@flipdiff #flipdiff

Differentiating the Flipped Classroom

Eric M. Carbaugh, PhD - carbauem@jmu.edu
Kristina J. Doubet, PhD - doubetkj@jmu.edu

Department of Middle, Secondary, and Math Education
James Madison University – Harrisonburg, VA

Our Agenda

- Framing Questions
- Qualities of Differentiation and Flipping
- Classroom Community
- Formative Assessment
- Differentiation Based on Readiness
- Differentiation Based on Interest
- Putting it All Together: The FLP Template

As you watch the video

- Follow the directions on the screen
- Be sure to concentrate!

After you watch

Think for a minute:

- What is the take-away from the this video?
- What can it reveal to us about the problems and possibilities of a flipped classroom

What is the Take-Away Idea from this Video?

- We can increase student attention to learning goals while viewing content at home if we "cue" and prompt our students properly.

HOWEVER

- We cannot assume that our students will master those learning goals; rather, we must be active – and proactive – in how we monitor student learning.

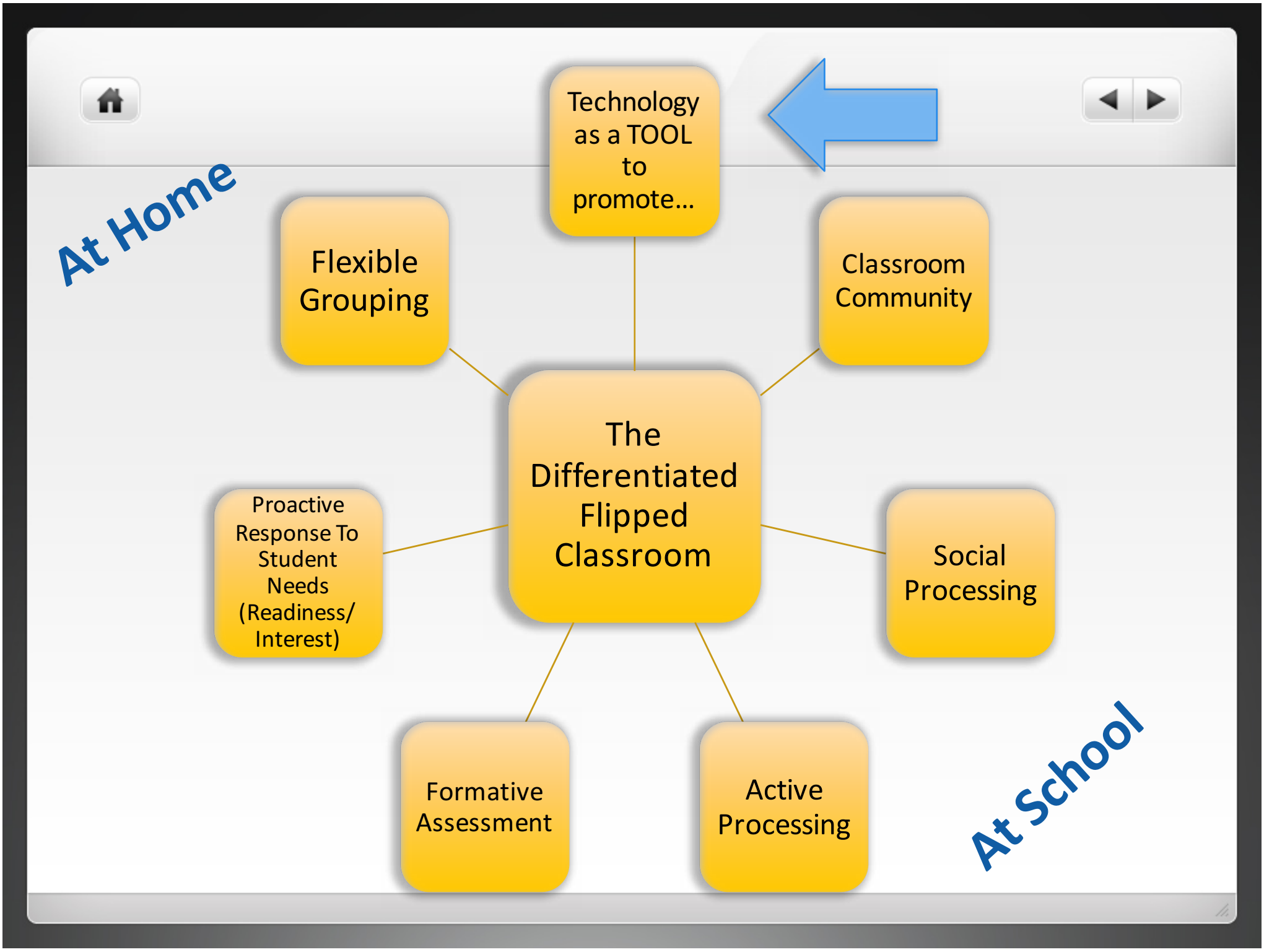
Pushing Pause is No Longer Enough

- The *Flipped Learning Network* has articulated 11 indicators which educators can use to self-assess their flipped learning efforts or progress. These indicators include markers such as:
  - *I provide students with different ways to learn content and demonstrate mastery*
  - *I prioritize concepts used in direct instruction for learners to access on their own*
  - *I conduct ongoing formative assessments during class time through observation and by recording data to inform future instruction*

  (Yarbro, Arfstrom, McKnight, & McKnight, 2014).

Our Guiding Principle

- Many of the tools referenced today can help facilitate differentiation both at home and at school.
- If we are truly embracing the full potential of the Flipped classroom, we must consider methods to differentiate for students both *at home* and *at school*.


Technology as a TOOL to promote…
At Home
Flexible Grouping
Classroom Community
The Differentiated Flipped Classroom
Proactive Response To Student Needs (Readiness/ Interest)
Social Processing
Formative Assessment
Active Processing
At School

Flipped Resources: Creation Tools

Computer-Based

- www.screencast-o-matic.com
- Screencastify (Google Chrome)

Apps

- www.knowmia.com
- www.showme.com
- Periscope

Publishing Tools

- www.youtube.com
- www.teachertube.com

Fav du jour

- Swivl

Ready-Made and Personalized Videos

Ready-Made

These videos are ready for you to provide to your students simply by sharing the links (or downloaded if internet access is a problem).

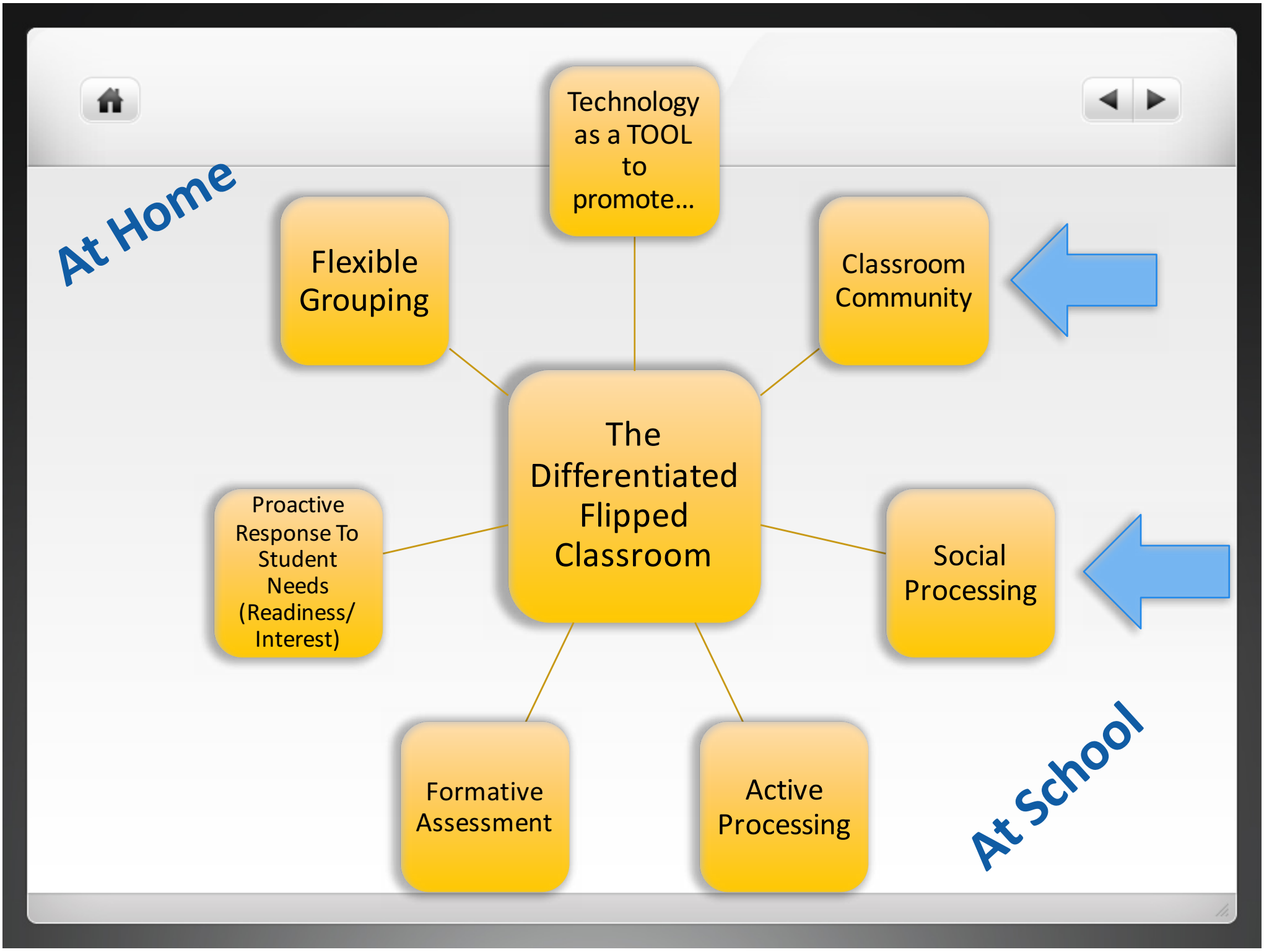
- www.khanacademy.com
- www.teachertube.com
- www.youtube/edu
- iTunesU
- www.Learnzillion.com

Personalization

However, it is important that ready-made videos selected for flipping align with your desired learning outcomes.

One way to better align videos is through content personalization, adding images, text, and questions into the videos.

- www.educreations.com
- www.zaption.com
- Ed.ted.com


Technology as a TOOL to promote…
At Home
Flexible Grouping
Classroom Community
The Differentiated Flipped Classroom
Proactive Response To Student Needs (Readiness/ Interest)
Social Processing
Formative Assessment
Active Processing
At School

From Carbaugh, E.M. & Doubet, K.J. (2016). *The differentiated flipped classroom*. Thousand Oaks, CA: Corwin Press. p.22

Log for Student Blog-Post Interactions

	Josh	Amelie	Carlos	Monique	Axel	Sarah
Josh	X	1	2	3	4	5
Amelie	1	X	3	4	5	2
Carlos	2	3	X	5	1	4
Monique	3	4	5	X	2	1
Axel	4	5	1	2	X	3
Sarah	5	2	4	1	3	X

Promoting Classroom Community and a Growth Mindset

- Teachers must empathize with their students and make every effort to develop caring relationships—teacher-to-student and student-to-student— within the classroom (Sousa & Tomlinson, 2011).
- Teachers should seek to foster positive interactions with students and between students, thus raising the frontal lobe's ability to support memory (Sousa & Tomlinson, 2011).
- A finding from the 2012 Program for International Student Assessment (PISA) cites evidence to support the value of self-efficacy (growth mindset): "Practice and hard work go a long way towards developing each student's potential, but students can only achieve at the highest levels when they believe that they are in control of their success and that they are capable of achieving at high levels" (Organisation for Economic Co-operation and Development 2012, p. 21).

Promoting Classroom Community and a Growth Mindset

- Teachers must empathize with their students and make every effort to develop caring relationships—teacher-to-student and student-to-student— within the classroom (Sousa & Tomlinson, 2011).
- Teachers should seek to foster positive interactions with students and between students, thus raising the frontal lobe's ability to support memory (Sousa & Tomlinson, 2011).
- A finding from the 2012 Program for International Student Assessment (PISA) cites evidence to support the value of self-efficacy (growth mindset): "Practice and hard work go a long way towards developing each student's potential, but students can only achieve at the highest levels when they believe that they are in control of their success and that they are capable of achieving at high levels" (Organisation for Economic Co-operation and Development 2012, p. 21).

The digital environment provides additional avenues!

Promoting Classroom Community and a Growth Mindset

Famous Failures Video: https://www.youtube.com/watch?v=dT4Fu-XDygw

After watching, teachers can ask students to consider:

"…a time when you failed at something initially, but then with effort became more successful. If you can't think of a time, picture something that you are struggling with now. What steps might you need to take to become more successful?"

Follow up Task

Students work individually or in small groups to create their own "famous failures" videos filled with personal examples.

I had a really hard time with the math classes we had to take. In the beginning of Math 107 I did really poorly on the first 2 tests and thought I would fail but I worked hard and ended up getting an A on the final.

You're awesome!

↓

I have had similar struggles with math throughout my life but I've found that with a study buddy my scores dramatically improve.

I Went to Kindergarten ~~I Went to~~ at a really bad School (no longer exists) where all we did was play all day So when I went to 1st grade I was really behind. I needed a lot of help individually and a very positive teacher to help me catch up. - Justine ☺

- these kinds of teachers are so important for a kid!

I am currently struggling w/ getting all my work done in a week. A way to help fix this is managing my time / planning out my week in advance.

↳ Same! You can do it + save some time for Netflix :)

↑ You got this! ♡

I Struggle with math and have been incredibly self-defeating in the past. Now I ask for help and practice to better understand concepts.

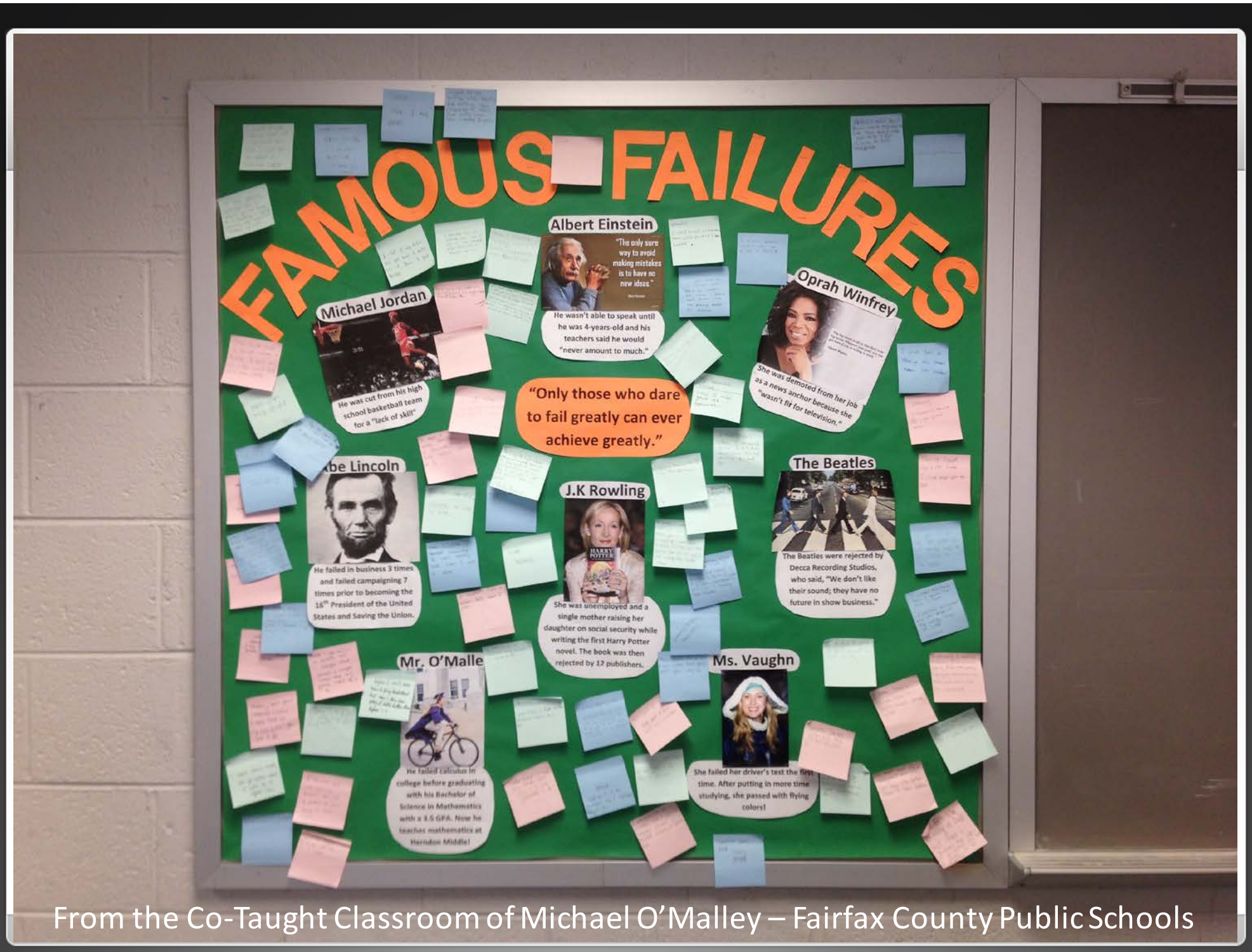
|

I am dyslexic and have dysnumeria. Yet, Math is my BEST and FAVORITE subject!

You go!

I struggled with math all through grade school, and felt like I was never going to be smart enough. I know now that I am smart, and its okay to ask for help.

↑ I struggle with math too adapt + overcome



From the Co-Taught Classroom of Michael O'Malley – Fairfax County Public Schools

Classroom Community

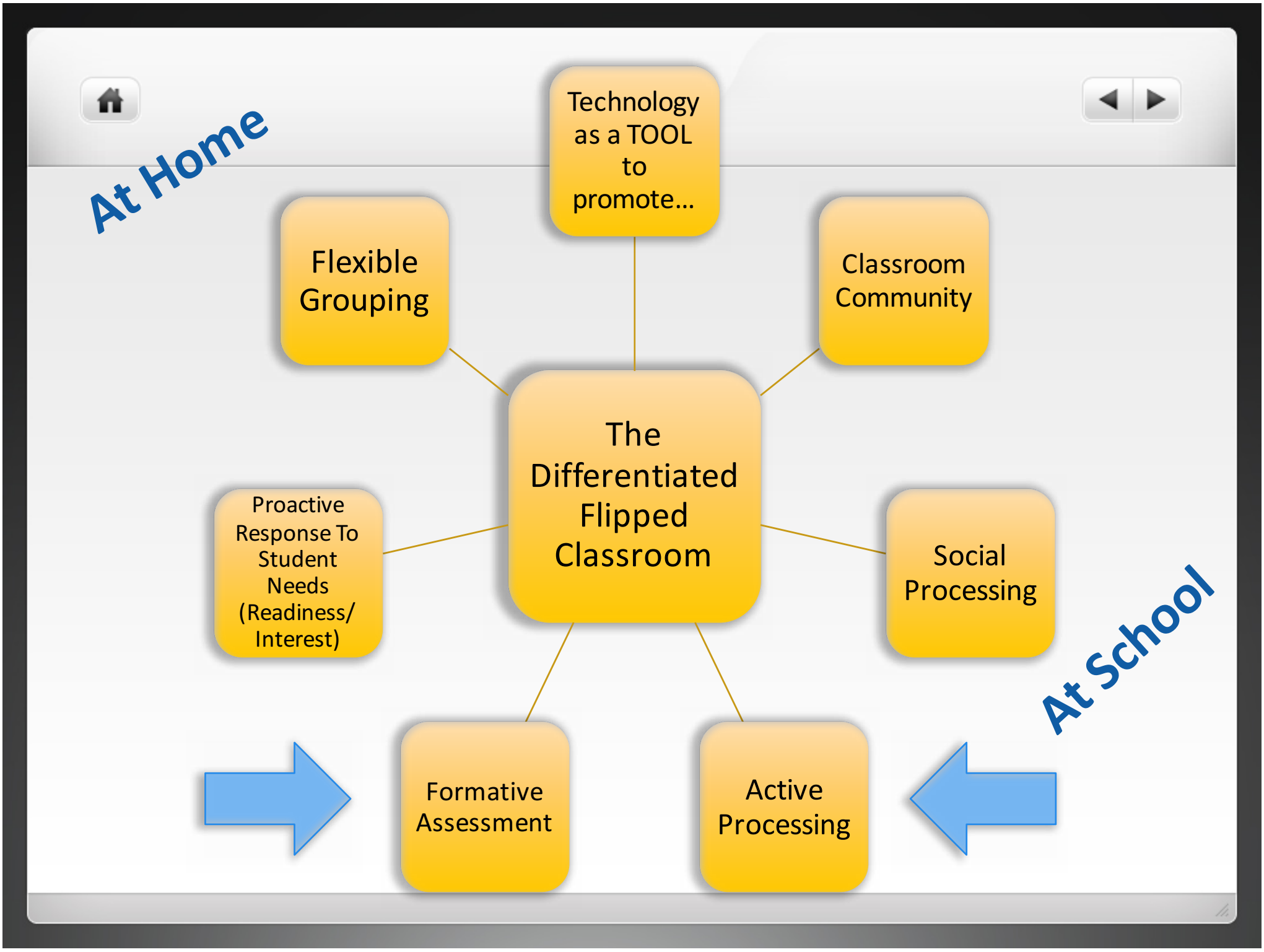
- Google Forms are an excellent way to communicate with your students
- Google Forms differ from Google Docs in that they offer a confidential way to share information.
- Google forms are created as and function much like an online survey.
- As you watch the following clip, think about
  - The pros and cons of this approach
  - How you would encourage the use/adaption of this in your school

Consider how you might use some of these resources with your students to help them come to view themselves and their classmates as capable learners… and act accordingly.

Flipped Resources: Interaction Tools

- www.todaysmeet.com
- www.kidblog.com
- Backchannelchat
- Google Forms

https://todaysmeet.com/Flipped_Mindset


At Home
Technology as a TOOL to promote…
Flexible Grouping
Classroom Community
The Differentiated Flipped Classroom
Proactive Response To Student Needs (Readiness/ Interest)
Social Processing
At School
Formative Assessment
Active Processing

Formative Assessment

- Encourage teachers to be *proactive* in discovering students' learning needs and in planning to address those needs.
- This is where the typical approach to the flipped classroom model may fall short in terms of differentiation, and in terms of teachers' ability to manage meeting a variety of needs in an nontraditional setting; flipped classrooms often operate on a strictly reactionary basis, which can lead many teachers to feel thinly spread.
- Formative Assessment data can be collected both at home and at school; in either case, it requires proactive planning (T) and active processing (ss)

Putting it in Action: At Home

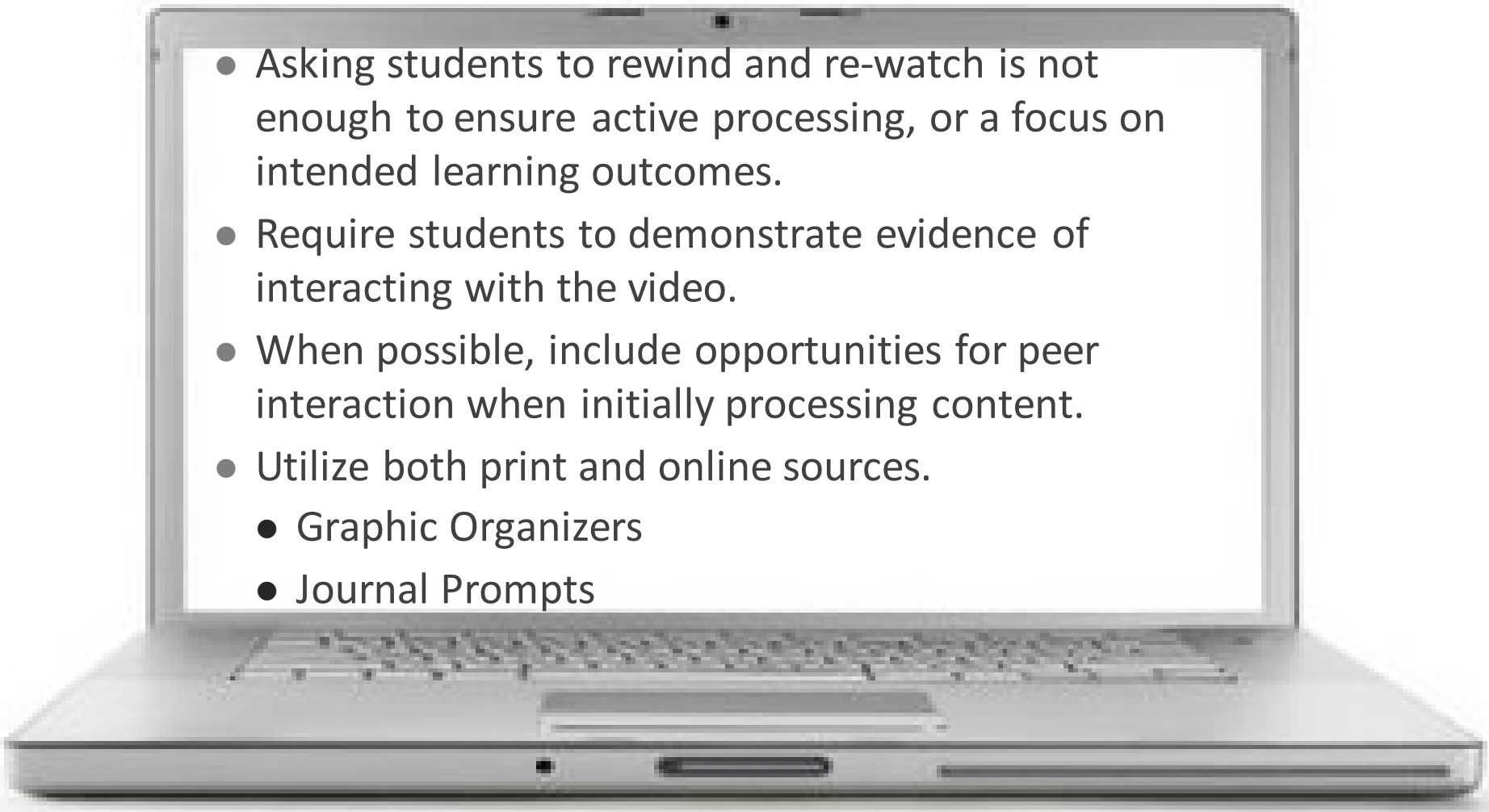


Image: http://printhut.co.uk

From Carbaugh, E.M. & Doubet, K.J. (2016). *The differentiated flipped classroom*. Thousand Oaks, CA: Corwin Press. p.29.

Source Reliability At-Home Graphic Organizer

Source	Reliable or Unreliable?	Why?
Forums		
Blogs		
Peer-Reviewed Articles		
Scholarly Articles		
Facebook		
Scientific Journals		

Putting it in Action: At School

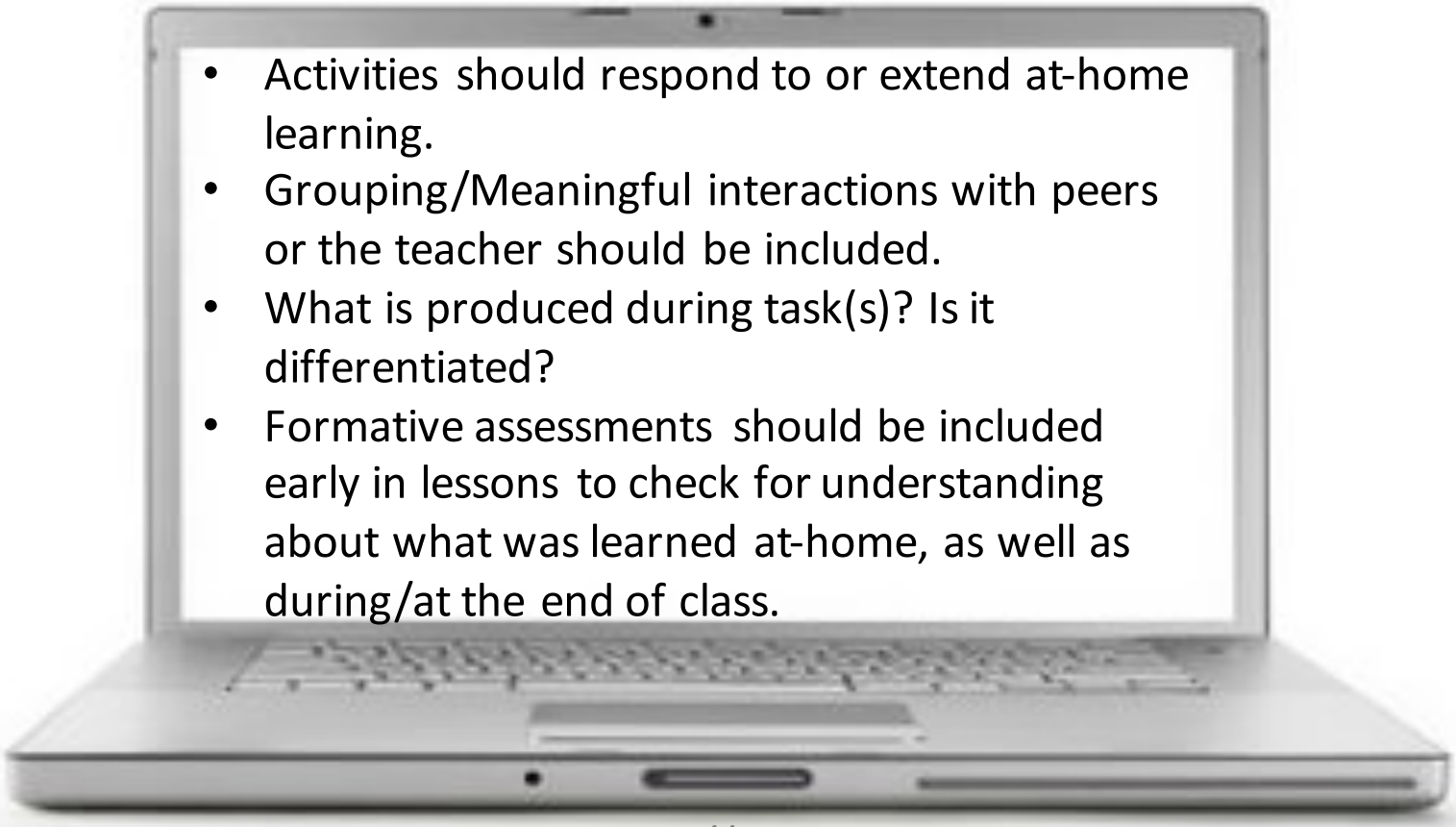


Image: http://printhut.co.uk

From Carbaugh, E.M. & Doubet, K.J. (2016). *The differentiated flipped classroom*. Thousand Oaks, CA: Corwin Press. p.30.

In a Flipped Model, Entrance Questions may replace Exit Questions

Name 3 narrative techniques a writer can use to show what a character is like (pull from those discussed in last night's video).

Use 2 of these techniques to briefly describe yourself

List 1 technique you hope the teacher will discuss in more detail in today's class.

From Carbaugh, E.M. & Doubet, K.J. (2016). *The differentiated flipped classroom*. Thousand Oaks, CA: Corwin Press. p.27.

OR Teachers May Use a Combination of Both

My **Solutions** (with work shown)	My **Answers** (to lecture questions)
Some **Possibilities** (What makes sense about this content? How might I use it?)	Potential **Problems** (Things that stumped me; Things I'm not confident about.)

At Home

At School

Formative Assessment Tools

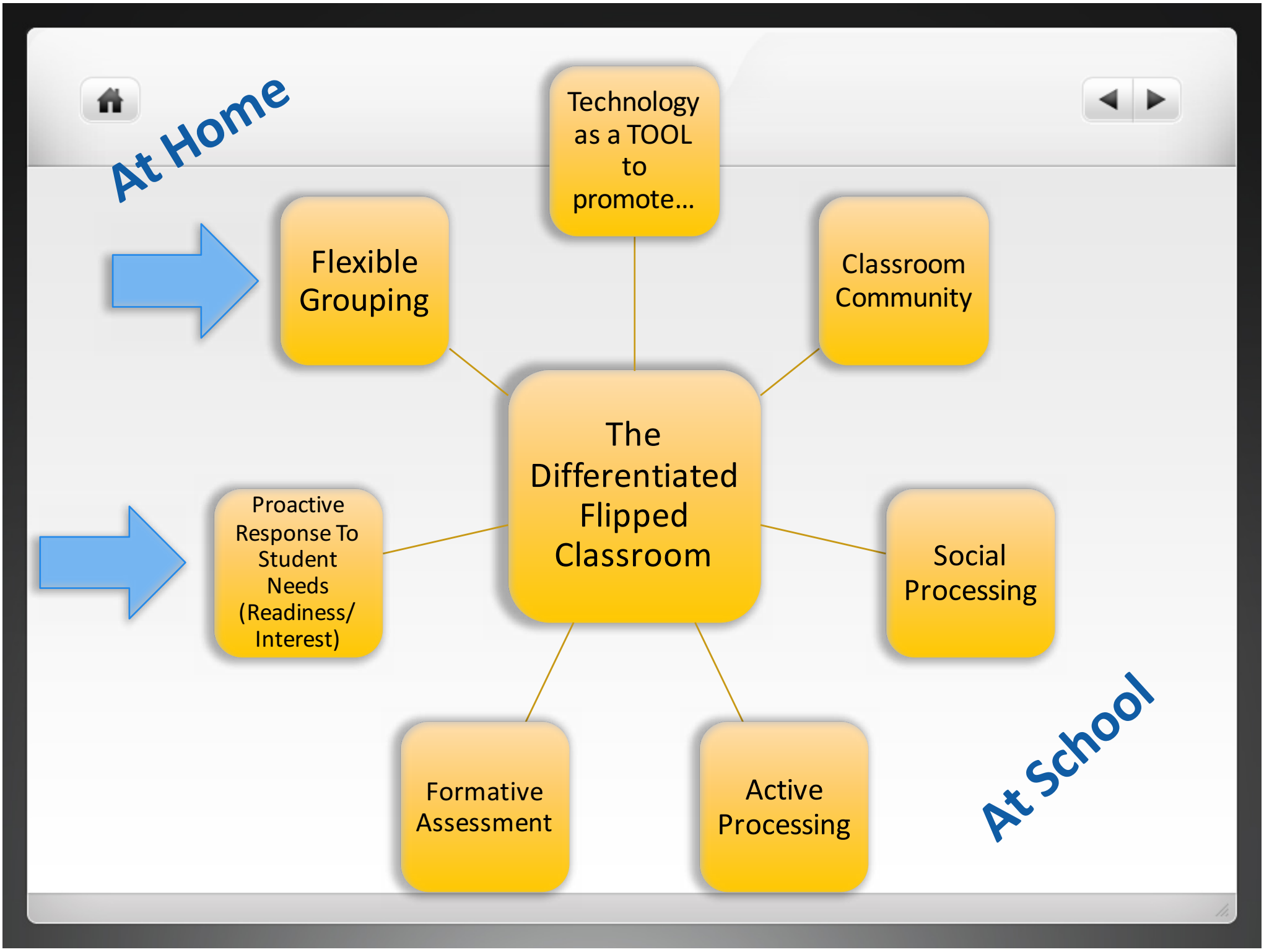
- www.padlet.com
- www.socrative.com
- www.polleverywhere.com
- www.kahoot.com
- www.formative.org
- www.flipgrid.com
- Google Forms
- Smart Notebook
- Nearpod

Take 5 minutes to explore these resources. Be prepared to share which tools you might use - and how you might use them.

Formative Assessment Idea Share

http://padlet.com/doubetkj/leaders2

Go to the padlet address and type in your response to share which tools you might use - and how you might use them.


At Home
Technology as a TOOL to promote…
Flexible Grouping
Classroom Community
The Differentiated Flipped Classroom
Proactive Response To Student Needs (Readiness/ Interest)
Social Processing
Formative Assessment
Active Processing
At School

Differentiation Based on Readiness

- "Students value being helped to achieve independence and autonomy, and appreciate teachers who can connect the new with the familiar, can convey complex notions in simple terms, who *actively recognize that students learn at different rates, and need varying levels of guidance, feedback, and instruction"* (Hattie & Yates, 2014, p. 31, emphasis added).
- At its core, readiness-based differentiation is about moving students forward from their individual starting "zones" to achieve +1 growth in learning (Hattie, 2012).

Use Formative Assessment to Adjust Instruction

- "Group Huddles" for small groups of students who need extra support or challenge
- Graduated levels of questions, resources, organizers, etc. for at-school processing
- Interest-based processing prompts (at home)

Readiness Based Questions and Prompts

- Thoughtful planning and implementation of classroom questioning and prompting can… raise the levels of participation and achievement among all students (Marzano et al., 2001).
- To address the various readiness needs of students, teachers of a differentiated flipped classroom should employ **effective questioning and prompting strategies both at home and in school that engage different cognitive levels**. One framework to help teachers conceptualize this process based on Webb's Depth of Knowledge Levels (Webb, 2002).

Middle School Math: Yellow Group

Standard: *CCSS.MATH.CONTENT.7.EE.B.4* *Use variables to represent quantities in a real-world or mathematical problem and c... simple equations and inequalities to solve problems by reasoning about the q...*	
One: Recall **(Who, What, When, Where, Why)**	What does a variable represent?
Two: Skill/Concept	Construct and solve an inequality given certain information.
Three: Strategic Thinking	Based on your understanding of one-variable equations, hypothesize how one might solve equations with two variables.
Four: Extended Thinking	Create a set of five real-world problems where an equation can be used to find an unknown variable. Each real-world problem should apply to what you are currently learning in your other classes (e.g., in PE, determine how many calories you would need daily to maintain your current weight given your age and level of activity).

From Carbaugh, E.M. & Doubet, K.J. (2016). *The differentiated flipped classroom*. Thousand Oaks, CA: Corwin Press. p.42

Middle School Math: Blue Group

Standard: *CCSS.MATH.CONTENT.7.EE.B.4* *Use variables to represent quantities in a real-world or mathematical problem and construct simple equations and inequalities to solve problems by reasoning about the quantities.*	
One: Recall **(Who, What, When, Where, Why)**	What does a variable represent?
Two: Skill/Concept	Construct and solve an inequality given certain information.
Three: Strategic Thinking	Based on your understanding of one-variable equations, hypothesize how one might solve equations with two variables.
Four: Extended Thinking	Create a set of five real-world problems where an equation can be used to find an unknown variable. Each real-world problem should apply to what you are currently learning in your other classes (e.g., in PE, determine how many calories you would need daily to maintain your current weight given your age and level of activity).

From Carbaugh, E.M. & Doubet, K.J. (2016). *The differentiated flipped classroom*. Thousand Oaks, CA: Corwin Press. p.42

FIGURE 4.7: AT-SCHOOL LOWER READINESS GRAPHIC ORGANIZER—ANALYZING SOURCES

Sources	Strengths	Limitations	Additional Information
www.stopbullying.gov			
New York Times Magazine Article: The Online Avengers		This is by an author who also wrote a book on this topic. Her book is referenced at the end. Could that influence the usefulness of her ideas?	
Your Choice:			

From Carbaugh, E.M. & Doubet, K.J. (2016). *The differentiated flipped classroom*. Thousand Oaks, CA: Corwin Press. p.52

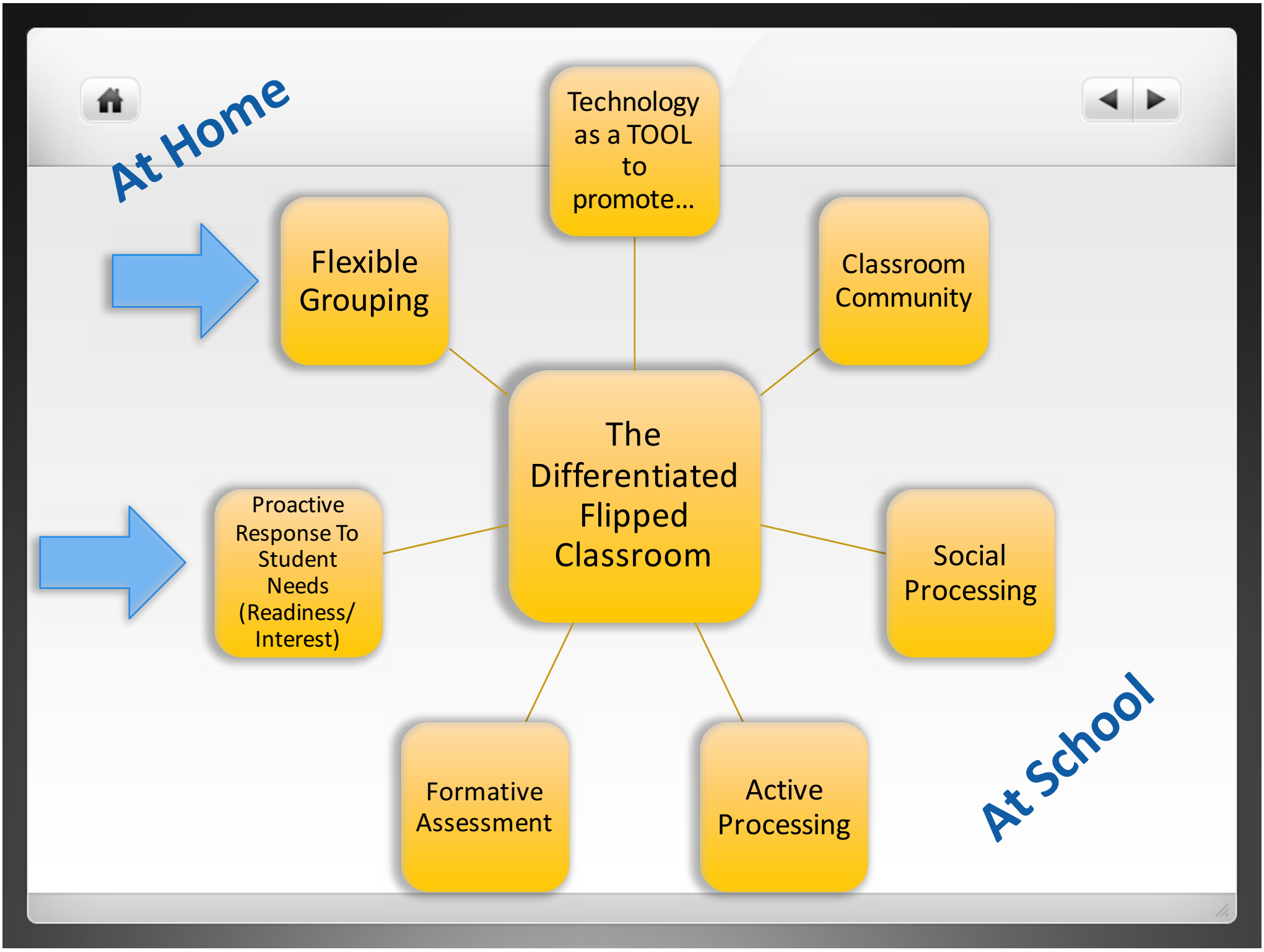
High Readiness

Question:	Responses:
Which sources are best when your goal is to inform? Persuade?	
Why should authors consider their audience when writing?	

Lower Readiness (Scaffolded)

Question:	Responses:
Which sources are best to use when your goal is to inform? Persuade?	Consider: • Where can we find relatively unbiased information? • List some of the sources you go to for factual information. • How are these different from those you might use to persuade someone? • List those sources as well.
Why should authors consider their audience when writing?	Consider: • How does your writing change when you are e-mailing a friend versus a teacher? • What does this say about the impact of the audience when writing?

From Carbaugh, E.M. & Doubet, K.J. (2016). *The differentiated flipped classroom*. Thousand Oaks, CA: Corwin Press. p.53


At Home
Technology as a TOOL to promote…
Flexible Grouping
Classroom Community
The Differentiated Flipped Classroom
Proactive Response To Student Needs (Readiness/ Interest)
Social Processing
Formative Assessment
Active Processing
At School

Differentiation Based on Interest

- "Getting students to spend more time studying or learning can be a tall order, especially when faced with a topic that they do not see much need for knowing. Thus, unless a student is intrinsically motivated to explore the lesson material, it will be an uphill battle for the teacher to get them to do so without supervision. Put simply and in the context of the flipped classroom, simply forcing students to view a lesson at home before a lesson in class, or rewarding those who do, just won't work" (Lam, 2014).

- Both brain research (e.g., Jensen, 2005; Willis, 2007) and educational research (e.g., Bransford, et al, 2000) reveal that students perform better when they see some *connection* between the content and themselves and/or the world around them.

Walkington, C.A. (2013). *Using adaptive learning technologies to personalize instruction: The impact of relevant contexts on performance and learning outcomes. Journal of Educational Psychology, 105(4)*: 932-945

Interest-Based Prompts: At Home

- Research has shown that appealing to student interest – even in small ways - can increase student investment and achievement (Walkington, 2013). Consider the following example
  - CCSS.MATH.CONTENT.6.SP.B.5.C
    Giving quantitative measures of center (median and/or mean) and variability (interquartile range and/or mean absolute deviation), as well as describing any overall pattern and any striking deviations from the overall pattern with reference to the context in which the data were gathered.
  - Students can select one of the following options on to respond to after viewing this video from Khan Academy: https://www.khanacademy.org/math/probability/descriptive-statistics/central_tendency/v/mean-median-and-mode?v=k3aKKasOmIw

Adjusting Algebra Problems to Appeal to Student Interest

Interest	Problem Text
Traditional	A sample of ten middle school students was asked to count the number of writing utensils that they own. Their responses are represented in the following set of numbers: 5, 4, 2, 10, 6, 14, 8, 5, 1, 8 What is average of the set numbers? What is the median of the set of numbers? Create a "five-number summary" of the data and display it in boxplot format What patterns do you see in the data?
Video Games	A sample of ten middle school students that play video games was asked how many hours they spend playing each week. Their responses are represented in the following set of numbers: 5, 4, 2, 10, 6, 14, 8, 5, 1, 8 [same questions as traditional problem]
Social Media	A sample of ten middle school students that use Facebook was asked how many status updates they post each week. Their responses are represented in the following set of numbers: 5, 4, 2, 10, 6, 14, 8, 5, 1, 8 [same questions as traditional problem]
Sports	The girl's basketball coach was frustrated with the amount of players fouling out. For the next five games, the coach kept a record of every time a player committed a foul. The numbers below represent each player's total amount of fouls over a five-game period. 5, 4, 2, 10, 6, 14, 8, 5, 1, 8 [same questions as traditional problem]

From Carbaugh, E.M. & Doubet, K.J. (2016). *The differentiated flipped classroom*. Thousand Oaks, CA: Corwin Press. p.63

TriMind History Prompts: At Home or At School

Standard:

CCSS ELA-Literacy.RH.9–10.6

Compare the point of view of two or more authors for how they treat the same or similar topics, including which details they include and emphasize in their respective accounts.

Analytical	Practical	Creative
Read the two accounts of _____.	Read the two accounts of _____.	Read the two accounts of _____.
Present a point-by-point analysis of the details and ideas that differ between the two accounts. Then, write an analysis that explains (1) why you believe two differing accounts exist and (2) how credible you believe each of authors' perspectives to be and why.	Recommend to a friend the version of the account that *you* believe to be most accurate. Support your recommendation with explanations of (1) the differences between the two accounts and (2) the reason behind those differences (e.g., why one perspective is more believable than the other).	Take on the voice of one of the authors and write a critique or "rebuttal" of the other account. Be sure to discuss (1) the points where your accounts differ, (2) why you believe the other author got those points wrong, and (3) what the other author might study or consider to change his/her perspective.

From Carbaugh, E.M. & Doubet, K.J. (2016). *The differentiated flipped classroom*. Thousand Oaks, CA: Corwin Press. p.76.

Learning Menus – How they Work

- Learning menus outline a variety of instructional options targeted toward important learning goals.
- Students are able to select the choices which most appeal to them.
- The teacher directs the menu process, but the student is given control over his/her choice of options, order of completion, etc.
  - NOTE: Ideal for use in class as anchor activities for students to work on if they have completed other tasks or if the teacher is working with a small group

Standard:

CCSS.MATH.CONTENT.HSF.LE.A.2

Construct linear and exponential functions, including arithmetic and geometric sequences, given a graph, a description of a relationship, or two input-output pairs.

Radioactive Ice Cream Menu

Main Dish (complete all)

- Define what a logarithm and exponential are and what they are used for
- All of a sudden there are no more supplies for making ice cream. The world now has 5,000,000 bowls of ice cream left. 22% of this ice cream is being consumed every minute. How long will it take to have fewer than 1,000 bowls of ice cream left?

Side Dish (at least 1)

- Create a graph of the data for the rapid decay of ice cream in the world.
- What if it was decreasing at a massive 45% but only every 5 minutes? Now how long would it take to have fewer than 1,000 bowls?

Desserts (as many as you like)

- Find a graph in research that represents either a logarithmic function or an exponential function that deals with radioactive decay and explain its similarity to the ice cream situation.
- Create and explain your own problem with radioactive decay.
- Invent and create your own dessert that deals with radioactive decay (clear your plan with Mr. Sager).

From Carbaugh, E.M. & Doubet, K.J. (2016). *The differentiated flipped classroom*. Thousand Oaks, CA: Corwin Press. p.73

From Carbaugh, E.M. & Doubet, K.J. (2016). *The differentiated flipped classroom*. Thousand Oaks, CA: Corwin Press. p.69.

RAFTs can be used in the same manner, both at the **Lesson Level** (Grammar RAFT…)

Role	Audience	Format	Topic
Semicolon	Comma and Conjunction	Blog post using both forms of punctuation (semicolon and common/conjunction)	"The two of you are needy; I don't need anyone but me."
Comma	Conjunction	Series of reconciliatory Facebook posts using both forms of punctuation (semicolon and common/ conjunction)	"I'm sorry! I can't do my sentence-separation job without you!"
Semicolon, Comma, and Conjunction	Middle School Students	Series of "sidebar" sponsoring ads—at least one ad from each of the three roles (semicolon, comma, conjunction). Use all three tools in your ads.	"I'm the best tool for the job!"

From Carbaugh, E.M. & Doubet, K.J. (2016). *The differentiated flipped classroom*. Thousand Oaks, CA: Corwin Press. p.125.

…and at the **Unit Level,** like this *Science Natural Resources RAFT*

Role	Audience	Format	Topic
Architect	Board Members	Blueprint	"Proposal to build your new 'Green' headquarters."
Polar Bear	Humans	Petition	"Look at what your trash is doing to my home."
Fashion Designer	Style Magazine Readers	Magazine Spread	"Who used it better? What to do—or *not* to do—with your old clothes and accessories."
Travel Agent	Vacationers	Brochure	"Sit back and relax! Visit scenic _____ to learn and partake of our native conservation traditions."

Pause For Reflection: Along With an Elbow Partner, Select One Of The Following Prompts To Discuss

- Think of a time when you or a teacher you worked with adjusted instruction or assessment for student interests. What worked well? What didn't work well? What new ideas might you share with teachers after today?
- You've been asked by a colleague to explain interest-based differentiation in a flipped classroom. What might you tell them? How does this align with your conceptions prior to today's work?

FLP Overview:

- Screencast-O-Matic used to capture the video
- eduCanon to add the bullet points and questions.

www.educanon.com/delivery/56099/251299

The FLP

Lesson Topic, Standards, and Learning Goals

Lesson Topic: 10th Grade English- Showing vs. Telling in Creative Writing

Standards:

- CCSS.ELA-LITERACY.W.9-10.3- Write narratives to develop real or imagined experiences of events using effective technique, well-chosen details, and well-structured event sequences.
- CCSS.ELA-LITERACY.W.9-10.3.D- Use precise words and phrases, telling details, and sensory language to convey a vivid picture of the experiences, events, setting, and/or characters.

Learning Goals:

Students will understand that:

- Images "shown" with description rather than "told" using explanation are more powerful for the reader.

Students will know:

- The difference between showing and telling.
- The difference between explained descriptions and vivid images.
- The definitions and uses for many literary devices.

Students will be able to:

- Portray vivid images in writing.
- Determine whether a passage is showing or telling.
- Interpret a situation in a showing passage using context clues.
- Develop a written piece that shows the situation rather than tells it.

From Carbaugh, E.M. & Doubet, K.J. (2016). *The differentiated flipped classroom*. Thousand Oaks, CA: Corwin Press. p.156

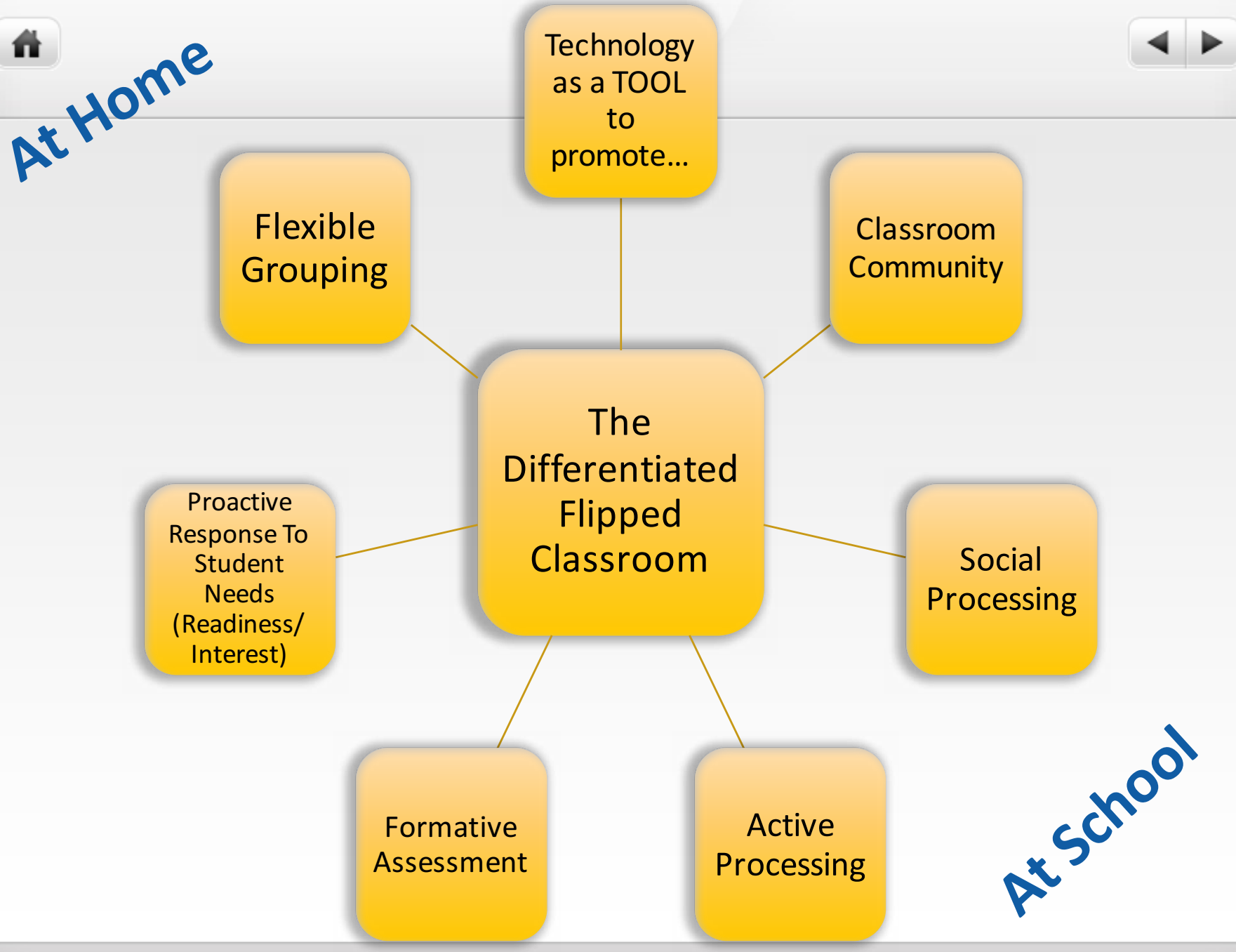
At Home Learning Components to Include in Planning	In School Learning Components to Include in Planning
Steps May Include: ○ Content to Be Viewed ○ Active Processing ○ Meaningful Online Interactions with Peers or the Teacher ○ Formative Assessment to Check for Understanding ○ Summative checks for grasp of content/skills	Steps May Include: ○ Activities Responding to At-Home Learning ○ Grouping/Meaningful Interactions with Peers or the Teacher ○ What is produced during task(s) ○ Formative Assessment to Check for Understanding ○ Summative checks for grasp of content/skills

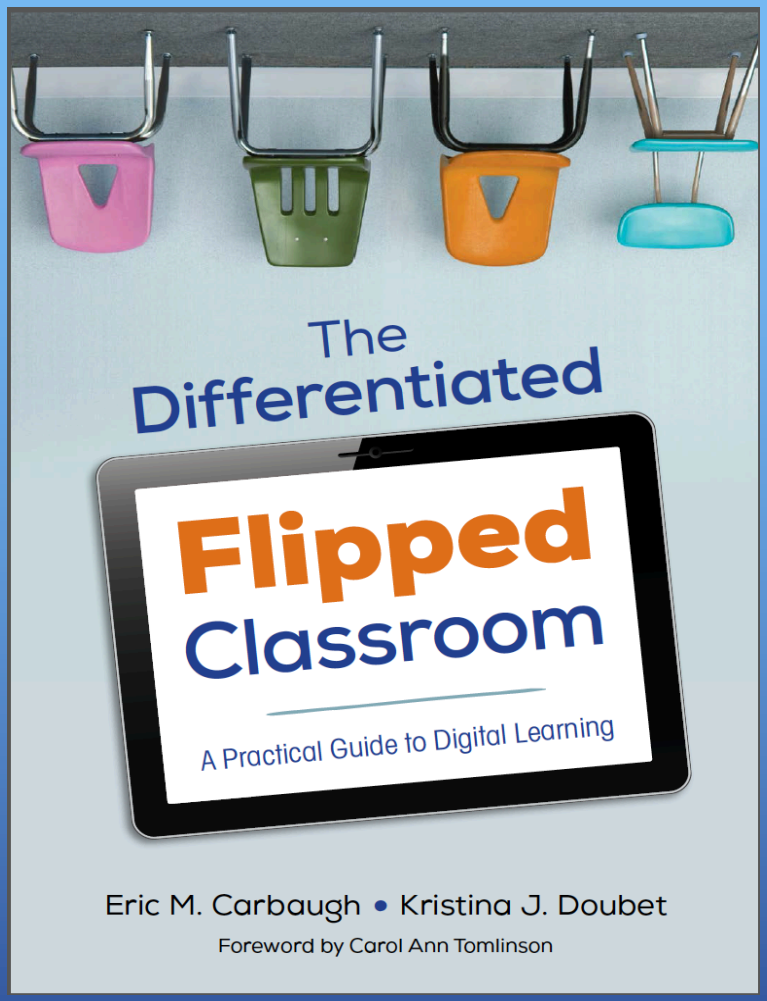
Steps of Lesson - Labeled with Components	Setting and Differentiation
Step 1: **Content to be Viewed**: Students watch the opening scene of Disney and Pixar's *Up* in which the entire background story is depicted with no words. They are instructed to pay special attention to what is happening and how they know. https://www.youtube.com/watch?v=2PD7qi8VK_o **Active Processing**: After viewing the clip, students choose two of the three questions below to post on discussion board: • "What happened in this clip?" "They didn't speak, so how do we know?" • "Describe how the effect of the clip would have been different if the movie started with Carl standing up and saying 'I'm sad because I miss my wife'?" • "Brainstorm! How can we apply what is done in this clip (Showing vs. telling) to our writing?"	Completed… ☒ At Home ☐ At School Differentiated by interest to motivate students to complete the discussion post and to allow for the sharing of various perspectives.

From Carbaugh, E.M. & Doubet, K.J. (2016). *The differentiated flipped classroom*. Thousand Oaks, CA: Corwin Press. p.157

Bottom Line “Take-Away-s”

- Let kids interact with ideas at home! Use the resources presented in this session to do so.
- Require students to PROCESS at home and to return to class with evidence of what the learned and what is still fuzzy (graphic organizers, Sternberg prompts, discussion board posts, etc.).
- Allow time in class to synthesize student processing (perhaps differentiated based on readiness or interest) and take it to the next level.
- Build in structures to ensure flexibility and encourage continued processing (differentiated based on readiness or interest).
- Always emphasize thinking and transfer aligned with your learning goals and standards.


At Home
Technology as a TOOL to promote…
Flexible Grouping
Classroom Community
The Differentiated Flipped Classroom
Proactive Response To Student Needs (Readiness/ Interest)
Social Processing
Formative Assessment
Active Processing
At School



The ideas from this presentation – and more – can be found in this book, available form Corwin!

@flipdiff

References

- Bransford, J .D., Brown, A.L., and Cocking, R.R. (Eds.) (2000). *How people learn: Brain, mind, experience, and school*. Washington, D.C.: National Academy Press.
- Carbaugh, E.M. & Doubet, K.J. (2016). *The differentiated flipped classroom: A practical guide to digital learning*. Thousand Oaks, CA: Corwin Press.
- Hattie, J. (2012). *Visible learning for teachers: Maximizing impact on learning*. New York: Routledge.
- Hattie, J., & Yates, G. (2014). *Visible learning and the science of how we learn*. Thousand Oaks, CA: Corwin.
- Jensen, E. (2005). *Teaching with the brain in mind (2nd Edition)*. Alexandria, VA: ASCD.
- Lam, E. (2014). What is the role of content in flipped classrooms? *Edudemic*. Retrieved from http://www.edudemic.com/content-in-flipped-classrooms/?utm_source=hootsuite&utm_campaign=hootsuite
- Organisation for Economic Co-operation and Development (2012). *PISA 2012 Results in Focus: What 15-Year Olds Know and What They Can Do With What They Know*. Paris: OECD.
- Sousa, D.A., & Tomlinson, C.A. (2011). *Differentiation and the brain: How neuroscience supports the learner-friendly classroom*. Bloomington, IN: Solution Tree Press.
- Walkington, C.A. (2013). Using adaptive learning technologies to personalize instruction: The impact of relevant contexts on performance and learning outcomes. *Journal of Educational Psychology, 105(4)*: 932-945.
- Willis, J. (2007). The neuroscience of joyful education. *Educational Leadership, 64*. Retrieved from http://www.ascd.org/publications/educational-leadership/summer07/vol64/num09/The-Neuroscience-of-Joyful-Education.aspx
- Yarbro,J.,Arfstrom,K.M.,McKnight,K.,& McKnight,P.(2014).*Extension of a review of Flipped Learning* (literature review).Washington, DC: Pearson and the Flipped Learning Network. Retrieved from http://researchnetwork.pearson.com/wp-content/uploads/613_A023_ FlippedLearning_2014_JUNE_SinglePage_f.pdf