd grade public school teachers. A few assumptions can be made regarding their general characteristics. For example, in order to become a classroom teacher, one must earn a bachelor's degree in education and pass a series of certification tests. With this knowledge, I can determine that language is fully developed and reading level is at least at the 12th grade level, if not higher.

According to the publication, NPS District profile, Norman Public Schools classroom teachers have an average of 11 years of teaching experience. 42% of teachers have master's or doctorate degrees. A total of 83 teachers have National Board Certification. This data indicates a high level of academic excellence among

Norman Public Schools classroom teachers and shows dedication to their profession. When considering the instructional implications of this data, I want to make sure that the material being presented is something that the teachers involved are on board with and see the value in. If they are, I think this data indicates that the learners will strive to be successful at the training, and to maintain the high standard of academic excellence among the staff.

Specific Prior Knowledge

For this design project, I feel that specific prior knowledge is exceptionally valuable in making instructional decisions. The questions I asked the target group of learners are:

- How often do you use a computer?
- How often do you get on the Internet?
- How familiar are you with the science process standards for your grade level?
- Have you used rubrics to assess student learning?
- Have you used rubrics to assess student learning in science?
- Have you used GCN (Global Compliance Network) for online training?

100% of the learners surveyed indicated that they use a computer and access the Internet daily. 100% also indicated that they have used GCN to complete online trainings. 3 of the learners (21%) indicated that they are somewhat familiar with Oklahoma science process standards, and 11 of the learners (79%) indicated that they were very familiar with Oklahoma science process standards. 0 learners indicated that they were not at all familiar with Oklahoma science process

standards. 100% of learners surveyed have used some form of rubric to assess their students in subject areas other than science. 1 learner (.07%) indicated that they have used rubrics to assess student learning in science.

Based on this information, I know that learners are familiar with using computers, accessing the Internet, and using GCN to complete training. Knowing this information allows me to consider using GCN to give learners access to the training and allowing them to complete the training at their own pace, and on their own time. The data indicates to me that an online training will be accessible to the learner, and there is no specific lack of prior knowledge that would prevent the learner from completing the training online.

I also know that all the learners are at least somewhat familiar with the Oklahoma science process skills, so little or no time will need to be spent in the training addressing what these skills are. Learners are also familiar with the concept of rubrics so little to no time will be used to explain general use of rubrics. Rather, the instruction can focus on the rubrics specifically for science process skills, and address how teachers can effectively use them in their classrooms to assess student learning and make informed instructional decisions.

Physiological Characteristics

2 (14%) of the 14 respondents are male and 12 (86%) of the respondents are female.

In general, I do not believe that this data supplies much information that is significant to the instructional design process. There are very few, if any, implications for instruction based on gender in this situation, particularly since so

few of the learners are male. It will, however be important when considering contexts and examples to use in the instruction to consider possible background and experiences that could be because of gender. Questions regarding other physiological characteristics were not asked. They are not as important in this design because the learners are not being asked to demonstrate a physical competency.

Affective Characteristics

Questions regarding interests, motivation, attitudes, and perceptions will be valuable when considering the type of instruction to be designed. These affective characteristics of the learners will shape the overall direction the design takes because it is so important the instruction be meaningful and engaging to the learner. Questions asked include:

- Do you prefer online training or classroom training for professional development?
- How important is ease of access to training?
- How important is convenience of training?
- Are you more or less likely to complete training if you are given flexibility in the time to complete it?
- How valuable do you think the new science rubrics will be? Why?
- Do you feel that there is a need for training in how to implement these rubrics?

I found that ease of access to and convenience of training were very important to all of the respondents. Respondents also indicated that flexibility of time to complete the training would be nice, however a specific deadline should be established so that training would be completed and not just forgotten about. The teachers who responded to the survey were pretty evenly split in preference of delivery of training (either in the classroom or online). 6 out of the 14 (43%) prefer face-to-face classroom training while the other 8 (57%) prefer an online training. All of the respondents felt that training would be necessary if they were being required to implement new science rubrics in their classrooms. The open response question provided some interesting feedback, but almost all (10 out of 14 or 71%) believed that the new science rubrics would provide more valuable information to teachers and parents than the S/U scale that is currently being used. The other respondents felt that it was too difficult to 'grade student behaviors' rather than some form of written evaluation or assessment of knowledge, and one appreciated the ease of grading students with only either Satisfactory or Unsatisfactory.

Overall, there appears to be a positive response to training for the use of new science rubrics. Of course, there is some resistance to change; addressing the benefit and necessity of the new grading system will be valuable when designing the instruction. Although only slightly more than half of the teachers surveyed indicated an interest in an online training program, all of them indicated the importance of ease of access and convenience of the training. Since I want to make the training as convenient as possible, knowing first hand the number of demands placed on teachers' time, I propose creating an online learning program. Since most

of the teachers indicated the need for a deadline, I will encourage building level administrators to set a deadline that is reasonable for the teachers at their individual sites.

Respondents were also asked to rate the following statements on a scale of 1-4 with 1 meaning 'does not describe me at all' and 4 meaning 'describes me perfectly'.

- I tend to be generally anxious
- I am not intimidated by learning new things
- Workshops stress me out
- I am where I am today because of my hard work
- I got my job because the circumstances lined up perfectly
- I think some people are just lucky
- It is easy for me to learn new things
- I am smart
- I'm not very good at learning new things

Based on the 1-4 rating scale, I was able to determine a very generalized picture of some psychosocial characteristics presented by Smith and Ragan (2005). 4 (28%)out of the 14 respondents could be described as high on trait anxiety. 13 (93%) of the 14 could be described as having an internal locus of control. All 14 respondents have a high academic self-concept. These characteristics make up the stable differences among the group. The implications of this information will affect

the instructional design. A majority of the respondents have a high academic self-concept and an internal locus of control, meaning that in general, they believe they will be successful in a learning situation and their success is because of their own merit and work. 28% of the respondents reported a high level of anxiety. This is useful, because I can design instruction in a 'low-pressure' situation, where mistakes can be made and learning accomplished without a high risk to the learner.

Social Characteristics

In considering the social characteristics of the target learning group, I presented the following questions:

- Do you prefer working alone or with a group?
- How likely are you to post in an online discussion board?
- Does your administrator require training that is relevant to your needs?
- If questions arise during an online training (regarding the content of the training), whom would you contact for support/answers?

I found that most learners (10 out of the 14 or 71%) preferred working with a group. 8 of the 14 (57%) said that they were likely to post in an online discussion board. 10 out of the 14 learners felt that their administrators required training that was relevant to their needs and a variety of answers was provided regarding who would they contact for support or answers if questions came up during their training. Some (7) indicated that they would talk to their team members to see if someone else had some insight, some (6) said they would feel comfortable talking to their site representatives on the elementary

science advisory board, and one felt comfortable e-mailing Mr. Jeff Patterson, district science curriculum coordinator.

Since I found that most learners prefer working with a group and about half would approach their teammates with any questions they had regarding the training, some sort of collaboration would be beneficial to include in the design of the training. Given that 57% said that they would likely post in an online discussion forum, perhaps this can be a way to communicate with teammates as a way to synthesize the new information and clarify any misunderstandings that could potentially arise. Since most felt like the workshops that their administrators required them to go to were relevant to their needs, the building level administrators recommending or requiring this training could be high motivation for learners to complete the training and have a stake in their own learning.

Task Analysis

Jeffrey Patterson, the science curriculum coordinator for Norman Public Schools (SME), has defined the following learning goals:

- Given student work, the learner will be able to accurately assess students' demonstration of Oklahoma Science Process Skills
- Using the information gathered from the use of rubrics, the learner will be able to make appropriate and informed instructional decisions.

Subordinate/Entry Skills Analysis

In order to be able to successfully complete the stated objectives, some entry skills are required of the learner.

- The learner needs to have knowledge of Oklahoma Science Process Skills.
- The learner needs experience in assessing student learning.
- The learner needs to be able to use a rubric to assess student work.
- The learner needs to be able to make instructional decisions.

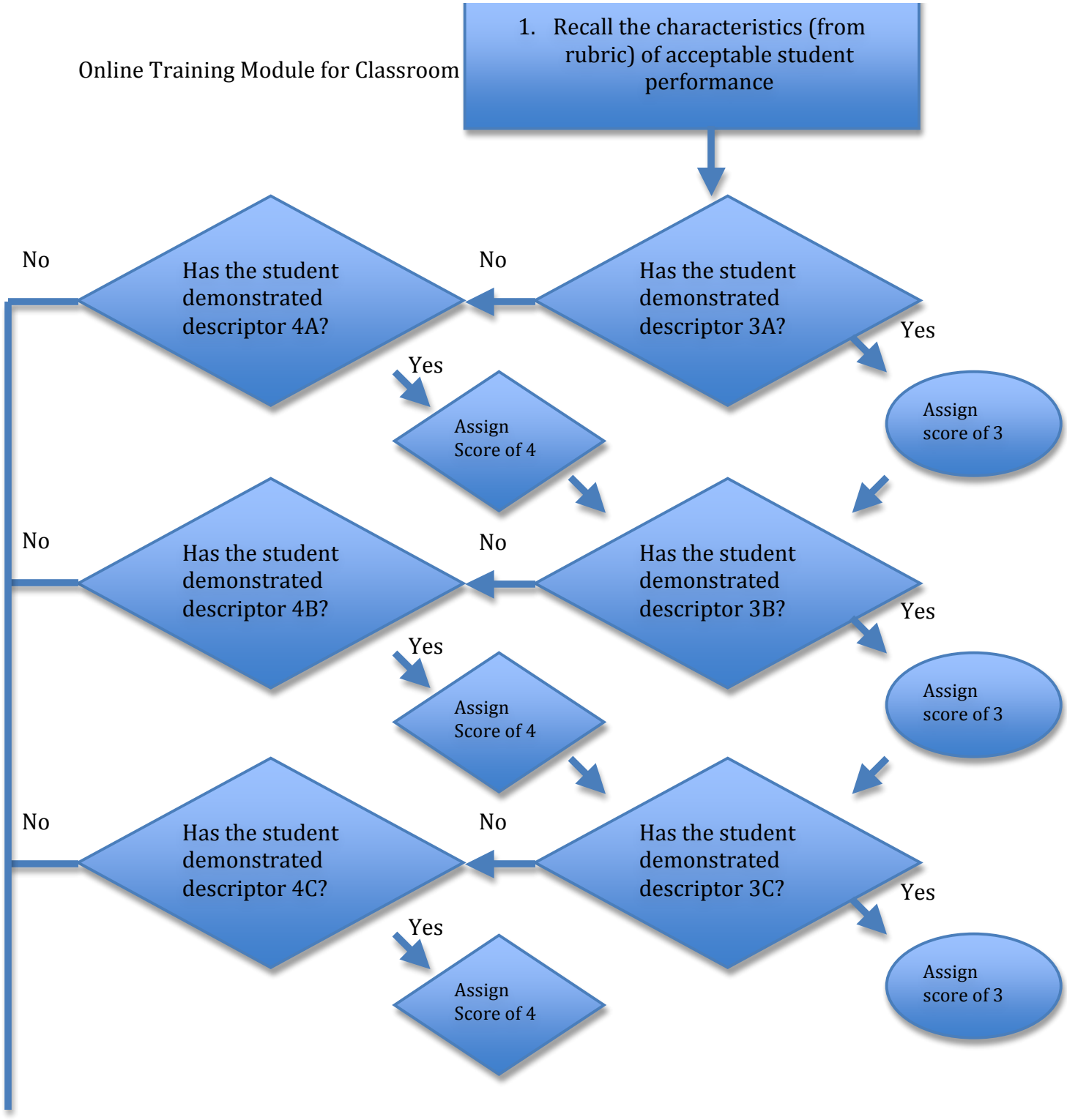
Objective 2 requires Gagne's (2005) intellectual skill of problem solving. In order to problem solve, the subordinate skill of principles/rules is necessary. If student work is acceptable according to the rubric, then remediation is not needed and instruction can progress. If student work is unacceptable, then remediation is required.

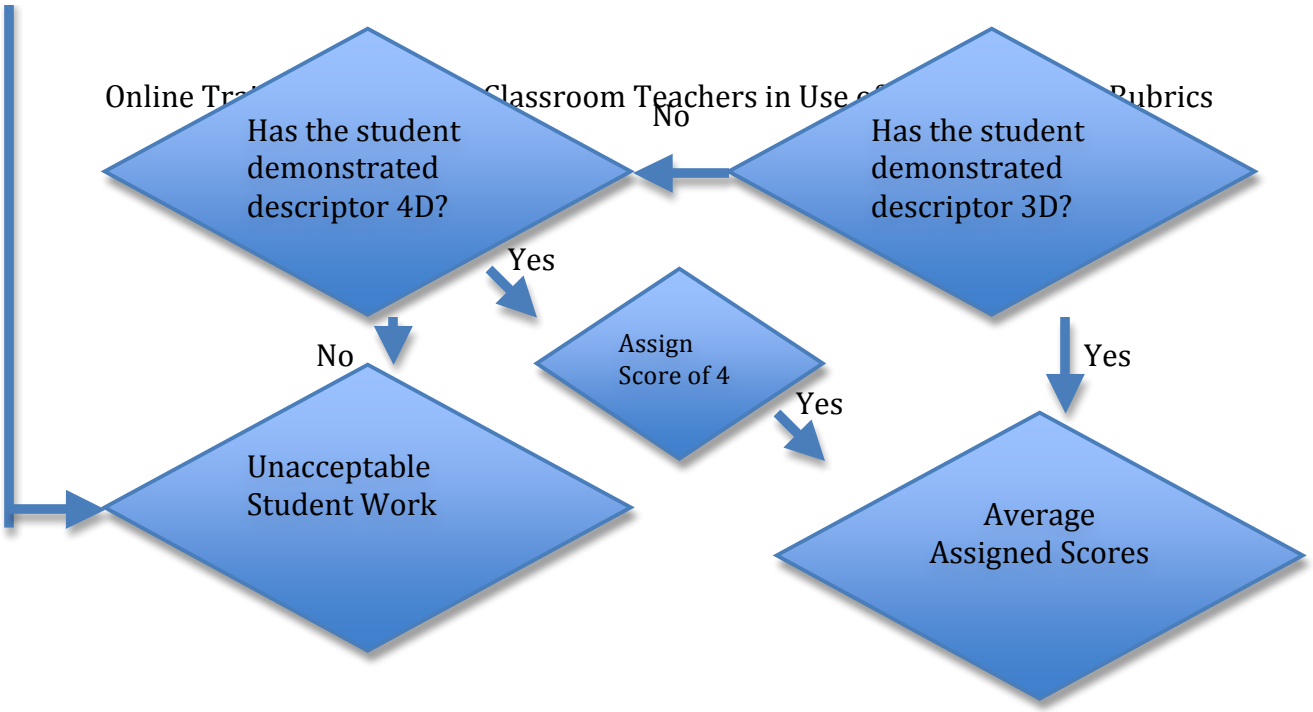
I have chosen to follow Smith and Ragan's (2205) Information-Processing Analysis for a concept. The learners will be demonstrating the ability to determine whether or not student work is acceptable according to a rubric.

1. Recall the characteristics (from rubric) of acceptable student performance
    a. Acceptable student performance is described as a 3 or 4
2. Determine whether or not the student has demonstrated descriptor 3A. If yes, assign a score of 3 for descriptor A. Continue on to step 3. If it was not observed at this time, continue on to step 3. If no, go to step 6.

3. Determine whether or not the student has demonstrated descriptor 3B. If yes, assign a score of 3 for descriptor B. Continue on to step 4. If not observed at this time, continue on to step 4. If no, go to step 7.
4. Determine whether or not the student work demonstrates descriptor 3C. If yes, assign a score of 3 to descriptor C. Continue on to step 5. If not observed at this time, continue on to step 5. If no, go to step 8.
5. Determine whether or not the student work demonstrates descriptor 3D. If yes, assign a score of 3 to descriptor D. Continue on to step 11. If not observed at this time, continue on to step 11. If no, go to step 9.
6. Determine whether or not the student work demonstrates descriptor 4A. If yes, assign a score of 4 for descriptor A. Return to step 3. If no, go to step 10.
7. Determine whether or not the student work demonstrates descriptor 4B. If yes, assign a score of 4 for descriptor B. Return to step 4. If no, go to step 10.
8. Determine whether or not the student work demonstrates descriptor 4C. If yes, assign a score of 4 for descriptor C. Return to step 5. If no, go to step 10.
9. Determine whether or not the student work demonstrates descriptor 4D. If yes, assign a score of 4 for descriptor D. Go to step 11. If no, go to step 10.

10. If you were unable to assign a score of 3 or 4, student work is unacceptable. Determine appropriate intervention or re-teaching strategy.
11. Take an average of all 4 descriptor scores. Assign this score to the student for this assignment.


1. Recall the characteristics (from rubric) of acceptable student performance
Has the student demonstrated descriptor 3A?
Yes
Assign score of 3
No
Has the student demonstrated descriptor 4A?
Yes
Assign Score of 4
No
Has the student demonstrated descriptor 3B?
Yes
Assign score of 3
No
Has the student demonstrated descriptor 4B?
Yes
Assign Score of 4
No
Has the student demonstrated descriptor 3C?
Yes
Assign score of 3
No
Has the student demonstrated descriptor 4C?
Yes
Assign Score of 4
No


Has the student demonstrated descriptor 4D?
No
Has the student demonstrated descriptor 3D?
Yes
Assign Score of 4
No
Yes
Unacceptable Student Work
Yes
Average Assigned Scores

Objective Statement	**Type of knowledge (e.g., verbal information, concepts, rules, principles, procedures, problem solving, etc.)**	**Assessment Sample Item**
Objective 1: accurately assess students' demonstration of Oklahoma Science Process Skills	Concepts	I will have the learner assess sample student work. Their assessment will be compared to the SME assessment of the same student work. Accurate assessment is acceptable demonstration of the learning goal.
Objective 2: make appropriate and informed instructional decisions • Moving on to new concepts • Re-teaching material	Problem Solving Principles/Rules	An essay would be appropriate to assess this objective. The learner will be able to describe their thought process for making an instructional decision, and justify that decision. Example: Watch the video of the student participating in a science lesson. After the video, review the student's written observations and conclusions. Based on the video and written work, decide the best course of action for this student's learning. Justify your decision using the information gathered from the science rubric and Oklahoma Science Process Skills.

Instructional Design Plan

Specifications for Instruction

Based on the information gathered from the needs, context, and learner analyses, an online tutorial with videos will be designed to meet the instructional needs. Concern was expressed for time constraints placed on teachers, so this is designed to be convenient to learners while still meeting the instructional needs. An online tutorial also provides a form of instruction that the learners are familiar with given that they are required to complete annual trainings in a similar fashion.

The learner is being asked to understand the concept of acceptable or unacceptable student work, so Smith and Ragan's (2005) strategies for instruction leading to concept learning will be utilized.

The learner will also be asked to problem solve based on the data gathered from the use of the science rubrics. Smith and Ragan's strategies for instruction leading to problem solving will also be utilized.

Instructional Overview

Gagne's 9 events of instruction will be used to provide a structure for the instruction. The events of instruction and the introduction of materials will take place in the sequence outlined below, with the exception of Providing Learning Guidance and Providing Feedback, which will occur simultaneously.

Gaining Attention	Questioning will be employed to gain learners' attention by appealing to their interest and curiosity.
Informing the Learner of the Objective	A slide will be displayed stating the purpose of the training and both learning objectives
Stimulating Recall of Prerequisite Learned Capabilities	A brief review of 3rd grade Oklahoma Science Process Standards from PASS will be presented to the learner. Learners will be asked to recall prior experience using rubrics to assess student work
Presenting Stimulus Material	Scoring rubrics will be presented and explained to learners. Definitions of performance indicators will be given.
Providing Learning Guidance	Learners will practice assessing students with immediate feedback given. Guidance will be provided.
Providing Feedback	Feedback will be given for both correct and incorrect answers. A 'pop up' window will immediately explain to the learner why the answer chosen is correct or alternatively, why the answer is incorrect
Assessing Performance	The learner will be asked to generate original answers in essay form.
Enhancing Retention and Transfer	Learners will be asked to supply samples of student work, explanations and justifications of the assessment results, and the instructional decisions made based on the assessments

Learning Theories

A combination of learning theories has been employed to effectively meet the individual learning goals. A behaviorist approach has been used in the providing learning guidance and feedback stages. The learners are given repeated practice

and will be offered immediate feedback regarding their responses to reinforce correct responses.

Aspects of social learning theory are also present, as the learner will watch demonstrations of the task to be performed, and be asked to imitate the behavior during the presentation of stimulus material. Learners will also be interacting with other learners and the SME through online discussions particularly in the Stimulating Recall of Prerequisite Learned Capabilities and Enhancing Retention and Transfer stages of instruction.

Gaining Attention

An introductory 'slide' will be displayed to gain learners attention. It will include the text "Using rubrics in science. Do you know what your students are really learning?" Interesting fonts, colors, and images will be used to further engage the learners.

Informing the Learner of the Objective

A second slide will be displayed stating the purpose of instruction and explaining the learning situation. "Teachers, students, and parents can agree that there is little evidence provided for the justification of student's grades in science. There is currently little to no documentation provided about precisely what PASS skills have been mastered and which still need work." A third slide will be presented stating the two learning objectives. "At the end of this training you will be able to . . .

1. Accurately assess students' demonstration of Oklahoma Science Process Skills using a rubric
2. Make appropriate and informed instructional decisions based on the data gathered from the science rubric"

Stimulating Recall of Prerequisite Learned Capabilities

Learners will be presented with an overview of third grade Oklahoma PASS objectives for science in visual format.

Audio:

"These are the process standards that students should master in 3rd grade science. Using newly developed rubrics, you will be able to determine which of your students are meeting which standards, and to what extent. What experience do you currently have using rubrics? How do you feel about rubrics as opposed to traditional grading practices? Which provides the most meaningful and useful information? Please respond to these questions in the space below, then click submit. After clicking submit, take some time to read other teachers' responses to the same questions."

Presenting Stimulus Material

First, learners will be presented with the science-scoring rubric. While the rubric is displayed on screen (it will also be made available in printable format), audio will play describing each level of achievement presented on the rubric. Each level will be presented individually, followed by a video of a student demonstrating

the characteristics described. In the video, direct instruction is provided for the concept of levels of student achievement. Smith and Ragan's (2005) strategies for instruction leading to concept learning will be employed. Specifically, examples and nonexamples will be provided for each level of student achievement. The examples for one level of achievement serve as nonexamples for the other levels. In sequencing this part of instruction, we will begin with examples of what the learner is most likely to encounter most often in his or her own classroom experience. A level 3 is on grade level, and what the learner will see most often. A typical, on grade level student will be shown in the video during science class. At specific points during the video, the video will pause and point out a specific behavior that the student is or isn't displaying and refer back to the science scoring rubric. Samples of the student's written work will also be shown in the video, and the same process of identifying specific characteristics and referring back to the rubric will be used. At the conclusion of the video segment, an instructional decision will be made based on the student's level of achievement. For the first segment, since this student is on grade level, no further instruction is necessary, and instruction shift to focus on another goal. This will be explicitly narrated in the presentation. This same form of presentation of examples will continue with level 2 achievement, then level 1 achievement, and finally, level 4 achievement. Again, at the conclusion of each segment of video, and instructional decision will be made and justified. For level 2 achievement (approaching grade level) some more review and practice would benefit the learner. For level 1 achievement (significantly below grade level) intervention and remediation is necessary. For level 4 achievement (beyond grade

level) more complex learning tasks should be presented to further engage and challenge the student. Depending on the process skill being discussed, specific learning strategies will be discussed (i.e. examples of ways to provide more review and practice, examples of possible interventions, and examples of extension activities).

I have chosen a predominately supplantive strategy for this portion of the instruction because the learning objectives are relatively simple and well defined. It is also important to consider the learner. The learner is a classroom teacher with many constrains on their time. Quick and effective instruction is going to appeal to this learner, and increase the possibility of future application in their classroom.

In this portion of the instruction, the learner is being asked to observe an expert model the use of the science rubrics and use the data to make an instructional decision. The learning theory used in this stage of instruction is based on the social learning theory principle that "people learn by modeling their behavior on those of others" (Morrison, et al., 388).

Providing Learning Guidance and Providing Feedback

Much like presenting stimulus material, the learner will be shown video of a student performing in science class. Also like presenting stimulus material, the video will pause at strategic moments during the lesson and point out certain behaviors that are relevant to assessing the student's performance. For example, "Notice how the student is using the centimeter ruler to measure the height of the plant" or "Notice the table the student created in their science notebook". These

hints will cue the learner to refer back to the scoring rubric to determine where these descriptors fall on the continuum. At the end of the video, the learner will be asked, "How would you score this student based on the science rubric? 1, 2, 3, or 4?" Based on the learner's response, immediate feedback will be given. "Yes, that is correct. The student exhibited behaviors that fall in level ____ on the rubric" or "Remember, the student exhibited these specific behaviors. Where do those behaviors fall on the rubric?" After successfully assessing the student performance, the learner will be asked to make an instructional decision. "Based on your observations, and the score assigned to the student, which of the following is the most practical instructional decision? Moving on to new concepts, more review and practice, remediation and intervention, or more complex material?" Again, immediate feedback with rationale is provided, "Yes, because the student scored approaching grade level (2) more review and practice would benefit this student" or "Try again. Remember, this student is approaching grade level. What would most benefit a student approaching grade level?" Several examples, sequenced from least to most complex will be given with immediate feedback provided after each. Based on the skill being assessed, specific learning strategies can be implemented into the questions about instructional decisions. For example, if the learner is assessing the student on selection and use of appropriate measurement tools, instructional decisions might include introducing the concepts of millimeters and decimeters (more complex concepts) or providing the student with choices as to which tool to use in specific situations (more learning and practice). The number of examples that the learner will be asked to work through will be based on their level of success.

If the learner is highly successful, fewer examples will be worked through. If the learner is struggling and experiencing a low level of successful more examples will be provided until the learner achieves a higher level of success, and thus more confidence in their ability to transfer the knowledge into their classroom.

In this section of the instruction, I am primarily relying on the behaviorist principles that state "continuous reinforcement is superior to intermittent reinforcement" and "a small reinforcer given immediately has a stronger effect than a large reinforcer given later" (Morrison, et al., 385).

Assessing Performance

After the learner has been successful with the guided practice examples with feedback, we can assess the level of their learning. Before, during guided practice and feedback, the learner was provided choices to guide their decision-making, and 'hints' in the video to cue them to refer back to the rubric. During assessment these two will be removed. The learner will be given the following prompt "Watch the video of the student participating in a science lesson. After the video, review the student's written observations and conclusions. Based on the video and written work, assign the student a score of 1, 2, 3, or 4. Decide the best course of action for this student's learning. Justify your decision using the information gathered from the science rubric and Oklahoma Science Process Skills." Accurate assessment of the student and the choice of an appropriate instructional decision will be evidence that the learner has achieved the stated learning objectives for instruction.

Enhancing Retention and Transfer

In the weeks and months following instruction, administrators will schedule periodic check-ins. By these scheduled dates, the learner will be required to have assessed students using the science rubrics. A learning community will be established online. Learners will be asked to upload sample work from the student being assessed and then explain (informally) the process they used to assess the student. They will be asked to explain the score assigned and justify the reason for assigning the score. They will also be asked to explain their instruction following the assessment. What instructional decisions did this assessment prompt? A template will be provided to aid the learner in including all of the relevant information.

Example:

Which lesson/activity was being taught?

Which process skill is being assessed?

What score did you assign this student?

Why?

How did your instruction proceed following the assessment? Which instructional decisions were made?

Why?

It is expected that questions will arise once the learners begin using the rubrics regularly in their classrooms. For this reason, within the online learning community, space will be provided to allow the learner to post questions, share successes and insights, and express concerns. These questions, insights, and concerns can be responded to by fellow learners across the district, or addressed by the science curriculum coordinator (SME).

Evaluation Plan

Formative

The purpose of the formative evaluation plan will be to determine any weaknesses or flaws in the design plan. It will take place throughout the design process so that any flaws encountered can be corrected. Throughout the formative evaluation process, multiple audiences will be considered including school administrators, the subject matter expert, and the learners.

According to Smith and Ragan (2005) the first stage of formative evaluation is design reviews. I will rely on my subject matter expert, Jeff Patterson, science curriculum coordinator, and building administrators to assist with feedback in this stage of formative evaluation. As I am gathering information to conduct learner, context, and task analyses, I am submitting this information and my subsequent analyses to Mr. Patterson and administrators for review. Building administrators will be able to give feedback regarding my analyses of the learner and context and I will rely on Mr. Patterson's feedback regarding the task analysis. Feedback will be obtained from administrators and Mr. Patterson through interviews. At this stage in

the design process, feedback is crucial in determining whether or not there is a need for instruction, and whether or not my conclusions based on gathered data are accurate. The information gathered in these initial phases of the design process affect the decisions that will be made regarding instruction. All of this assessment has taken place before any designing of the actual instruction has occurred.

After design reviews have taken place, I can move on to the second phase of evaluation described by Smith and Ragan, which is expert reviews. Upon completion of the instructional plan, this will be submitted to Mr. Patterson for his review. He will determine whether or not the instruction is effective for meeting the agreed upon learning goals and objectives. He will also analyze the plan and content for accuracy. I would also provide Mr. Patterson with access to a prototype of the instructional materials (an online training module) for evaluation. Any design flaws, inaccuracies, or misconceptions can be corrected at this stage, before learners have utilized the instructional program. Again this will occur through meetings and interviews with Mr. Patterson.

Once the instructional program has been evaluated by the subject matter expert and is acceptable for learner use, I can begin the learner validation phase of formative evaluation. This will begin with a one to one trial. Assessment questions have been built in to the training, and learner responses to the assessment questions will determine whether or not the instruction allows the learner to meet the stated instructional objectives. Upon completion of the training, an interview with the learner will give insight into any misunderstandings in the material, any difficulty or complications in completing the training (e.g. is it clear where to enter

answers or how to advance to the next topic), their opinions as to whether or not the training was effective, and any suggestions for improvement. This one to one evaluation process will be completed with several learners in order to obtain more objective information that can effectively inform any decisions regarding revision of the learning materials.

After one to one evaluations have been completed, and any necessary revisions have been made, small group evaluations will be utilized to gather further information regarding the design of the instructional materials. Much like the one to one evaluations, the practice items and assessment question built into the training (see instructional plan) will be used to determine whether or not the learners have successfully met the learning goals and objectives. Surveys will be developed to assess learners' attitudes toward the instruction, and to obtain feedback on the instruction, presentation of material, and usability of the instructional module.

My decisions for the formative assessment plan are based largely on the information presented in Smith and Ragan (pages 337-343). They present formative evaluation as a series of sequential phases. Each phase serves a unique purpose and provides relevant, necessary data to inform design decisions. By completing formative assessment in phases as outlined by Smith and Ragan, I ensure that the finished product is one that has been thoroughly analyzed and evaluated. Design flaws, inaccuracies, and trouble areas have been identified and revised to ensure an effective teaching product. The final design product has been through several layers of 'filters' to screen for potential problems. By having several

different people, including experts and learners, provide feedback on the instructional tool at varying stages of development, the final product is one that is relevant to learners' needs, free of inaccuracies, and effective in teaching the new content.

Summative

With the completion of formative evaluation, and the necessary revisions being made, summative evaluation can begin. In this instance, we want to ensure that learners are learning to use the science rubrics effectively and make appropriate instructional decisions. We also want to ensure that the use of the rubrics is being carried into practice in classrooms.

In order to assess effectiveness of the instruction, a summative evaluation in the form of an essay question has been included in the instructional plan. Learners' responses to the question will determine whether or not the instruction has been effective. If learners are able to accurately respond to the question and make an appropriate instructional decision regarding their sample student, then instruction has been effective.

One important aspect of this training is the transfer of the knowledge to regular use in the daily classroom. In order to assess this and ensure that it is occurring regularly, learners will be required to check in periodically and share their experiences with the new knowledge. They will be asked guiding questions and asked to share specific examples of the rubrics at work in their classrooms.

Learners' attitudes and reactions to the training can continue to be monitored and assessed at the conclusion of instruction through the use of rating scales and surveys.

Assessment Instruments

Instructional Objective	Instructional Strategy	Assessment Approach	Sample Assessment Items
Given student work, the learner will be able to accurately assess students' demonstration of Oklahoma Science Process Skills	Guided practice. The learner will watch a video of a student in science and analyze a sample of their written work. The learner will be guided through the process of scoring the student, then given a formative assessment.	Formative: Students are given multiple-choice questions and asked to answer them based on a video of student work. Summative: Learners are again shown a video of a student in science class and samples of their work. They are asked to assess the student and justify their reasoning in essay format.	Formative: Based on the video and samples of student work, how would you score this student according to the science rubric? A. 1 B. 2 C. 3 D. 4 Summative: Watch the video of the student participating in a science lesson. After the video, review the student's written observations and conclusions. Based on the video and written work, assign the student a score of 1, 2, 3, or 4. Decide the best course of action for this student's learning. Justify your decision using the information gathered from the science rubric and

			Oklahoma Science Process Skills.
Using the information gathered from the use of rubrics, the learner will be able to make appropriate and informed instructional decisions	Guided practice. The learner will watch a video of a student in science and analyze a sample of their written work. Based on the score the learner assigns the student, the learner will be guided through the process of making an instructional decision, then given a formative assessment.	Formative: Students are given multiple-choice questions and asked to answer them based on a video of student work. Summative: Learners are again shown a video of a student in science class and samples of their work. They are asked to assess the student, make an instructional decision, and justify their decisions in essay	Formative: Based on the video, samples of student work, and the score you assigned the student, what would be the best course of action for this student's learning? A. Re-teach the material and reassess at a later date B. Move on to the next topic of instruction C. Provide enrichment activities to further enhance their knowledge and understanding Summative: Watch the video of the student participating in a science lesson. After the video, review the student's written observations and conclusions. Based on the video and written work, assign the student

		format.	a score of 1, 2, 3, or 4. Decide the best course of action for this student's learning. Justify your decision using the information gathered from the science rubric and Oklahoma Science Process Skills.

The assessment strategies listed in the table above and the examples of assessment items have been designed to effectiveness of the instruction. They will allow the designer and interested parties to analyze how well or to what extent the learners have mastered the content presented.

The following is an example of possible questions that could be used to assess learners' attitudes toward the instruction. These questions could be used in both the one to one and small group trials of formative assessment and in the summative assessment phase. The questions could be asked in either interview or survey format, depending on the number of responses being sought.

1. Was the instruction applicable to your current teaching practice?
2. Was the instruction easily accessible?
3. Was the instruction easy to understand?
4. What changes would you make to the instruction?
5. Was any part of the instruction unclear?
6. How likely are you to use what you learned in your classroom?

Reference List

Smith, P. & Ragan, T. (2005). *Instructional Design (3rd ed.).* NY: Wiley

Morrison, G. R., Ross, S. M., Kalman, H. K., & Kemp, J. E. (2011). *Designing Effective Instruction (6th ed.).* NY: Wiley

Appendix 1: Learner Analysis Survey

These are the survey questions (25) that I sent out via an e-mail in a word document to 14 3rd grade teachers at 4 elementary sites in Norman. I compiled all of their responses into one document.

1. How often do you use a computer? (Daily, 3-5 times/week, fewer than 3 times/week)

   Daily – 14

   3-5 times/week – 0

   Fewer than 3 times/week - 0

2. How often do you get on the Internet? (Daily, 3-5 times/week, fewer than 3 times/week)

   Daily – 14

   3-5 times/week – 0

   Fewer than 3 times/week – 0

3. How familiar are you with the science process standards for your grade level? (very familiar, somewhat familiar, not at all familiar)

   Very familiar – 11

   Somewhat familiar – 3

   Not at all familiar - 0

4. Have you used rubrics to assess student learning?

   Yes – 14

   No - 0

5. Have you used rubrics to assess student learning in science?

   Yes – 1

   No - 13

6. Have you used GCN (Global Compliance Network) for online training?

   Yes – 14

   No - 0

7. Do you prefer online training or classroom training for professional development?

   Online – 8

   Classroom - 6

8. How important is ease of access to training? (very, somewhat, not at all)

   Very – 14

   Somewhat – 0

   Not at all - 0

9. How important is convenience of training? (very, somewhat, not at all)

   Very – 14

   Somewhat – 0

   Not at all - 0

10. Are you more or less likely to complete training if you are given flexibility in the time to complete it? Comments?

    More likely – 10

    Less likely – 4

11. How valuable do you think the new science rubrics will be? (valuable, not valuable) Why?

    Valuable – 10

    Not valuable – 4

    Comments:

    "I said less likely because I need a deadline to meet, otherwise I will forget about it."

    "I'm very busy and need flexibility"

    "It's very easy to only give an s or u"

    "because I don't always pay close attention to what my students are doing/learning in science. It makes us lazy b/c we only have to give s or u."

    "I don't know how they will work. my students are engaged in hands on learning. How do I give a grade to how hands they are? How do I know how well they are observing?"

    "parents don't always understand why they got an s- or an s+. with a rubric I will be able to say your child did or didn't do a, b, and c."

    "very valuable"

    " everything is tested. My kids love science, maybe because they don't have to memorize anything for a test. Will there be written tests in science now?"

12. Do you feel that there is a need for training in how to implement these rubrics?

    Yes – 14

    No - 0

Rate the following statements on a scale of 1-4 (1 meaning this does not describe me at all and 4 meaning this describes me perfectly).

13. I tend to be generally anxious

    1 – 3

    2 – 7

    3 – 4

    4 – 0

14. I am not intimidated by learning new things

    1 – 1

    2 – 3

    3 – 8

    4 – 2

15. Workshops stress me out

    1 – 2

    2 – 6

3 – 2

4 – 4

16. I am where I am today because of my hard work

1 – 0

2 – 1

3 – 3

4 – 10

17. I got my job because the circumstances lined up perfectly

1 – 9

2 – 3

3 – 1

4 – 1

18. I think some people are just lucky

1 – 9

2 – 3

3 – 1

4 – 1

19. It is easy for me to learn new things

1 – 0

2 – 1

3 – 12

4 – 2

20. I am smart

    1 – 0

    2 – 0

    3 – 11

    4 – 3

21. I'm not very good at learning new things

    1 – 3

    2 – 11

    3 – 1

    4 – 0

22. Do you prefer working alone or with a group?

    Alone – 4

    With a group – 10

23. How likely are you to post in an online discussion board? (very likely, somewhat likely, not at all likely)

Very likely – 3

Somewhat likely – 5

Not at all likely – 6

24. Does your administrator require training that is relevant to your needs?

    Yes – 10

    No – 4

25. If questions arise during an online training (regarding the content of the training), whom would you contact for support/answers?

    My teammates – 7

    Site science advisory board member – 6

    Jeff Patterson – 1

    Other (please specify) - 0

Appendix 2: Science Scoring Rubric

Third Grade Scoring Rubric

Concept/Skill: Interpret and Communicate
PASS Process Standard 4.1 – 4.4

Score	Description
4 Exceeds	The student independently and consistently exhibits with no major errors or omissions: A. Provides a detailed written record (notebook). B. Creates visual representations (e.g. bar graphs, pie charts, drawings with labels) to communicate evidence (data). C. Describes more complex patterns/trends in the data. D. Makes predictions and claims (conclusions) based upon evidence from the investigation. E. Supports claims with evidence from investigation/observations during discussions of scientific investigations. F. Recognizes need to compare student claims with those of experts/others. G. Actively seeks out other sources of information to supplement their investigation.
3 Secure	The student independently and consistently exhibits with no major errors or omissions: A. Create detailed labeled drawing. B. Creates a written record of science investigations (notebook). C. Able to use teacher provided graphic organizer (tables, charts, graphs, etc.) to represent data and convey understandings. D. Describes simple patterns/trends in data. E. Listens to and expands upon the ideas of others in a class discussion that analyzes data or develops claims (conclusions). F. Can make simple predictions or claims (conclusions). G. Recognizes need to compare student claims with those of experts/others, but requires teacher assistance to locate them.
2 Developing	The student exhibits with no major errors or omissions: A. Create accurate drawings of organisms, objects, and events with some labels. B. Creates a written record of science investigations (notebook), lacks detail. C. Able to use teacher provided graphic organizer (tables, charts, graphs, etc.) to represent data and convey understandings

	with prompting. D. Participates in class discussions or small group discussions that analyze evidence (data) and develop claims (conclusions). E. Able to interpret visual representations (graphs, charts, etc.) with prompting. F. Uses teacher provided sources of information to supplement investigations. G. Can make simple predictions or claims (conclusions) in a small group.
1 **Beginning**	With assistance, the student can complete parts of Score 2 and/or Score 3 elements.
0 **No Grade**	Even with assistance, no understanding of the skill is demonstrated.

Possible Sources of Evidence

-Anecdotal Notes
-Personal Communication
-drawing/diagram
-oral/written communication
-Project/Performance
-Exam

Appendix 3: Subject Matter Expert Report

For this project, the SME is Mr. Jeffrey Patterson. Mr. Patterson is the science curriculum coordinator for Norman Public Schools. I have worked with Mr. Patterson as a member of the Elementary Science Advisory board and am familiar with his level of expertise in the area. Mr. Patterson has been involved in teaching the elementary science class for potential teachers at OU. He is also the person who has been the driving force in developing the rubrics that will be used to assess elementary students, and which are the focus of the design project. Mr. Patterson has been working with the Elementary Science Advisory board for the past 6 years to develop and pilot the rubrics. I came in on the tail end of the development process. After several revisions, Mr. Patterson, with support of district administrators, feels that the rubrics are ready for use in the classroom. It is because of this, that I observed a potential need for training teachers in the use of the rubrics.

I chose Mr. Patterson as the SME for this project because of his high level of involvement in the development of the rubrics. Since he has been at the head of the development of the rubrics for several years, he has a thorough knowledge and understanding of what would be expected of learners who completed the training. Mr. Patterson is also an expert educator. He has a high level of expertise regarding instruction and assessment.

My initial meeting with Mr. Patterson took place after a regularly scheduled meeting of the Elementary Science Advisory Board. I approached Mr. Patterson

with the possibility of him serving as a SME for this project. He was more than willing to assist. At that initial meeting, I explained to him what I anticipated needing from him as an expert, and my initial ideas regarding the design plan. At this meeting, we discussed what the needs of the district would be, what the outcome of the training would be, and defined instructional objectives.

Upon completion of the task analysis, I submitted the document to Mr. Patterson for his review. At the subsequent meeting, I answered several questions Mr. Patterson had regarding the parameters of the assignment. I asked Mr. Patterson to review the document for any pertinent information that I had potentially eliminated. I also asked for his unbiased feedback regarding the analysis. I asked if he felt it was thorough and accurate. The feedback provided was very useful and insightful. Mr. Patterson suggested an initial piece to the training that would be provided to all grade level classroom teachers at the same time – separate from the online training module. He thought it would be helpful to disseminate the information on 'Why?' to entire staffs before they were asked to complete grade level trainings. He thought that building administrators should lead this. He also indicated an interest in making himself or other advisory board members available to answer specific questions that learners might have. While we were discussing this, I was reminded of Keller's motivation model, which I did not include in this design plan.

Upon completion of the Instructional Plan, I was able to meet with Mr. Patterson again. He was very positive toward my plan. He especially liked the idea of including videos so that learners would have real examples of what using the

rubrics looked like. He expressed concern about the development of the online training module. He had questions concerning the logistics and budget of being able to create something like I envisioned. When I explained to him the rationale for my decision to create an online training environment, based on the learner analysis, he agreed that it would be preferable to most teachers, and therefore likely to be successful. However, realistically implementing something like I envisioned would prove to have several obstacles. As a more realistic alternative, Mr. Patterson suggested periodic grade level meetings to follow up on training. Much like the follow up I proposed online, he felt that grade level meetings would allow teachers the chance to share successes and strategies, ask questions of each other, and continue to develop their understanding and use of the rubrics.

In preparation for the meetings held with Mr. Patterson, I sent ahead the document that I wished to discuss. The questions I asked were very general in nature, and the result was candid conversations as opposed to more formal interviews. For example, I asked Mr. Patterson 'Did I leave anything out of the instructional plan?' and 'Would you make any changes to the plan?' and 'What specific strengths does the plan have?'.

I really appreciate the time that Mr. Patterson took to help with the design project. His feedback was thorough and thoughtful. He provided a perspective that I didn't have for the project. His years of experience in training teachers, although not formal Instructional Design, proved invaluable for this project. I thoughtfully considered his suggestions, and highly respect his expertise. Based on his feedback, I would consider changing some of the ongoing online discussion designed for

retention and transfer to face-to-face grade level meetings if development of the online community proved infeasible. However, I do maintain that teachers would be more responsive to online communication and training based on my learner analysis.