Praxis Paper: Gene Drop Project  
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Theories and mechanisms associated with patterns of inheritance, genetic problems involving different types of crosses, genetic diversity and issues regarding genomics can be for some students a very abstract idea. The Gene Drop Project is a valuable and effective approach to teach topics in the genetics unit. The Gene Drop Project supports student centered rather than teacher centered curricula and instruction (Parkway et al., 2012, p.70). This tool encourages students to become, “active learners who are a part of [the] meaning making process” ( Parkway al., 2012, p.71).

The purpose of the Gene Drop Project is to give students a real life example of genetics and how genes can be inherited. The introductory lab assignment allows students to build on existing knowledge and reintroduce themselves to terminology that will be important throughout the project. This introductory lab assignment helps to assess student’s knowledge and understanding. The terminology presented in the assignment will be important throughout the lab. Setting time aside for students to become familiar with this information helps them to start off with an equal knowledge base.

The gene drop activity itself provides students with an opportunity to apply their knowledge and skills in a novel way. Engaging in the actual gene drop gives students the ability to use their own characteristics, allowing them to create an authentic connection with the lesson (IB, 2015). Students are able to reflect on their experience as parents, each contributing to the creation of the baby. Asking students to participate in the follow up activity puts them in the role of some marginalized/ disenfranchised groups when it comes to creating a child. Encouraging students to consider both ethical and social implications provides them with an opportunity to explore issues that may not be discussed openly. Issues regarding reproduction, same sex marriage, and adoption may be uncomfortable for some students to discuss at home or with their parents; the classroom can be that safe space for them to get answers to their questions.

The use of differentiated instruction is very important in today’s classrooms in order to effectively reach all types of learners. This activity includes visual, auditory, tactile and kinesthetic components in the lesson in order to aid in comprehension. Teachers must make a conscious effort to, “understand students understanding and realize students learning is influenced by prior knowledge, experience and attitudes and social interactions” (Parkway et al., 2012, p. 71). The Gene Drop Project displays an important approach to education where the “curriculum has been aligned beyond the context of [the] formal education setting and referenced to real world contexts” (Watermeyer, 2011).

The Gene Drop Project supports meaningful application of a subject area in student’s lives. “In order to create authentic connections teachers should help students realize experiences that connect curriculum to local issues or needs, helping students to recognize these connections and explore them on a deeper level” (IB, 2015, p.5). This lesson provides an educational experience that encourages students to construct their own knowledge as they, “gain awareness of the world in a range of diverse challenging situations” (IB, 2015, p. 5).

References

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