Multiliteracies Praxis Paper:  They’re Functions!

At the beginning of this project, our team set out with the mindset that mathematics can be taught in a fun and memorable way. We decided to concentrate on reviewing the basic characteristics of functions and connecting this knowledge to the concepts of domain and range. These are major concepts in mathematics, thus it is important to provide students with a solid foundation which they can draw upon in later years.

We begin the lesson with a KWL chart which flows into a review of the basic characteristics of functions, followed by an introduction of the concepts of domain and range. After this portion of the lesson, the video is to be introduced as an interactive component with the accompanying worksheet. The video incorporates visual, verbal, and kinesthetic modes of representation which allows for students of varying intelligences and abilities to engage with the material (Cazden et al., 1996).  Through the use of the KWL chart and key visuals in all aspects of the lesson, English language learners are also being supported throughout this lesson (Ontario, 2005). Furthermore, the provided materials enable students to focus on what they are supposed to be learning, ensuring student cooperation and meaningful learning is taking place (Fisher and Frey, 2016). As an extension of this idea, the teacher can incorporate real life examples into the lesson to extend student knowledge beyond the classroom.

“Technology plays a significant role in redefining literacy practices… governments and educational authorities emphasize the need for students to develop technological knowledge and skills… it is imperative for technology-based literacies to be embedded into teaching and learning” (Brown et al., 2013, p.106). In mathematics, teachers often take a more traditional approach to teaching their subject matter. The materials we have created show there are different methods to impart knowledge and assess the understanding of the students. Additionally, the interactivity of the dance provides a strategy for students to remember the shapes of the parent graphs, as some students have trouble mentally visualizing these graphs. As more concepts are introduced to the complex topic of functions in this or later courses, students can adapt the song and dance to reflect these additional aspects.

Overall, our lesson contains multiple literacies aimed at maximum participation and comprehension of the topic. It includes dialogue and writing, communication, visual aids, verbal cues in the form of a song, peer learning, and a kinesthetic activity. We believe this lesson will support a range of intelligences and abilities, ensuring student success with the concepts of domain and range of different types of functions.

References

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