

Chicken Embryology in the Classroom

Issue:

As part of the No Child Left Behind Act, schools are charged with increasing student achievement as measured by higher scores on standards – based assessments. In Marion County, nearly 50% of students scored below the state educational standard in math and english/language arts on required Indiana Statewide Testing for Educational Progress (ISTEP) tests. Teachers have identified the need to integrate science based educational enrichment programs into their current curriculum which are hands-on and help students become excited about learning. Indianapolis Public Schools specifically promotes ongoing staff development in teaching math and science, the intent being to help teachers identify and use teaching strategies that enable students to develop a deeper understanding of science and mathematical concepts. The majority of Marion County youth lack experiential learning/classroom experiences in the areas of agriculture awareness and understanding. Their knowledge level of animal and plant sciences as applied to agriculture and life sciences in general is minimal.

Extension response :

- * Organized teacher training workshops
- * Conducted teacher trainings
- * Administered survey instrument
- * Served as project/curriculum resource

A total of 1745 students and 33 teachers participated in some aspect of the program this year. Twelve surveys were returned by the teachers for a response rate of 36%.

After participating in the Teacher Training Workshop:

Impact:

> 100% of the respondents rated the program as Exceptional or Good based on its effectiveness to educate students about embryonic development. Several teachers noted that their students assumed a leadership role when guests came into the classroom to see the chicks. With regard to student learning, teachers reported that their students learned what an incubator does and the importance of turning the eggs, the reality of where eggs come from and where chickens come from, and the stages of embryonic development for the chick. By caring for the chicks for a few days after hatching, the students demonstrated how to care for animals and for one another. The students practiced making observations, taking careful measurements and recording data about each chick.

> 30% of the respondents reported they were able to use information gained in the training to more successfully operate the incubator.

> 36% of the teachers reported that they did candle eggs in their classroom. The teachers reported that through the candling activity, their students learned the difference between what a fertile and non-fertile egg looked like and they could see the chick developing and growing within the egg shell. Additionally the students could see the heart beating and the veins of the chick embryo.

Respondents offered the following anecdotal comments regarding observed student behavior as a result of participation:

- > "Increase in gentleness.... they take their roles of caretakers very seriously"
- > "Live animals captivates the young child & he/she is very focused on the animal"
- > "Their curiosity was peaked extremely"
- > "Development of the embryo & pecking order"
- > "Empathy, stewardship, & observation"
- > "The process of egg development"
- > "Weights and measurement.... we keep two chicks for three weeks and weigh and measure them to document their rapid growth"
- > "Kids very excited and willing to help"
- > "We had a chick that was sick.... we noticed lots of empathy in our children"
- > "Our hyper children seemed calmer and more patient"
- > "Teaches children responsibility for that animal and a sense of caring for this animal"
- > "Children learned a respect for living things. It was a process that taught patience & had a rewarding result"
- > "Hands on always more meaningful!"
- > "Differences between fertile eggs and store bought eggs"

Partners:

St. Richards' School
Acton Elementary
Adams Elementary
Bunker Hill Elementary
Calvary Christian School
Eleanor Skillen IPS #34
Even Start
Francis Bellamy IPS #102
Glenns Valley Elementary
Holy Cross Lutheran Day School
Indian Creek Elementary
James Whitcomb Riley IPS #91
Lowell Elementary
Meridian Hills Cooperative Nursery School
Northminster Preschool
Spring Mill Elementary
The Early Childhood Center / Church at the Crossing
Trader's Point Christian Academy
Center For inquiry IPS #2
Center For Inquiry IPS #84
Manual High School

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