

SAMPLE REPORT¹

A Computer-Based Module to Teach Statistical Database Use in Biology Classrooms

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Project Summary

A module was built to teach the use of statistical databases in Biology classrooms and was incorporated into the biology class at Hammerhead High School prior to the project. We held a teacher workshop in January 2004 with 10 teachers, and 3 agreed to use the software in their classes at Poppinjay, Shuttlecock, and Turncoat High Schools. Regular contact has continued with teachers from these three schools throughout the year. Both Poppinjay and Shuttlecock used the software this fall, as did students at Hammerhead. Turncoat expects to use it in February.

Evaluation Measures

Surveys were given to the 10 teachers immediately following the January workshop and then again in June as follow-ups.

For the three classes using the software, students were given module surveys and their demographic information was tracked. They were also tested on their understanding of the material prior to and after using the module, as were students in a similar Biology class at Poppinjay whose teacher had taught similar material without using the module. Demographic information was also tracked for these students.

Teacher Workshop Evaluations

Workshop Survey (N=10)

1. What grade levels do you teach?
9th grade – 2 (20%)
10th grade – 8 (80%)
11th grade – 3 (30%)
12th grade – 1 (10%)

One teacher taught both 9th and 10th; two taught both 10th and 11th; one taught both 11th and 12th.

2. What subjects do you teach
Biology – 10 (100%)
Chemistry – 1 (10%)
Physical Education – 1 (10%)
Environmental Science – 1 (10%)
Driver's Education – 2 (20%)

¹ Disclaimer: the project demonstrated here is completely fabricated by the evaluators and does not represent a model project that you should expect to follow in any way

No teacher taught more than two subjects

3. How clearly was the material presented at this workshop?

Very clear	4 (40%)
Somewhat clear	4 (40%)
Not very clear	2 (20%)
Very unclear	0

4. How useful was the presented material?

Very useful	5 (50%)
Somewhat useful	4 (50%)
Not very useful	1 (10%)
Useless	0

5. Would you recommend this workshop to a fellow teacher?

Definitely!	4 (40%)
Only if they were interested in the subject	5 (50%)
No	1 (10%)

6. Did you see anything at this workshop that you would like to use in your class?

Yes	5 (50%)
No	5 (50%)

If so, what?

 - I would use the module in my lessons
 - The module
 - I like the module very much
 - I think the material is interesting, but I don't have the computer support to use the module
 - I expect to steal some of the ideas for a project that I am seeking funding on

7. What level of support would you need in order to incorporate these ideas into your classroom?
 - None (2)
 - I'm not using anything (5)
 - I would like technical support
 - Help introducing it to my students
 - Help setting up a good evaluation

8. Do you anticipate that you will receive this support?

Yes	3 (30%)
No	0
Not sure	1 (10%)
Not relevant	6 (60%)

9. If you do plan on using activities, about how many students do you teach who would be impacted by these activities?
 - 30
 - 26
 - 20-30
 - about 60
 - Perhaps thousands, if I can get the funding

Workshop Follow-up Survey (N=5; 5 individuals did not respond)

1. What grade level do you teach?

9 th grade	1 (20%)
10 th grade	4 (80%)
11 th grade	1 (20%)
12 th grade	1 (20%)

One teacher taught both 9th and 10th; one taught both 11th and 12th.

2. What subject(s) do you teach?

Biology	5 (100%)
Driver's Education	2 (40%)

3. Have you implemented any of the activities presented at the workshop into your classroom?

Yes	1 (20%)
No	3 (80%)

If yes, to what did you do and to what extent?

- I incorporated the materials into a mini-lesson; I will use the actual module next semester

4. If yes, what impact did you see of the new activities on your students?

- Students are looking at biological data rather than just learning facts

5. Have your perceptions of the activity changed in any way from when you took the workshop? If so, how?

- Getting the computer support is much more daunting than I thought
- No, I still don't like it
- I'm sorry I didn't implement it this semester; the MCAS just took up too much class time
- Not really
- No

6. Has your comfort level with using technology changed since you took the workshop? If so, how?

- No (4)
- Trying to get together the necessary computer equipment was very frustrating, but I finally did, and now I think I know a lot more about networking and Excel than I ever expected to

7. Are you willing to continue using the activities from the workshop in coming years?

Yes	3 (60%)
Yes, but only with continued outside support	1 (20%)
No	1 (20%)

Student Evaluations

Student Demographics

	Hammerhead	Shuttlecock	Poppinjay	Poppinjay Control
Number of students	25	25	25	25
Gender				
Males	12 (48%)	8 (32%)	10 (40%)	23 (92%)
Females	13 (52%)	17 (68%)	15 (60%)	2 (8%)
Ethnicity/Race				
White	25 (100%)	2 (8%)	18 (72%)	19 (76%)
African American		6 (24%)	2 (8%)	2 (8%)
Asian		2 (8%)	4 (16%)	1 (4%)
Hispanic		10 (40%)	1 (4%)	3 (12%)
Other		5 (20%)		
Class Level				
Sophomores	25 (100%)	8 (32%)	25 (100%)	
Juniors		17 (68%)		25 (100%)
Future Plans				
College-bound	25 (100%)	9 (36%)	22 (88%)	2 (8%)
Tech programs		2 (8%)		21 (84%)
Military		6 (24%)	3 (12%)	
Uncertain		5 (20%)		2 (8%)
Other		3 (12%)		

Learning Outcomes

	Hammerhead	Shuttlecock	Poppinjay	Poppinjay Control
Number of students	25	25	25	25
Date of pretest	Sep 14	Sep 18	Sep 9	Sep 9
Average pretest score	12.4	10.5	22.1	9.4
Date of module use	Oct 1-3	Sep 19-21	Sep 18-19	NA
Date of posttest	Oct 5	Nov 30	Sep 20	Sep 20
Average posttest score	15.4	25.0	22.1	10.8

Test scores were out of 25 points and were identical at all four schools.

Module Surveys

	Hammerhead	Shuttlecock	Poppinjay
Number of students	25	25	25
Thought –provoking			
Very stimulating	15 (60%)	25 (100%)	
Stimulating	8 (32%)		
Boring	2 (8%)		12 (48%)
Very boring			13 (52%)
Effectiveness of teaching			
Very effectively	20 (80%)	25 (100%)	
Somewhat effectively	4 (16%)		2 (8%)
Poorly	1 (4%)		12 (48%)
Not at all			11 (44%)
Easy to follow			
Very easy	22 (88%)	25 (100%)	25 (100%)
Moderately	3 (12%)		
Somewhat difficult			
Very difficult			
Value of experience			
Great value	24 (96%)	25 (100%)	
Somewhat valuable	1 (4%)		
Not valuable			5 (20%)
Waste of time			20 (80%)
Application confidence			
Very well	19 (76%)	25 (100%)	19 (76%)
Moderately well	5 (20%)		1 (4%)
Moderately poorly	1 (4%)		5 (20%)
Very poorly			
Average amount of time	1.9 hours	1.5 hours	0.2 hours

Remarkably, no students provided comments.

Summary of Findings

Workshops

The workshops were moderately successful, with a modest number of teachers picking up the product. The lukewarm response could have been made less so had our recruiting efforts been more targeted. Inviting the individual who intends to steal our ideas was likely a mistake; we should try to partner before she goes national..

Follow-up surveys showed that program start-up was taking longer than anticipated.

Module Success

The module showed tremendous success at Hammerhead and Shuttlecock but very little at Poppinjay. We expect that this is because of low buy-in on the part of the teacher.