DIFFERENTIATED INSTRUCTION & FORMATIVE ASSESSMENT – LEARNING CIRCUS – 75 POINTS

Background Info and Rationale
All students, regardless of culture, race, gender, socioeconomic status, and ability, benefit from *differentiated instruction*. No one has the same learning styles, preferences, or background. Therefore, teachers need to find ways to individualize instruction. There is no "one size fits all" type of math instruction. Traditional methods of teaching math help only a minority of students develop math skills in the long run. All students need opportunities to feel like they can succeed in math. Math skills play a role in helping people make informed decisions about their lifestyles, as well as guiding their choice of future careers.

Formative assessment provides data used to inform and guide instruction. Formative assessment enhances student learning, supports students' conceptual growth, enables teachers' professional growth, and provides information to report students' progress. Students' misconceptions regarding math concepts are often overlooked. Formative assessment strategies can prevent student frustration from being unprepared for or, in contrast, unchallenged by content.

Differentiated Instruction in combination with Formative Assessment are powerful tools for teaching, assessing, and meeting the individualized needs in your classroom!

Assignment Description
Overview: As a team you will create your choice of a differentiated activity. You will choose between a tiered lesson, stations, or a tic tac toe choice board. In addition to the group constructed DI activity, each member of the team will create a formative assessment tool that can be used and describe how it would be used (before, during, or after learning). On the due date for the assignment you will bring all materials for the activities and assessments to class and set them up as a "*Learning Circus*". Each group will rotate to and sample the other groups' activities.

Part I – Differentiated Instruction (DI) Activity (Team)

As a team signup for one of the 5 math content strands. Within your selected content strand decide upon a Grade Level Expectation and a series of Performance Indicators at one grade level, grades 4-6, to plan your DI Activity. Dr. Suters recommends a book by Jennifer Taylor Cox, *Math Intervention: Building Number Power with Formative Assessments, Differentiation, and Games, Grades 3-5*. One copy is available for loan.

Plan **ONE** of the following. Include the GLE and PI's that you selected as part of your paperwork.

- **Learning stations** with differentiated activity choices – Create a minimum of 5 activities. These should include detailed instructions for the student and teacher. Thoroughly describe each station (what do students do, learn, and produce at the station) and describe how each station addresses a differentiated need or needs. Include all references used to create each activity.

See station examples at: http://mathcentral.uregina.ca/RR/database/RR.09.97/gauthier2.html

- **Tic Tac Toe Choice Board** - Create a set of activities for the board. Include a set of directions for the student on an additional handout page, including specific directions for activities as needed. Indicate in some way on the tic tac toe board how each activity addresses a differentiated need – look at examples for

suggestions of how to do this. If you don't want students to see the categories make a tic tac toe board for the teacher and one for the student. Include all references used to create each activity.

See TicTacToe examples at: http://daretodifferentiate.wikispaces.com/Choice+Boards

- **Tiered Lesson** – Write a lesson plan that includes leveled activities for your selected topic within the body of the lesson. You can modify an existing lesson plan that addresses whole group instruction if you reference the original lesson. Use the lesson plan format provided. Prepare for 3 break-out groups – one low, one average, & one above average group. Use the following model to help guide the activities within each group:
    - *Concrete* – hands-on manipulatives (typically for your low level learners)
    - *Semi-Concrete or Representational* – use of pictures of manipulatives (typically for you average learners)
    - *Abstract* – use of algorithms or mental math (typically for your advanced learners)

See examples of tiering at:
http://www.doe.in.gov/exceptional/gt/tiered_curriculum/welcome.html

Part II – Formative Assessment (Individual – aligned with DI Activities)

Each person in the group should select one of the following types of pre- or formative assessment. Create a tool to assess your students aligned to your differentiated activity. Include a description of how & when the tool would be used as part of your instruction.

Pre-Assessment (one member from each group will be required to create a pre-assessment)
Prepare a pre-assessment that could be used in order to properly distinguish 3 groups (lower, average, and upper) that could be used to determine placements prior to teaching the lesson.

a. Develop at least 9 questions for all students to answer. Gear 3 that are below grade level expectations that you would expect everyone to answer correctly, 3 that are on grade level that you would expect the average student to be able to answer, and 3 that are for your advanced learners. Label each set. (*You wouldn't give them labeled in class – this is just for my benefit*.)
b. If possible locate questions using the NAEP question tool.
    i. Direct weblink to NAEP questions tool – http://nces.ed.gov/nationsreportcard/itmrlsx/landing.aspx
    ii. Tutorial on using the tool (created for science, but same information applies to math) – http://screencast.com/t/NWM0Yjg0Nz

Formative Assessment -The members of the group that do not complete the pre-assessment should each select one of the following formative assessment tools to develop. Be sure to provide complete directions for what the student should do with the tool.

The following strategies are acceptable to use and are included in the *Science Formative Assessment* text by Page Keely.

1. A&D Statements #1
2. Card Sorts #4
3. Concept Cartoon #9
4. Frayer Model #20
5. Friendly Talk Probes #21

6. Justified List #30
7. Justified True or False Statements #31
8. Odd One Out #38

The following web 2.0 tools can be used to design a formative assessment as well:

1. Word Cloud – wordle or Tagxedo
2. Wallwisher, Magnoto, or Stixy
3. VoiceThread
4. Quizlet
5. Use of other Web 2.0 tools, such as a Glogster page

Another method for formative assessment could be the use of an iPad or iPod Touch. Find a series of apps that apply to your topic and describe how you would use them.

Part III – Learning Circus (Team Setup)

A learning circus is an active, motivational, hands-on context for student-centered, collaborative inquiry which involves stations with activities that illustrate key concepts associated with a single broad unifying theme – *our theme for this learning circus is Differentiated Instruction and Formative Assessment*. Students actively explore, reflect, discuss, and synthesize information at each station.

On the day the Learning Circus is required in class, bring all materials for the class to complete your group-designed DI activity and your individually designed formative assessments. You will rotate in teams to explore each station and sample as many activities as you can. You will be asked to take notes, make observations about the activities and assessments, and provide anonymous feedback to your peers.

LEARNING CIRCUS ASSESSMENT

5 Exceeds expectations	4 Meets all expectations	3 Falls short in minor, but critical areas	2 Falls short in several critical areas	0 or 1 Fails to meet expectations /not addressed	NA Not applicable

Learning Circus Title	**Differentiated Instruction & Formative Assessment**

This Learning Circus…	**5 | 4 | 3 | 2 | 1**	**Revisions**
DI Team Activity		
1. Shows careful alignment with the targeted standards. (4th, 5th or 6th grade math)	☐ ☐ ☐ ☐ ☐	
2. Instructions for students & teacher are clear. Another teacher would be able to pick up your work and know what to do.	☐ ☐ ☐ ☐ ☐	*2 out of 10 points
3. Shows a clear effort to differentiate activities by interest, ability, learning style, and/or Bloom's levels	☐ ☐ ☐ ☐ ☐	*2 out of 10 points
4. Credits the source of all student activities.	☐ ☐ ☐ ☐ ☐	
Formative Assessment Individual		
5. Student directions for completing the assessment are clear.	☐ ☐ ☐ ☐ ☐	*2 out of 10 points
6. A description of how and when the tool would be used to guide instruction is included.	☐ ☐ ☐ ☐ ☐	
7. Generates assessment data for monitoring student progress and adjusting instruction.	☐ ☐ ☐ ☐ ☐	*2 out of 10 points
Learning Circus Team		
8. Materials needed to complete activities are available and setup on time before class.	☐ ☐ ☐ ☐ ☐	*2 out of 10 points
9. There is clear evidence that team members collaborated to prepare.	☐ ☐ ☐ ☐ ☐	
10. Team works together to review other groups' work and provide constructive feedback.	☐ ☐ ☐ ☐ ☐	
	Summary Score: **/ 75**	

Note: Any item that receives a score of 3/5 (or 6/10) or less is a candidate for revision.