TELE Synthesis

	Anchored Instruction (Example:JASPER)	Scaffolded Knowledge Integration- SKI (Example:WISE)	Learning for Use (LfU) (Example: My World)	T-GEM (Example:Chemland)
Key Ideas/Goals	- Video-based -Learning experiences are designed around “anchors” and “situated in engaging, problem-rich environments” (CTGV, 1992) -Goal is to “make thinking visible” (CTGV, 1992) -Engage in activities (challenge/problem/question) situated in “real-life” scenarios and that could have multiple outcomes or solutions	-Web-based science inquiry environment platform -”Real-life” scenarios - Connect to relevant problems and prior knowledge -Based on 4 principles (Williams & Linn, 2002): a) Making science accessible b) Make thinking visible c) Encourage students to learn from each other through social supports d) Promotes lifelong learning	-Web-based -Goal is to “Overcome the inert knowledge problem by describing how learning activities can foster useful conceptual understanding that will be available to a learner when it is relevant” (Edelson, 2001). -Based on 4 principles: a) Learning is process of constructing and modifying knowledge structures b) Learning is goal-directed that is guided by conscious and unconscious understanding goals c) Circumstances in which knowledge is constructed and used determines its accessibility for future	-Cyclical process helps to guide students’ learning and using **T**echnology to: a) **G**enerating ideas b) **E**valuating their validity c) **M**odifying based on feedback -Seeks to engage students by having them explore and interact with the material and to construct knowledge

			use d) Knowledge must be constructed in a useable form before it can be applied 3-Step Process: -Motivation -Knowledge Construction -Knowledge Refinement	
Guiding Theories/Principles	Constructivism Inquiry-based Collaboration Learner Centered Situated Learning Theory Cognitive Theory Addresses TPCK	Constructivism Inquiry Collaboration Learner Centered Situated Learning Theory Addresses TPCK	Constructivism Inquiry Collaboration Learner Centered Situated Learning Theory Addresses TPCK	Constructivism Inquiry Collaboration Learner Centered Situated Learning Theory Addresses TPCK
Integration of this technology into their teachers' class environments	-"Video" scenarios could be updated/adapted to reflect current interests and curriculum -Design could be cross-curricular and apply to "real-life" situations and/or student interests - Adaptable to a variety of grade-levels	-Adaptable for classrooms -Promotes inquiry practices in classrooms -WISE is adaptable to classroom concepts and easily scaffolded -Allows teachers opportunity to explore misconceptions -Design could be cross-curricular and apply to "real-life" situations and/or student interests - Adaptable to a variety of grade-levels	-Variety of technology could be used - Design could be cross-curricular and apply to "real-life" situations and/or student interests - Adaptable to a variety of grade-levels	-Simulation technology that is adaptable for classrooms and students can modify their understanding as learning happens -Variety of technology could be used -Design could be cross-curricular and apply to "real-life" situations and/or student interests - Adaptable to a variety of grade-levels

Prior to this module, TELEs were not something I was familiar with...and I have been missing out! All Technology Enhanced Learning Environments (TELEs) focus on student-centered learning through enrichment and learning by doing. Students are not the passive recipients of information and each of these TELEs aims to motivate students. Technology itself can be motivating, however, these experiences allow students to construct and engage with curriculum material in new and more authentic ways rather than being a "consumer" of technology or via traditional pen and paper. These TELEs are all based on a constructivist theory of learning, valuing the building and integration of new concepts on previous knowledge, and collaborating with others to construct meaning. Utilizing real-life scenarios creates a natural "buy-in" for students - they are motivated and are able to "see" the context of these problems. Creating our own "Jasper Series" of math/science videos depicting "real-life" situations is something I would like to pursue next year with a group of teachers (and students) at my school. The individualized nature of the videos (which would also connecting to ADST - Digital Media) would engage our middle school students and provide cross-curricular opportunities (Language Arts, Math, possibly science or SS depending on the storyline). There are so many possibilities. I am curious to see how TELEs support our struggling math and/or science students. Have they (TELEs' visuals, hands-on, scaffolding, etc) been successful in the past? What about our students who lack motivation? This is something I would like to further investigate.

Overall, I can see benefits of using each of these platforms in the science and/or math classroom. Implementation of these TELEs would depend on a number of factors including teacher comfort (learning the technology, mindshift in thinking about knowledge acquisition), time (there is never enough, using TELEs instead of something else, time to learn these platforms), and the physical technology available (sharing the limited resources in the school). These platforms would provide opportunities for students to use technology to visually represent traditionally abstract concepts, and to manipulate data that may not normally be accessible in a science or math classroom. What an exciting time to be a student! The role of the teacher is one of guide/facilitator as opposed to "keeper of all knowledge". However, *allowing* students to construct their knowledge as opposed to to just giving them the information is something that will be a challenge for some educators. In all TELEs, I believe that teachers need to create the technology enhanced learning *"experience"* with their students in mind. As I do not have my own classroom next year, my role will be to support teachers as they continue to implement inquiry learning in their classrooms. I am excited to bring my new knowledge of TELEs (even their existence!) to add to our teachers' toolkit and I look forward to seeing what new learning opportunities and experiences we can create for our students in math/science.

References

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Edelson, D.C. (2001). Learning-for-use: A framework for the design of technology supported inquiry activities. *Journal of Research in Science Teaching,* 38(3). 355-385.

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