Metacognitive Essay

Nida Mushtaq Khan
Jeannine Rainbolt College of Education
University of Oklahoma

This essay is part of the fulfillment for the master's comprehensive portfolio for Learning Sciences program at the Jeannine Rainbolt College of Education, University of Oklahoma.

Background

I completed my master's in English Language and Literature from The University of the Punjab, Lahore, Pakistan in 2007. Right after my graduation, I appeared for the PPSC (Punjab Public Service Commission) exam and got selected as a lecturer in English. I joined my service in 2009. At that time, I did not know that I would be doing something other than teaching English to Graduate classes in the Future. During my entire teaching period, I wanted to learn more about effective course designing, better instructional plans, and advanced technological tools to support my teaching. Keeping this purpose in mind, in the year 2019, I started exploring different universities in Australia, England, and America. Finally, I got admission in Educational Technology at Adelphi University, NewYork, USA in 2020. When COVID hit, NewYork City was one of the most affected areas. Everything changed and classes went remote. Due to many reasons, I got myself transferred to The University of Oklahoma in the Learning Sciences program. I did not know that a whole new phase, full of challenges, diversity and power packed (in terms of knowledge and skills) courses was waiting for me. From my first semester at Adelphi, I had realized that it was an inception of meaningful learning that would help me in my career. After completing my first semester from Adelphi, I had to go back to Pakistan for personal reasons. I skipped the Fall semester and resumed my study in the Spring semester, 2021 at The University of Oklahoma.

A Brief Overview of my Experience and Learning at Adelphi University

First of all, I came across a number of new terms and concepts by entering into the world of educational technology. The three courses I took at Adelphi were Technology and Society, Digital Foundations in Makerspaces, and Technology and Instructional Design. Moodle was the first open source learning management system that I came across. Even the term LMS was new

to me. Through Moodle, I came across blended learning, synchronous/asynchronous learning, distance education, and flipped classrooms.

Technology and Society EDT 604: 001

This course helped me get familiar with substantial critical views on technology, culture, society, and education. I got an outlook of perspectives and ideologies such as Marxism, feminism, and posthumanism. These positions helped me examine and contextualize the role of technology along sociotechnical, historical, political, pedagogical, and ethical strings. Interactive discussions with Professor Ryan Sobeck, his deep insights of the content, and his voice threads for feedback assisted me develop a better understanding of the course and weekly assignments. The Pessimists' Archive episodes by Jason Feifer were an additional source to learn how technology evolved gradually in different societies.

Digital Foundations in Makerspace Education EDT 723: 001

This course was an investigative and project-based course that considered the interface of new technologies through the lens of education in a series of hands-on projects. Professor Nicholas Sadnytzky's friendly facilitation and huge experience of this course enabled me to explore new ways of integrating evolving creative technologies into the design and implementation of STEM Educational goals. Through this course I explored how digital media can distinctly maintain and broaden the scope of the STEM ecosystem. Each week we investigated the ways new media can both coexist and enhance the traditional classroom environment. I got a chance to explore different designing tools like GIMP, Adobe, Audacity, Sketchup, TurtleArt, and more. I learned digital drawing, sketching, painting, cinematography, scanography, basic circuitry, 2D/3D modeling and fabrication, creative coding and Makey Makey. Unfortunately, we could not have a hands-on experience of Makey Makey because we

did not meet in-person when COVID hit. But I learned through various YouTube tutorials that it is a creative way to turn everyday objects into touchpads and combine them with the internet. It is a great start to the world of physical computing with the premise of it being easily coded with Block-Based Visual Programming.

Technology and Instructional Design EDT 503: 020

Professor Chia Yuan Hung helped me learn the foundations of instructional design and understand how to integrate technology in meaningful ways. I developed and assessed learning plans that were aligned to technology standards and/or other learning outcomes. I developed understanding and appreciation for instructional design in formal and informal educational settings as well as the role of educational technology by recognizing learners' needs and how they should be addressed within the designs. I learned how current/previous research, technology, and theories help in the design and implementation of a plan. I also gained ethical perspectives and roles for policy and practice in relation to educational technology implementation by developing an understanding and commitment to act on principles of social responsibility and ethical practice in education, including areas of equity, privacy, copyright and informed consent policies.

Development at The University of Oklahoma

This section consists of a brief reflection on some of the courses I attended at The University of Oklahoma. Overall, all the subjects helped me develop as a student of Learning Sciences.

Instructional Design 1 EIPT 6143 and Instructional Design 2 EIPT 6343

After getting transferred to The University of Oklahoma, I had an unfolding experience of knowledge in the world of instructional designing. I got a platform to update my knowledge

and skills that I gained at Adelphi University. Both the courses under Dr. Xun Ge's mentorship provided me with a curated learning experience. The courses guided me to create instructional materials for my training projects. When I worked on my projects and we had classroom discussions with Dr. Ge, I realized that instructional designing was more than just creating instructional materials. I could use different ideas, materials, methods, theories, models, and technological tools to help learners achieve their goals in an effective way. Dr. Xun Ge's productive and repetitive feedback responses kept me strong, helped me find my weaknesses, review them and revise my assignments. I developed an understanding of planning, design, implementation, assessment and evaluation keeping in view the learners' needs and task analyses. At the end of these projects, I realized that now I could work with traditional paper materials such as handouts/manuals, and with eLearning technologies and multimedia.

Educational Design Research

This research project helped me select, implement, test, and evaluate a design project that I completed in the Fall, 2021 for EIPT 6143. I made some changes in the existing project like I incorporated TPCK and implemented online PBL this time instead of simply designing problem solving skills. I designed, implemented, and evaluated the project through two iterations in the real-world setting. The data was collected through pre- and post surveys, pre- and post interviews, online meetings, feedback of the SME, checklists, and recordings of the training sessions. First iteration went through several revisions, improvements and evaluation which led to an updated design for implementation.

Dr. Xun Ge's instructions and the articles she recommended described the process and procedures for conducting this educational design research. I can not thank her enough for her constant support and repeated feedback. It was actually her who introduced me to revise and

resubmission forms to improve myself. Furthermore, through this research design, I got a chance to understand the concept, purpose, and values of EDR. I learned how evaluation in educational design research works. I could analyze needs and identify problems of the learners. During this research, I felt that I was more comfortable in using ed-tech tools and apps now as compared to the initial stages of my master's program. The research questions that were developed helped me address the issues and will contribute to the existing research and theories.

Visual Literacy and Digital Development EIPT 6523

This course was taught by Dr. Amy Bradshaw. The course revolved around conceptual and theoretical frameworks of instructional communication. Dr. Bradshaw helped us focus on the design principles and theories that underpin effective visual and media communication. Dr. Bradshaw's minute observations, clear goals, expertise in the use of digital technology and teaching skills inspired me a lot especially in our color wheel and visual manipulation projects. I learned the development of production skills that were helpful in my other courses also.

For visual manipulation, sound creation, animations, video making and color wheel projects, I got a chance to use Adobe Photoshop, Audacity, Apple iMovie, and Adobe Premiere. I am still learning to master these skills and evolve with the passage of time. Digital technology has greatly impacted my understanding of visual literacy and it is helping the instructional designers to make a difference in the world of education.

Research Assistant and Advisee

In the Spring 2022, I worked as a research assistant of Dr. Bradshaw. She was also my advisor in the master's program. In her supervision, I reviewed resources, websites, tools and devices that helped in improving writing. I reviewed literature about keeping equity and equality in view while grouping learners in a learning environment. I researched various effective

grouping strategies and worked on literature review for faculty resistance in writing and peer support. I reviewed literature for 5 major topics during research assistantship. I learned to maintain detailed documentation of research results, analyzed literature and resources to produce written reports and visual representations. I used tools like Google Drive and Docs to accomplish project-specific goals.

Learning and Motivation EIPT: 5183

Learning and Motivation was another course that helped me think of better teaching, learning and designing skills. I have a vivid memory of Dr. Benjamin Heddy's fun filled instructions, interactive sessions, integration of visuals and tools like Kahoot to motivate his learners for better learning. Weekly discussions and posts helped me examine my understanding of several psychological aspects and their relation to teaching and learning. I learned how to analyze, synthesize, and build upon current theories and research. The course emphasized the value of empirical findings and practical applications of theories and models in educational settings.

This course familiarized me with theories and ideas about learning, cognition, emotion, and motivation. I tried to develop the ability to examine different theories critically according to my knowledge and experience. By examining different ideas that I got familiar with, I could formulate my own ideas about learning and motivation. I learned to identify problems and find solutions based on the knowledge gained through this course.

Further, this course helped me explore self-determination theory in detail. Through this theory, I learned how people's personalities and motivation get affceted by their social surroundings. SDT let me experience the integration of intrinsic and extrinsic motivation in my

instructional designs in the upcoming projects. Since then, I have always liked to learn about the roles autonomy, competence, and relatedness play in the growth and development of the learners.

Internship Project

Internship in Education EIPT 5920

Dr. Lee Nelson, a Technology Integration and LMS specialist at Norman Public School was my supervisor for the internship in Fall, 2022. Under her supervision, I designed a project to plan a training workshop for integrating existing coding technologies into an elementary coding curriculum. A pre-survey was designed to analyze the needs of the elementary schools for coding devices. Throughout the internship period, I read and researched about Guided Inquiry Design (made comparisons with problem-based learning), attended a Cricut workshop (training about using cricut for several purposes), visited Ronald Reagan Elementary school (Ozobots for map reading in Geography), Norman High School (Noodle Tools to read scientific articles, skim/ scan them, and respond to them), and Dimensions Academy (exploration of a dream world for different types of learners). Overall, it was a tremendous experience for me to learn more about coding and how it is used in different subjects.

Theories, Terms, Models, and Tools

Most abundantly, the theories I came across during my master's program were Project-based learning theory, Case-based learning theory, Inquiry-based learning theory, Adult Learning theory, Game-based learning theory, Self-determination theory, Problem-based learning and more. Our class discussions for the Visual Literacy and Digital Development course provided me a great opportunity to explore and research about concepts like constructionism, constructivism and behaviorism. Numerous terms like zone of proximal development, cognitive dissonance, self-regulated learning, autonomy, competence, motivation, and relatedness were

repeated in almost all the courses so I got a chance to keep these concepts in my mind and use them whenever needed. Dr. Xun Ge helped me know about research and its components through her course, Introduction to Research and Evaluation EIPT 5033. I used tools like Canva, Jamboard, Lucid Chart, Google Docs, Google Drive, Canvas, Padlet, PowerPoint, Microsoft Office and many more for almost all my courses. Models like SAMR, ADDIE, Gagne's Nine Events of Instruction, Merrill's First Principles, TPCK, and Bloom's Taxonomy were a constant guide throughout my educational journey in the USA. The class discussions in all courses, peer feedback/ peer interaction, group studies, and relevant content material with upgraded knowledge and expertise of all my instructors helped me complete my master's program and face upcoming challenges effectively.

End Note

I stepped into the sphere of Instructional Designing as a novice but now I feel that my teaching and designing skills will be helpful in the real-world settings. I would never be able to come this far if I did not have the continuous support, encouragement, feedback, and help from Dr. Xun Ge who was the instructor for four of my courses. Through her teaching strategies, I learned how important it is to be tolerant and comforting for your students. I got an opportunity to learn precision, accuracy and refinement from Dr. Bradshaw's detailed instructions, and scaffolding of digital and visual literacy tools. She was my advisor and I got the opportunity to work with Dr. Lee as an intern because of Dr. Bradshaw's efforts. As mentioned earlier, she was my supervisor for research assistantship, and instructor for two courses also. Dr. Benjamin Heddy's interaction and communionship with his students is unforgettable for me. I always wanted to take more of his classes. It was a kind of comfort zone to be in his class. I did not get

any chance to be taught by any other instructor but I am sure that my experience would have more diversity if I had got a chance to learn from other teachers also.

For the Future, I really want to see myself developing in instructional designing so I will go for a doctorate in learning sciences. Last but not the least, I feel honored and exceptionally blessed to be a part of The University of Oklahoma and I am immensely thankful to all my mentors, supervisors, advisor, and peers for opening new horizons of learning and designing for me.