A Systematic Process for Motivational Design

INSTRUCTIONS: Motivational Design Worksheet 1

COURSE INFORMATION (1 of 2)

Course Title:

Course Description

1. *Provide a brief description of the content (actual or expected) of this course.*

For this third grade Math lesson on multiplication, I will use the Pearson textbook to help with instruction. Then I will maintain the students' attention and add relevance to the lesson by asking the students to solve problems in which they must use their newly gained multiplication skills to figure out how many tickets they need to participate in various activities at the school's annual Falcon Festival. This unit will only be taught once during the school year. After completing these exercises with the students, I will evaluate the effectiveness of the exercises and make necessary changes to improve the results with the next class I teach this unit to.

2. *What is the purpose (major goal or objective) of this course?*

The unit objective is for students to learn how to use addition to multiply numbers and objects.

3. *Is this a new or existing course? (Check One)* **Existing course** x New course

4. *What are the logistical considerations of this course? Will it be…*

   a. *Taught one time or many?*
   This unit will be taught once per school year over the course of a week.

   b. *Modified frequently or infrequently?*
   It will be modified frequently.

   c. *Taught frequently or at widely spaced intervals?*
   It will be taught annually to third graders in my math class.

5. *How much time is there to revise or create this course before it has to be delivered the first time?*

I have several months to revise this course before it must be delivered for the first time, as it is a unit that is covered in the Spring, and the current school year has just ended.

Rationale for the Course

1. *What need or requirement is supposed to be met by this course?*

This unit meets the Florida School Standard MAFS.3.OA.1.1 (Interpret products of whole numbers).

2. *If this is an existing course, why is it being changed? What are the perceived motivational or instructional problems?*

This is an existing course, but I am adding supplemental activities which are set during the school's annual Falcon Festival to gain the students attention by using a familiar setting. Creating problems to solve in the context of the Falcon Festival also makes the lesson more relevant to the students' interest and experiences. As a result of the supplemental activities, it is my hope that the students will gain confidence and satisfaction in their newly gained skills to sufficiently master the content and tackle the next objective.

COURSE INFORMATION (2 of 2)

Setting

1. *What is the setting of the course? (e.g. classroom or learning center at the worksite, offsite or remote site classroom or learning center, home study)*

This unit is set in a third-grade classroom

2. *Does this course relate to other courses taken before or after this one?*

This unit on multiplication will call upon the students' knowledge of addition, and prepare them for learning to divide and later, algebra.

3. *What is the existing or likely delivery system for this course (e.g. classroom, lecture-lab, self-paced print, CAI, video, satellite)?*

The unit on multiplication will primarily be delivered in the classroom through lecture, aided by the explanations and exercises in the textbooks. I will also supplement the textbook with the problems and exercises I created to reinforce what the students learned from the textbook and lecture portion of the lesson.

Instructor Information (This Section Applies To Instructor-Led Courses)

1. *How much subject matter expertise do the instructors of this course have?*

As the third-grade math teacher, I am a Subject Matter Expert in mathematics.

2. *How much classroom experience do the instructors have, and how much variety in the types of courses they have taught?*

This will be my first experience teaching mathematics to a third-grade classroom and have only done my teaching practicum in classroom environments. I do not have experience teaching this subject to students through virtual or remote schooling.

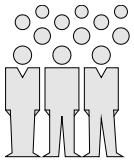
3. *What kinds of teaching strategies are the instructors familiar and comfortable with?*

I am familiar with explanatory lectures, inquiry-based, and project-based learning.

4. *What kinds of teaching strategies would be unfamiliar to, or rejected by the instructors?*

As the instructor, I do not like to employ teaching strategies that rely on rote memorization. Creative role-playing and expressive writing are also strategies that I would be less likely to use to teach a math lesson.

INSTRUCTIONS: Motivational Design Worksheet 2



AUDIENCE INFORMATION

1. *Is this course for entry level or experienced workers?*

This unit is for third-grade math students who have little to no prior exposure to multiplication concepts.

2. *What are the learners' motivational attitudes toward their job assignments, and their morale within their workplace?*

The students have a medium overall motivational attitude, as this lesson is compulsory which leaves them no control over what and how they learn. But, the students are familiar with each other by this time in the school year, and their morale is good.

3. *How well do the learners know each other, if at all? For example, will they know each other and have experience working together, will they be working together after the course even if they weren't before, and are they from different work settings?*

By this point in the school year the students will have experience working together. They are all from the same classroom, and will likely not work together after the school year ends unless they end up in the same class.

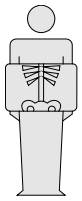
4. *What are students' general attitudes toward this course? Did they volunteer or were they assigned? Do they think it is useful or unnecessary? Do they think it will be difficult or easy, boring or interesting?*

This is a mandatory lesson for the students. I anticipate that they will not find the lesson very relevant to their daily lives initially but will by the time we have completed supplemental activities.

5. *Do the learners have any strong likes or dislikes with respect to various types of delivery systems and teaching strategies?*

The students prefer hands-on, interactive learning strategies

Motivational Design Worksheet 3



AUDIENCE ANALYSIS (1 of 2)

1. *Does this analysis pertain to the whole class or one subgroup (use separate forms or identify with a label as indicated in instructions)?*

This analysis pertains to the entire third grade class

2. *Based on the information in Worksheets 1 and 2, how do you characterize the audience on each of the following dimensions (describe each and use the graph to portray the results)?*

Attention Readiness

Most of my students will have low attention readiness for this subject, as math tends to be a tedious subject to learn

Perceived Relevance

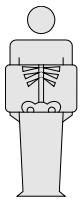
My students' perceived relevance is low, as they initially won't see the connection between learning how to multiply and how they will be able to use it in their everyday lives outside of the classroom.

Felt Confidence

My students' confidence will be medium. By this time they have mastered how to add, which will scaffold the newly acquired multiplication skills.

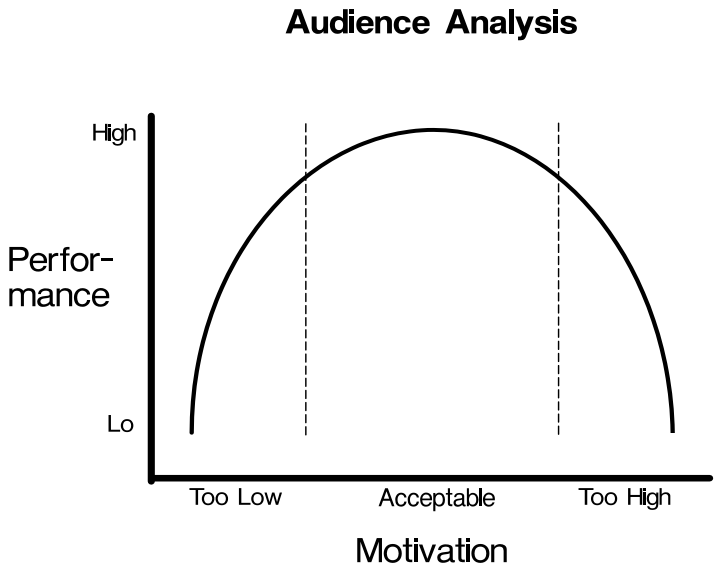
Satisfaction Potential

The potential for satisfaction is high. I anticipate that using the Falcon Festival as the backdrop for the supplemental activities will increase the students' motivation to participate and master multiplication. I feel confident that by the end of the lesson, most students will now only have learned how to confidently do simple multiplication, but that they will be exited to demonstrate their mastery for their parents.



AUDIENCE ANALYSIS (2 of 2)

(Use this graph to portray the results of your audience analysis.)



3. How would you characterize the major versus the minor problems?

The problem with the textbook is that it doesn't provide practice exercises that are immediately relevant to the students' experiences. I view this as a minor problem, and it is one that is easily overcome with the addition of the interactive supplemental activities that I have designed.

4. Does the major cause appear to be modifiable? If not, which other conditions might be influenced to improve overall motivation?

The major cause is modifiable. Engaging the students in hands-on ways to work through the math problems and presenting them in a more relevant context will increase the students' motivation to participate in their learning. This, in turn, will increase their confidence and satisfaction as they complete each task and know immediately how they will apply this task to a real life experience that is available to them.

5. Is there anything else that should be considered in the audience analysis?

No

INSTRUCTIONS: Motivational Design Worksheet 4

EXISTING MATERIALS ANALYSIS (1 of 2)

Use this worksheet to record your analysis of an existing course or set of course materials, or of a course you are evaluating in consideration of purchasing. If you are using a checklist of some type, you may wish to attach the results of that analysis as supporting information, or substitute those results in their existing format in place of this worksheet.

Include both positive features and deficiencies.

1. Attention Getting and Sustaining Features

a. Positive Features

a positive feature of the Pearson Realize third-grade math textbook is that it allows students to use a variety of methods to solve the proposed problems.

b. Deficiencies or Problematic Areas

One problem with the textbook is that it immediately jumps into the problem solving, without explaining to the students what they are doing and why. This is problematic, especially for process-oriented learners, as they are unable to immediately see the rationale behind using addition to multiply. While starting with a problem to solve can be a useful way to get the students' attention, the lack of a visible explanation and process lowers the students confidence in their ability to transfer their knowledge of addition to the new skill of multiplication. The problem should be used as an introduction to the lesson, followed immediately by the process necessary to solve the problem before asking the students to solve the problem all the way out before introducing the instructions.

2. Relevance Generating Features

a. Positive Features

One positive relevance generating feature used by the textbook is that the characters used to illustrate the problems and problem-solving process are the same age as the intended audience.

b. Deficiencies or Problematic Areas

While the characters in the textbook illustrations are the same age as my math students, it must have a broad appeal, and therefore it's relevance is limited to what the textbook creators think will appeal to most third-graders- in this case, the number of fish won at a Fair. This is where my supplemental activities will bridge the relevance gap by using classmates as examples, and the school's annual Falcon Festival as the setting for the problems they will solve. I will also compensate for the lack of relevance in the textbook by allowing the students to make up their own problems at the end of the lesson for their classmates to solve.

3. Confidence Building Features

a. Positive Features

For my supplemental activities, I will clearly explain the learning objective for the unit and have it written on the classroom white board so that it is visible to students at all times. I will also post homework due dates. During the unit lesson, I will give students the opportunity to work with a team mate, pairing students who appear to have a strong grasp of the lesson with students who have a weaker grasp of the lesson. Each team will come up with a few multiplication problems, complete with answers, which they will present for their classmates to solve.

b. Deficiencies or Problematic Areas

One deficiency I see is that the number of students who fully understand multiplication might be outnumbered by students who have a weak understanding. If this is the case, I will not be able to maintain a 1-1 ratio of a strong student paired with a weaker student in each team.

4. Satisfaction Producing Features

a. Positive Features

Students will earn points for correct answers, which will lead to a trip to the classroom treasure box once a certain number of points has been achieved.

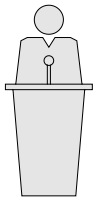
b. Deficiencies or Problematic Areas

The weaker students are less likely to reach the required number of points for a trip to the treasure box, which would demotivate them.

5. General Comments (Include comments that pertain to the overall course or documents.)

None

INSTRUCTIONS: Motivational Design Worksheet 5



OBJECTIVES AND ASSESSMENTS

MOTIVATIONAL DESIGN OBJECTIVES	**ASSESSMENTS**
List Objectives that describe any desired changes that you wish to bring about in the motivational profile (attitudes) of the learners.	For each objective describe what measurement you will use to determine whether you have accomplished it.
Attention Learners will report that the setting in which the lesson is set is interesting to them and encourages a sense of curiosity about what is going to happen next.	Learners will be surveyed about their level of interest in learning multiplication both before and after the lesson is completed. I will compare the answers to see what adjustments need to be made to improve attention in future lessons.
Relevance Learners will report that they understand how the multiplication skills can be applied to their daily lives outside of the classroom.	Learners will be asked to think of other situations in which they could use their multiplication skill.
Confidence Learners will successfully complete each practice exercise within a reasonable amount of time.	Learners will complete practice exercises with 70% accuracy or better.
Satisfaction Learners will be able to explain the process of multiplication and how it can be used outside of the classroom.	Learners will be able to create their own multiplication problems to present to their classmates to solve. They will also be able to satisfactorily solve problems presented to them by their classmates with at least 70% accuracy.

INSTRUCTIONS: Motivational Design Worksheet 6

PRELIMINARY DESIGN (1 of 2)

• • •TACTICS • • • **Preliminary Ideas**

	Beginning	During	End
A	Capture interest by introducing module and presenting students with a problem they will know how to solve by the end of the lesson.	Produce variability and stimulate inquiry by shifting the attention to the students and asking them to brainstorm how they would go about solving this problem. Encourage students to write down their answers- we will compare them to what they actually learn in the lesson and see how close they were.	

R	Introduce the scenario in which the skill will be used: the students are attending the Falcon Festival with their parents and want to play games and go on rides. Their parents will give them a total of twenty tickets to be used for entertainment. How many rides will they be able to go on if the rides cost two tickets each? How many games can they play if the games cost 3 tickets each?	- Use the previous scenario to reinforce the process taught in the book to answer the proposed questions. Do a few more problems using this scenario by changing the numbers to encourage students to think critically about their answers.	Pair the students up and have them create their own multiplication problems that would be relevant in their lives.

INSTRUCTIONS: Motivational Design Worksheet 6

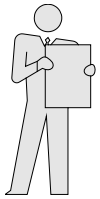
PRELIMINARY DESIGN (2 of 2)

• • •TACTICS • • • **Preliminary Ideas**

Beginning	During	End

C		Allow students to provide feedback to each others' answers: "is Sharon's answer correct? Why or why not? What other way could she have solved this problem using multiplication?"	Give each students points for correct answers, culminating in a trip to the treasure box after reaching a certain number of points.
S		Give students time to write down their process and evaluate their progress.	Making sure to pair students in a way that their multiplication skill is balanced- for example, pairing a student with a strong grasp with a student who has a weaker grasp of multiplication. Give the students opportunities to solve the problems created by their classmates.

INSTRUCTIONS: Motivational Design Worksheet 7



FINAL DESIGN (1 of 2)

THROUGHOUT ----------

See above table

BEGINNING ----------

DURING ----------

END ----------