EXAMINATION ON DISSECTION:

A Survey of Student Thought on the Use of Dissection in the Secondary Classroom

An Honors Thesis (ID 499)

by

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At this time, I would like to thank my wife, Laurie, for her support, help, and advice throughout the past few months.

In addition, I would also like to thank Dr. Gilbert for all his efforts and understanding throughout the entire process of completing this thesis.
RATIONAL

"I've come to a frightening conclusion that I am the decisive element in the classroom. It's my personal approach that creates the climate. It's my daily mood that makes the weather. As a teacher, I possess a tremendous power to make a child's life miserable or joyous. I can be a tool of torture or an instrument of inspiration. I can humiliate or humor, hurt or heal. In all situations, it is my response that decides whether a crisis will be escalated or de-escalated and a child humanized or dehumanized."

... Haim Ginott
INTRODUCTION

As we enter the 1990s, we are increasingly faced with new challenges and problems. The quest for knowledge, the saving of our planet from ecological collapse, and the search for cures to our most dreaded diseases call for an able and highly educated society to come forth and meet the challenges of a new age. In order to create a society that is capable of the demands presented them, the educational system of today has to be seriously examined from all points of view.

It is a commonly held belief that our current educational system is not capable of producing new members of society that will be able to live up to the challenges of tomorrow. This is shown by numerous government reports and newly implemented guidelines that address the needs of a "nation at risk" (National Commission on Excellence in Education, 1983). While many of the guidelines derived from these reports are implemented, the results are either unknown or dubious at best (Albrecht, 1984). For this reason, educators should look at their own teaching methods in order to find ways to better achieve their current objectives and to even update these instructional objectives to better suit a rapidly changing world.

This evaluation of instructional techniques and practices is the basis behind this project. With today's students needing more diverse skills and knowledge, it is
absolutely imperative that instructional methods move students toward this end. Applying this self-evaluation to the secondary biology classroom, it appears that there is some question as to whether some practices are indeed moving students forward in areas deemed important by society and biology education organizations (Mayer & Hinton, 1990). The following excerpt comes from the National Association of Biology Teachers' position statement concerning the biology teacher's role:

The National Association of Biology Teachers believes that all biology teachers should foster a respect for life and should teach about the interrelationship and interdependency of all living things. Furthermore, they should teach that humans must care for the fragile web of life that exists on this planet (Mayer & Hinton, 1990).

The above statement comes out of the growing controversy about the use of dissection in secondary classrooms. Many proponents of dissection state that students are better able to learn and understand various principles involving such things as the internal structures of the organism, the interrelationship among tissues, and the relationship between structure and function of various internal structures (Orlans, 1988). Proponents of dissection also argue that the knowledge students gain from the hands-on experience has more impact and is retained
longer than if the same material is presented in another format (Orlans, 1988). One final argument presented by dissection proponents is that, teachers can teach responsible attitudes toward animals and perhaps inculcate an abiding respect for all life forms (Berman, 1984; Orlans, 1988).

For every argument that the proponents of dissection put forth, the opponents of dissection have an answer. Opponents of dissection counter that new computer simulations of dissections of various organisms, such as the earthworm and the frog, are just as effective and cheaper than the traditional dissection exercises (Orlans, 1988). In addition, some opponents of dissection state that rather than teaching a responsible attitude toward animals and inculcating an abiding respect for all life forms (Berman, 1984; Orlans, 1988), dissection desensitizes the student to the death of the organism being dissected as well as to the plight of other organisms across the globe (Graham, 1988). One final point the opponents of dissection make is that huge numbers of organisms are being destroyed each year in the name of scientific education (Graham, 1988; Orlans, 1988).

Having reviewed both sides of the issue, it becomes necessary to examine the perceptions of those most directly affected by the use of dissection in the classroom--the students. Perhaps with some knowledge of how students feel about dissection, teachers can make more informed choices.
THE STUDY

As mentioned earlier, by examining the perceptions of those most directly affected by the use of dissection—the students— instructors may be able to make better informed decisions regarding the use of dissection in the classroom. An examination of students involved in dissection enables the instructor to take note of any developing trends in the classroom, and then act on these trends as is deemed necessary.

This project is based on a survey that asked secondary students questions that pertained to dissection. The survey asked six questions (Figure 1, p. 6-7) that were trying to provide answers for the following four research questions:

1) What is the overall feeling towards dissection among secondary students,
2) Is there a correlation between the student's feelings toward dissection and his/her indicated feelings toward biology overall,
3) Is there a relationship between a student's sex and their expressed feelings toward dissection, and
4) Is there a correlation between a student's feelings toward dissection and his/her intentions of taking another biology class?
These questions were raised as a direct result of the push to increase the quality of science education in the United States. Although *A Nation at Risk* gave educational reform a much needed boost, it did little in terms of providing detailed information on how to achieve its stated goals (Albrecht, 1984). Therefore, as was mentioned earlier, it is up to individual instructors to evaluate and upgrade their instructional methods and practices in order to achieve the level of instruction needed by today's students.

The surveys were sent to five schools in east central Indiana. Three other invitations to participate were sent out, but responses never arrived (perhaps they were busy dissecting earthworms). A total of 108 students responded to the surveys, but only 102 of these were satisfactorily completed and useable. Although the sample size is small, it is still large enough to get some idea of how students feel about dissection.

The overall goal of this project is to gain some insight into the controversy surrounding the use of dissection in secondary schools. Does dissection move an instructor's class toward the desired goals of society and the educational community? Does the "yucky" process of dissection labs turn off talented students to biology and perhaps to careers in science? The following data review and analysis will try to answer these and other similar questions.
DISSECTION QUESTIONNAIRE

GRADE _____  SEX: MALE_____  FEMALE_____  

Please answer the following questions about dissection.
This is NOT for a grade, nor will your teacher read your responses, so answer as truthfully as possible.

1) What has been your personal experience with dissection? (Circle the letter of the appropriate choice.)
   A. I have done most of the work during dissection labs.
   B. I sometimes help during dissection labs.
   C. I have only observed others do the actual dissections.
   D. I have never performed or observed a dissection lab.

2) How do you feel about dissection? (Circle the letter of the appropriate choice.)
   A. I really like dissection.
   B. I somewhat like dissection.
   C. I do not care one way or the other.
   D. I somewhat dislike dissection.
   E. I really dislike dissection.

3) Explain your answer to question 2. In other words, why do you like or dislike dissection?

FIGURE 1
4) How do you feel about biology overall? (Circle the letter of the appropriate choice.)

A. I really like biology.
B. I somewhat like biology.
C. I do not care one way or the other.
D. I somewhat dislike biology.
E. I really dislike dissection.

5) If you had the opportunity, would you take another class that offered dissection as part of the laboratory requirements? Why or why not?

6) Do you feel that you learn a lot by dissecting various organisms? Explain your answer.

FIGURE 1 (CONTINUED)
RESULTS

This project is based upon the responses of 102 secondary students on a six question survey (Figure 1, p.6-7) dealing with the use of dissection in the classroom. As previously mentioned, five schools from east central Indiana participated in the study. Since the sample is relatively small, and a simple percentage method was used to show any trends, instead of a detailed data analysis, no firm conclusions can be drawn from this study. What can be derived from the data, however, is a general idea of how secondary students feel about dissection and how those feelings affect the other responses asked for in the survey.

Dissection Experience:

Question One of the survey asks the students how much experience that they have had with dissection. This question sets the background for the rest of the study. By knowing how much experience the students have had with dissection, a basis is established for how reliable the answers for the rest of the survey actually are. For example, if most of the students surveyed did not have much experience with dissection, then the subsequent responses would have little practical value because the students simply would not be qualified to answer the questionnaire.
Fortunately, the students participating in this study are qualified to answer the questionnaire! As is shown in Figure 2 (p. 10), 95 of the 102 students answered that they had either done most of the work or at least helped during dissection labs. It then follows that the following responses are reliable indicators of how the students feel about dissection.

Feelings About Dissection:

The first research question to be addressed by the questionnaire is how students feel about dissection overall. Two questions on the survey deal with this topic. Question Two asked the students how they felt about dissection. The raw data for the students' responses is shown in Figure 3 (p. 11), and includes both male and female responses.

Several items of interested can be noted here. First, 30 out of 51 males or 58.8% of males indicated a positive feeling about dissection, while only 15.6% of males indicated a negative feeling. Meanwhile, 22 out of 51 females or 43.2% of females indicated a positive feeling about dissection and 29.4% of females indicated a negative feeling about dissection. Overall this shows two very important facts: most students (51.0%) have positive feelings about dissection, and many females (almost 30%) have negative feelings about dissection.
DATA FOR QUESTION 1

Personal experience with dissection?

<table>
<thead>
<tr>
<th>RESPONSE</th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
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</thead>
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<tr>
<td>MALE</td>
<td>32</td>
<td>16</td>
<td>1</td>
<td>2</td>
</tr>
<tr>
<td>FEMALE</td>
<td>22</td>
<td>25</td>
<td>3</td>
<td>1</td>
</tr>
<tr>
<td>TOTAL</td>
<td>54</td>
<td>41</td>
<td>4</td>
<td>3</td>
</tr>
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</table>

FIGURE 2
DATA FOR QUESTION 2
(ACTUAL DATA: NOT PERCENT)

QUESTION 2

<table>
<thead>
<tr>
<th></th>
<th>MALE</th>
<th>FEMALE</th>
</tr>
</thead>
<tbody>
<tr>
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<td>17</td>
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<td>7</td>
</tr>
<tr>
<td>E</td>
<td>4</td>
<td>8</td>
</tr>
</tbody>
</table>

FIGURE 3
Another question from the survey that deals with students' feelings about dissection is Question Three. Question Three asks the students to explain their answers to Question Two (How do you feel about dissection...). Figure 4 (p. 13) breaks down the various student responses into groups of similar responses. For example, the most common explanation of why students seemed to like dissection was that it helped them to understand or learn the material.

One interesting category is the next most common explanation—ambivalence. This really is not too surprising since more ambivalent responses were given for Question Two than for both negative responses combined. This raises the question of whether or not the students really do not know how they feel about dissection, or if they just do not care or think about what they are doing in class. Obviously, most educators would hope that these students are thinking, at least occasionally, about what they are doing in school!

The other responses shown on Figure 3 include many of the comments typically heard during a dissection lab in a high school setting. The concern for the animal losing its life merely for the sake of "being chopped into bits" is the third most common response. "It's Gross!" is another commonly heard complaint among secondary students. Almost eleven percent of the students said that dissection provided them with a "live picture" of the organism being
DATA FOR QUESTION 3
PERCENT OF RESPONSES

AMBIVALENT 15.2
HELP UNDERSTAND 23.2
ANIMAL RIGHTS 13.8
OTHER 3.6
GROSS 13
GRADES 4.3
LIVE PICTURES 10.9
SOMETHING NEW 7.2
FUN 8.7

FIGURE 4
studied, and 7.2% said that "it's a lot more interesting than book work!" The remainder of the responses dealt with such things as grades (4.3%), and other miscellaneous responses (3.6%).

Since this question required the students to write down what they were thinking, many interesting responses were collected that gave a clue to how the students felt about dissection. Here are a few examples:

"It's Yucky!"
"I think it's fun to cut things open."
"I don't feel we should take dead animals and cut them up."
"I am fascinated by what I have only seen in pictures."
"It's different and it gets you out of taking notes."

Correlation between Dissection and Biology:

The next research question that is examined by the study has to do with whether or not a correlation exists between the students' indicated feelings about dissection and their indicated feelings about biology overall. Figure 5 (p. 15), shows the raw data for Questions Two and Four combined on a grid in order to help show any correlation that might exist. Most of the responses tend to lie in the lower left corner of the graph. This would seem to indicate that a positive correlation exists between those students who like dissection and like biology.
CORRELATION OF QUESTIONS 2 AND 4

QUESTION 2

<table>
<thead>
<tr>
<th></th>
<th>A</th>
<th>B</th>
<th>C</th>
<th>D</th>
<th>E</th>
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<tbody>
<tr>
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<td>D</td>
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<tr>
<td>E</td>
<td>1</td>
<td>4</td>
<td>2</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

FIGURE 5
An easier means of determining some type of correlation is shown on Figure 6 (p. 17). In this graph, "+" equals a positive feeling (either "a" or "b" answers), "-" equals a negative feeling (either "d" or "e" answers), and "0" equals ambivalency ("c" answers). From this bar graph it can be seen that 31.4% of the students indicated a positive feeling toward biology and dissection. Another statistic of note here is the percent of students that indicated a negative response for both items in question. Only 5.9% of the students indicated a positive correlation between disliking dissection and disliking biology.

From this graph (Figure 6, p.17) a 100% correlation between feelings about dissections and feelings about biology does not exist. There does exist, however, a slight correlation between liking dissection and liking biology. On the other hand, there does not exist a correlation between disliking dissection and disliking biology. It has to be kept in mind that a pure cause and effect does not exist in these situations. Many students indicated in various ways throughout the survey that they hated biology because of the teacher or from boredom, or that they liked the class because of the teacher. Simply put, dissection is usually not a causative agent in determining whether or not a student will like biology class.
ANALYSIS OF CORRELATION FOR QUESTIONS 2 AND 4

Response of Student

<table>
<thead>
<tr>
<th>Response</th>
<th>Percent of total</th>
</tr>
</thead>
<tbody>
<tr>
<td>+Bio,+Dis</td>
<td>31.4</td>
</tr>
<tr>
<td>+Bio,-Dis</td>
<td>13.7</td>
</tr>
<tr>
<td>+Bio,0Dis</td>
<td>9.8</td>
</tr>
<tr>
<td>-Bio,+Dis</td>
<td>9.8</td>
</tr>
<tr>
<td>-Bio,-Dis</td>
<td>5.9</td>
</tr>
<tr>
<td>-Bio,0Dis</td>
<td>11.8</td>
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<tr>
<td>0Bio,+Dis</td>
<td>9.8</td>
</tr>
<tr>
<td>0Bio,-Dis</td>
<td>2.9</td>
</tr>
<tr>
<td>0Bio,0Dis</td>
<td>4.9</td>
</tr>
</tbody>
</table>
One further way to check for a correlation between indicated feelings about dissection and biology is to break the data down by sex as it is done in Figure 7 (p. 20). The data in Figure 7 does not change much from the data given in Figure 6 (p. 17). There still seems to be a slight correlation between positive feelings toward biology and positive feelings toward dissection. Furthermore, the data regarding negative feelings for both dissection and biology still show no substantial correlation. Once again, dissection does not appear to have much to do with how students feel about biology.

Relationship Between Sex and Dissection:

The research question that now needs to be examined deals with whether or not a relationship exists between a student's indicated feeling toward dissection and that student's sex. In looking back at Figure 3 (p. 11), a few statistical differences between males and females seem to exist. As was mentioned earlier, 58.8% of males indicated that they liked dissection and only 15.6% of males disliked dissection. On the female side of the chart, 43.2% liked dissection, and 29.4% disliked it. Although more females indicated that they liked dissection, a large portion of the females indicated otherwise. This statistic becomes more meaningful in the forthcoming discussion on the existence of a correlation between Questions Two and Five.
Dissection and Another Class?

The final area to be discussed deals with the possible correlation between the student's feelings about dissection and his/her response on Question Five. Figure 8 (p. 21), shows the raw data for Question Five, and Figure 9 (p. 22), shows the percentage of responses for Question Five. Question Five asks the students if they would take another biology course that had dissection as a main part of the lab requirements. As shown in Figure 9, 47.1% of all males would take such a class, while only 35.3% of females would. A more important statistic is the percent of females that would not take the biology course in question. A full 51% of females would not take another biology course that had dissection as a main part of the lab requirements.

Figure 10 (p. 23) shows another correlation grid, this time featuring Questions Two and Five. Figure 11 (p. 24), shows the percent analysis of Question Five. As is shown in Figure 11, a correlation may exist between those students who liked dissection and who would take another biology class (+Dis,Yes). Not quite as strong, but significant is the correlation between those who disliked dissection and who would not take another biology class (-Dis,No). This statistic becomes even more significant when Figure 12 (p. 25) is taken into account. Thirteen females or 25.5% of all females that disliked dissection would not take another biology class.
ANALYSIS OF CORRELATION
FOR QUESTIONS 2 AND 4 BY SEX

RESPONSE OF STUDENT

+Bio,+Dis
+Bio,-Dis
+Bio,0Dis
-Bio,+Dis
-Bio,-Dis
-Bio,0Dis
0Bio,+Dis
0Bio,-Dis
0Bio,0Dis

PERCENT OF SEX

MALES
FEMALES

FIGURE 7
DATA FOR QUESTION 5
ANOTHER BIOLOGY CLASS?

NUMBER OF RESPONSES

RESPONSES/SEX

MALES  FEMALES  TOTAL

FIGURE 8
ANALYSIS OF QUESTION 5
ANOTHER BIOLOGY CLASS? (CONTINUED)

MALES

YES 47.1
NO 45.1
?
7.8

FEMALES

YES 35.3
NO 51
?
13.7

FIGURE 9
**CORRELATION OF QUESTION 2 AND 5**

**QUESTION 2**

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
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<tr>
<td>E</td>
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</tbody>
</table>

**QUESTION 5**

**FIGURE 10**
ANALYSIS OF CORRELATION
FOR QUESTIONS 2 AND 5

Response of Student

+Dis, Yes
+Dis, No
+Dis,?
-Dis, Yes
-Dis, No
-Dis,?
0Dis, Yes
0Dis, No
0Dis,?

Percent of total

FIGURE 11
ANALYSIS OF CORRELATION
FOR QUESTIONS 2 AND 5 BY SEX

RESPONSE OF STUDENT

+Dis, Yes  
+Dis, No  
+Dis, ?  
-Dis, Yes  
-Dis, No  
-Dis, ?  
0Dis, Yes  
0Dis, No  
0Dis, ?

MALES  FEMALES

PERCENT OF SEX

FIGURE 12
From the above discussion, several conclusions can be made about correlations between a student’s feelings about dissection and his/her desire to take another biology class. First of all, a correlation does seem to exist between those students who liked dissection and who planned to take another biology class. Referring to Figure 11 (p. 24), 29.4% of all students indicated a positive response to dissection and also indicated that they would take another biology class.

Although the data seems to suggest a positive correlation, it still must be kept in mind that other factors are at work in these situations. As shown in Figure 11, a fairly large portion of students (15.7%) indicated that they liked dissection, but would not take another biology course. Similarly, 7.8% of all students indicated that they had no feelings about dissection and that they would take another biology class. It would then appear that more than one variable is at work in these situations. It has to be concluded that dissection is not the exclusive causitive agent of whether or not a student will take another biology course.

One item of concern in this area, however, is the statistics that show many females indicating negative feelings toward dissection and an unwillingness to take another biology class. With nationwide concern about the lack of females in the sciences (Malcolm, 1988; Keller, 1985), this becomes even more important.
From Figures 3 (p. 11), 9 (p. 22), and 12 (p. 25) a relationship between a student's sex, his/her feelings toward dissection, and the subsequent consequences of those feelings is shown. Particularly, the relationship between female students' dislike of dissection and their indicated unwillingness to take another biology class is clearly shown. Figure 9 (p. 22) shows that 51% of all females would not take another biology class, as opposed to 35.3% that would. In addition, Figure 12 (p. 25) shows a correlation between females that both disliked dissection and would not take another biology class. As mentioned before, 25.5% of all females did not like dissection, and would not take another biology class.

Once again, dissection may not be considered the exclusive causative agent in this situation. Some other factors, such as a simple dislike for science in general, may be contributing to the overall results. In this situation, however, Question Five is very clear in telling the students that the proposed class has a substantial dissection component. The results of this question then can be considered as an accurate indicator of how these students actually feel.

The ramifications of these results and a final discussion on the use of dissection in the classroom will be covered in the next and concluding section.
CONCLUSION

As was stated before, this project was based on the six question survey found in Figure 1 (p. 6-7). The purpose of this survey was to gain information regarding secondary students' feelings about the use of dissection in the classroom. Specifically, the survey was designed to answer the following four research questions:

1) What is the overall feeling towards dissection among secondary students,
2) Is there a correlation between the student's feelings toward dissection and his/her indicated feelings toward biology overall,
3) Is there a relationship between a student's sex and their expressed feelings toward dissection, and
4) Is there a correlation between a student's feelings toward dissection and his/her intentions of taking another biology class?

As was shown before, 102 students from five east central Indiana schools answered the questionnaire. Their responses to the questions provide the basis for the following conclusions about the use of dissection in the secondary classroom.
Research Question 1:

The first conclusion the survey tries to establish is how secondary students actually feel about performing dissections in biology class. As was shown in Figure 3 (p. 11), most students (52 students or 51% of all students) indicated that they liked dissection. Furthermore, in Figure 4 (p. 13) many students (23.2%) said that dissection helped them to understand the organism being studied. In addition, 50% of all the responses given in Figure 4 are positive responses, as opposed to only 34.8% negative responses, and 15.2% ambivalent ones.

From this data it can be concluded that dissection is usually looked upon as a positive experience by most high school students.

Research Question 2:

The second question the survey tries to resolve is whether or not there exists a correlation between students' indicated feelings about dissection and his/her indicated feelings about biology overall. From the discussion held earlier, it was found that 31.4% of all students indicated a positive feeling for both dissection and biology, while only 5.9% indicated negative feelings for both. These results show that a positive correlation may exist between positive feelings for both dissection and biology.
While the existence or absence of any correlation may be apparent from the data, dissection cannot be declared as the sole causitive agent in this situation. As shown in Figure 6 (p. 17), many (13.7%) students indicated that they liked biology overall, but they disliked dissection. Yet another group of students (9.8%) indicated that they disliked biology and liked dissection. These statistics show that other factors are involved in determining whether or not an individual student will like biology or not. As stated before, dissection appears to have a limited role in determining whether or not students will or will not like biology.

Research Question 3:

The next question that this study is trying to answer is whether or not a student's gender has an effect on how that student feels about dissection. As discussed earlier, 58.8% of all males liked dissection, while 43.2% of females indicated that they too liked dissection. The statistic of importance in Figure 3 (p. 11) is that 29.4% of all females disliked dissection. When combined with other statistics from Figure 9 (p. 22), a clear difference between males and females is shown. When asked whether or not they would take another biology class, 47.1% of males and only 35.3% of females said they would, while 45.1% of males and 51% of females said that they would not take another class.
From the previous discussion it can be concluded that there is a difference between male and female students and their indicated feelings about dissection. Although the data dealing with this topic may still be affected by outside factors, such as teacher bias (Keller, 1985), it is still fairly clear that females tend to dislike and shy away from dissection much more than males.

Research Question 4:

The final question examined by the survey is whether or not a correlation exists between a student's feelings toward dissection and his/her intentions of taking another biology course. As is shown in Figure 11 (p. 24), 29.4% of all students indicated that they liked dissection and that they would take another biology course. Another statistic of note here is that 18.6% of all students indicated that they disliked dissection and would not take another biology class.

Referring to Figure 12 (p. 25), many males and females (29.4% of each sex) indicated that they liked dissection and would take another biology class. On the other hand, a large portion (25.5%) of females did not like dissection and would not take another biology class. These statistics reinforce the earlier conclusions about sex differences influencing feelings about dissection and show a possible trend of female students choosing not to pursue biology.
From the previous discussion two conclusions can be drawn about correlations between feelings toward dissection and a willingness to take another biology course. First of all, most students that indicate a positive feeling towards dissection will usually take another biology course. Furthermore, those students that dislike dissection are more likely not to take another biology course. The second conclusion is that many females dislike dissection and will not take another biology class.

As mentioned earlier, the data that supports the above conclusions is fairly accurate since Question Five clearly states that dissection would be an integral part of the laboratory experience in the proposed biology class. Any fuzziness that occurs may be due to minimal outside factors. Some students, for example, indicated that they would only take the class if it was required for graduation—not because of the presence or absence of dissection. The influence of these outside factors is minimal, and does not affect the responses of the students that indicated a "+Dis,Yes" or a "-Dis,No" answer in Figure 11 significantly.
Conclusion:

As was shown throughout the past few pages, several conclusions can be reached about the use of dissection in the classroom. How these conclusions are interpreted and used in the classroom is as important as the actual conclusions themselves.

Since most students tend to feel that dissection is a positive experience, and that most students feel that the dissection experience helps them to learn the material better, dissection may be looked upon as a positive teaching method. It must be kept in mind, however, that there appears to be a trend of females choosing not to continue in biology. As was discussed, this could very well be due to a dislike of dissection. In addition to this concern, one important topic should be addressed when dissection is to be used in the classroom. As was shown in Figure 4 (p. 13), 13.8% of all students felt that the rights of the organisms being dissected were being violated. If dissection is used in the classroom, the instructor should take care to address this issue.

One final point that needs to be made again, is that the conclusions made in this thesis are based upon 102 responses. If the survey was based upon ten times that number a more accurate picture of all students could be derived. Therefore, this thesis has provided only a general picture of how students feel about dissection.
It is the responsibility of educators to provide the best instructional methods and techniques to the students in order to give them the best education possible. Although this thesis gives some indication of how students feel about dissection, other areas should be examined to better determine whether or not dissection should be used in the classroom. Do the students actually learn better by performing dissections? Does dissection desensitize the students to animal rights? These questions and many more need to be answered in order to provide the best possible method of instruction for today's students.
REFERENCES


