**Differentiating Math Instruction Grades 4-6- Rationale Statements**

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Day 1 Segment Rationale

**Segment 1: Differentiation**

We wanted to start our Professional Development program off with a segment on differentiation because that is the umbrella term of our entire program. We felt it was important to give attendees some information on the basics of differentiation before jumping into more specific segments throughout the rest of the professional development program. Within the differentiation segment, we provide our attendees with a clear definition of what differentiation actually is. It was really important that we also talk about what differentiation is *not* because we are well aware of many of the misconceptions that circulate about the topic throughout schools in today’s world.

There are so many good articles on the web that give information about different aspects of differentiated instruction that we decided it would be beneficial for our attendees to be exposed to some of the best. We chose three assignments, based on their content and length (appropriate for the time slot we had), and split the attendees up in groups to read one of the assignments and then report back to the whole group. This was an important activity because attendees learned about all three articles, with only having to take the time to actually read one of them. Not only did this save some time, but it also helped attendees realize the benefits of allowing students to work in cooperative learning groups.

Another really important part of this segment was the strategy toolkit that we handed out to attendees. It is easy to learn about differentiated instruction, but coming up with ideas of how to implement it in the classroom is a whole different story. This toolkit provided our attendees over 45 ideas for differentiation to get their minds going. Not all of the ideas given in the toolkit were age appropriate (4th-6th grade), but we liked that part because it gave our attendees a chance to get creative and think of ways they could tailor the idea to make it fit the needs of their own classroom.

Perhaps the most beneficial portion of the differentiation segment came at the end when we turned the attendees’ attention over to implementing what they had learned into the mathematics classroom. We did a brainstorm to activate prior knowledge, and then we provided attendees with an entire math unit that had differentiated instruction techniques incorporated throughout the whole thing. The unit was narrated by the teacher so the attendees could see the reasoning behind each differentiation element. This activity was amazing because it gave the attendees a real world example that they could relate to.

**Segment 2: Math Learning Disabilities/Instructional Strategies**

We decided to combine math learning disabilities and instructional strategies into one segment because they go hand-in-hand. It made for a nice flow when we could talk about difficulties students face in the math classroom and follow up immediately with strategies teachers could use to help the students overcome those challenges. The introduction to this segment included the definition of dyscalculia which is the term used to describe the set of math learning disabilities. Along with the definition, we wanted to make sure our attendees understood that dyscalculia affects each individual student in a different way. Because the effects of the disability vary, it is very important to realize that instructional strategies can’t be one-size-fits-all either. The first step to being able to help students succeed in math is to take the time to fully understand their disability.

Once the discussion about dyscalculia was completed, it was appropriate to jump right into several instructional strategies that could be used to help students with the disability. Within the time spent discussing strategies, we included some readings, videos, and hands-on activities to keep it interesting. By providing information from many different forms of materials, we knew our attendees were more likely to participate and learn. We started with the strategy of making math visible because text disabilities are very prevalent in students with math difficulties. We wanted to show our attendees how important it is to use visual representations as much as possible when teaching new math concepts. Then we decided to get even more specific in the realm of visuals and talk about the CRA sequence in teaching math. We explained what CRA was and then showed a video that gave an excellent example of how to implement the strategy. However, we didn’t want to stop there. We knew the attendees would benefit from actually trying the strategy for themselves, and we realized that giving them the opportunity to do this would be a good step in showing them that it *can* be done. To further the relevance factor of the activity, we asked the attendees to use a concept out of their own curriculum materials for the activity. We figured this would be a good idea because they could take what they did in the activit*y* back to the classroom with them immediately.

After the CRA activity, we picked out other strategies that we thought were most suitable for the grade levels our attendees teach. In the 4th-6th grades, fact memorization should be completed, but many students still struggle with this. We decided to include some information on the best strategies to use when helping students with dyscalculia memorize basic facts. For time reasons again, we split the group up into grade levels and had one grade level read about self-regulation, another calculator use, and the third class wide peer tutoring. Then they reported out their findings so all attendees could learn about the three strategies.

When the attendees came back from lunch, we continued our discussion on instructional strategies because there were a couple more that we felt were too important to skip over. The first was graphic organizers. We wanted to talk about graphic organizers because they are often used in all content areas *except* math. It was for this reason as well that we decided to do a hands-on activity with the attendees so they could see for themselves the benefits graphic organizers could have in their math instruction. After graphic organizers we talked about mnemonic devices. Mnemonic devices are such great tools, and there is a lot of in-depth information about them. We wanted to at least touch on the surface elements of mnemonic devices in hopes that we would spark some interest for further research beyond our program. We also knew there were other strategies out there that we simply did not have time to discuss. Because of this, we assigned some homework to the attendees. They were given a list of strategies not discussed in the segment and asked to do some research at home on one of them. Then they were to bring back their findings to discuss with the group the next day.

**Segment 3: Response to Intervention (RTI)**

Response to Intervention is a topic that we didn’t talk about very much in the course content. We felt that it was still very important to include in our professional development program though. The umbrella title for our program is differentiation and that includes meeting the needs of all of our students. RTI is crucial in doing just that. We felt our attendees would greatly benefit from learning about RTI and how it can be used in the math classroom.

Before we jumped into any details, we felt it necessary to give the definition of RTI and then to explain each of the tiers. We realized that some of our attendees may have already been exposed to this information, but some had not, and we didn’t want them to be lost. A little review would never hurt those who had heard the information before anyway. While we were talking about the different tiers, we put a visual up on the screen to help the attendees visualize what we were talking about. Also, the triangle with the different tiers is widely used in discussion about RTI so we wanted attendees to be exposed to it for future use and background information.

So as not to allow our attendees to think RTI is used only for students with difficulties in math, we made it clear that it is a process that *all* students are involved in. We talked about universal screening and then offered information about EasyCBM. We chose EasyCBM because it is a free resource the attendees could put to immediate use in order to start RTI in their classrooms. We did not feel that simply talking about EasyCBM was enough, so we decided to set aside some time to allow our attendees to experience Easy CBM for themselves. Because it was a free program, all we needed to do was move into the computer lab and then the teachers could explore the site. We wanted to give them this opportunity to explore the site while we were present so we could help with any of the initial questions they had. It also gave the attendees a chance to discover what universal screening was all about.

After returning from the lab, we talked specifics about how RTI is used for decision making in the math classroom. There were percentages given and examples of instruction that would be needed at each tier. Finally, we discussed how to tell when an intervention is working, and what to do if it is discovered that an intervention is unsuccessful. This is all basic information that is a necessity for teachers to know before trying to employ RTI in their classrooms or schools.

**Segment 4: Gifted Learners**

Our fourth and final segment of day one was an extremely important one because it covered a topic that can sometimes be overlooked. That topic is gifted learners. Often times, teachers get so caught up in helping the students with special needs, they forget about the students at the total opposite end of the spectrum. There are students in our classrooms that are so far above the rest in terms of intelligence level, that school becomes boring for them. We felt that it was extremely important to devote a segment of our professional development program to informing attendees about these students and what can be done to help them. Differentiation is not something just for students with disabilities, it is for ALL students, including those who are gifted learners.

As with our other segments, we started out with a definition to make sure all of our attendees were clear on the topic to be discussed. Then we discussed the Javits Act which is the only federal act that pertains to students who are gifted and talented. Although there is an act, the act does not provide any funding to schools and institutions to help with instruction of gifted learners. We wanted our attendees to realize this, and also to understand the purpose of the act which is to further research for gifted learner instruction.

While doing our own research to prepare this professional development program, we came across a wonderful resource that provided the dos and don’ts of gifted learner instruction. We knew right away that this was something that needed to be included in our program. We decided to split the whole group up into two and assign one group the dos and the other group the don’ts. Our rationale behind the role playing activity that ensued was to crank up the “fun” level of our program. We knew doing something other than reading an article and verbally stating what you learned would spark the interest of our attendees. The role playing activity was a way for everyone to learn the information in an amusing, and fun way.

At the end of the role playing activity, we showed a short video clip to our attendees. The clip was a great one because it touched on everything we had already discussed in the segment. It did present the information in a little bit of a different way, which is why we liked it. We figured that if attendees missed something we had said the first time around, they would pick it up from the video.

Assessment

**Segment 1:** Attendees will fill out the “L” (learned) and “R”(reflections) sections on their KWLR chart for differentiation. For the reflection section, there are specific open-ended questions the attendees are asked to think and write about on their chart.

**Segment 2:** Attendees will develop a CRA sequence example using content from their own curriculum, and share what they did with the group. Attendees will also fill out an exit ticket asking them to write down the definition of dyscalculia, 3 different effects dyscalculia can have on students, and 1 instructional strategy that could be used to help students with math disabilities.

**Segment 3:** Attendees will go to the computer lab and navigate the EasyCBM website while being supervised by the presenters. They will show their ability to find and print probes, as well as chart data in the program.

**Segment 4:** Attendees will role play the dos and don’ts of gifted learner instruction to demonstrate their knowledge of the topic.

**Day 1 Overall Assessment:** Before leaving for the day, attendeeswill be asked to fill out a reflection sheet that has specific spaces set aside for each segment. Attendees will write down things that they learned and will take away from each individual segment of the day. In addition, attendees will be given a survey. This survey will ask questions about the first day of the professional development program as a whole. Attendees will have the opportunity to write about segments they liked, segments they didn’t like, and ways the day could have been improved. The presenters will take the information received on the surveys to improve the effectiveness of day one of the three day professional development program.

Day 2 Segment Rationale

**Segment 1: Universal Design for Learning**

Our group decided to begin the Day Two presentation with an explanation of Universal Design for Learning. Because we learned so much about UDL during our CEP course, we considered it to be a valuable lesson planning tool for our participants to access as well. Our participants are all 4th-6th grade general education teachers, who teach a wide variety of students on a daily basis. Allowing our attendees to experience instruction and practice with UDL planning will help them to better reach the diverse needs of their general education and special education students. We believe that our participants differentiate on a daily basis in their classrooms, but they may not be aware of the most effective and efficient method of differentiation-- planning ahead for diverse learners. As we begin Segment 1 of Day 2, we show several videos. These videos give our participants an opportunity to hear the “experts” speak about the various aspects of UDL; the at-a-glance video does a great job succinctly explaining the basics of UDL. The UDL guidelines are very information-dense; we will carefully review the principles, guidelines, and checkpoints, and then show a video that covers the same material. Again, this will allow our participants to really dig deep into the UDL framework. We intend to keep an open dialogue flowing as we move through the UDL framework; this material may be new for some of our attendees, and we want them to have many opportunities to think through the ideas with their colleagues.

Attendees will be asked to participate in discussion using a UDL lesson planning template, as well as a 4th grade UDL lesson plan on fractions. The objective of this activity is to allow our participants to see how UDL elements can be woven into a lesson plan, effectively building in supports for diverse learners. We want our participants to feel encouraged by how “easy” it can be to incorporate UDL features into their daily lesson plans; our hope is that by exposing them to a tried-and-true UDL lesson plan, our participants will feel encouraged and motivated to begin planning with UDL in their own classrooms. Participants will be asked to work in small groups to “upack” the UDL guidelines; this activity will allow our 4th-6th grade teachers to locate and analyze activities and strategies that they could use in their classrooms for each specific UDL checkpoint. The teachers will be collaborating with colleagues and then sharing their findings with the whole group. This will allow our attendees to share any “a-ha” moments during the UDL checkpoint investigation, and will encourage our attendees to consider using some of the UDL elements in their classrooms.

**Segment 2: Accommodations and Modifications**

The next segment we choose to present on was accommodations and modifications. As general education teachers, we feel sure that our attendees have had experience providing accommodations and modifications to their students. We would like our participants to have to have opportunity to share their experiences, and to learn more about how they can provide these supports to their general education and special education students. We think that transitioning from the Universal Design for Learning topic into the accommodations topic will flow nicely, as our participants will be thinking and discussing ways to plan accommodations and modifications into their lesson plans. We would like our participants to be able to define the terms “accommodation”, “modification”, and we’d like them to differentiate between the two, explaining when to use one or the other. We plan to show a video that will allow our teachers to perhaps better understand a student’s view of needing accommodations, and we hope that video will help our participants to consider teaching their students to advocate for their own learning needs.

Our attendees will participate in two group activities; the first will allow groups of teachers to investigate possible accommodations to implement for a specific accommodation “area”, such as: pacing, environment, instruction, assignments, and assessment. Each group will use internet resources and their own and colleague’s experiences to make a list of several possible accommodations. We will encourage teachers to remember that our presentation is math-specific; teachers should locate and analyze accommodations that would be appropriate for use in a *math classroom*. The groups will share these ideas with their peers in a full-group discussion, and attendees will be encouraged to jot down any ideas they gather that could be implemented in their own math classrooms. Participants will also work in pairs to complete another interactive activity. Teachers will be given a list of teacher-provided supports, and will be asked to identify each as an accommodation or a modification. Through this activity, we hope teachers will gain further understanding of the difference between accommodations and modifications, and that they are not interchangeable supports to provide.

**Segment 3: Co-teaching**

Co-teaching was a topic we discussed in depth throughout the course. We felt this was extremely important to target when presenting a PD on differentiation. We decided to open up this segment with several videos. We found these videos to be extremely valuable because it allows the attendees to hear co-teaching from the child’s perspective, which is not one you read about very often. The videos touch on several important aspects of co-teaching as well as the positives/negatives of following these teaching models. These important aspects allowed us to create discussion topics which related directly to the videos, and was a great way to open up into our presentation on co-teaching. We felt it was necessary to provide the definition of co-teaching, along with an explanation of the 6 different co-teaching models. Since not all of our attendees know about the different co-teaching models, we felt it was important to give a brief description of each model. For those participants who know the co-teaching models, we made sure to tie into our discussion ways to implement each model and when it is best to use each model. Our rationale for putting extra emphasis on the station teaching model was to discuss math centers which almost all of our attendees have implemented in their classrooms at some point.

After we ensured our audience had a background on co-teaching, we reviewed the three co-teaching characteristics again and provided the audience with a co-teaching tool kit. Within this toolkit we thought it would be helpful to provide copies of co-teaching lesson plan forms and specific math co-teaching lesson plan forms. Our rationale for providing this tool kit was for the group to have hard copies of these forms to utilize and pull from during future planning opportunities. At this point of our PD there has been a lot of whole group instruction and it was time for the staff to fill out the form first hand. By having the staff fills out the form, they would see how beneficial it would be to utilize these forms while planning. Since the program is tailored to 4-6th grade math, we selected a lesson on fraction multiplication. After having the groups reflect on the activity, we planned to transition the discussion into benefits/disadvantages to co-teaching. For those teachers who have not had experience co-teaching, the activity would have allowed them to at least be able to relate to the co-planning aspect of this model. Our rationale behind explaining what co-teaching was not was to guarantee the participants understand the importance of the two teachers to share equal responsibilities when following this model.

**Segment 4: Cooperative Learning**

There is an unlimited amount of ways to incorporate cooperative learning into daily instruction to foster mathematical learning within the general education setting. While most participants in our program have heard of the term ‘cooperative learning’, we wanted to clear up any misconceptions and activate the crowds’ background knowledge by providing a clear definition of the term. To gain the audience's interest, we had them watch a quick 3 minute clip discussing tips on using cooperative learning within the classroom. Next we had the group transition into a jigsaw activity, have the group summarize articles on cooperative learning, and present their findings to the rest of the group. Our rationale behind this was because the activity in itself was a cooperative learning strategy! Since most of the participants are aware of cooperative learning, we wanted to foster their learning and independently have them learn ways to implement this strategy within their classroom.

After the group presents their findings, we will dive more in depth into the importance behind cooperative learning. We also decided to discuss how to evaluate cooperative learning groups. We decided this was an important subject to touch upon due to the importance of collecting data to assist struggling math learner (both by formal and informal assessments). To wrap up the end of the day, we had the class fill out an exit ticket on survey monkey (which they could access on their ipads). We decided to use this as an end of the day assessment which asked both content based and opinion based questions for several reasons. First off, we wanted to hear individual feedback our presentation and know how relevant/applicable the material was. We also wanted to know how engaged the attendees were throughout the day. Lastly, we also wanted to assess the groups knowledge and information they gained from our session. Before concluding our day we assigned a homework assignment for the participants to independently put into application the information they gained from day two and demonstrate mastery of the content.

Assessment

**Segment 1:** Attendees will brainstorm and list classroom activities and instructional strategies that can be used within a UDL lesson plan on chart paper with a small group. Attendees may use the internet or other given resources to locate information. Attendees will present their findings to the large group, and answer questions from colleagues and presenters about their findings.

**Segment 2:** Attendees will participate in a paired activity, in which they will review list of accommodations and modifications, and discriminate between the two. Attendees will be asked to justify why they believe each item on a list is either an accommodation or a modification.

**Segment 3:**  Attendees will participate in a partnered activity with an assigned co-teacher. The attendees will be given a lesson on multiplying fractions and they will have to fill out a co-planning template based upon this lesson. The group will then participate in a whole group discussion and reflection the pros/cons of co-planning.

**Segment 4:** Attendees will get into 5 groups of 8 and participate in a jigsaw activity. Each group will be assigned an article on cooperative learning strategies in mathematics. The participants will be asked to summarize the main ideas, discuss the benefits and ways to implement cooperative learning.

**Day 2 Overall Assessment (**[**http://www.surveymonkey.com/s/6PVNV7F**](http://www.surveymonkey.com/s/6PVNV7F)**):** Before leaving for the day, attendeeswill be asked to fill out an online survey which has specific questions set aside for each segment. Attendees will also have the opportunity to write down their opinions on the seminar and ways the day could have been improved. The presenters will take the information received on the surveys to improve the effectiveness of day two of the three day professional development program.

Day 3 Segment Rationale

**Segment 1: Assessment**

We spend a large portion of day three discussing types of assessment. The two types of assessments defined, practiced, and discussed during our professional development are summative and formative assessment. It is stressed during day three that the implementation of formative assessment leads to student success on summative assessment. Assessment is tied extremely closely to differentiation of instruction. Especially in today’s public education, assessment is closely tied to school rankings, student academic placement, and teachers’ job security. Our focus is how to use formative assessment effectively to gauge student learning, find misconceptions, and design successful differentiated lessons for all diverse learners to be successful before summative assessment needs to take place.

 We first ask our attendees to reflect on their own assessment in their classrooms on a KWLR graphic organizer. Then, in a roundrobin, the group members share how they use assessment in their classrooms. After the attendees reflect on their own assessment, they move to the corner of the room that represents the level of assessment understanding they demonstrate in their classrooms. This encourages honesty with one’s self and allows attendees to focus what their individual learning goal for assessment will be for the professional development.

Assessment is defined as “gaining insight”. This definition was used to correct misconceptions about assessments (for grades in a gradebook). A grade should not define the student, but act as a tool to aid in teaching to see what is working for the student and what is not. We then pause to recall on learning barriers, because we must remember that when we differentiate assessments, we need to keep these learning barriers in mind. Examples of formative assessment and summative assessment are given.

 We recall on mathematical proficiency to remind the educators of their goal in a math class. Great teaching teaches computational and mathematical fluency. We review major concepts in math that students must master to reach mathematical fluency. This was done because we want the teachers to begin thinking how they can assess these mastery levels. This leads us to the next segment, which are specific strategies teachers can implement to effectively gauge student learning through formative assessments (before the big test is given and it is too late to alter instruction).

We discuss Goal Setting (setting learning targets and I can statements), Red-Yellow-Green individual assessments, Observations, Discussions and Effective Questioning, how to tier and differentiate questions (article selected gives examples of how to differentiate and discusses struggles about differentiation. This article was picked because the examples are helpful and grade appropriate. The group is then asked to practice tiering a math problem in groups then traveling to share ideas), Peer Assessments, and One on One Conferencing, Cooperative Learning Round-Robin-Write example is given, Cooperative Learning Showdown example is given, Exit Slips are discussed, and Thumbs Up Check-in is discussed. Thumbs-UP Check-in is practice with a number strings game. This is another strategy slipped into the presentation that allows for formative assessments. Students give a thumbs up if they can solve, if you have a thumbs up, then the teacher is allowed to call on them. When you are called on you must explain your thinking. With new problems, a pattern evolves. Students verbalize their thinking and share patterns they observe to solve. This assessment ties in peer to peer assessing and teacher observation. Along with this, the assessment focuses on the mathematical process of solving, not just the procedures of solving.

 This section ends with reminders of balancing assessments and how to decide if a formative assessment is gradebook worthy. A video about breakdancers is viewed and participants think about different assessment strategies being used between the break dancers. The purpose of this is to change misconceptions and views on what assessment *should* be and what it *could* be. Lastly, there is a video about formative assessments in actual classrooms and teachers observations about using these assessments.

 Difficulties with assessment are something students and teacher face each day. Difficulties are discussed and accommodations are given for assessments. Our participants are co-teachers, which mean some of their students receive accommodations per an IEP. There is a reminder that co-teaching is co-assessing. This is done so all attendees think about accommodations and it is not only brainstormed by the one teacher. Before the attendees leave for lunch, they are asked to write down an “ah-ha” moment about assessment or something they learned. This is left on the door as they walk out.

**Segment 2: Technology**

Ah-ha moments from the morning are viewed and teachers walk around to music and respond to questions posted around the room that are tied to the presentation’s topics. This is to get the attendees moving and reflecting on topics they have already covered and get them brainstorming about topics that will be covered.

Social Media and technology play a huge role in children’s lives today. This segment is to encourage co-teachers to think of ways to implement technology to differentiate instruction. The benefits of technology tied to student performance are discussed with research. A video about the 21st Century Learner is shown to get attendees thinking about how technology is used in their students’ lives. Participants interact in a Table Top Twitter where they silently discuss or “tweet” about technology they use in their personal lives and in their classroom. The rest of the segment is spent using the Ipads. The co-teachers are given a resource list to begin researching and exploring technology they can use in their classrooms to differentiate. They access this list from the weebly website. This decision was made because the attendees will learn more from experimenting with applications and technological resources that listening to them being talked about. The attendees are encouraged to write down notes or ideas to use in their classroom. Discussion time between co-teachers is not something that is usually built into the teachers’ day. We wanted as much time as possible on day three for the co-teachers to actually discuss and begin planning for differentiating. Technology plays a huge role in differentiation and can make differentiating for all learners easier to plan for teachers.

**Segment 3: Unit Planning Organizers**

The teachers are taught and explained the process of planning for a unit with a “differentiation lens”. They are explained the process of planning as follows: goals, cautions of planning, identifying potential barriers, planning and implementing strategies, and evaluation accessibility strategies. This is a different way of thinking when approaching a unit. The teachers are being forced to look beyond “what topics do we have to cover”, but to plan deeper with keeping particular students in mind. Goals of unit planning are read and cautions are given (not watering down material, only reaching one group of students, planning in an efficient time range, and students becoming too dependent on the teacher).

Unit Planning Time

The teachers are asked to go the computer lab with their grade level materials to begin planning their upcoming unit. They are shown how to access the weebly website to print out all the graphic organizers they could use. They are not required to use all of these organizers, but organizers that fit their need. We chose not print these organizers out because we assumed teachers would need multiple copies and would want to save these copies to their own school drives. The graphic organizers for differentiation of unit planning are as follows: Unit Planning Sheet, Lesson Planner Sheet, Weekly Co-Planner Sheet, and Student Planner Sheet. The Unit Planning Sheet is an Outline for both teachers, the Weekly Co-Planner sheet breaks the unit down into a weekly view, the Student Planner Sheet ask important questions when planning for a specific struggling learner. The teacher would fill out one sheet per struggling learner. These graphic organizers are excellent tools because they are constantly reinforcing the differentiating unit planning process (They are asking questions like: what are the barriers? What will I need? What are different strategies I should use?). In addition, for effective instruction to take place in co-taught classes, both teachers need to understand the daily learning goals for all students and be aware of meaningful strategies for these students. This is another reason co-planning time is critical.

Unit Planning Feedback

This wrap up of day three is used for teachers to get optimal feedback about their upcoming units. They are split up and asked to meet with different grade levels. Co-teachers are not together. Each person explains their unit and different differentiated strategies that they used. A 3-2-1 Rubric Peer Feedback sheet is used. This is done to encourage learning communities between teachers. The final planning unit acts as a “summative assessment” to see if the teachers are able to apply what they have learned throughout the professional development. It also acts as “formative assessment” because they receive peer feedback to make changes to their units before the teach them.

Assessment

 **Segment 1:**

 Attendees will begin by reflecting on their prior-knowledge about assessment on a KWLR form. Then they will share out in a time RoundRobin group. The group will play four corners to asses where they stand about assessment. They can visually see where other attendees would identify themselves when relating to assessment. In addition, the leaders of the professional development can see where group members stand when discussing assessment in their classroom.

 Attendees will apply what they know about goal setting into “I can” statements with a State of Michigan GLCE. They will share out with partners. *Constructing Complexity for Differentiated Learning* article is read and “jigsawed” out into groups. Members of groups only read one portion of the article, then share with their group. This article is about tiring and differentiating math problems. The groups will practice tiring and differentiating a math problem given to them to apply what they have learned. One group member will travel to a new group to share how their math problem was differentiated.

 Attendees will practice observing and recognizing peer to peer assessment by watching a youtube video about breakdancers learning different moves. They will take notes on assessments taking place to apply formative assessment strategies they have learned.

 Attendees will write down their “ah-ha” moments from the day tied to assessment on a sticky note and place this on the door before leaving for lunch. This formative assessments aloud the leaders of the professional development to gauge what ideas stuck with attendees.

**Segment 2:**

 Sticky notes of “ah-ha” moments will be read aloud by the group leader to the entire group. Attendees will walk around to music. When the music stops, they will move to the nearest poster that has a question on it. Attendees will respond to writing on topics tied to the professional development to begin reflecting on their learning and responding to peers thoughts. This acts as two different kinds of assessments. This gauges attendee’ learning on previous topics, but also assess their background knowledge of topics to come.

 After the youtube video about technology in schools, participants will share about technology they use in their personal lives and in the classroom in a table top twitter activity. Participants are silently “tweeting” to themselves about their ideas on a large piece of paper in the middle of the group. There is no talking aloud. Participants respond to each other by drawing arrows and writing next to the text they are responding to. This assessment encourages learning communities between attendees.

**Assessments Segment 4 Unit Planning (Overall Assessment):**

 Technological resources will be accessed on the iPads and the process of unit planning is discussed and explained. The participants will move to the computer lab to explore unit planning forms, print the forms they’d like to use, and be given an hour to plan with their co-teacher. This is the final assessment. The teachers are required to reflect on the past three days and apply what they now know about differentiation to real life units they will be using this school year. Teachers will use the differentiating process to think about their lessons and use the differentiating unit planning rubrics to help guide their lesson planning. Guiding Questions for Planning are explained in detail: Goals, Cautions, Identifying Potential Barriers, Planning and Implementing Accessibility Strategies, Evaluation Accessibility Strategies handout.

 After having unit planning time, the co-teachers will split up into groups of six and complete peer evaluations. Attendees will use a 3-2-1 peer feedback rubric to give their peers praise and offer suggestions. All suggestions and praise is required to be tied to differentiation. This final assessment allows attendees to demonstrate their thinking through a “differentiation lens” when lesson planning. This assessment allows for peer feedback and leaders of the professional development will be making observations of what strategies teachers used the program, what graphic organizers they used from the program, and what big ideas are repeated or not repeated from the program. They can alter the future professional development to help leaders focus on what was actually thought of as useful and where more development needs to take place.

 Lastly, participants are encouraged to put this conversation about differentiation online and tweet concepts of the professional development. This allows attendees to expand and continue their thinking after the professional development has ended. This also increases communication between attendees to use each other as resources when the professional development has ended. Hashtags are placed on slides to encourage conversation about the topics being discussed.