Instructional Design Literature Report:

A Cognitive Apprenticeship Approach

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The process I used to locate and select this article was through the UNF library database by searching for *Cognitive Apprenticeship Approach* since this is the design model that I am most interested in researching since my instructional design topic is about developing a curriculum for college professors to teach students with cognitive disorders. The first article that I found is titled, *Design of a learning-centered online environment: a cognitive apprenticeship approach*, and the approach in this article outlines how online instruction can be combined and guided with learning theories. According to this article, the instructional design case study they conducted "documents how combining a theory-based approach to teaching and learning with data from students and experts can effectively inform the redesign of online instruction and lead to better learning outcomes," (Garcı´a-Cabrero, et al., 2018). Therefore, the design strategies that were used demonstrated how a "learning-centered approach embedded within a Virtual Learning Environment (VLE), (Instructional Software for Authentic Learning (SOFIAA), led to greater student achievement than a content-centered online course materials (OCM)," (Garcı´a-Cabrero, et al., 2018). In this design strategy, OCM was used to solve solutions by discussing with experts on how to guide the students through difficult activities, while SOFIAA was created by using learning theories (Garcı´a-Cabrero, et al., 2018).

In addition, SOFIAA instructional design was carried out by reconceptualizing the cognitive apprenticeship model (CAM) as a four-stage model, which enabled the researchers to develop online activities that addressed both the learning needs of the students and their genuine professional needs (Garcı´a-Cabrero, et al., 2018). SOFIAA acted as a demonstration of how to develop and execute online assignments and activities to promote student learning beyond the traditional classroom by situating assignments in real-world contexts (Garcı´a-Cabrero, et al.,

2018). Unlike previous uses of CAM simply as a collection of instructional methods, the use of the CAM model in the redesign of the course of this article resulted in a top-down redesign focused on students participating in the kinds of realistic tasks that real-life experts experience in the field, for example, deciding the Educational Program Evaluation (EPE) model is acceptable, focusing on designing online teaching methods to promote the involvement of students in these tasks (Garcı´a-Cabrero, et al., 2018). As this cognitive apprenticeship model evolves in mixed courses for simulated learning environments, it will open doors to new research directions that could shed light on the amount of time needed to improve different ability levels, the requisite coaching and scaffolding strategies and the types of interactions that promote improved understanding and outcomes (Garcı´a-Cabrero, et al., 2018).

Furthermore, my discussion about the ideas in this article could be all positive for the article itself, but I do see some issues that might be occurred later down the line. The article had a measure of great strategies of using SOFIAA for their research, however, I might modify the approach for my own use by implementing more of a diverse approach to the study with more ethnic student populations, domains of knowledge, and also trying to use these strategies for the special populations as well to determine how well they can do in courses with these strategies. Some students may also not do well in a virtual environment; therefore, I would also try to implement these ideas where it will be a mix of virtual and one-on-one communication by using telecommunication for the students and their instructors. Nevertheless, I can definitely see that this strategy is feasible because it focuses heavily of student cognition and that is one of the most important approach to consider when researching on how to better assist in student learning as looking at learning theories is one of the best ways to determine the best help a student may need during their educational goals.

For my second article I found, I used a similar process. Therefore, what I used to locate and select this article was through the UNF library database by searching for *Cognitive Apprenticeship Approach* since this is the design model that I am most interested in researching since my instructional design topic is about developing a curriculum for college professors to teach students with Cognitive disorders. This second article is titled, *Using the Cognitive Apprenticeship Model with a Chat Tool to Enhance Online Collaborative Learning*, and the approach in this article was to identify how the Cognitive Apprenticeship Model facilitates interactive online learning through the use of a chat tool while five of its teaching strategies were applied over a one-semester span of eight weeks, to illustrate the success of this model (Rodríguez-Bonces & Ortiz, 2016). Data from surveys, chat transcripts, interviews, and checklists were collected, and analyzed through content analysis (Rodríguez-Bonces & Ortiz, 2016). Results show that in a chatroom modeling, coaching, scaffolding, experimentation, and reflection can be applied, and a sense of cooperation create; moreover, learners moved from direct instruction (modeling) to more autonomous learning (articulation), taking on expert positions (Rodríguez-Bonces & Ortiz, 2016). According to the article and their study, "the six teaching methods of the Cognitive Apprenticeship Method enhance online collaborative learning not only because students work together to reach a common goal, but also because they can support each other's learning through synchronous interactions when using a chatroom for this purpose," (Rodríguez-Bonces & Ortiz, 2016).

Moreover, the CAM also includes students who teach each other, students who teach the teacher and the teacher who teach the students; therefore, chat was helpful when learning to communicate with others as students got input, self-reflected and asked questions (Rodríguez-Bonces & Ortiz, 2016). The article also states that the chat used for their design strategy with the

use of collaborative learning and integrating cognitive learning allowed students to be the directors of their own learning processes (Rodríguez-Bonces & Ortiz, 2016). The students were also capable of focusing on their learning goals, self-assessing them, setting their own goals and reaching for them (Rodríguez-Bonces & Ortiz, 2016). On the other side, according to the article, the teacher became a creative agent of the classes, where he or she led the learning process by developing suitable lessons to promote group learning opportunities and sufficient support for peers (Rodríguez-Bonces & Ortiz, 2016). The use of CAM that offers collaborative learning opportunities where each teaching approach may be applied with several tasks; the chat tool allows students to receive synchronous feedback, motivation and advice; using CAM with chat is an opportunity to focus on the learning process as any tools for self-assessment may be built in (Rodríguez-Bonces & Ortiz, 2016). Lastly, the study in this second article explained the effectiveness of collaborative learning and cognitive learning in creating a sense of online social presence, described as the ability to portray oneself as a "real" individual in the online environment (Rodríguez-Bonces & Ortiz, 2016).

Therefore, my discussion for this second article can also be positive just like the first article, however, I could see some downfalls with this approach even though both articles used CAM. This second article seemed to only approach the students through chat, however, I think it should be more than that like how the first article provided. The strategy also seems feasible; however, I feel like they should have also created more follow up to their strategies than focusing on one main one. I might modify this second article's approach as my own use by also mixing it up with the first article's SOFIAA design strategy other strategies are produced as well.

References

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