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# IMPROVED TEACHING EVALUATIONS

**An Interactive Qualifying Project Report**

submitted to the Faculty

of the

WORCESTER POLYTECHNIC INSTITUTE

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Degree of Bachelor of Science

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Table of Appendices

## 1.0 Introduction

Every academic year the teaching performances of thousands of college faculty members are reviewed and evaluated by students. On the basis of these evaluations, important decisions are made concerning the status of those subject to review. Faculty members may be granted or denied promotion in rank. Some faculty members may be granted substantial salary increases while others are given more modest salary increases. The contracts of some faculty members may be renewed while the contracts of others in the same institution and department are terminated. These evaluations carry a great deal of weight in the academic community, but how do they benefit the undergraduate community? What effect, if any, do these evaluations have on the students?

The fundamental objective of this project is to provide assistance to students. We want to design an evaluation system that is primarily for the use of the undergraduate community, and will be comprised entirely of student opinions. Students will be able to publish their opinion of professors as well as read the opinions of others. We believe that professors are a factor in student course selection, and that students can be aided by the opinions of others during class selection decisions. Currently, the only evaluation information made available to the students is the statistical results from the blue-sheets which are posted on the school web page. We feel that the current situation is wholly inadequate, and far from beneficial to the students. With our proposed system, a student may research the professors who are teaching available courses, and through student recommendations, decide who they would most like to have as a professor. The ability to research professors will hopefully reduce the number of students who drop a course due to conflicts with the teaching practices of a given professor. With the ability to research

their professors, students will be able to select classes based on certain criteria, and therefore be able to select courses more efficiently. This system will provide students with a better understanding of a professor's teaching style prior to enrolling in a course, ideally matching teaching styles with learning styles to help both the student and professor perform at their highest potential.

Although this system is intended primarily for students, it may also become a useful tool for the faculty. The faculty's main source of student feedback at the given time are the blue teacher evaluation sheets. The open-ended questionnaire on the back of the blue sheet suffers from limited questions, limited space, and limited time for completion of the form. For example, a student filling out the evaluation during the time allotted at the beginning or end of class may forget to include a comment that he or she deem valuable. Once the student evaluations are submitted there is no way for students to voice further comments while maintaining their anonymity. In turn, the information does not get passed on to the professor and its benefit is lost. By creating a system that minimizes limiting factors, we hope to provide the faculty with a greater source of feedback than is currently available. Students' identities will be anonymous minimizing their fear of retribution, and responses will be limited only by the student's mind.

Just presenting feedback does not necessarily help, but if the information provided allows the faculty member to make informed decisions, then both the faculty and students can benefit. For example, the professor learns that the students had a hard time reading the handwriting on the board. This knowledge may prompt the professor to type the class notes before lecture and display them on an overhead projector. Not only does the professor benefit by communicating the class material more effectively, but the students

benefit by having clear and concise notes. This simple point serves to illustrate the benefit and importance of having a good source of feedback.

In order to determine how our system will affect the students and faculty at WPI, a series of surveys and tests have been conducted. Surveys were sent out to help us determine what type of system would be preferred by the students, as well as what type of a system has the capacity to meet their needs. Faculty has been surveyed to determine their feelings on being openly evaluated, and also to find their opinions of our proposed system. We also want to know whether the students and faculty will use such a system to their advantage. An operational model of the evaluation system was developed using the results from the surveys, and a pilot study was conducted to gather more information as to the feasibility of such a system.

To supplement the study of our system, we have gathered information on the current blue-sheet evaluation system, and also examined similar systems at other schools. Other universities were contacted to examine other common practices of student evaluations and the reasoning behind these practices. Analysis of this information allowed us to make comparisons to our own proposal, as well as gain the knowledge of others on the subject.

## 2.0 Background

### Student Evaluations

In this section, we define the two basic, most recognized forms of student evaluations, open-ended evaluation and closed-ended evaluation. We also discuss the evaluation process itself.

Examination of the literature shows that while a moderate number of educators favor models of teacher evaluation based on either self or colleague evaluation, most educators support models of teacher evaluation based on student opinion.

The National Student Association issued a statement that strongly endorsed student participation in the evaluation of teaching performance. They have concluded that "...there are strong signs that student course and teacher evaluation when thoughtfully administered is the best way to improve the teaching learning experience" (Werdell 5).

R.R. Renner in his book Improving College and University Teaching states:

> Those who really know the instructor best are his students. Despite their limitations, they only have had an opportunity to participate fully in his teaching endeavors. They are the only ones who know whether he has been effective (Renner 12).

Renner urged that a faculty-approved appraisal system for student evaluation be developed within each college and university.

The two most recognized and commonly used forms of student evaluation that permit students to address such considerations are open and closed ended evaluations. In this paper we will address these two distinct forms of evaluation.

## Open-Ended Evaluations

Open-ended evaluations are those that call for a written statement that may vary in length (Bloom 315). Open-ended questions allow the respondent to state clearly his or her opinions. This form of evaluation encourages the students to comment on the instructor's effect on their learning experience (Eble 18). The principle value of open-ended questions lies in their ability to generate a rich data pool. Open-ended questions offer the evaluator a wide variety of alternatives and a valuable source of ideas and information (Weimer 73).

A student examining the evaluations wants to know if an instructor would provide a teaching style capable of enhancing their education. We want the information to be easily ascertained through the comments left by former students. Instructors can gain valuable information from the open-ended comments posted by the students (Seldin 23).

There are drawbacks however to the use of open-ended questions. The main problem with open-ended evaluations is that the data collected are not easily quantifiable. Open-ended instruments produce a subjective hodgepodge of results that are often difficult to summarize (Weimer 73). The answers to open-ended evaluations can be time consuming and sometimes difficult to interpret (Bloom 316).

## Closed-Ended Evaluations

The majority of evaluations are composed of questions where respondents are given a group of solutions or responses from which to choose. These are known as closed-ended evaluations. There are typically two categories of questions used on teacher

and course evaluations (Eble 20). There are those questions that are designed to bring out the nature of the course and/or its strengths and weaknesses, as well as those which focus upon the teacher and their teaching skills (Eble 21). These closed-ended questions use a predetermined and fixed set of items in order to obtain responses about a certain instructor and the characteristics of a course. Generally, the responses are scored numerically, for example, on a scale of one to three, one to five, or some other combination. The characteristics of these closed-ended evaluations are:

1. They use a predetermined and a fixed set of responses.
2. Individual items are scored on a scale.
3. Results are easy to quantify.
4. They tend to be longer and more specific, less judgmental, and more descriptive than open-ended evaluations.
5. They can offer input in many different areas on a single instrument (Weimer 67).

There are major disadvantages in the use of such an evaluation system. For example, the faculty members usually design the majority of the forms that are used (Bortz 80). Many of the choices restrict a valid response (Bloom 318). The choices are narrow and too explicit. Closed-ended evaluations do not calculate institutional norms or standard deviations (Dressel 214). This system encourages self-evaluation for comparative purposes and it does not determine whether the results are good or bad (Weimer 67).

When dealing with closed-ended evaluations, the users or creators should be informed not to use comparative questions unless no other source of comparative data

exists, and even then they should use such questions sparingly (Eble 22). The user should also stay away from the use of vague terminology, the meaning of which might not be understood by the evaluators, in this case the students (Bloom 318).

**Open-Ended vs. Closed-Ended**

The text above shows that both open and closed-ended evaluations have their advantages in the evaluation process. While open-ended evaluations provide the respondent a chance to state freely his or her opinions; closed-ended evaluations require the respondent to use a scale providing selected choices. Both generate a data pool and offer the reader much needed information, but in different ways. They complement each other, and after examining the literature no one method has any clear lead. Therefore, the format of our proposed service will be determined later in the project.

**Faculty Response**

A main concern is how faculty will respond to an open and readily accessible form of feedback. With any type of open commentary one must account for the impact, whether constructive or destructive, it will have on the individual being evaluated. It is well documented that the results of student evaluations in general are not well received by faculty members but most faculty members do support the concept of student evaluations (Weimer 74). A common concern sometimes expressed by faculty is the validity of evaluations made by the students. Judith Aubrecht in her paper, "Reliability, Validity and Generalizability of Student Ratings of Instruction", discusses the fact that

there are several points that need to be questioned to determine the validity of the student comments (Aubrecht 1). Several issues must be studied, such as whether or not the students are biased. The impact of student-conducted evaluation on faculty is unknown though it is thought to be minimal (Dressel 347).

Although confidential evaluations can allow students the opportunity to offer feedback without fear of reprisal, most examples of written comments left by students in the literature are positive as well as constructive (Bortz 92). On the whole, students are capable of evaluating much more intelligently than is commonly expected. Faculty members tend to eliminate from student evaluations any aspects that might require a change in their conception of teaching (Dressel 346). If evaluations are made available to the campus, faculty members will read them. If evaluation results are officially made known to the department chair or dean, it is fairly certain they also will use them (Eble 16). Professors could become more accountable knowing their department heads as well as colleagues had access to these evaluations (Bryant 329). It is unclear if certain department chairs or deans will use this information as it relates to job security issues but the possibility is a reality.

Worcester Polytechnic Institute already displays the results of the closed-ended questions, which are only accessible through a login system. The University of Arizona uses the same practice. The University of Arizona posts only the numerical portion of the teaching evaluation forms online (http://www.Arizona.edu). Elena Burman, the director of Instructional Assessment and Evaluation Services at the University of Arizona, when commenting on our project said that even though the University of Arizona posts closed-

ended evaluations they would "never dream of posting student comments" (Burman Personal communication).

WPI currently has a web page available where students and faculty can login and look at the answers to the numerical questions on the evaluation forms. In order to get a better understanding of how this idea was brought into practice, several people throughout the college were contacted. Unfortunately, it appeared as though no one had any concrete reasons as to why or how the current page was set up. However, Professor Richard Vaz stated "I wasn't involved in the faculty committees that did the deliberations when these things were set up, but I remember pretty clearly that ONLY the quantitative (front side) information was intended to be made public," (Prof Vaz, Personal Communication).

A mass email was composed and sent to faculty who oversee the evaluation process at other institutions asking for their opinions on the project as well as whether or not such a practice was already in place. One professor who was an advocator of a system where students could post their comments online was Joshua Yeidel, head of the Systems Professional Center for Teaching and Learning at Washington State University. Professor Yeidel thought that as long as the online comments were made in a "threaded discussion format", there would not be any problems. A threaded discussion format would allow comments to be posted as well as replied to by all users of the system. Professor Yeidel's comments suggest that as long as student comments are controlled to some extent that there would not be a problem with their being posted (Yeidel Personal communication).

**More Feedback and Other Common Practices**

Professors around the country have been commenting on the idea of posting student evaluations online. Though there have been a few who think that it is a good idea, in general professors and university staffs do not feel that it would be beneficial to either the students or the professors. These members of colleges and universities generally have a feeling that posting students' comments would not serve any practical purpose. They also seem to think that students do not handle evaluations in a mature way (Zack C18).

The point that really needs to be addressed is the idea of usefulness. Are these evaluations of any use to faculty, students, or both? If universities are in fact posting the results of closed-ended evaluations on the web, then the universities must believe them to serve a purpose. The main problem must then be with making open-ended comments available. Many professors seem to dislike the idea of students making comments about them. According to Professor Will Miller, the assistant Vice President of Alumni Development at Auburn University, the notion is that "tough" professors will receive bad ratings from their students and "performers" who offer no substance will receive better ratings from their students (Miller Personal communication).

The response to the mass email showed that a large majority of professors and faculty around the country feel as though student comments are very beneficial to the professors and other staff members, but they also feel that students should not be able to have access to these comments.

At the University of Iowa this apparently is not the case. The students at the University of Iowa, along with the faculty and staff have created a system that was

accepted by all. When the professors hand out the evaluation forms at the end of the term, they have the option of including what they call the student core. The student core is a set of six open-ended questions, which is passed along to the Student Government, which publishes the answers to these questions in the school paper (http://www.uiowa.edu/~examserv/acepool.html#StudentCore). The questions included in the student core are:

1. This course requires an appropriate amount of work for the credit earned.
2. This instructor increased my interest in the course material.
3. The instructor clearly communicated class material.
4. Exams in this course were fair.
5. The syllabus was an accurate guide to course requirements.
6. Overall, this is an excellent course.

Therefore publishing open comments is possible. One thing is certain, if closed as well as open-ended evaluations are going to be posted for the WPI community, then the WPI faculty must be involved. A survey of the WPI faculty is certainly in order. Would professors agree with what we are doing and which professors would volunteer to be evaluated openly? Would students use such an evaluation system? Is the project feasible? All these questions will need to be addressed, and hopefully answered through a survey process.

## Surveying Background

A survey has been used to determine the feelings of WPI undergraduates and faculty towards using an open-ended evaluation system. The students were asked what they would like to receive from an evaluation system, and if they think such a system would be useful to them. A survey has also been sent to the faculty to determine their feelings of having themselves publicly evaluated. There are several types of surveying methods that could be used to gather this information from the faculty and students. The positive and negative aspects of each must be discussed in order to decide which type of survey will be best for our project.

A good way to start the surveying process is by making a statement of objectives. The statement of objectives should explain explicitly why the survey is being conducted, the questions that are being answered, and the methods by which they will be answered. An explanation of the expected results, and how they will be used, is important to provide clarification for the surveyor and the intended audience (Kalton 43).

## Defining the population

It is important to define the target population so that the survey can be tailored to the group. For example, it would not be appropriate to use complex language in a survey intended for a fourth grade class. For our surveys we will define our target population to be the entire WPI student body and faculty.

## Sampling

Sampling is the use of a smaller group to represent the target because for a very large population it is not reasonable to survey the entire target population. Sampling saves time, money, and is capable of producing accurate results (Moser 57). There are several different sampling models and the ones that we focused on are based on random sampling. To ensure that the method of selection is random, each unit of the population must have an equal probability of being chosen (Moser 80). For any of these models it is necessary to have a complete list of the population if the sample is to have any chance of representing the entire population.

Determining the sample size is typically based on a desired sampling error and a predicted response rate. Statistical formulas are printed in many books that allow an approximate sample size to be calculated for a given degree of error. This can add a great deal of validity to the surveyor's results.

Simple random sampling is the random selection of units from the target population without replacement. An example is drawing a name from a hat and then drawing another name without putting the first name back. This is a very useful model if a numbered list of the population is obtained, but often one is not available and another model must be chosen (Moser 81).

Systematic sampling is a model that yields results similar to that of a simple random sample but makes the drawing process easier when a numbered list of the population is not available. For this process the researcher determines the size of the target population and divides this number into the number of units to be selected. This

gives a fraction that determines an interval by which to choose people from a list. For example, 10 people are to be selected from a population of 100 which gives a fraction 1/10. This means that every tenth person will be selected. To find the starting point of selection a number within the chosen interval is selected at random. For this example, the number 7 might be chosen as the starting point, so number 7, 17, 27, 37... and so on will be selected. Problems can arise when using this model if the list of the population is not ordered randomly (Fowler 24).

The final model that we examined was the stratified sample. Stratified samples divide the population into groups by some variable and then apply either a simple random or systematic sample to each group. This is helpful because it allows each group to be represented in a way that is consistent with the population. For example, a college population where sophomores are predominant is sampled. Exactly 1/10 of the population is to be sampled but when the selection is done very few sophomores are included. This means that the sample is not a good representation of the population. To eliminate this problem a stratified sample is taken where the students are broken up by class years, and 1/10 of each of these groups is represented in the sample. Stratification increases precision the most for surveys that relate to the stratification variable. From the example, if the survey were asking if sophomores should have reduced tuition then the sophomores would want to have adequate representation in the sample (Fowler 25).

**Survey Selection**

The collection of data can be done in several ways. The researcher must first decide on the type of survey to use. The most common types of surveys used are

interviews and questionnaires. Selecting the type of survey that fits the scenario is important because it is desirable to find the most efficient way to conduct the survey. By efficient we mean to get accurate results while using the least amount of resources (i.e. money, time, and labor). For example, given a small population, it may be most effective to conduct personal interviews, going door to door and asking the questions, but this is not reasonable for a large population. A self-administered questionnaire can be used, but what if the respondent doesn't understand the questions? Can all the information desired be obtained from structured questions, or is the flexibility of an interviewer needed? Has this survey already been conducted and documented to the point where another survey is not needed? There comes a point where accuracy must be sacrificed in favor of using fewer resources, and it is up to the person conducting the survey to decide where this point lies.

**Mode of Administration**

After deciding on the type of survey that will be used, the next decision is the method by which the survey will be administered.

Interviews can be administered in two different ways, either in person or over the phone. Typically either method results in a high response rate, but each method has its own strengths and weaknesses. Personal interviews require a trained interviewer. An untrained individual conducting the interview can unknowingly create response bias either by the way they ask the question or the manner in which they conduct themselves during the interview. A respondent that feels uncomfortable, intimidated, or irritated may not answer accurately or may feel the need to say what the interviewer wants to hear.

Interviewers may also introduce their own source of error by not marking down responses correctly, influencing the decision of the respondent, or just plain lying on the form (Guttentag 355). The main disadvantages to personal interviews are the costs associated with employing and training interviewers and the difficulty of reaching a large population (Young 223). The phone can be used to gain the advantages of the personal interview while reaching a large population (Fowler 52).

When using questionnaires, there are two common administration methods: direct questioning and self-administered questionnaires.

A direct questionnaire is delivered to the individual, and he or she completes the form while the administrator is present. This allows people to ask questions about the questionnaire if they need clarification, and therefore increases the accuracy of the responses due to the elimination of confusion. The direct questionnaire is different from the interview in that the administrator is not the one asking the questions. This eliminates response bias incurred by an interviewer, and the need to have trained personnel conducting the survey. This method is most effective for use in an institution where large groups of the target population can be questioned at the same time (Moser p.256).

There are several ways to deliver a self-administered questionnaire, but mailing is the most common method used when dealing with a large population. Mail questionnaires can have low response rates, but it has been shown that through good form design, incentives, and multiple follow-ups, high response rates are possible. The advantage of the mail is that large populations can easily be reached with postage being the primary expense. Open-ended questions, unless made optional, must be eliminated to increase the ease of completion and reduce the factor of confusion (Fowler 54). The main

concern is to make the process for the respondent as easy as possible to encourage completion of the form.

With either type of questionnaire, it is of the utmost importance that the explanation of the questions and the goal be written clearly and concisely to promote accurate responses.

**Survey Design**

The most useful type of survey for our project is the questionnaire. The questionnaire is a more efficient way to collect data from a larger group (Young 186). To make a questionnaire sufficiently informative to a project, the questions must be carefully designed (Fowler 99). This type of survey was the most useful for our project because it was the easiest to implement and tabulate.

To make the objective of the project clear to the participants of the survey, the questionnaire must have a clearly defined objective. A solid objective statement will also help the evaluators to carefully word the questions, and keep the questions relevant to the project (Fowler 99). The cover letter of the survey included this statement of objectives in order to explain our project to our target population. The cover letter must be written in a personalized manner, but must remain objective. Including the cover letter will increase the likelihood of receiving a response by making the survey participant believe that his or her response is important (Salant 142). Once the survey purpose is clear, it will be easier for the participant to complete the questionnaire (Fowler 102).

The ordering of the questions is also important. It is common practice to place the questions that are the easiest to answer at the beginning. This allows the participant

to ease his or her way into the survey, and for the survey to capture his or her interest (Young 197).

Two types of questions were considered for the surveys. Using closed-ended questions ensures the evaluator that the answers will be useful to the project. The answers to open-ended questions tend to be vague or incomplete (Fowler 103). Open-ended questions also take a longer time to complete, and may cause the participant to lose interest.

The length of the questionnaire also will have an effect on participation. Respondents may be more likely to refuse to participate in or further complete the survey if they feel that it will take a considerable portion of their time (Kalton 309). If a survey is long, the participant will be more susceptible to a loss of interest in the project, and their answers may begin to become vague and unclear (Fowler 103).

The layout of the questionnaire is also important. The questions should be typed in a font that is easy to read. The questions should be spaced as to make a clear distinction between each question. The questionnaire should be comfortable for the participant to read as well as answer (Fowler 103). In order to alleviate confusion, and ease the job of the reader, instructions must be included with every question. The instructions must be detailed enough to eliminate the need for a proctor to help answer questions about the survey.

The design of the questions is a key part of writing a questionnaire. The structure of the questions will have a large impact on a participant's response to the questionnaire. If there is a possibility that there could be confusion on a question, then someone will get

confused (Fowler 103). The questions must be worded in a simple way, and in some cases the choices of answers must also be written clearly.

The type of answer that must be given to a question can have an effect on the survey outcome. If a question can be suitably answered with a 'YES' or a 'NO', then this answer type should be provided. A survey with a checkbox choice of 'YES' or 'NO' is easy to tabulate. The answers themselves will also tend to be less biased (Young 198). Checkboxes in general are a very quick way to get a participant's opinion, and tend to take much less time than an open-ended question format (Kalton 343). If the answer can be categorized easily, a multiple-choice set of answers is favored. Using a set of graduated responses is preferred in many surveys. This method gives the participant a wide range of answers to choose from. Responses of this type are easier to understand for the participant, and also easier to tabulate (Salant 82). The answers must be written in a clear enough manner to allow the participant to categorize his or her opinion on the topic (Young 198).

The wording of a question is an integral part of the questionnaire. A poorly worded question can cause confusion on the part of the participant, or a misunderstanding of the question's meaning. A misunderstanding could lead to the evaluator's misinterpreting a participant's opinion on an essential point of the project (Kalton 319).

The language of the questionnaire must be familiar to the reader. The evaluators must determine if the least educated of their participants would be able to understand the question, and also to provide an answer suitable to the project (Kalton 323).

A question should never presume anything about the participant. The evaluator should write the questions with the thought that the participant has no knowledge of the

survey topic (Kalton 325). A survey should also never ask anything embarrassing about the participant, as these questions are likely to go unanswered (Kalton 327).

**Sources of Error**

One major source of error in questionnaires is non-response. A questionnaire that is not returned, or is returned blank is considered a non-response. The simplest way to reduce non-response is to make the questionnaire easy to understand. The questionnaire must be written in a manner that will allow the participants to complete it in a timely fashion. If the survey takes too long to complete, or if it is too confusing, then there is a good chance that they will not complete the questionnaire. Once the participant has determined that the questionnaire will not take up much of his or her time, they will be more likely to complete the survey (Kalton 263).

The population that is being surveyed also has an effect on the response rate. If the population is relatively motivated, or well educated, then the number of non-responses will be lower (Fowler 55).

If the survey is made easier to return, such as with a business reply or stamped envelope included, then the response rate will be greater. A reward for returned surveys is also a way to increase the response, but this also increases the cost of the survey (Kalton 265). One other factor that can affect response rates is the anonymity of the questionnaire participants. Some participants may not want their feelings to be known to the evaluators if these feelings will be attributed directly to the participant. A questionnaire that just accepts opinions and not names as well is more likely to receive a higher response (Kalton 266).

Providing follow up mailings can reduce the non-response significantly. Through this procedure, the respondents are continually reminded that their opinions are important to the survey that they have received (Salant 138). Personalizing the surveys and also the follow up mailings will also produce a greater response. This helps the respondents to believe that their opinions are important to the survey results (Salant 139).

**Testing of Surveys**

The surveys must be tested in order to insure that the respondents will be able to understand the purpose of the project, and therefore provide useful information. The respondents will be unable to ask questions about the survey once they are distributed, so testing the surveys will provide a chance to eliminate major sources of confusion for the respondents. Testing can be done in several different settings, but the most popular method is the focus group. The focus group is composed of people who represent typical respondents of the survey. This form of pre-testing can be used to eliminate errors in question construction, and in the questionnaire layout (Dillman 155).

**Interpreting Results**

The first step of handling the results is tabulation. For closed questions, tabulation is merely a task of counting the number of a given response to a question. Hand tabulation is a viable method for simple questions and small numbers of surveys. For large numbers of surveys and cross tabulation, it may be desirable to use a computer, but this requires making the survey readable by a computer by coding all the results (Moser 428).

The most important part of the evaluation is the use of the results to provide meaningful and credible answers. To provide credibility it is important that these answers be able to hold up under scrutiny (Patton 327). Recognizing and explaining away sources of error during the evaluation is critical to providing useful answers. Identifying relationships and giving solid data to support them is also important. Overall, the researcher should draw specific conclusions to the objectives based on the results.

When communicating the results, it is important that the writer keep in mind the type of audience for which they are writing. The extent of knowledge, and the questions in which the audience are interested should be primary considerations when writing the report. It is of the utmost importance to clearly and concisely, present the conclusions of the analysis so that the reader might apply the information. All technicalities must be translated into language that the reader can understand, for it does no good to merely present numbers and graphs (Kalton 468). Overall, if the reader cannot understand the information that they are given, then the survey has no relevance.

# 3.0 Methodology

## Statement of Objectives

The objectives of this project are as follows:

1. Determine the usefulness of the present evaluation system to WPI undergraduates.
2. Gather the feedback of students and faculty concerning our project by using surveys.
3. Implement a pilot system to test the student and faculty interest and response.
4. Provide recommendations for future work on the implementation of the system that we propose.

At the present time, the statistical data from the course evaluation 'blue-sheets' is available on the web to all WPI students. We used surveys to determine the students' usage of the current system, and also to find out how beneficial they believe this information to be. We wanted to learn if a system where students could post and view comments is a service that students would value. It is important for us to know what features would encourage, or discourage, the use of the service so that we may design the site more effectively.

It is also our intent to learn the opinions of the faculty. Since this project is being done from the student's point of view, it is very difficult to know the concerns of the faculty. We hope to gather this faculty feedback, and incorporate it when creating our evaluation service. First we want the faculty's opinion of an open evaluation system. Do

they think it would be a useful tool for the students? Do they fear it would be used to insult professors? Would they be interested in reading the comments left by students? Do they believe it could be beneficial to their teaching?

The information we get from the surveys was used to inform us of the views of the students and faculty. We feel it will help us design a better service for the student and perhaps the faculty. We expect the students to be supportive and the faculty to be resistant to the idea, but it is not good practice to assume results, and therefore it is necessary that we conduct these surveys.

**Surveying**

Of the several types of surveys that we researched in the background, we decided to use the self-administered questionnaire in the form of a mail survey. Everyone in our target population has a mailbox here on the WPI campus, which makes them easily accessible through one mode of administration. This ensures that everyone has an equal opportunity to receive and answer the questionnaire. Essentially, we chose a self-administered mail survey because it required relatively few resources in terms of time and labor, but would also accomplish our goals effectively. While making this decision we considered different modes of administration before deciding to use the mail and our reasons for not choosing these other modes are described here.

Direct questioning was one of the modes that we considered. To conduct a direct question survey we contemplated going into classes and asking that the questionnaires be filled out, but we did not find that this was going to be effective in achieving our goals. There was no guarantee that the entire population would have an equal opportunity to

respond when using this method and therefore would not create a simple random sample. It would also require the cooperation of professors, and a large investment of our own time to be successful.

Another method we considered for distributing the questionnaire was the use of email. Using email to administer the survey was an attractive alternative because we could save on the cost involved with printing several hundred surveys. We did not like the idea of using email because of certain problems that can arise when using email. There have been problems when respondents select the option to "respond to all." Their response is automatically mailed to the entire population, which means that the confidentiality of their response is violated, and valuable system resources are unnecessarily occupied (Cipriano, Personal communication). We also did not wish to deal with the electronic surveys when tabulating. We felt that it would be easier to tabulate the data if it were on a sheet of paper rather than a computer screen. Once again, the problem of not being able to create a simple random sample would not allow us to calculate the amount of error introduced by this surveying method.

The problems associated with using the mail as a mode of administration are primarily the cost involved with printing the surveys, and the time involved preparing them to be mailed. It is also necessary to have valid addresses, but this is not a problem because we may use campus mail to distribute the surveys (Fowler 72). We also cannot guarantee that one person will fill out one survey, but the possibility of this happening is a compromise that we will make to gain the advantages of using the mail questionnaire (Kalton 261). Using the mail also allows us to generate a simple random sample and then assure that only these people are contacted.

**Creating a sample**

A list of the entire undergraduate population and their mailbox numbers was obtained from the registrar's office and numbered, starting from 1. The sample size needed to achieve a 95% confidence interval was calculated from the book: *How to Conduct Your Own Survey*, by Priscilla Salant and Don A. Dillman. The table on page 55 was used to determine how many surveys we would have to receive to obtain 95% confidence. The population was considered to be very diversified and therefore a 50/50 split, which implies that one half of the population will respond differently than the other half, was used to determine the sample size. Using these parameters, we determined from the table that for a population of 2,561 we would need approximately 334 surveys returned for only a 5% sampling error. To determine how many surveys would have to be sent out we used a formula on page 57 of Salant and Dillman.

(# returned)÷(%useable addresses)÷(%response rate)÷(%useable surveys)= #surveys sent

In the formula above, we used 100% useable addresses because of our source for the mailbox numbers, 80% response rate because of the survey method chosen, and 90% useable surveys just to add a cushion for non-response. Using these parameters we determined that approximately 470 surveys needed to be sent out.

Microsoft Excel was used to create and randomize a list of numbers from 1 to 2,561. This created a simple random sample by choosing numbers at random without replacement. The first 470 numbers on the list were then used as the sample. The people on the numbered registrar's list that corresponded to the numbers in the sample were then chosen as the recipients of our survey.

**Mailing**

A series of four mailings comprised the system that we used for the student questionnaires. First, an advance-warning letter was sent to all recipients in order to let them know they would soon be receiving a survey. In this letter we state who we are, what we are doing, and how their participation in the survey will benefit them and their peers. The second mailing included the actual survey, which was sent to all recipients. The survey has a cover letter that explains our goals, describes the project, and thanks them for their participation. In this letter we also tell them of an incentive offered for returned surveys. The incentive being offered was a $25 dollar gift certificate to Jillian's Billiard Club. Students were notified in the letters that all the names of those people who have returned their surveys would be entered into a drawing for the gift certificate (Salant 146). The third mailing, received by all recipients, was an index card which thanks those people who have returned their surveys and asks those who have not to please do so. This card also reminds everyone of the prize offered for completion of the surveys and gives a date for the drawing. The fourth mailing, which was received by only non-respondents, included another copy of the survey as well as a revised and personalized cover letter asking them once again to please fill out the survey and reassured them that their opinion counts. This cover letter also reminded them of the prize being offered and let them know the deadline for getting the surveys returned. (Salant 138) All steps of this process were geared toward reducing non-response as discussed in the Background section. The surveys were sent in unsealed envelopes, which were then reused to return the surveys to us via intercampus mail.

A different approach was used for conducting the faculty surveys. A census was taken of the faculty for two reasons. One reason is that the faculty population is relatively small being less than 300 people, which means that a sample of this population would be very close to the entire population to achieve a low sampling error (Salant 56). The other reason was simply to account for the lower response rate that will result from our surveying method, which will be less comprehensive than that used for the students.

A list of the faculty was obtained from each department's directory at the URL www.wpi.edu/Pubs/faculty/depts.html. Surveys were mailed to all faculty members using their mailboxes located in the main office of each department. The survey was accompanied by a cover letter explaining who we are, what our project is, and the importance of their participation. If the initial response rate was not satisfactory, another round of surveys may have been distributed with a revised cover letter. The method of return was the same as that used for the students.

## Designing the Surveys

### Student Survey Questions

The first question on the student survey asks students if they've gathered the opinions of their peers about professors. We want to know if the opinions of their peers are a tool that students use during class selection. If peer opinions are a tool that students currently utilize, then they could certainly benefit from having a larger pool from which to draw their information. We do not want to introduce a system that provides students with information that they do not know how to use, perhaps like the statistical data that is currently available.

The second question asked students how often they've selected a course based on the professor. This question also examines past behavior and lets us know how common it is for a course to be chosen based upon the professor. Knowing this information can help us show that professors are indeed important to course selection, and allows us to build a case for why our system would be important to pursue.

The third question asked students how important the professor is in their selection of a course. This question followed closely in the vein of the previous question, and more specifically shows us how much of a factor the professor plays when a student chooses a course. If we find that the professor really is not a deciding factor, then providing information regarding professors would not help students in course selection, thus defeating the purpose of our system.

The fourth question asked students if they are aware that the statistical data from the blue-sheets is available on the school web site. This question aims to undermine the current evaluation system so that we might show that a supplemental system would be an improvement. If we can show that very few students know the information is available, then it will be very easy to prove that this information is not aiding the students in any way. For respondents who answered that they know the statistical data are available another question is included going more in-depth. This question asks these respondents how often they use this information for any purpose. Once again, we can show positively that the information does not benefit students, and not just because no one knows about it. If the students are not using the information it is because they don't find it to be useful.

The fifth question asked students to rate several different forms that the system could take on (i.e., web forum, published book, newsletter). This question will help us

design our service. The method of delivery is one of the most important factors in the development of this system. We need to know what form would be the most convenient and beneficial for the students.

The sixth question asked students to rate several different forms of information ranging from the information on the blue-sheets to the open student commentary that we have proposed. This question is also important to the development of our service. By gathering this information we are striving to provide the students with what they want. If they say that the statistical blue-sheet data are the most important thing to them, and the open student commentary is not important at all, then that is what we would have given them.

The last closed-ended question asked students if they believe they would use the system that we are proposing if it were made available. This question aimed to give us an idea of the general student feeling toward such an evaluation system. If we find that no one would use it then we will not pursue implementation. A pilot system has been developed based on the results of these surveys, and the study of the pilot system has given us additional information about the usage of our proposed system.

Finally, an optional open-ended question was included asking if the respondent would like to make any additional comments regarding the proposed service that was not addressed in the rest of the questionnaire. This question was included because we are interested in gathering student opinion, and this allowed us to gather information that we would otherwise not receive from the regular form.

**Faculty Survey Questions**

The faculty surveys were designed to complement the student surveys, as well as to determine the faculty's opinion on the implementation of the proposed system. Questions 1 and 2 have been used to compare the opinions of the professors with those of the students. Question 1 complements question 1 of the student survey. Both these questions deal with the effect of the opinions of a student's peers when selecting classes. The professor was asked what he or she believes because he or she is an indirect observer of student interaction, and the answer is derived from his or her opinion. The second faculty question closely related to the third question on the student surveys. For each of these questions the professors are given a range of ordered responses to choose from. These choices ranged from 'not influential' to 'very influential' on a five-point scale, and also included a 'no answer' choice. This range of answers was determined to be useful to provide a varied yet continuous range of opinions (Salant 82).

The next two questions on the faculty surveys were used to determine the faculty member's position on the implementation of the proposed system. In question 3, the faculty member was asked to give his or her general opinion on the implementation of the proposed system. With this information, the opposition among the faculty to the final implementation can be estimated. The choices of possible answers ranged from 'strongly opposed' to 'strongly support' on a five-point scale. The fourth question deals with how the faculty members would use the proposed system in regards to their teaching style. The professors were given answer choices that ranged from 'very detrimental' to 'very beneficial' on a five-point scale in order to determine their opinion.

Question 5 asked the professors if they would be willing to participate in a pilot study of the system. The professors were given the choices 'yes' or 'no' because these choices were appropriate to determine the answer to the question. The sixth question was an area for open comments, which the professors could use to voice opinions or concerns that they may have.

**Processing of Results**

Based on our background research, we have devised a methodology for analyzing the data. After we received the completed surveys, we recorded the number of returned surveys and calculate the response rate. There is a table where the number of responses in each category will be recorded. These tables were then be used to create graphs to facilitate evaluation of the data (Kalton 428). Any responses to the optional 'comments' section were listed on a sheet of paper. In the case of irrelevant or redundant responses, we only recorded those that are most common or we find pertinent to our project.

The data that we gather should allow us to be able to draw specific conclusions about the questions that we initially posed. We need to determine whether the service that we are proposing is one that the students would value. What would encourage them to use it? We also would determine whether the faculty would be receptive to such a proposal and if they thought that it could benefit them.

The results of the surveys will serve the purpose of helping our group design a better evaluation system for the students, and also to provide data and recommendations for future groups who wish to pursue implementation of the proposed system. Therefore, our audience will be comprised of people who have read our background, methodology,

and results and have gained knowledge on the subject. Communication will therefore be a task of presenting our results through written documentation, tables, and graphs. As long as the information that we have gathered can be applied to the improvement of the project, then we have met our objectives for the survey.

**Pilot Web Page**

At this point we have already conducted all the surveys and tabulated the results which will be addressed in the "Data and Analysis" section of this report. The results have shown that a web site is the preferred form for the proposed evaluation system. The creation of a pilot web page will assist us in finding out if students will utilize a future system. The web page will consist of a number of forums that will allow the student to leave comments about the WPI faculty. The students will initially be allowed to assert whatever they please. This will help us in knowing to what extent the comments will need to be filtered in the future, if the project is successful. Next to the name of each faculty member there will be the number of comments he or she has received. This will allow us to see to what extent the WPI students will use this web site. This generic web site will be available to the entire undergraduate student body at WPI through a login process. This will eliminate the corruption of the data by outside parties, and will also allow us to further determine the usage of the proposed system.

It is important when setting up a web page to take into consideration the goals that should be attained through the web page. The goals of our web page are:

1. To provide a system where students are able to post their comments on professors as well we read comments left by other students.

2. To allow both the students and the faculty to be able to view all comments posted.
3. To make the pilot web site as easy to use as possible.
4. To be able to monitor and filter messages as necessary.

Through the pilot study we have created, all of these goals are attained. The web page is currently located at http://www.comfusion.org/WPI. After reaching this page there is a login screen. Seven different login names were created. For simplicity there were four login names created for student use, a login for each year of students. This also allowed us to keep track of how often students logged in to the system and which class of students used the web page the most. The next login name that was created was the login for professors and other faculty members. All members of this community were able to login through one login name. The last two logins that were created were those of the administrator and the co-administrator. These two accounts were used to monitor and edit the web page when necessary.

The web page consists of a welcome message that clearly states the way that the page is run as well as some general instructions for use of the web page. It also contains the forum where students can post their comments. The system is set up such that there is a listing for each department and under each department different professors are listed. Since only those who volunteered to participate in the pilot study were used in the web page there are only 22 professors available for commenting. There are 11 different departments listed, as well as a category titled 'Professors Comments.' In this area professors are able to post comments. This set up made it very easy for students to look

up professors and comment on them since all they needed to know was which department a professor was listed under.

We chose to use the web site for the pilot study since it proved to be the preferred form by the students. We chose the actual web site that was used for many reasons. Most importantly we chose this web site because it was easy to use, easy to set up, and easy to maintain. The web page is currently under a free web site that allows users to create any type of web page they like and maintain it at no cost to any of the parties involved. The web page set up was especially helpful since it included an access log which shows how many times each login name was in the system and when the last time the user accessed the web page. This is very beneficial to use since we will be able to keep track of how often the web page is used. The set up of the web page allowed both the administrator and co-administrator accounts to delete messages which were posted for professors who did not volunteer to participate, as well as comments which were not posted in a constructive manner.

# 4.0 Data and Analysis

## Student And Faculty Survey Data

The final tally of the surveys showed that 164 student surveys were returned out of 470 sent. This number is not at all close to the 333 surveys we previously stated that we needed returned for a 95% confidence interval. However, this number was based on the assumption of a 50/50 split of answers in the population, which is very conservative. We probably could have safely assumed that our population was closer to an 80/20 split for several reasons. One reason being that all the recipients were students, which is a common trait shared by all. On top of this, our survey was pertaining to a service that would benefit the students, which relates the common trait to our survey. These two facts allow us to make the assumption that most of the respondents would respond in the same way. As an example, if we were to ask questions about abortion or another topic that did not strongly relate to being a student, then we could not safely make this assumption. However, it is reasonable to believe that most students would be in favor of a service that would benefit them. If an 80/20 split were used as one of the criterion for the population, then we would only need to receive 224 surveys instead of 333 to achieve 95% confidence. Instead of only having 49% of the surveys needed, we now have 73% of the surveys needed which results in a confidence interval greater than 90%.

Of the 230 faculty surveys delivered, we received 61 back for a return rate of 27%. This low response rate was due to the lack of follow-up procedures used with this survey. All results are based off the opinion of 27% of the faculty.

**Analysis of Survey Data**

We found that the opinions of a student's peers are a valuable source of information when selecting courses (See Appendix 10). Almost half of the students said that they ask for other students' recommendations often, and only a quarter responded that they rarely or never used recommendations when making course selection decisions. Those who responded negatively stated that others' opinions were either not important to them, or they did not have a choice of professors, completely eliminating the professor as a factor in course selection. The faculty also believed that the opinions of a student's peers were an influence in course selection as none of the faculty responded less than "somewhat influential" when asked this question (See Appendix 18). This information indicates that a system incorporating student opinion would be of value to the students.

To learn the past behavior of students we asked if they had selected a course based on a professor in the past (Appendix 11). About two-thirds of the students interviewed responded positively indicating that it was a practice already incorporated into their regular selection criteria. Knowing this told us that students would be able to readily adapt and exploit the system we are proposing. We would not have to institute new behavioral patterns, but instead just provide more information that would support existing behavior

The results of the student survey showed that the professor is a factor for many students when selecting a course. More than half the students felt the professor was an important factor when making selection decisions (See Appendix 12). On the contrary, only 5% of the students surveyed felt the professor not to be important at all. The reason given for this was a limited selection of professors, which eliminated them as a factor in

course selection. Those responding positively referred to students' opinions as being "inside knowledge" that would "give the opportunity for better selection." Others gave examples of past experiences in which they definitely would have used the proposed evaluation system had it been available. These results showed that professors are enough of a factor in course selection that providing students with more information could aid their decisions. The opinions of the professors supported this conclusion (See Appendix 19).

We found that about three-quarters of the students interviewed were unaware that the statistical data from the current student course evaluation forms was available on the web (See Appendix 13). The main reason given by students for being unaware was that they had never been told. The effort to make students aware of its presence was almost nonexistent. In fact they stressed that should our system become operational it should be advertised relentlessly so as to not suffer from the same ailment as the current system.

In contrast, based on their written comments, the faculty members seem to be under the impression that the availability of these data is well known by all. The faculty members gave no indication that they thought otherwise. This misconception is probably the exact reason for the failure to advertise the current system. On top of this problem, of those students that indicated they knew about this information, more than two-thirds said they rarely or never used it (See Appendix 14). This would indicate that the students either feel statistical information is inadequate for helping them with decisions, or that the presentation format is not convenient enough to facilitate their decision-making. Both of these results lead us to the conclusion that the current system is not wholly adequate in

helping the students. A supplemental system could improve the weak points of this system.

From the surveys that we collected, we can conclude that the web forum or the library catalog would be the best method of delivery of the proposed system to the students (See Appendix 15). Several students voiced a concern that the information should be free to the students, making it available to all who would use the information. The printed methods such as the library catalog and the campus newsletter would be less timely and more expensive to implement, and multiple issues would need to be circulated throughout the year. The web-based forum provides the simplest way to deliver the comments to the students 24 hours a day.

The majority of respondents believe that some type of student feedback should be made available to them through the new system (See Appendix 16). Either the student answers from the back of the blue sheets, or open student opinions should be made available to meet the students needs. Many of the students would like the statistical information on the blue sheets to be made available as well. They believe that their responses to the blue-sheets are rushed, and therefore the sheets do not contain the students' true feelings regarding the class and professor. Several faculty members also voiced a similar opinion to the blue sheet information, stating that it is "imprecise and misleading."

When asked how frequently the students would make use of the system if it were made available to them, the majority of the students said that they would use it often (See Appendix 17). Many students believe that the system would be useful, as long as the implementation is advertised to the student body. Students believe that because the

current system is not advertised, and because the students are not aware of the information, many students do not have access to the information.

From these responses, we can conclude that a web-based forum where students can leave comments on professors and view the statistical data from the blue sheet course evaluations would be the best implementation of the proposed system.

We found that there would be support for this system by the faculty if it were implemented (See Appendix 20). Of the faculty surveyed, 70% supported the idea whereas only 20% were opposed to it. Of those responding positively, some said that they had experienced similar systems at their alma maters and believed this school could also benefit. Some professors indicated that they already use their own evaluation sheets to supplement the blue-sheet system. They believed that any system that increases the amount of feedback that they could gain would benefit them. Of those responding negatively, many felt that the system would be detrimental because it would affect tenure and promotion decisions. Others felt that students should not be given the power to assess their professors as they lacked adequate training to do so in an acceptable manner. From our results, we found that it would be possible to gather some support from the faculty during the stages of implementation, which would help us influence and inform those faculty members who did not believe in the value of the system.

Many faculty members believe that student feedback can have a beneficial effect on their teaching (See Appendix 21). With this information, we can conclude that if our system were implemented, it would be useful to the faculty as well as the students. The professors are already given the benefit of viewing the comments of their students via the questions on the blue sheet course evaluations. Some believe that the type of written

input that would be gathered by our system would be limited to the extreme views of the students and would not encompass the entire spectrum of opinions in the student body. Some professors proposed a system where they were allowed to defend themselves to critics on their methods of running a class and also to ask a student how difficult they perceived the class. These methods could make the system more sound, by allowing others to decide whether students were justified in their comments, or just showing dissatisfaction for a bad grade in a difficult class.

When asked whether they would participate in a pilot study of the system that we have proposed, the majority of the professors answered yes, although some were strongly opposed (See Appendix 22). Many professors believe that the system, when run properly, could be very beneficial to both the students and faculty.

Many faculty members were concerned about the students' qualifications to assess the teaching ability of professors. It has been argued that the students are the only direct observers of the professor, and therefore they are in the best position to evaluate their performance in the classroom (Renner 12). Some members of the faculty voiced their concern that the comments of the students would be used in tenure decisions (See Appendix 23).

While some strong opposition to our proposal arose, the majority of the faculty believed that the system could be useful if implemented carefully. A method of censoring negative comments would have to be carefully designed and maintained in order for our system to be accepted and effective in serving its proposed purpose.

**Web Page Data And Analysis**

In the month that the web page was available 122 comments were posted by students on 22 different professors. Each department had a varying amount of comments posted, from no comments to 32 comments. A list showing how many comments each department and professor received is shown below. In order to protect those who participated in the system, their names have been removed.

Table 1- Number of Comments on Professors

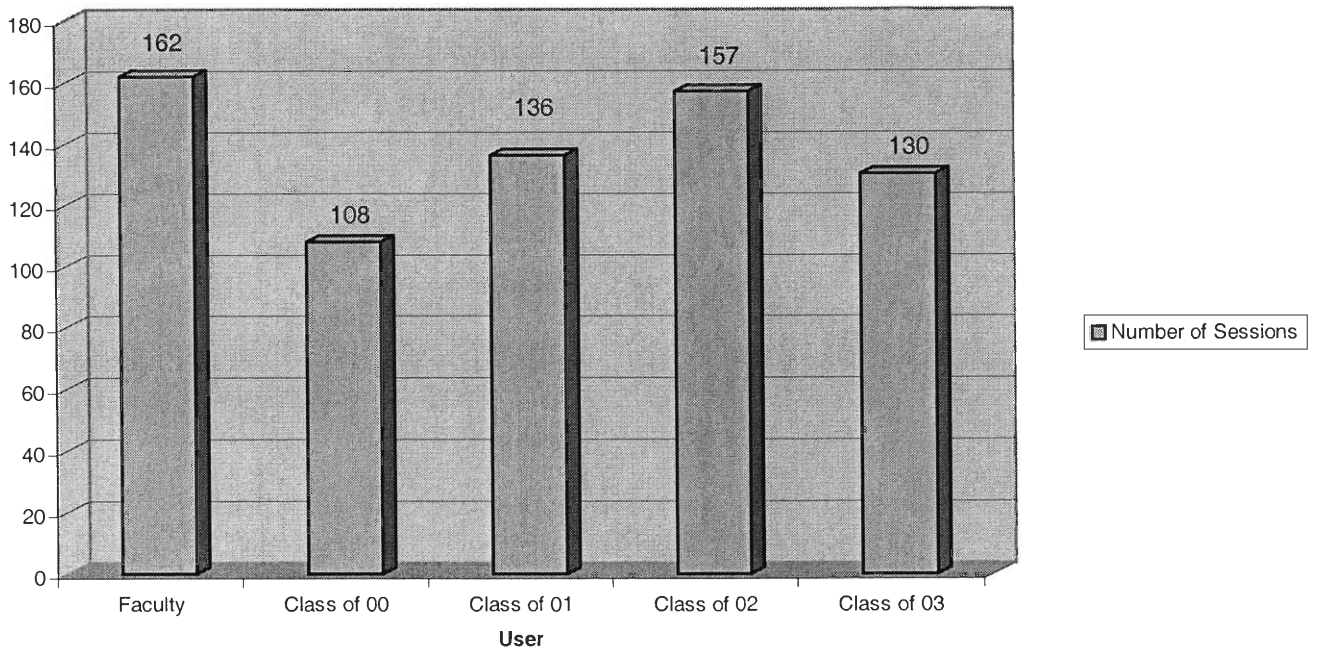
**Table 1**

| Department | Professor | Number Comments | Department Total |
|---|---|---|---|
| **Fire-Protection Engineering** | Professor A | 0 | **0** |
| **Chemical Engineering** | Professor B | 0 | **0** |
| **Management** | Professor C | 2 | **2** |
| **Electrical Engineering** | Professor D | 14 | **24** |
| | Professor E | 3 | |
| | Professor F | 7 | |
| **Chemistry /BioChemistry** | Professor G | 5 | **5** |
| **Arts & Humanities** | Professor H | 4 | **23** |
| | Professor I | 9 | |
| | Professor J | 3 | |
| | Professor K | 6 | |
| | Professor L | 1 | |
| **Biology /Biotechnology** | Professor M | 5 | **9** |
| | Professor N | 4 | |
| **Mathematics** | Professor O | 6 | **16** |
| | Professor P | 10 | |
| **Mechanical Engineering** | Professor Q | 3 | **7** |
| | Professor R | 4 | |
| **Computer Science** | Professor S | 4 | **4** |
| **Physics** | Professor T | 10 | **32** |
| | Professor U | 5 | |
| | Professor V | 17 | |
| **Total** | **22** | **122** | |

It is obvious from the data shown in Table 1 that certain departments had a better response rate than other departments. We have found that departments with more professors available for commenting received larger amounts of feedback than other departments. We also found that areas such as physics or humanities, where most students will take a course in that area at some point regardless of their major received, a much higher number of comments.

Smaller or more concentrated majors such as Fire Protection Engineering received little or no feedback for many reasons. First and foremost this major has a smaller percentage of the student body than others such as Electrical Engineering and Computer Science. Second, there are not as many professors available in this major and therefore students do not have the opportunity to switch classes to have their preferred professors. It is possible that students may not have these professors until the end of their education. Lastly, there are only a few professors in these departments who were willing to participate in this pilot study.

**Figure 1 - User Access**




It is also important to examine the number of times the students and professors have logged into this web page in order to get an idea of how useful it is, and to determine how widely used the web page was. The system which is currently being used counts every time that a user is logged in. Currently there are five users of importance to this project: wpifaculty, which is the login name used for all professors who have visited the site; wpi00, which was the login name used for seniors who wished to view the system; wpi01, which is the login name for the junior class; wpi02, which is the login name for the sophomore class; and wpi03, which is the login name for the freshman class. On the previous page there is a graph depicting the number of times each account has been logged into the system. The total number of times these accounts where used is 693.

We found that reminding the students that this system was available increased the number of times they went to the site significantly. Previous to the reminder sent out to all students on March 23, 2000, the number of times the system had been logged into was only 438. This number significantly increased when the reminder was sent out. Within the first day of the reminder the number of logins increased to 599, which was a significant jump in such a short period of time.

Although these rates may seem low in comparison to the population of the students here at WPI, there are many factors to take into consideration. The information about the web page was sent out in an email, which means students who were checking their email at their leisure may have gone to the web page immediately, whereas students who were checking their mail in a lab or at a UNIX terminal may have not been able to check the web page immediately. Also there may be students who just ignore email messages which are sent out from students they do not know. Students who are in their final term here at WPI may not be interested in looking at this system since it is something that will not really affect this experience at WPI. Members of the freshman class may have not had any of the professors listed since their time here has been more limited than members of other classes.

To increase the number of times the students access the page two very important changes must take place. First the web page must be advertised constantly as well as at the beginning and end of any given term, since this is the time when most students will want to post comments as well as read other comments to get a feel for their new professors. Also, there must be more professors available on this service. Several

students expressed that they would like to see additional professors available for commenting.

**Feedback From Pilot Study**

After several weeks of operation of the web page, professors who participated were asked to fill out a follow-up survey (See Appendix 24). The first question asked whether or not the professor was initially concerned about the maturity of student comments. The next question asked was whether or not the faculty member felt as though the students posted mature comments. The third question asked whether or not the professors felt as thought the comments posted where helpful. The forth question asked if there were any recommended changes. The fifth question asked if the comments posted seemed to be repetitive in comparison with those received from the current blue sheet forms.

Two-thirds of the professors noted that they were initially concerned with the maturity of the student comments. All of the professors who were involved in this pilot study felt that the students did in fact post maturely and "to WPI standards." Approximately two-thirds of the professors felt that this system was helpful to them as well as to the students. Of the professors who did not find the system to be helpful, the majority felt that the system was more gratifying than helpful, providing some insight into students minds. One professor commented, "I have always wanted to have the magical power to read the students' minds. What you did comes closer to my dream than

I could have ever hoped" (Professor Doytchinov, Personal Communication). Comments such as these show how helpful this system is for both the faculty as well as the students.

Two-thirds of the professors felt that the comments posted did not repeat information they received from the current evaluation forms. It was noted that students who may not have a chance to fill out evaluation forms, such as Peer Learning Assistants (PLAs) and advisees, might be able to use this system, by providing more information for all students and professors. Another professor commented that if more students were willing to comment online rather than fill out the evaluation forms, the system would become highly beneficial to both the students and the faculty.

The faculty offered many recommendations for the system. The most common recommendations were to make the web page more easily accessible, and to get more professors to participate in the system. The next most common recommendation was that the system needs to be better advertised to the students in order to increase usage of this system. Professors in general felt this web page was a good start towards creating an evaluation system based on student comments.

**Other Comments**

In hindsight, there are definitely some things that we should have done differently or better. One of the main things was careless wording in the faculty survey. We did not specify that the proposed service is not intended for use in tenure or promotion decisions. We also did not clearly distinguish our proposed evaluation system from the current blue-sheet system. Both these factors could have influenced answers on the surveys, which would leave us with inaccurate information from which to base our conclusions.

The other problem was that we were too optimistic about a response rate. Using 80% as a desired response rate caused us to not distribute enough surveys to combat non-response. Our actual response rate was approximately 35%, which is not bad for a mail survey, but not near enough to our projected 80% response. These are two mistakes that we hope other groups can learn from. It certainly would have been to our benefit to have researched the reports of past IQP groups who had conducted mail surveys. This would have helped us to better understand what kind of results to expect.

# 5.0 Conclusions & Recommendations

## Conclusions

Our study revealed several reasons why the implementation of a supplemental evaluation system would be both worthwhile and beneficial. First, we found that the professor is an important factor in a student's course selection decision, and that other students' opinions of a professor are very influential to that decision. In fact, choosing a class based upon who is teaching the course was found to be a common practice of studcnts.

Secondly, we determined that the statistical data presently available to the students are inadequate to form an opinion of a professor's merit. Not only did most of the students not know that the statistical data from the blue-sheets were available, but those who were aware stated that they seldom use it.

Finally, the students surveyed showed enthusiasm for the proposed system, and said that it was a service they would definitely make use of. These main points are why we believe that implementing another system to supplement the current evaluation system would greatly benefit the students.

The web-based forum has been shown to be the best method of delivery for the proposed system. Not only would this system be available 24 hours a day, which would allow students to post their comments at their leisure, but it would also provide the faculty with a chance to respond to the student comments. A login system would be necessary to prevent non-students from posting, and also to prohibit students from posting as professors. To avoid the downfalls of the current system, the new system would need to be widely advertised in order to make the student body aware of its

existence. While the students have indicated that the opinions of their peers are the most important form of evaluation information to them, they would still like the statistical data to be available. Therefore, we have decided that the proposed system should incorporate both student opinion and statistical data.

The majority of the faculty stated that they would support the implementation of the proposed service, although complete faculty cooperation would be necessary for the system to be truly successful. The faculty believes that the system could become a useful source of student feedback, and therefore be another tool to help them improve their teaching. The strongest opposition to the system arose from the fear that it could be used as a determinant for promotion and tenure decisions. Although the system is not intended for this purpose, we can not conclusively say that it will not enter into these decisions.

The pilot study of the web-based evaluation system abated concerns about the maturity of the students when commenting on the professors. It also showed that the proposed system was beneficial to both the students and the professors. The students were very interested in this system, and would like to see the use of such a system become a permanent part of the class selection process.

## Recommendations

Based upon the information that we have gathered during the course of this project, we would like to make several recommendations for future work.

Due to the fact that the statistical data are potentially important to students, a link to the currently available statistical data should be incorporated into a future evaluation web site. This would allow the students to access several forms of information from one

place, and therefore facilitate researching professors. Ideally, a link would be available under each professor's name that would automatically bring the user to the statistical data for that particular professor.

It is also an important matter that users of the site be notified that the information contained herein is entirely opinion, and is not a representative sample of student body opinion. This disclaimer should appear at the top of the home page so that users will be sure to see it.

Also the importance of notifying the student population to the existence of the system cannot be stressed enough. Advertising will be crucial, the best methods of which will be posters on campus bulletin boards, the school newspaper, and announcements on the school television channel which airs all over campus. The current system of statistical data is a perfect example of what happens when the students don't know the information is available to them.

In order to benefit all users of the system, several steps must be taken to insure that the forum maintains its integrity as a source of information. The final web page must include a login process, which would allow only WPI students to access and enter comments on the system. This system should be able to log the users and entries to insure that the site is used properly. A censoring system must be created to eliminate comments that serve no purpose other than defaming professors. The only way to effectively maintain the page would be to create a committee in charge of operations.

It is also recommended that surveys be distributed to the students and faculty after a system is implemented. Operators of the system need to know if they are achieving their goals so that changes can be made if need be. Feedback is extremely important to

the survival of the proposed evaluation system, and surveys have been shown to be very effective in achieving this goal.

The professors should be given an opportunity to respond to the comments that the students post on the web site. We feel that being able to read a professor's response to comments will provide further information that will help the student make a judgment call. Professors were allowed to respond to comments on the pilot web site, but on a page separate from the actual comments. This proved to be ineffective, therefore we recommend that professors' responses be placed with the individual student comments so that the user may view both at the same time.

**WPI** Worcester Polytechnic Institute

# STUDENT EVALUATION OF COURSE/LAB OR CONFERENCE INSTRUCTOR

| INSTRUCTOR'S NAME | TERM | DATE | COURSE NUMBER |
|---|---|---|---|
| | | | |

By providing your perceptions of the effectiveness of your teacher on this evaluation form, you can help to improve the overall quality of teaching at WPI. Therefore, please take time to consider each reply thoughtfully. These evaluations are used by the teacher for self-improvement and by members of the administration and faculty committees as one important factor in determining salary, promotion and tenure.

Your response will remain anonymous. The evaluation form will be returned to your teacher after you have received a grade for the course.

Please circle the number to indicate your feeling of disagree/agree with each statement using the range from STRONGLY DISAGREE to STRONGLY AGREE. Circle NOT APPLICABLE if the particular statement does not apply to your instructor.

**NA** - NOT APPLICABLE
**SD** - STRONGLY DISAGREE **D** - DISAGREE **A** - AGREE **SA** - STRONGLY AGREE

| | RANGE OF AGREEMENT | | | | |
|---|---|---|---|---|---|
| | NA | SD | D | A | SA |
| **PART I - YOUR SPECIFIC PERCEPTIONS** | | | | | |
| 1. The instructor established clear objectives for the course. | 0 | 1 | 2 | 3 | 4 |
| 2. The instructor organized the course well. | 0 | 1 | 2 | 3 | 4 |
| 3. The instructor was well prepared to teach each class. | 0 | 1 | 2 | 3 | 4 |
| 4. The instructor communicated well. | 0 | 1 | 2 | 3 | 4 |
| 5. The instructor demonstrated a good understanding of the material being taught. | 0 | 1 | 2 | 3 | 4 |
| 6. The instructor used the blackboard/visual aids in an effective manner. | 0 | 1 | 2 | 3 | 4 |
| 7. The instructor used class time effectively. | 0 | 1 | 2 | 3 | 4 |
| 8. The instructor assigned homework that aided my learning. | 0 | 1 | 2 | 3 | 4 |
| 9. The instructor used evaluations that were good measures of the material covered. | 0 | 1 | 2 | 3 | 4 |
| 10. The instructor provided adequate assistance outside the classroom. | 0 | 1 | 2 | 3 | 4 |
| 11. The instructor stimulated my interest in the subject matter. | 0 | 1 | 2 | 3 | 4 |
| 12. The instructor challenged me to extend my capabilities. | 0 | 1 | 2 | 3 | 4 |
| 13. The instructor seemed really concerned about the students. | 0 | 1 | 2 | 3 | 4 |
| 14. The instructor was well above average. | 0 | 1 | 2 | 3 | 4 |
| **FOR LABORATORY COURSE** | | | | | |
| 15. The instructor showed me how to use laboratory equipment properly. | 0 | 1 | 2 | 3 | 4 |
| 16. The instructor provided adequate time to complete experiments. | 0 | 1 | 2 | 3 | 4 |
| 17. The instructor clearly defined the requirements for preparing lab reports. | 0 | 1 | 2 | 3 | 4 |
| **PART II - SOME GENERAL PERCEPTIONS** | | | | | |
| 1. The textbook(s) helped me learn the subject matter. | 0 | 1 | 2 | 3 | 4 |
| 2. The material to be learned in this course was difficult. | 0 | 1 | 2 | 3 | 4 |
| 3. The room used for the course was acceptable. | 0 | 1 | 2 | 3 | 4 |
| 4. The lab and/or computer equipment was in good operating condition. | 0 | 1 | 2 | 3 | 4 |
| 5. I rate myself in general as an excellent student. | 0 | 1 | 2 | 3 | 4 |
| 6. I had a good understanding of material that was prerequisite for the course/lab. | 0 | 1 | 2 | 3 | 4 |
| 7. I learned a lot in this course. | 0 | 1 | 2 | 3 | 4 |

PART III – BACKGROUND INFORMATION

1. My current student year classification is (circle one)

1 – 1st Year 2 - 2nd Year 3 – 3rd Year 4 - 4th Year 5 - 5th Year 6 – Graduate Student

2. My major department is (circle one)

01 – Chemical Engineering
02 – Civil & Environmental Engineering
03 – Electrical & Computer Engineering
04 – Mechanical Engineering
05 – Chemistry & Biochemistry
06 – Computer Science
07 – Biology & Biotechnology
08 – Management
09 – Mathematical Sciences
10 – Physics
11 – Interdisciplinary
12 – Consortium
13 – Other
14 – Biomedical Engineering
15 – Humanities & Arts
16 – Social Science & Policy Studies

## PART IV - WRITTEN COMMENTS

1. What did you particularly like about this course/lab?

2. What did you particularly dislike about this course/lab?

3. Can you suggest anything that the instructor can do to improve the quality of teaching?

4. What strategy would you advise a friend to use to benefit from this course?

5. Other Comments?

Appendix 2: Mail Survey Implementation Method

## MAIL SURVEY IMPLEMENTATION

1 obtain list of population
2 draw sample
3 produce 5 sets of mailing labels, numbered sequentially
4 develop questionnaire
5 pre-test questionnaire and modify
6 develop 3 cover letters and a reminder postcard
7 determine how many questionnaires, letters, postcards and envelopes will be needed

| Date | Out | In |
|---|---|---|
| 0 | 1st mailing | 40% of 1st mailing |
| 1 week | reminder postcard | 10% of 1st mailing |
| 3 weeks | 50% of 1st mailing | 20% of 1st mailing |
| 5 weeks | 30% of 1st mailing | 10% of 1st mailing |

Required for an 80% response rate:

180% questionnaires
100% 1st cover letters
100% reminder postcards
50% 2nd cover letters
30% 3rd cover letters
180% mailing envelopes
180% return envelopes

8 printing (leave enough time)
9 number questionnaires sequentially
10 stuff and send 1st mailing (careful to match numbers)
11 mail reminder postcards
12 remove respondents from 3rd set of mailing labels
13 stuff and send 2nd mailing (careful to match numbers)
14 remove respondents from 4th set of mailing labels
15 stuff and send 3rd mailing (careful to match numbers)
16 using the 5th set of mailing labels (master list on which records have been kept) summarize response rate, undeliverables, complete, incomplete, refusals
17 code questionnaires
18 keypunch data
19 clean data of inconsistencies, errors
20 statistics
21 report
22 dissemination
23 destroy master list

Appendix 3: Advance Warning Letter to Students

January 18, 2000

Dear Recipient,

You have been selected at random to participate in a very important survey that you shall receive within the coming weeks. We are an IQP group developing a service that will benefit you as a student. The service will allow students to share their opinions about professors with others through a public forum. Further information will be given in following mailings.

Your participation is extremely important to the successful completion of this project. This service will benefit you as well as your peers. Thank you in advance for your participation and time.

Sincerely,

James Heald
Jay Gould
Melissa Fenner

Appendix 4: Student Survey

In questions 1-3 below, please circle the answer that most closely represents your opinion.

1. When choosing your classes, how often have you asked for other students' recommendations about a professor? Please circle the number below where 1 is NEVER and 5 is ALWAYS.

| Never | Rarely | Sometimes | Often | Always | No Answer |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |

2. How often have you selected a class section based upon the professor? Please circle the number below where 1 is NEVER and 5 is ALWAYS.

| Never | Rarely | Sometimes | Often | Always | No Answer |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |

3. How important is the teaching professor in your selection of a course section? Please circle the number below where 1 is NOT IMPORTANT and 5 is VERY IMPORTANT.

| Not Important | Slightly Important | Somewhat Important | Important | Very Important | No Answer |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |

4a. Were you aware that the results from the front of the course evaluation blue-sheets are available on the web? Please circle your answer.

NO YES

If NO, then please skip to Question 5.

4b. If YES, then how often have you used this information? Please circle the number below where 1 is NEVER and 5 is ALWAYS.

| Never | Rarely | Sometimes | Often | Always | No Answer |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |

Appendix 4 (continued): Student Surveys

Now we are going to ask you a series of questions on how you feel about several options. Please circle the number that most closely represents your choice.

5. Please rate how you feel about each of the information presentation formats shown below. Circle the number below where 1 is STRONGLY NEGATIVE and 5 is STRONGLY POSITIVE.

| | Strongly Negative | | Don't Know | | Strongly Positive |
|---|---|---|---|---|---|
| Web based forum | 1 | 2 | 3 | 4 | 5 |
| Book for purchase in campus bookstore | 1 | 2 | 3 | 4 | 5 |
| Special edition of the campus newsletter | 1 | 2 | 3 | 4 | 5 |
| Catalog available in the library | 1 | 2 | 3 | 4 | 5 |

Again, we would like to ask you a series of questions on how you feel about several choices. Please circle the number that most closely represents your choice.

6. Please rate how important receiving each type of information from a future evaluation system would be to you. Circle the number below where 1 is NOT IMPORTANT and 5 is VERY IMPORTANT.

| | Not Important | | Don't Know | | Very Important |
|---|---|---|---|---|---|
| Statistical data from front of blue-sheets | 1 | 2 | 3 | 4 | 5 |
| Student answers to questions on the back of blue-sheets | 1 | 2 | 3 | 4 | 5 |
| Student opinions regarding professors or classes | 1 | 2 | 3 | 4 | 5 |

7. Finally, if the service described in the cover letter was made available, how often do you believe you would use it? Please circle the number below where 1 is NEVER and 5 is ALWAYS.

| Never | Rarely | Sometimes | Often | Always | No Answer |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |

8. Are there any comments you would like to make concerning the service described in the cover letter?

Appendix 5: First Student Survey Cover Letter

January 31, 2000

Dear Recipient,

Thank you in advance for your time and participation in our study. We are WPI students working on an IQP, and your participation in this project is very important. Our project is the development of a system that will allow students to openly share their opinions about professors with others. The system will help students express positive and negative feedback that they might have, as well as help inform other students of WPI's many professors. The goal of providing this information is to help students choose a class when the teaching professor is a deciding factor. The opinions that students leave will be accessible to the faculty, but the student's identity will remain completely confidential. The primary purpose of this service is to benefit the student, and therefore it is of great importance that we obtain your opinions on this matter.

You have been selected randomly from among all undergraduate WPI students. Your participation in this survey and all responses are completely confidential. You will be asked to answer several questions that will help us develop our service. A space will be provided at the end of the survey for any comments that you might wish to make pertaining to the proposed service. Throughout the survey, use of the term "blue-sheets" refers to the current course evaluation form that students fill out in class.

When finished, please put the survey back into the accompanying envelope, seal the envelope, and drop it in the intercampus mail slot located next to the pick-up window in the WPI mailroom. **As a final note, all returned surveys will be entered in a raffle to win a $25 gift certificate to Jillian's Billiard Club.** Once again, your participation in this survey is invaluable to the successful completion of this project. Thank you for your participation.

Sincerely,

James Heald
Jay Gould
Melissa Fenner

Appendix 6: Student Reminder Notice

This is a notice to thank those people who have completed and returned our survey, and also to remind those who have not, to please do so soon. The information that you provide us with is very important to the successful completion of this project. **Just a reminder that all completed surveys will be entered in a drawing for a $25 gift certificate to Jillian's Billiard Club.** The drawing will be held Monday, February 28th, so please get your surveys in as soon as possible. Thank you again for your participation in this project.

Sincerely,
James Heald, Jay Gould, Melissa Fenner

Appendix 7: Second Student Survey Cover Letter

February 14, 2000

Dear

We have not yet received a completed survey from you, so we are enclosing another copy in the hope that you will take a few minutes to fill it out. Your participation not only helps our project, but also benefits you as a student. We cannot do this project without your help. The drawing for the $25 dollar gift certificate to Jillian's Billiard Club will be held Monday, February 28th, so please return your survey as soon as possible so you will be eligible. The following is a copy of the original cover letter explaining our project.

Thank you in advance for your time and participation in our study. We are WPI students working on an IQP, and your participation in this project is very important. Our project is the development of a system that will allow students to openly share their opinions about professors with others. The system will help students express positive and negative feedback that they might have, as well as help inform other students of WPI's many professors. The goal of providing this information is to help students choose a class when the teaching professor is a deciding factor. The opinions that students leave will be accessible to the faculty, but the student's identity will remain completely confidential. The primary purpose of this service is to benefit the student, and therefore it is of great importance that we obtain your opinions on this matter.

You have been selected randomly from among all undergraduate WPI students. Your participation in this survey and all responses are completely confidential. You will be asked to answer several questions that will help us develop our service. A space will be provided at the end of the survey for any comments that you might wish to make pertaining to the proposed service. Throughout the survey, use of the term "blue-sheets" refers to the current course evaluation form that students fill out in class.

When finished, please put the survey back into the accompanying envelope, seal the envelope, and drop it in the intercampus mail slot located next to the pick-up window in the WPI mailroom. **As a final note, all returned surveys will be entered in a raffle to win a $25 gift certificate to Jillian's Billiard Club.** Once again, your participation in this survey is invaluable to the successful completion of this project. Thank you for your participation.

Sincerely,

James Heald
Jay Gould
Melissa Fenner

Appendix 8: Faculty Survey

In questions 1- 4 below, please circle the answer that most closely represents your opinion.

1. How influential do you believe students' opinions of a professor are to another student? Please circle the number below where 1 is NOT INFLUENTIAL and 5 is VERY INFLUENTIAL.

| Not Influential | Slightly Influential | Somewhat Influential | Quite Influential | Very Influential | No Answer |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |

2. How influential do you believe the teaching style of a professor to be on a student's ability to learn a subject? Please circle the number below where 1 is NOT INFLUENTIAL and 5 is VERY INFLUENTIAL.

| Not Influential | Slightly Influential | Somewhat Influential | Quite Influential | Very Influential | No Answer |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |

3. How would you feel about a system in which students were allowed to openly voice their opinion regarding professors? Please circle the number below where 1 is STRONGLY OPPOSE and 5 is STRONGLY SUPPORT.

| Strongly Oppose | Somewhat Oppose | Neither | Somewhat Support | Strongly Support | No Answer |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |

4. How do you believe it would affect your teaching if you were able to view the opinions that students expressed regarding you or your class? Please circle the number below where 1 is VERY DETRIMENTAL and 5 is VERY BENEFICIAL.

| Very Detrimental | Slightly Detrimental | Neither | Somewhat Beneficial | Very Beneficial | No Answer |
|---|---|---|---|---|---|
| 1 | 2 | 3 | 4 | 5 | 6 |

5. Would you be willing to participate in a pilot study of this system by volunteering to be one of the professors that students are able to comment on. You would be contacted to verify your participation.
   _____YES _____NO

6. Are there any comments you would like to make concerning the service described in the cover letter? (Please use the back of the page for additional space.)

Appendix 9: Faculty Survey Cover Letter

February 8, 2000

Dear Faculty Member,

Thank you in advance for your time and participation in our study. We are WPI students working on an IQP, and your participation in this project is very important. Our project is the development of a system that will allow students to openly share their opinions about professors with others. The system will help students express positive and negative feedback that they might have, as well as help inform other students of WPI's many professors. The goal of providing this information is to help students choose a class when the teaching professor is a deciding factor. The opinions that students leave will be accessible to the faculty, but the student's identity will remain completely confidential. While students are encouraged to share their honest opinions, a censoring system will be used to prevent inappropriate remarks.

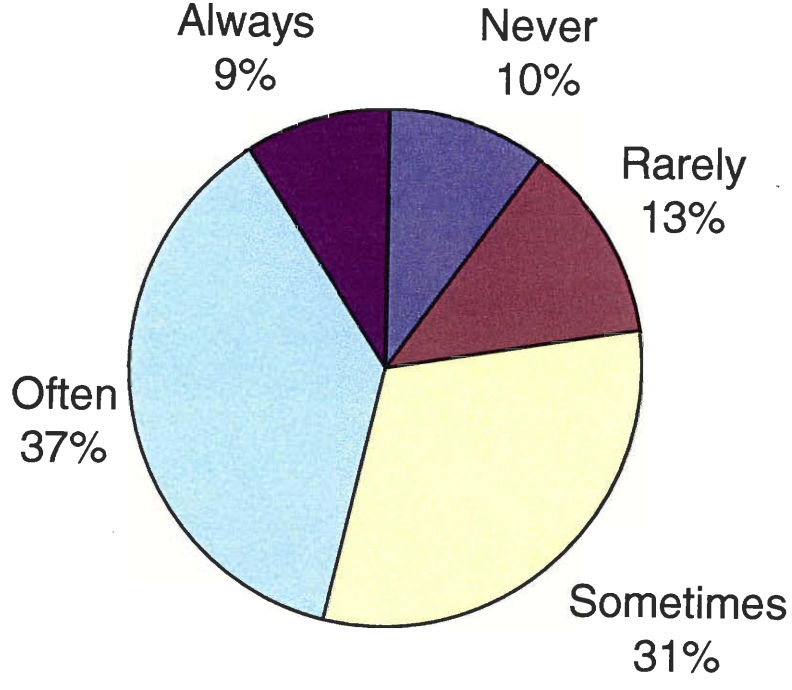
Your participation in this survey and all responses are completely confidential. You will be asked to answer several questions that will help us develop our service. A space will be provided at the end of the survey for any comments that you might wish to make pertaining to the proposed service.

When finished, please seal the survey in the accompanying envelope, strike out your name, circle the return address, and place the survey in the out-going mail for your office. Once again, your participation in this survey is invaluable to the successful completion of this project. Thank you for your participation.

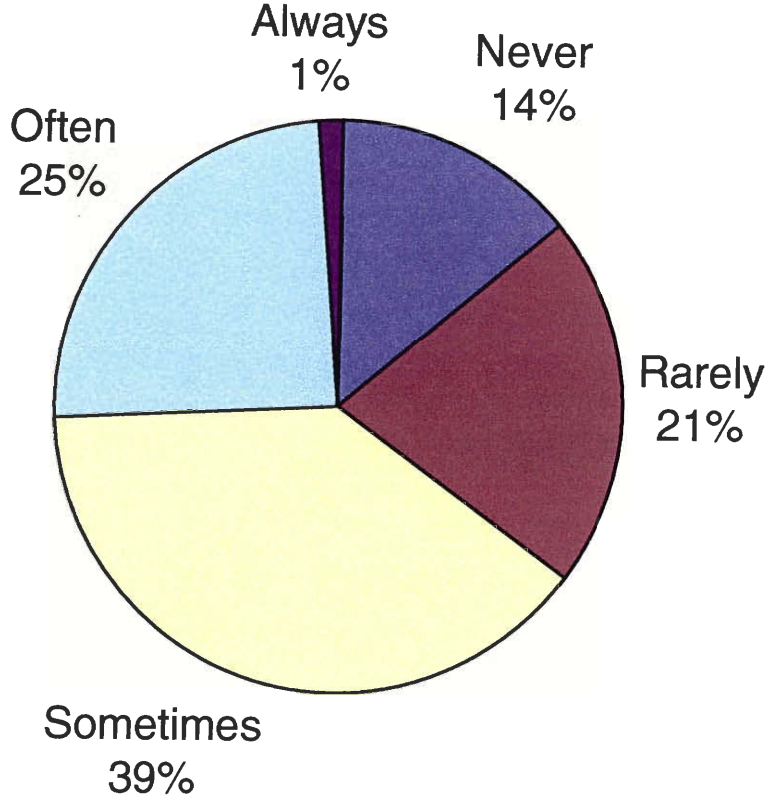
Sincerely,

James Heald
Jay Gould
Melissa Fenner

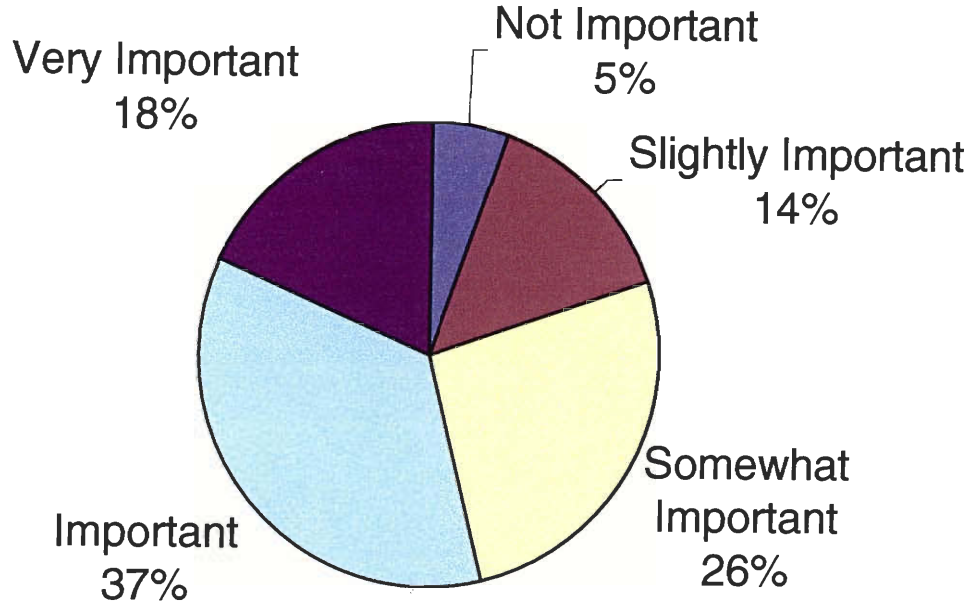
## Question 1: When choosing your classes, how often have you asked for other student's recommendations about a professor?



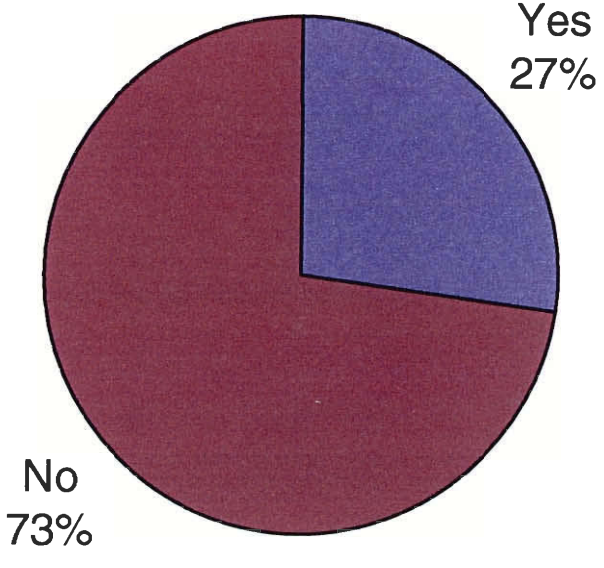
## Question 2: How often have you selected a class section based upon a professor?



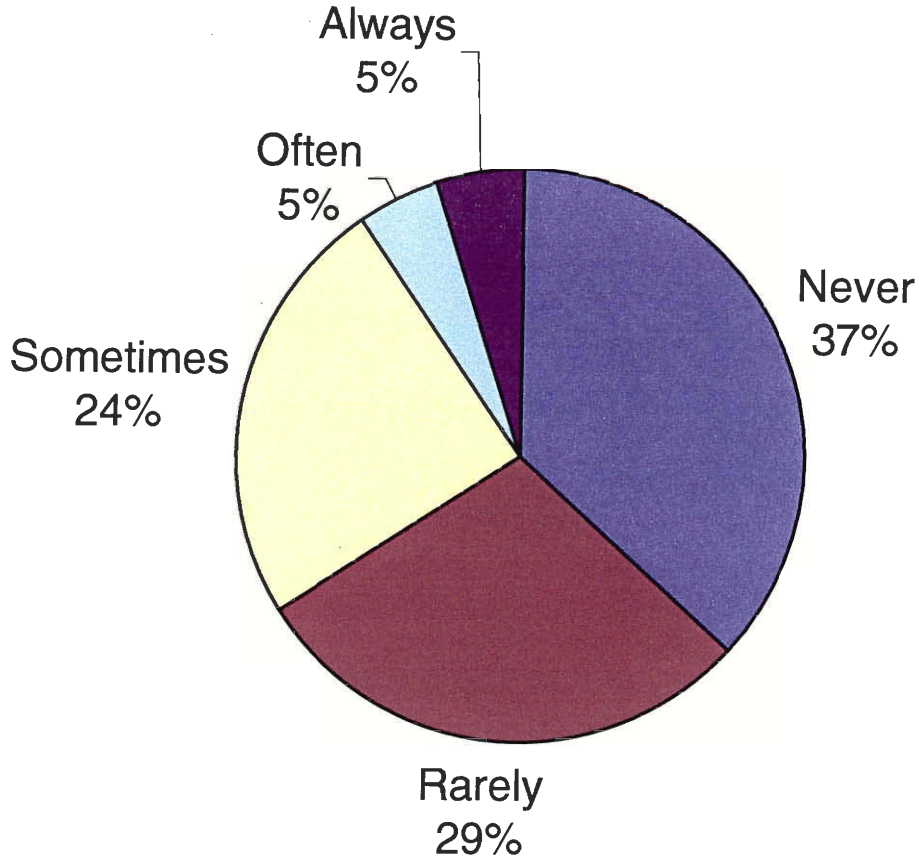
## Question 3 : How important is the teaching professor in your selection of a course?



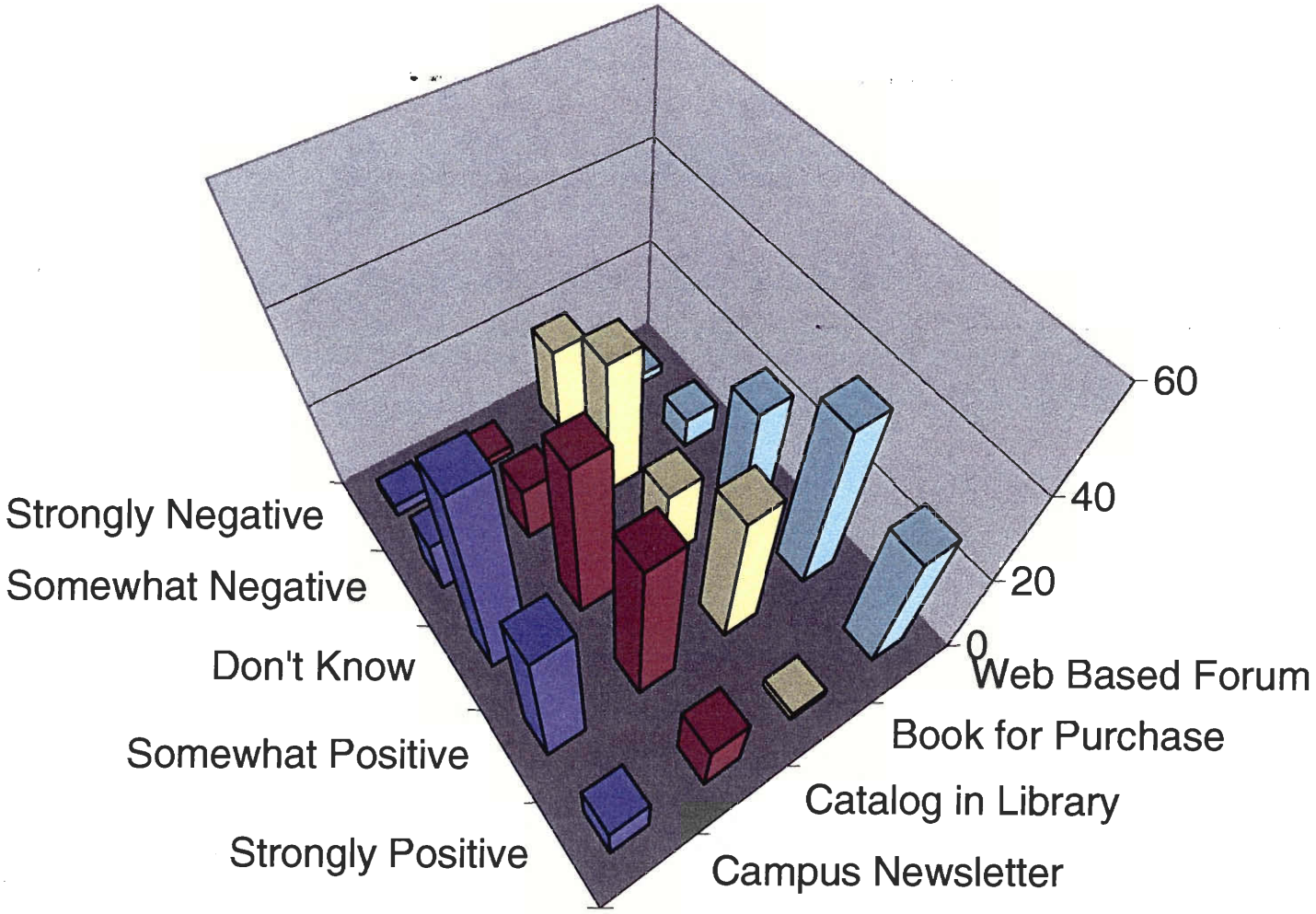
# Question 4a : Were you aware that the results from the front of the course evaluation blue-sheets are available on the web?



## Question 4b: How often have you used the statistical data provided on the web?

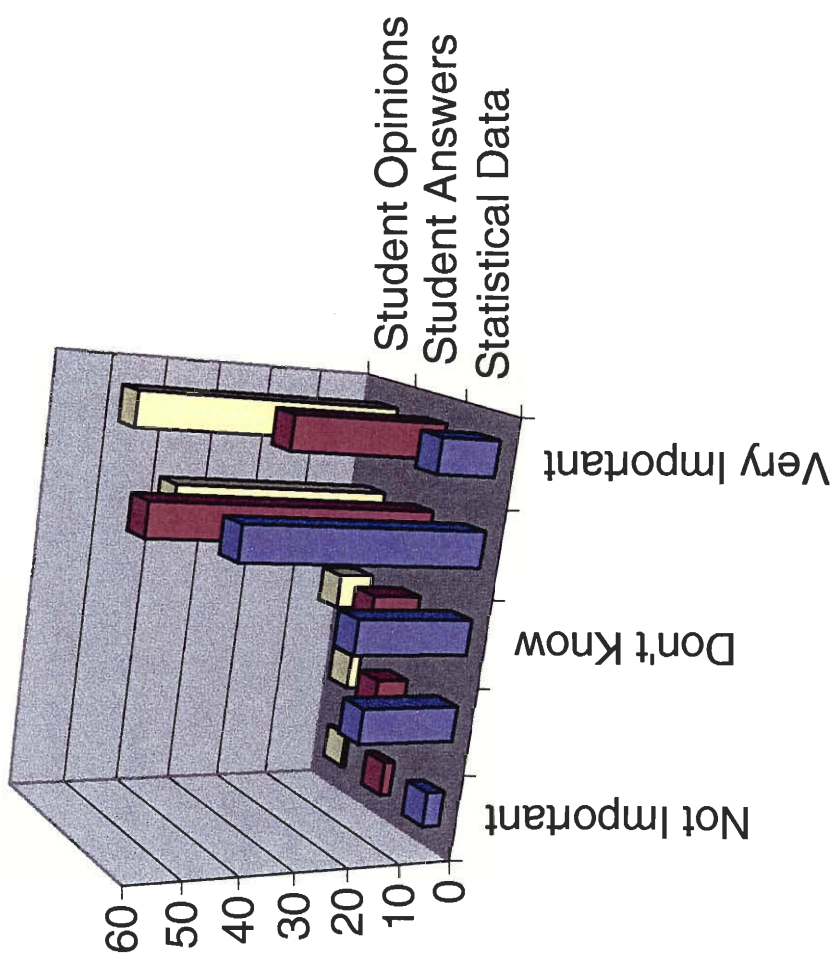


## Question 5: Rate how you feel about each information presentation format.

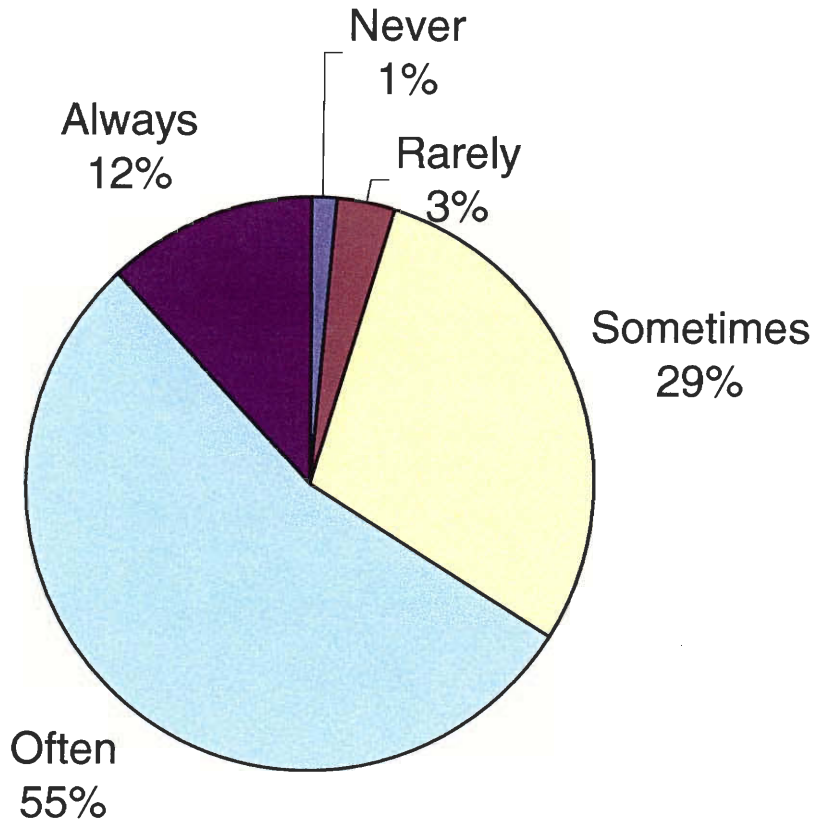


Appendix 16: Results of Student Surveys - Question 6

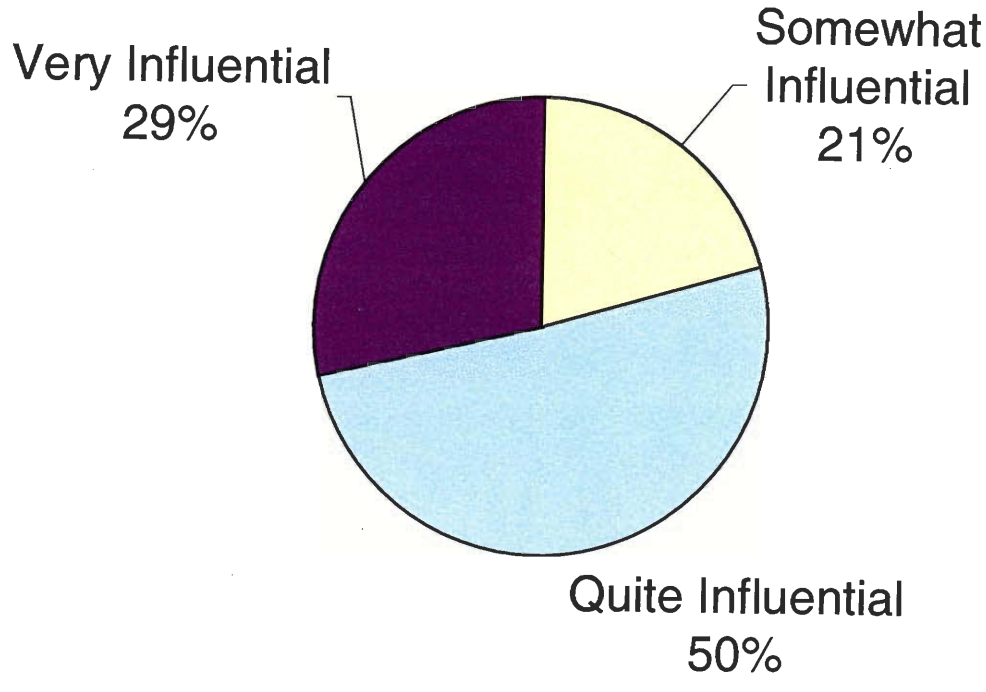
**Question 6: Rate how important receiving each type of information from a future evaluation system would be to you.**



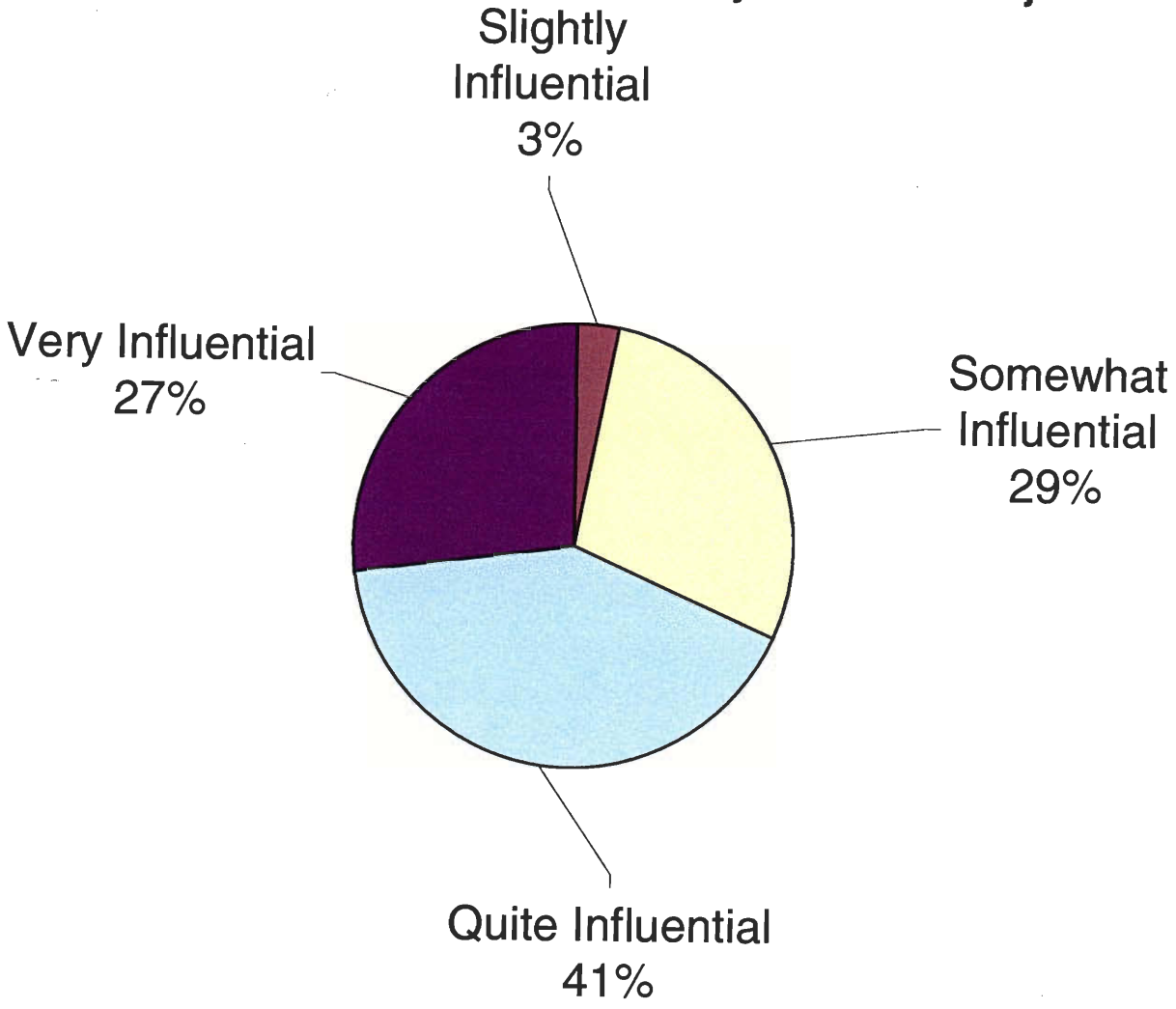
## Question 7: If this service was made available, how often do you believe you would use it?



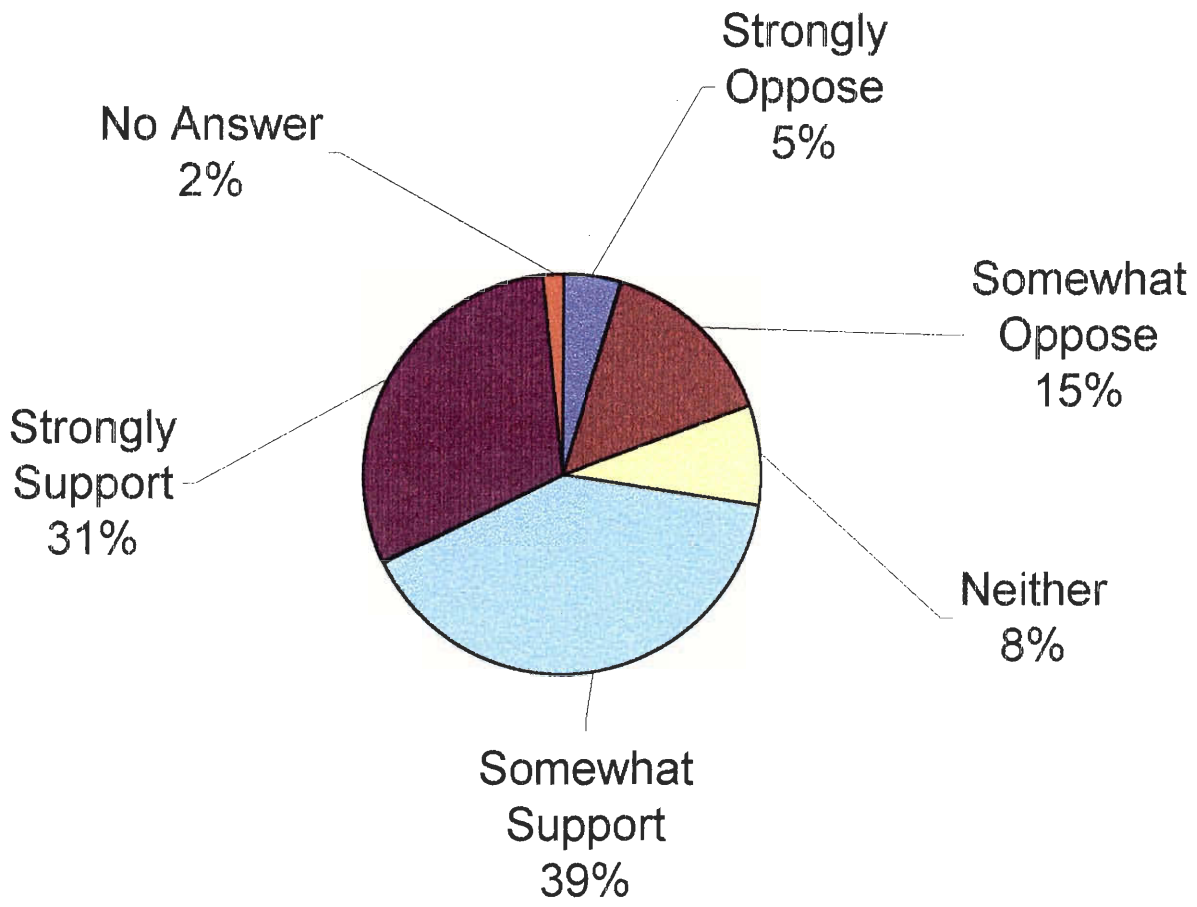
**Question 1: How influential do you believe students' opinions of a professor are to another student?**



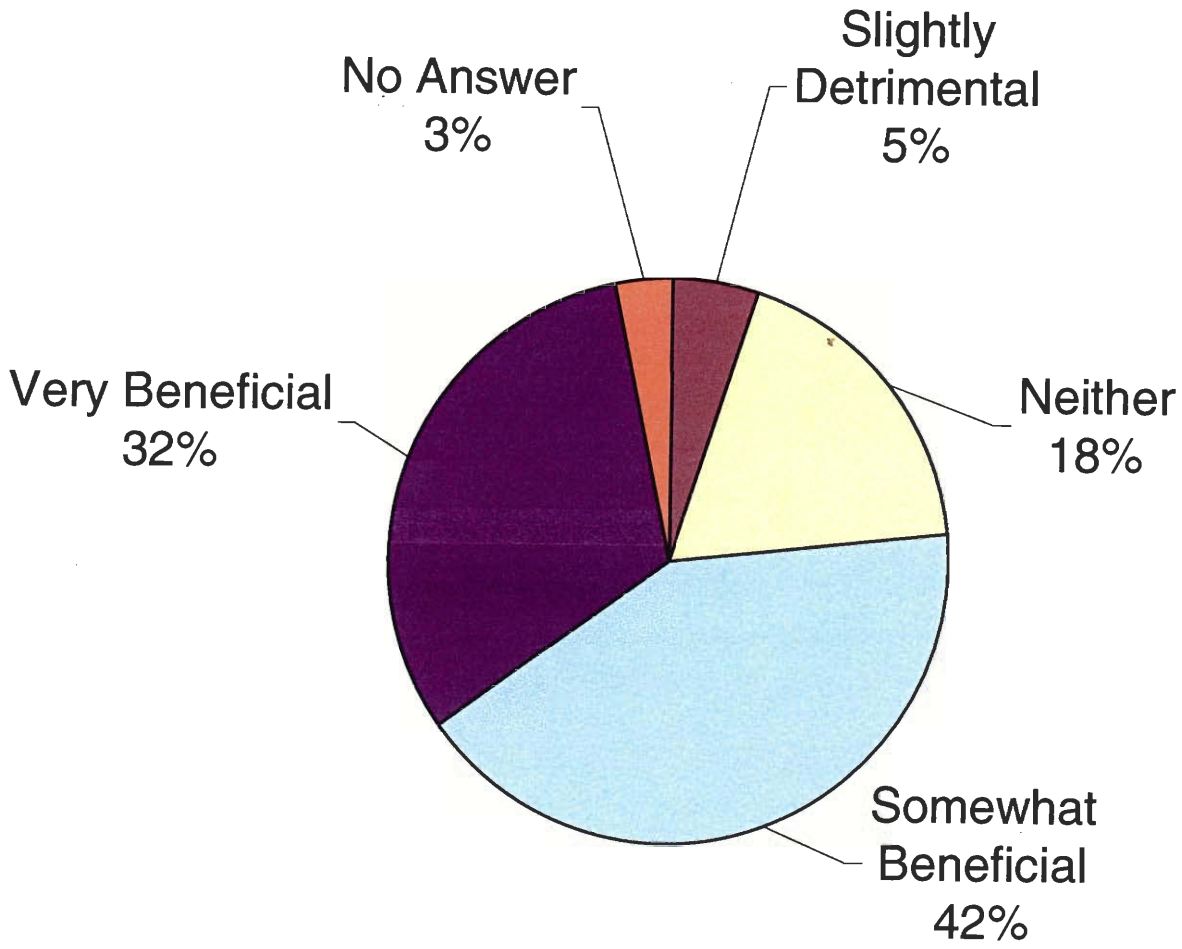
**Question 2: How influential do you believe the teaching style of a professor to be on a student's ability to learn a subject?**



**Question 3: How would you feel about a system in which studnts were allowed to openly voice their opinon regarding professor?**



**Question 4: How do yo believe it would affect your teaching if you were able to view the opinions that students expressed regarding you or your class?**



**Question 5: Would you be willing to participate in a pilot study of this system by volunteering to be one of the professors that students are able to comment on?**

# Appendix 23: Student and Faculty Comments from Surveys

**Student Comments**

- I think it is a great way to get students to interact about classes and give them the opportunity for better selection
- Sounds very useful, although I don't know how well the professors would react to it.
- Sounds like a good idea- as long as students rated their professor accurately as to their feelings. Currently I feel students are rushed when it comes to blue sheets. The professor gives them out during tests or in the last minutes of class.
- How do the professors feel about this?
- My only concern is that such an open forum would be a negative impact on some professors and they may feel rejected. I think students can get their information for professors now if it is important to them, whereas this may have a negative impact of name tossing and such. On the other hand, it could be very beneficial to students and faculty. Maybe just a more publicized campaign of what is available now would do the trick.
- It would be helpful and beneficial when choosing class sections, however, not everyone would get into classes with the "better" teachers and may go into other sections thinking negatively about the instructor without giving him/her a chance.
- It sounds like a good idea and a useful tool, however it must be limited to intelligent response.
- Sounds nice. Right now I'm a freshman in huge lectures, so professors aren't as important to me. When I start getting smaller classes where I will know the professor, I'd use this service.
- I think it is a great idea. I know it may also be tough though because usually the students who do well in the class love the professor and the students who did poorly usually hate the professor. Personally, I probably wouldn't listen to the opinions of someone at the top or bottom of the class- just students who are average.
- The results should not be censored. The students' actual responses should be heard.
- If you do implement the web-based forum, you should design it very, very, very carefully.
- I've never had the option of different professors for an important class. I'm a biochemistry major.
- Excellent idea- just make the system sensitive so that we don't tick off the professors people may not like because of personality clashes/ popularity.
- I feel that negative feedback can hurt teachers and that these things aren't very useful. I think that as long as the information is private and has no bearing on the teacher's position it is good.
- As a chemistry major we don't have much choice in the professors we get to have as only a spattering of courses are actually taught more than once a year and by more than one professor. I also believe that the opinions of others are not my opinion. I think many professors teach well, but students want to get them back for getting a bad grade.
- Go for it! You would certainly make students' lives better by providing them with that inside knowledge- at least those with access to the material which is why you cannot SELL it, some of us don't have the money.
- I just want to point out that students will often put unreasonable or rude things on evaluation sheets, and maybe there should be a way to filter through crap like that.
- Knowing how students respond to a professor will/can determine if I take that class.
- If and when it is implemented, there needs to be a widespread word of what it is and what it can be used for.
- There should be a section for advisors as well as class evaluations. Some professors are better than others when it come to sufficiency, IQP, and MQP or a major advising.
- I think, depending upon evaluations, that there should be repercussions against professors that consistently have bad comments.
- I think this is a great idea as most of the people I know are concerned about who the instructor is. Maybe you could also add the previous exams or sample exams for a particular course and a syllabus so the students will have more knowledge as to what this course contains or offers to a student.
- I tend to not rely on other people's opinions of professors because who I find to be a good professor is different from other people.
- For many classes I take, there is no choice between professors, so that is why I don't choose the classes based on professors more often.

Appendix 23 (continued): Student and Faculty Comments from Surveys

- I think it's a great idea. It would be a big help for students, and it could encourage the faculty to do a better job if they know people will have easy access to their reviews.
- It sounds like it would be a good idea, it would give students a forum where they would be more careful with their answers, because I know that I don't really care about the blue sheets. Also, this way more students would be able to access information that is important for our classes.
- My only concern is that a student who failed a class due to lack of studying on his part would blame the professor and give false reports on his/her performance as a teacher.
- Anything published should be free or as inexpensive to students as possible.
- I think that if the service was known about and used by students, it would up the professor's teaching standards. No one wants a bad evaluation. Also, the reason why the blue sheets don't work is because no one knows about them.. Make sure your information is advertised.
- I believe this is beneficial to all students but it may cause some controversy with the professors.
- This is a valuable service, more students should know about it.
- It would be good only if everyone knew it would go on the web. Otherwise people wouldn't answer honestly.
- I like the premise of the idea, however, I and several other students would believe that such inputs could prove detrimental since some professors may be able to discern which students said what, regardless of confidentiality.
- It's a good idea. Last quarter I was stuck with a calculus professor that could hardly speak English. If I had known this I would have surely changed sections.

**Faculty Comments**

- This duplicates and therefore dilutes the current teaching evaluation forms. I read the comments to my class each term. Of course the statistics are available to everyone. Most students on the current evaluation forms do not comment. It appears to me that you are likely to gather only (or mostly) negative comments without being able to assess what percent of the ... these comments came from. One thing with the current system that is valuable is that a form is handed to every member attending the class on a given day. Therefore you are able to assess the percent of dissatisfied customers, the percent of very satisfied people and those that were neutral. I think that the type of system you propose will greatly skew that information.
- We have such a review system for journal papers. In many cases, the "blind" review process gives the reviewer the courage to be arrogant and petty. Given the importance of such information, and the effect it can have on faculty tenure and promotion, I am very uncomfortable with the idea of making that sort of information publicly available. I think that the system currently in place (on-line evaluation scores and word of mouth) is fair, and more than adequate.
- If your questions are not chosen with great discretion and applicability to every single class in the whole university, the questionnaire will turn out to be a failure and an injustice to courses, professors, and students.
- You will have to train the students to assess teaching. Current course evaluation forms already carry popular opinion, but students are not as proficient with teaching style/pedagogical issues.
- I don't think remarks should be anonymous. Students should be made aware that exposure to different teaching styles is something good for them. One has to learn to interact with different people.
- Strongly support if during time in which course is being given.
- My only concern about such a system (which I have observed in other places I've taught) is that not knowing who the student is makes it very hard to evaluate the validity of their comments. For example, a student who slacked off might be tempted to blame the professor for his failure, rather than owning up to his own role in his dissatisfaction with the class. I would encourage you to think about using an open ended questionnaire that asks the student to identify the level of their own effort so that the people assembling the comments can more easily determine whether the response is an effect of something other than the faculty member's teaching style. Students need to understand themselves as responsible for their own learning and they need to understand that they are as important as the professor in determining whether they have a successful experience in the classroom.
- One hundred years ago at my alma mater (Purdue) they had a pretty good system for doing this.

Appendix 23 (continued): Student and Faculty Comments from Surveys

- There needs to be some place in the survey for the student to comment on how difficult they feel the course is.
- Published reviews of professors and courses sounds like a wonderful way of promoting a thoughtful dialog on teaching. I'm all for it!
- Sounds like a good idea. I already give my students an additional evaluation form tailored to each course so as to give and receive extra input.
- What qualifications do students have to assess teaching other than being a student? Probably none, since they're never taught.
- I strongly suggest allowing the professor to respond to the comments on the same page - kind of like Amazon.com's pages. If a student says that professor x wants too much homework, then the professor could explain her/his philosophical reason for requiring lots of homework.
- In the present system the student's evaluations of the professors (open, available for everyone to read) are accomplishing a lot of what you propose.
- It would be nice if student s could give their opinion not only during the course or immediately after, but also two or three terms down the road; and maybe later. I think that the students' perception of what is good and what is useful changes dynamically over time. When I'm trying to drill the students in some particular skill, they might not believe it is important. Two years later they might be glad they learned it. And of course the opposite is also possible.
- Students already comment via blue sheets and these numbers are available for other students to see. That is enough. I already get enough feedback from blue sheets.
- Maybe it would encourage better class attendance.
- I think that this process of sharing honest opinions already happens anyway. I hope too that faculty find ways to solicit honest opinions anonymously from students. Also, for some faculty (especially new faculty) student comments made public could be devastating to their confidence. Many students, perhaps even most, do not know how to give constructive negative feedback. An off-the-cuff comment or joke at the faculty member's expense could have a lasting negative effect. How you define "inappropriate remarks" and how you implement such a censoring system would be critical.
- Students already voice opinions through course evaluations. I find most course evaluations to be imprecise or misleading.
- Find a better way to communicate and create accountability than to let the noisy critic rule. I don't support the concept, so however confident I am of the outcome I can't participate.
- Hire/fire decisions should not be based on this input.

Appendix 24: Survey for Faculty Involved with Website

Dear

Thank you for participating in our teacher evaluation website pilot study. We would appreciate it if you could give us some feedback regarding your experience with this study. The URL is http://www.comfusion.org/WPI and you can login using,

Username: wpistaff
Password: w4enpxei

After you have filled out this questionnaire, please return it using the attached envelope. Thank you once again for your participation and feedback.

Sincerely, James Heald, John Gould, Melissa Fenner

1. Were you initially concerned about the maturity of the student comments?

2. Did you feel the students posted maturely and in a constructive manner?

3. Did you find the comments posted to be helpful?

4. Do you have any recommendations for changes to this system?

5. Did you find that these comments were repetitive in relation to the evaluation forms that are already available?

6. Any other comments?

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