Set Criteria of Constructivist Elements

		Station 1	Station 2	Station 3	Station 4
1. Construction of knowledge					
	a. Learning activities examine the learner's own prior conceptions and relate them to the new knowledge	√	√	√	√
	b. The environment focuses on a problem, project, question, or issue, with various interpretative and intellectual support systems surrounding it.	√	X	X	√
	c. Learners have access to resources for problem solving, such and information banks and discussion forums.	√	√	√	√
	d. Learners are able to affect the environment in some way by manipulating something, such as constructing a product, manipulating parameters, making decisions	√	X	√	√
	e. Hypermedia and multimedia is used primarily as a medium for the learner to construct knowledge, rather than as a medium to deliver instruction.	√	√	√	√
2. Process, not product					
	a. The learning process involves planning the goals, topics and relationship among topics.	√	√	√	√
	b. Learners access, transform, and translate information into knowledge through developing new interpretations and perspectives.	√	X	√	√
	c. Learners evaluate the quality and quantity of the assembled content.	√	√	√	√
	d. It is the process of constructing a perspective or understanding that is essential to learning; no meaningful construction (nor authentic activity) is possible if all relevant information is prespecified.	√	√	√	√

		Station 1	Station 2	Station 3	Station 4
3. Multiple perspectives					
	a. Forums for social negotiation and mediation provide learners opportunities to exchange perspectives and reconcile dissonant views.	√	√	X	X
	b. Learners are provided with opportunities for collaboration.	√	X	X	√
	c. Learners are able to reconstruct events by configuring a range of perspectives and points of view on a subjective reality.	√	√	√	√
	d. Related cases represent the real life complexity of problems.	√	X	√	√
4. Situated cognition					
	a. Constructivist learning environments support question/issuebased, case-based, project-based, or problem-based learning.	√	X	√	√
	b. Problems are interesting, relevant and engaging.	√	√	√	√
	c. All the contextual factors that surround a problem are described.	√	√	√	√
	d. The representation of the problem is interesting, appealing, and engaging.	√	X	√	√
	e. The problem manipulation space provides a physical simulation of the real-world task.	X	√	√	√

		Station 1	Station 2	Station 3	Station 4
5. Reflexive cognition					
	a. Students should be encouraged to become self-regulatory, self mediated, and self-aware.	√	√	√	√
	b. Instructors and learners examine personal beliefs, conceptions, and personal theories about the subject matter, teaching, and learning.	√	√	√	√
	c. Learners are asked to articulate their inquiry based problem solving process.	√	X	X	√
	d. Learners are encouraged to think-ON action, and think-IN action to develop professionalism.	√	√	√	√
6. Cognitive apprenticeship					
	a. Students, instructors, and personnel who support the learning receive appropriate training.	X	X	X	√
	b. Behavioural modeling of the overt performance and cognitive modeling of the covert cognitive processes assist learners in completing the tasks.	X	X	√	√
	c. Coaching allows the learner to improve personal performance to reach a skilled level in task completion.	√	X	X	√
	d. Scaffolding provides temporary frameworks to support learning and student performance beyond their capacities.	√	√	√	√

		Station 1	Station 2	Station 3	Station 4
7. Process-based evaluation					
	a. Assessment tests the learning outcomes. Assessment of skills involves using the skills, not describing them verbally.	√	√	√	√
	b. Self-regulated learners assume responsibility for setting their own goals, determining their own strategies and monitoring their own learning.	X	√	√	√
	c. Cognitive tools allow students to move beyond language to represent what they know in ways that are more highly structured and visual.	X	√	√	√
	d. Multiple perspectives are included in the evaluation process.	√	√	√	√

Comments

Station 1	Station 1- Practice Fields: Problem-based Learning, Project-Based Learning, Product-based Learning, Case-based Learning, and Group Work and Cooperative Learning (Group Activity) Expert Jigsaw: in a team of 3 (instead of the required four) we each selected one constructivist strategy to become an expert on. My area was Problem-based learning. We quickly discovered that there were many parallels in each strategy. We had the added challenge of keeping abreast in the fourth discussion forum since we didn't have an expert for the Product-based Learning. 1. Construction of Knowledge-I found this station to involve a lot of active learning. It engaged me and enabled me to activate my prior knowledge while intaking new information. We were provided with a vareity of rich resources and a place to collaborate. We also constructed a lesson plan together in a google doc and used a variety of ETs. 2. Process, not product- we had a clear objective when we began the jigsaw- to create a lesson plan using the most appropriate constructivist strategy. The process involved us reading and dialoguing in our expert discussion forums to

	develop a general concensus of what our constructivist strategy was all about which we then took back to disseminate to our home groups. After discourse and debate, the home groups decided on the best strategy, which we felt was Problem-Based Learning (for lesson on probability) and began to contruct our lesson plan. Once our lesson plan was finished- after much revision- we shared it with the greater group and defended our choices in strategy and activities in the lesson. 3. Multiple perspectives- There was a plethora of opportunity to collaborate and discourse: selecting an area to become an expert on, sharing with other experts, teaching the home group, collaborative decision making on best strategy and co-constructing the lesson. Each step involved careful consideration of other people's views and often shifting focus. 4. Situated cognition- The activity was enticing, relevant and a real problem. It was truly authentic and had significance to each group member which made the entire process meaningful to all participants. 5. Reflexive cognition- There was a large degree of self-directed learning in the process which was complimented by the collaborative aspects. The activity required each individual, and the group as a unit, to reflect on their beliefs and to explain explicitly their opinions. 6. Cognitive apprenticeship- There was some degree of coaching- through each other- and scaffolding- through the design of the activity however, i would have found some modelling useful. I felt safe and supported in my online community of learners but did we receive appropriate training? I'm not convinced. 7. Process based evaluation- There needed to be some feedback from the instructor on our lesson plans. Did the instructor agree with our decision? Was there anything she, as the ultimate expert, would suggest as an improvement? We did self and peer assess to some degree but the self-directed nature of this left the participation on the low end of the spectrum. For such an involved activity- perhaps this should be graded… The process of focused exploration, reporting/reshaping, integrating and evaluation was useful, well-designed and overall a highly valuable, and practical, learning experience.

Station 2	Station 2: Computer Mediated Communication (CMC) (Group Activity) This activity involved an intial prior knowledge check (before reading), processing/constructing new knowledge (post-reading) and a reflection (post discussion). 1. Construction of Knowledge-I wouldn't say I was reconciling a discrepency but there was an element of curiosity involved while I endeavoured to learn more about CMC. I enjoyed the use of hypermedia and multi-media but felt it was used primarily as a medium to deliver instruction (one-way, asynchronous, reading) aside from our forum. 2. Process, not product- the process involved reflecting on my prior knowledge of CMC, doing some research by reading articles and visiting websites and answering these two questions in a class forum: • Which elements must be present in a successful CMC implementation? • In what ways can CMC be used to support some of the other constructivist strategies that you have encountered on the other stations you have visited to this point, how? The learning involved some steps in a process that enabled us to examine assembled content from a variety of sources thereby forcing us to consider information from different perspectives. The task was self-directed to a large extent and could be perceoved as a rather dull task due to the high degree of independent work. 3. Multiple perspectives- It was through the class discussion that I felt I learned the most. By reading short, succinct anecdotes and suggestions from people in similar roles made CMC more real for my context. We acted as a budding Community of Learners and bounced our ideas off of each other, carefully considering what our viewpoints were. Goldman-Seagal's analogy of a star-constellation relationship to the individual input of media into a group collaboration is weakly evident in that we each input our synthesized opinion (stars) and together we created a menaingful, multi-layered interpretation of our shared question (constellation). 4. Situated cognition- Jonasen says "Question- or issue-based learning begins with a question with uncertain or controversial elements." and I am convinced that our question left the majority of us- certainly myself- with a desire to find the answer. Why? because I was uncertain! I have some pre-conceived notions of what CMC was but it was the task of researching and reading that enabled me to understand and articulate it more completely. The fact that finding the answer meant progress towards a course in my MET = authenticity for me.

	5.Reflexive cognition- "Metacognition is considered to be a fundamental aspect of learning and consists of (1) knowledge of cognition (i.e., knowing what one knows, knowing what one is capable of doing, and knowing what to do and when to do it) and (2) regulation of cognition (i.e., the on-going task of planning,monitoring, and evaluating one's own learning and cognition) (Brown & Palinscar, 1987)". I think that in this activity I was constantly thinking about what I was learning and comparing it to my prior knowledge in an almost cyclical fashion while I researched and then synthesized with my classmates. I believe there was more opportunitity to reflect ON action than IN action due to the asynchronous nature of our discourse. 6. Cognitive apprenticeship- I do not believe that this was a stength of this activity. I did not feel that I was coached or that there were scaffolds provided for me. At some times I was well out of my ZPD. 7. Process based evaluation- This is another area for development. I wasn't totally clear about the learning outcomes. Although I set my own goals in order to compelte the task I don't think I was assessed or monitored my learning. Although we technically had 'multiple evaluators' in our classmates, I believe the instructor's input and guidance would support this area.
Station 3	Station 3: Webquest and Webprojects (individual activity) 1. Construction of Knowledge- Through this activity I revisited my existing interpretation of Webquests and related it to the new information I processed about Web Projects. There wasn't really a problem or issue to investigate but in order to complete the task a range of resources were investigated. Because we were not asked to create anything there was very little manipulation/construction occuring. It did involve a great deal of access to multi-media as but as a medium for delivering instruction. 2. Process, not product- our task was to "Identify the similarities and differences between webquests and webprojects". The process involved reflecting on what we already knew, reading/looking/visiting websites and the completing this Set Criteria reflection. It did not involve collaboration and required us to completely self-regulate. By navigating the plethora of websites, we as learners were able to develop new perspectives and evaluate content but there was limited opportunity for meaningful construction. 3. Multiple perspectives- There was no real opportunity for social negitiation or collaboration, however we were

	introduced to many different perspectives through the dynamic webquest and webproject resources. 4. Situated cognition- Due to my initial perception that I knew what a WebQuest was but being unclear about WebProjects, I was personally invested in defining the differences between the two. The task was relevant to the course and being exposed to a vareity of examples was interesting and useful. 5.Reflexive cognition- The nature of the task had us examine our conceptions of WebQuests and WebProjects as well as to self-regulate. It did not provoke articulation of our inquiry based problem solving process. The task did not demand reflecting IN action at all. 6. Cognitive apprenticeship- limited scaffolding/modelling was provided in the form of a variety of accessible resources. Since the task was not cognitively demanding I am not sure coaching was required. 7. Process based evaluation- Multiple perspectives are included in the evaluation process yet assessment of new knowledge is not immediate. When we utilize these constructivist strategies we would be forced (and more motivated) to evaluate their usefulness in our own context. I would have learned more if I was required to create a WebQuest with a group or to participate in a WebProject.
Station 4	Station 4: Situated Cognition (individual activity) 1. Construction of Knowledge- I thought this station activity was very well designed to construct knowledge. I was presented with 'situated' problems' that activated my engagement. I was asked to create 'products' and was provided with a variety of resources- including my own colleagues. 2. Process, not product- Examine the differences and similarities between traditional classroom and apprenticeship learning. I felt that this learning activity enabled me to actually 'see' what situated cognition was and it involved a learning journey of comparing and contrasting. The context, content, faciliation and assessment were authentic and activated for me in this activity. 3. Multiple perspectives- Through working with colleagues as an apprentice I was able to garner other perspectives and learn from them.

	4. Situated cognition-The activities were dynamic and purposeful. Because the activities had that element of cognitive conflict and involved cognitive apprenticeship I was in a real-world type situation. This is an experience that could (and does) happen to me in my workplace all of the time. It really emphaiszed for me how much more meaningful it is to be coached through a process rather than listen to the steps in a process and going it alone. 5.Reflexive cognition- this station provided ample opportuntiy for me to reflect On and In action. 6. Cognitive apprenticeship- scaffolding was provided in the first and especially the 3rd activity. I personally found a lot of value in the situated cognition activity. 7. Process based evaluation- the autehntic learning experience that this station provided enabled me to articulate my goal and reflect on it at the end. I think that situated cognition is clearly an exceptioanlly invaluable learning theory and it is seen in our very own teaching practicums while we train to be teachers. Did we learn more in the university lecture theatre or in the classrooms we were student teachers in? Not a tough one! Just like in this station- I learned more with the coaching/scaffolding provided by my colleague than I did independently and this lead to a more meaningful experience.