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Dr. Baek

Your Educational Philosophy & The Role of Technology Assignment

According to Chism (1998), educational philosophy papers should be short, to the point, avoid technical jargon, use first-person language, and focus on reflection and personal experiences. For this paper, I want to focus on the main components of educational philosophy: how I think learning occurs, how I can help in the process, my goals for students, how I achieve those goals and my plan for my own growth (Chism (1998). I also want to discuss the role of technology in my philosophy of education and how they relate to different learning theories.

To provide context for my educational philosophy, I will first discuss my background and teaching environment. I received my bachelor's degree in psychology from CSU Long Beach in 2016. Then I received my single subject teaching credential in mathematics from CSU Long Beach in 2019. I am currently in a masters program for Instructional Design and Technology in CSU San Bernardino. It is my fifth year teaching in the Coachella Valley Unified School District. I taught 2 years at Cahuilla Desert Academy Middle School and now I'm in my third year teaching at Coachella Valley High School. We are a title one school, 99% Hispanic and 10% at mathematics grade level, far below the California average. I teach freshman level math, and I'm in my first year teaching AP Statistics for seniors. Before I was a teacher, I was in the navy for four years as an Information Systems Technician. All of these experiences affect the way I teach.

I think learning occurs when students are able to remember and communicate new information. One method that supports this process is the Gradual Release of Responsibility framework, which helps students transition from guided to independent learning. The Gradual Release of Responsibility (GRR) teaching model involves the teacher progressively transferring responsibility for learning to the students. This process begins with teacher-led modeling and demonstration, followed by a gradual shift to student independence as they apply their knowledge and skills. GRR aligns with the concept of scaffolding (Bruner, 1977), where

temporary support is provided and removed as students gain competence. Both approaches aim to foster student confidence and independence without the teacher completing the task for them (Mareschal, 2016). I started using this model this year, and I can see how my students learn in real time. It's a simple model with definite steps.

The Gradual Release of Responsibility model can be applied in teaching by gradually transitioning students from guided to independent learning. It consists of four stages: (1) Focus lesson ("I do it"): The teacher models appropriate answers and encourages note-taking during lectures to illustrate effective responses. (2) Guided instruction ("We do it"): Students watch interactive videos or receive extended support, such as hints and practice quizzes provided through learning management systems. (3) Collaborative learning ("You do it together"): Students initially discuss answers in small groups or pairs before presenting to the entire class, fostering confidence in sharing ideas. (4) Independent practice ("You do it alone"): Students progress to answering questions independently, with options for retakes and written responses initially, which are phased out as students become more autonomous (Mareschal, 2016). I try to use this model with each one of my lessons, but sometimes they take more than one period.

Recently, I applied the Gradual Release of Responsibility model in a lesson on writing and graphing exponential decay functions. To engage students, I began with a warm-up activity where they predicted the number of bounces a racquetball would take to stop bouncing from various heights. I demonstrated this with drops from 100 cm, a chair, and the ceiling. This sparked curiosity and helped students visualize decay functions in action.

Next, in the "I do" stage, I provided notes and modeled the process of writing exponential equations. Students observed how to identify parts of the equation and solve similar problems. During the "We do it" stage, I guided students through practice problems, offering support and

answering questions as they worked. For the “You do it together” stage, students collaborated in groups of four to conduct their own experiments, dropping a racquetball, recording its height after each bounce, and graphing the results. They created tables, wrote equations, and answered questions based on their data, applying their knowledge in a real-world context while I circulated to provide feedback.

Finally, in the “You do it alone” stage, students practiced independently on Delta Math, solving exponential equation problems and receiving immediate feedback. This progression allowed students to build their understanding step by step, moving from guided practice to independent mastery.

From a strictly mathematical perspective, my goal is for students to reach the highest levels of the revised Bloom's Taxonomy. Anderson and Krathwohl (2001) revised the original taxonomy by shifting from nouns to verbs and reorganizing the categories into two dimensions: Knowledge and Cognitive Process. The Knowledge Dimension includes four types of knowledge: factual, conceptual, procedural, and metacognitive. The Cognitive Process Dimension encompasses six categories: remember, understand, apply, analyze, evaluate, and create. My aim is to guide students through these stages, helping them move from foundational understanding to higher-order thinking skills such as analyzing mathematical concepts and creating their own solutions (Aydin & Birgili, 2023). To achieve this, I use a variety of teaching strategies that balance conceptual learning with skill practice.

To help students achieve higher-level processes in math, I mix conceptual understanding with practice. I provide opportunities for conceptual learning through group work, real-world activities, videos, and thought-provoking questions. For practice, I use quiz platforms like

Quizizz.com and Gimkit.com, online tools such as Delta Math and Khan Academy, and traditional written worksheets. This balance allows students to critically engage with math while preparing them for tests and applying concepts to real-world situations. Through this approach, students grow as learners—and I grow as an educator.

My plan for growth starts with completing my master's program. I've already gained valuable insights into learning theories and instructional design. Beyond coursework, I continue to learn on my own by reading books like How the Brain Learns Mathematics by David A. Sousa, which deepens my understanding of learning complexities. I seek advice from colleagues and aim to pass the calculus portion of the CSET to earn my full math credential. I also integrate technology into my teaching, using tools like ChatGPT for feedback and to improve my instructional methods.

I enjoy gamifying my classroom whenever possible. For example, I use Gimkit.com to help students practice math skills while playing engaging games. One popular game, "Don't Look Down," has students answer questions to climb higher in the game, competing for the top elevation. Although I offer small incentives like candy or soda for the winner, many students play simply for the fun of it, showcasing **behaviorist principles in action.**

In a recent activity, my students logged into Desmos.com to complete "Counting Coins." In this activity, they flip 100 coins using a simulator, count the number of heads, then repeat the process with the remaining heads, demonstrating an exponential decay function. This activity engages students by connecting to familiar experiences, such as flipping coins, while scaffolding the material. They begin with simple tasks like counting and identifying patterns and progress to writing equations with guidance from the Desmos app. The visual representation of the function,

including the graph and table, helps solidify their understanding of exponential decay, aligning with **cognitivist principles.**

Another activity I use is a Notability-based worksheet on linear and exponential patterns. Students analyze patterns, shade where they think the sequence is heading, and work together to write equations. The Notability app allows students to visualize the patterns by shading and copying sections, making abstract concepts more tangible. Collaboration is a key component, as students share tips and insights to solve the problems efficiently. This activity integrates numerical, visual, and conceptual knowledge, enabling students to discover patterns in their own way, fostering student-driven learning and embodying **connectivist principles.**

My educational philosophy is rooted in the belief that learning occurs when students actively engage with new concepts, connect them to prior knowledge, and gradually take ownership of their learning. Through frameworks like the Gradual Release of Responsibility and the revised Bloom's Taxonomy, I strive to create a classroom environment where students can grow from guided instruction to independent mastery. By balancing conceptual understanding with skill practice and leveraging technology to enhance engagement, I aim to equip my students with the tools they need to think critically and apply their knowledge beyond the classroom.

Reflecting on my journey, I see how my experiences in education, the military, and my current studies have shaped my approach to teaching. I am continually learning alongside my students, whether by exploring new teaching strategies, integrating gamification into lessons, or applying insights from research on how the brain learns mathematics. My goal is not only to help students succeed academically but also to inspire them to see the real-world value of what they learn.

As I continue to grow professionally, I am committed to refining my instructional practices, embracing new technologies, and fostering a learning environment that supports all students. Ultimately, I hope to empower my students to reach their highest potential, instilling in them the confidence and skills needed to navigate the challenges of the future.

References

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Discussion Summary

- Did you fulfill the requirement to make your first post no later than Wednesday in the discussion? **Yes I did.**
- Did you facilitate communication in your own discussion thread (original post) by replying to the posts made by peers to your own initial post? **Yes I did**
- Did you visit at least 3-4 peers' initial posts and replies to them by Saturday? **Unfortunately, I got them in Sunday.**
- Quote your best post(s) from the week and explain why you feel these are the best. **I really liked how Antonio called teachers facilitators. In my job as a freshman math teacher, too often I have force my students to learn from threats of phone calls home and summer school. The best learning happens when students are engaged and trying to figure it out, not just going through the motions.**
- Quote several of the best posts from other students. Explain why you chose the ones you present. **I like Manar's quote he picked, "People learn best when they are motivated, engaged, and supported." That quote really hits the nail on the head on what is essential for good learning. Laura Wilde had a great idea about using Mincraft in the classroom. It could be such a great tool for students to understand physical and building.**
- Reflect on what you have learned in this module. What did you learn (e.g. from readings, class/online discussion) that has the potential to inform or influence your study and career going forward? **I think out of all the research I did for my educational philosophy, the most important was revisiting gradual release of responsibility again. I think I need to find more ways to incorporate technology in the we do and you do together stages because I already**

do it pretty well in the you do alone stage. I also could have opportunities to model or showcase technology in the I do stage. It definitely has me thinking.