HUDK 4050 Reflection Essay

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I am currently enrolled in the Curriculum and Teaching program. Before taking this course, I barely had background knowledge in learning analytics. All I have is knowledge related to statistics I gained during undergraduate study. During my past teaching and learning experience, I feel that lots of issues I identified during instruction, assessment or other educational scenarios are largely based on my observation and reflection. And sometimes, I feel my hands are tied when it comes to explaining what I experienced. All I have is different theories to try to make a difference. For example, problem-based learning(PBL) is a student-centered pedagogy to engage students in learning thinking strategies and domain knowledge through problem solving. Through constant observations in the classroom, I can see that it is indeed an effective tool to enhance students' learning motivation and learning outcome. However, the conversation just ended there. How do I measure the effectiveness? Is my observation truly accountable? There are lots of nuanced things within the classroom and it is hard for teachers to pay attention to every moment. So when I chose to take this course, I was eager to learn various tools that can serve as scaffoldings for me to examine teaching and learning practices in a more scientific and logical way.

During this semester, every single assignment is a new and wonderful learning experience for me. It is so exciting and satisfying for me to try to tackle an educational problem through the “magic” of data mining. Actually at the beginning of this semester, I spent most of my time on figuring out the specific tools we learned every week and struggled with how to let codes run and produce some applicable results. However, as I go deeper into this field, I found how to approach the problem is the priority. The way we interpret certain problems has a

significant influence on the process and results. What variables we are going to use, what method to choose, what factors matter and what doesn't are all closely related to how we want to approach this problem and why we want to study it. Just as the professor Liu stated in our first class, the analytical tool either Python or R or other magics could have dramatic changes in the future, but the cognitive process of approaching a problem by our human beings is irreplaceable. So I think this is the most important take-away throughout this semester. Also, I found the process of working through an educational problem through data mining can help me with my philosophical reflection of some issues. For example, when I work on the ACA 3 which mainly deals with educational inequity and college graduation rate, the variable selection process helps me rethink the inequity issues.

For now, I still want to become a teacher in secondary schools. Yet, the overall learning experience of this course can definitely contribute to my professional development. And I do hope I can integrate the educational data mining methodologies with pedagogical theories and my own teaching practices in the future to create a meaningful learning and teaching experience for my students.