The tables below show the number of students on the Plan and the number of students in the traditional program who took the examination and either passed or failed it. The most striking finding from the data is that there was a statistically significant difference between the scores of the Plan students who took the examination and the non-Plan students who did likewise. The Plan student group averaged 86.46 in their scores (this includes scores both of those who passed and who did not pass, assuming that those who did not pass received the highest possible failing score, i.e., 65--the Board would not make failing scores attributable to us in any manner); while the non-Plan students figured on a similar basis received average passing scores of 78.37.

In the State, of those who took the examination, 88% passed (average score not given). At WPI, 92.5% of the Plan students who took the examination passed it and their average passing score was 84.8; for the non-Plan students, only 83.7% passed the exam and their average passing score was 80.6.

In brief, no matter how one examines the data, it is readily apparent that, on this particular index of engineering competency, there is no way that one can say that the Plan students did not surpass the non-Plan students to some extent. Although this index is only one indication of actual engineering competency, and many other factors must be taken into account, many professionals in the field regard the EIT test scores as significant and "hard" data which indicates the value of a person as an engineer. This EIT result then, points to the value of the Plan in terms of increasing measured competency--as viewed by the accrediting agency--as one of its results.

A further examination of EIT test scores for WPI students in previous years (see Appendix F for this information) indicates that over the past three years, WPI has been generally improving itself in terms of these particular scores. Since the examinations vary from year to year and the passing levels and
PLAN/NON-PLAN COMPARISON

c > 9.0
p < .001

PLAN STUDENTS

80-84
75-79
70-74
65-69
60-64
55-59
50-54
45-49
40-44
35-39
30-34
25-29
20-24
15-19
10-14
5-9
0-4

NON-PLAN STUDENTS

80-84
75-79
70-74
65-69
60-64
55-59
50-54
45-49
40-44
35-39
30-34
25-29
20-24
15-19
10-14
5-9
0-4

28
The WPI Plan, with its heavy project, experiential component has clearly had a positive effect on Plan and non-Plan students in industrial placements during the past three years. It was felt that an indication of the caliber of student that some of these industrial sponsors were questioning. A questionnaire (Appendix E) was developed aimed at determining the hireability of these students and the competencies they displayed or failed to display in their placements for Plan students. The students' responses will be discussed under student self-assessment of competency. As far as potential employers were concerned, their evaluations were extremely positive.

Employers were questioned about their students at the end of the 1974 academic year and twice again during the 1975 academic year. Results are based on a combination of these three waves of questionnaires and are from 167 different industrial sponsors. The questions involved the students' preparation, interaction with the industrial staff, accomplishments on the project as viewed by the sponsor, and how they ranked as potential employees.

The table below indicates the results.

Clearly the WPI Plan students were seen as competent in on-the-job situations. The fact that 91% were rated as hireable is a tribute to the students and their "good" (44%) or "outstanding" (47%) preparation. Their additional (structured) comments were uniformly positive (see Appendix E for full list) and focused most often on the skills which students possessed to do the job at hand.

---

1Non-Plan students did not necessarily or usually participate in projects. The data presented here are for Plan students alone.
Table 3. Project Sponsor Evaluation Questionnaire Results

<table>
<thead>
<tr>
<th></th>
<th>Outstanding</th>
<th>Good</th>
<th>Average</th>
<th>Fair</th>
<th>Poor</th>
<th>No Opinion</th>
<th>N</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparation</td>
<td>39%</td>
<td>57%</td>
<td>12%</td>
<td>2%</td>
<td>1%</td>
<td>--</td>
<td>167</td>
</tr>
<tr>
<td>Imagination</td>
<td>41%</td>
<td>59%</td>
<td>11%</td>
<td>3%</td>
<td>--</td>
<td>--</td>
<td>167</td>
</tr>
<tr>
<td>Interaction</td>
<td>33%</td>
<td>43%</td>
<td>13%</td>
<td>4%</td>
<td>1%</td>
<td>4%</td>
<td>162</td>
</tr>
<tr>
<td>Aims Achieved</td>
<td>28%</td>
<td>60%</td>
<td>6%</td>
<td>4%</td>
<td>2%</td>
<td>--</td>
<td>163</td>
</tr>
<tr>
<td>Hireability:</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Under any business conditions</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>48%</td>
<td></td>
</tr>
<tr>
<td>If business conditions were good</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>45%</td>
<td></td>
</tr>
<tr>
<td>Only if no other candidates available</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>6%</td>
<td></td>
</tr>
<tr>
<td>Not under any circumstances</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td>17%</td>
<td></td>
</tr>
</tbody>
</table>

5. STUDENT SELF ASSESSMENT OF COMPETENCY

Students were asked in questionnaires and in interviews about their competence in a variety of ways. In several interviews they were asked what they felt "others" would think of them when they had graduated. At WPI, more than half of those interviewed said they felt others would think they were competent in their fields. The rest had no specific answer to the question. In Questionnaire A, students were asked about their satisfaction with their own level of competence in their major field.

In terms of satisfaction with their own competence, students at WPI generally felt slightly satisfied—as did students at the other schools—averaging 3.4 on a scale where 1 = strong agreement or satisfaction and 7 = strong disagreement or dissatisfaction. There were no significant differences on this particular item (Questionnaire A, item #15) among schools, between Plan and non-Plan students, or between students of different years at WPI.

Students were also asked to describe themselves in terms of forced adjective pair choices, e.g., "good-bad," "purposeful-aimless," etc. Student self-concept as evidenced by the semantic differential choices similarly revealed few and small differences when various types of comparisons and statistical analyses
Although the results are not as clear as one might expect, it is evident that the students at WPI generally felt they were more competent in problem-solving than was the case in other schools. Among the factors contributing to this difference, the on-the-job engineering competency is particularly important. Students at WPI felt that they had learned much from on-the-job situations, and that this learning was closely related to their competency in specific project situations. Students at WPI also felt that their competency was nearly as high as those of the comparison schools, as reported by their sponsors (see Table 6 below).
### Table 1. Rating questionnaire Results (selected items)

<table>
<thead>
<tr>
<th>Item</th>
<th>Outstanding</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>Preparation</td>
<td>10</td>
<td>68</td>
<td>16</td>
<td>1</td>
</tr>
<tr>
<td>Performance</td>
<td>9</td>
<td>65</td>
<td>10</td>
<td>--</td>
</tr>
<tr>
<td>Adaptability</td>
<td>3</td>
<td>87</td>
<td>12</td>
<td>--</td>
</tr>
<tr>
<td>Per related</td>
<td>62</td>
<td>57</td>
<td>10</td>
<td>1</td>
</tr>
<tr>
<td>Ability to use equipment</td>
<td>24</td>
<td>65</td>
<td>12</td>
<td>--</td>
</tr>
</tbody>
</table>

## 2. STUDENT PERFORMANCE IN SCHOOL: GRADES

Even though WPI went to a Distinction/Acceptable/No Record system, it is possible to compare the performance of students under the WPI Plan with the school's previous history of grades earned in the following manner. If Distinctions were equated with A's, and if Acceptables are equated with B's and C's, we can examine the figures or percentages for the school, finding that the percentage has not changed; in fact, Plan students seem to be doing better.

### Table 7. Grade Distributions

<table>
<thead>
<tr>
<th></th>
<th>Dist/A (%)</th>
<th>Pass/BC (%)</th>
</tr>
</thead>
<tbody>
<tr>
<td>1971-72</td>
<td>25/31(^1)</td>
<td>49/43%</td>
</tr>
<tr>
<td>1972-73</td>
<td>26/28%</td>
<td>52/52%</td>
</tr>
<tr>
<td>1973-74</td>
<td>19/26%</td>
<td>57/61%</td>
</tr>
</tbody>
</table>

\(^1\) In 1971-72 the non-Plan grades were predominately those of seniors who traditionally receive a higher proportion of "A" grades than students in lower classes. This is reflected in the 41% of "A" grades given to that group.
In terms of measurable competency it seems that the
WPI Plan is continuing to attract as competent a group of
recruits as in previous years and that those in the program
succeed exceedingly well in job-oriented projects both as
evaluated by project industrial sponsors and by the students
themselves. Furthermore, the quality of their academic work
under the Plan is equivalent or slightly better overall than
that in the institution of this new system, as are their EIT
scores, an external index of competency in engineering.

3. Students’ Self Concepts

Expecting a new program to change students’ self concepts in some global
manner during the brief years in which the Plan has been in operation is a major
expectation indeed. Since self concept is such a broad notion in and of itself,
and measuring it would usually involve an intensive clinical case study type of
approach to a selected sample of individuals, we neither expected nor hoped to
find many significant results in this area. We did, however, in our attempt to
evaluate as broadly as possible the potential effects of the Plan, look at self
concept in three different ways. First, we used a version of Osgood’s Semantic
Differential to measure students’ notions of self, ideal self, and others about
them, which was administered in the form of a questionnaire to a random selection
of a third of each of the three school’s student bodies. This data was then

\[ \text{Dr. Jane Levinger of Washington University is conducting a longitudinal study of the ego-development of WPI Plan students which is quite thorough with respect to this single variable, i.e., self concept.} \]
analyzed in terms of self-concept of all students at WPI, of differences between Plan and non-Plan students at WPI, of differences between Plan and non-Plan students in the class of '75 at WPI (the class that was 50% Plan and 50% non-Plan); WPI students were then compared with students at CCIT and SIT in terms of these scores. The second method which was used to measure self-concept was more indirect—we found indications of changes in self-image in our repeated sets of structured interviews at WPI. The results of the responses to those standardized interviews were compared with the responses to the same standardized questions administered to students at CCIT in small group interviews. Comparisons with SIT on the interview dimension were not possible longitudinally since SIT entered as a comparison school only in the final year of the study and, indeed, would be inappropriate for the student groups interviewed often contained graduate students.

The final source of information we had concerning student self-concept again emerged from an open-ended question which appeared in Questionnaire A (administered to a third of the student body at each of the three schools involved in the study)—the question was: "What do you feel are the most successful accomplishments of the program at your school." As with the interview format, we again found differences in the area of self-concept in the responses of WPI students and students at CCIT.

The remainder of this section deals with the few significant findings which emerged and discusses their directions. All of the interview and test synopses and results are available in the Appendix for the reader to examine in depth.

1. OSGOOD'S SEMANTIC DIFFERENTIAL

The Semantic Differential—which was used to measure images of "self," "ideal self," and "others"—was developed and included the three general factors
In contrast with the other schools, we found large, significant differences in the total scores and in each of the three major dimensions.

A T-test was performed on the SIT data obtained from the P-Plan for the 177 participants who took the test. The particular instrument, the INT instrument, was significantly different on only one of the three major dimensions.

More to the point, there was a relatively significant difference only when the SIT data was separated out of the WPI external comparisons and compared to the SIIT data. This suggests that it appears from the data that students in the student groups do slightly more complex than senior groups. In other words, these seem slightly more complex than the student groups, which are the only two, significant at the .05 level. (It is noted that only one adjectival comparison out of the set of 160 was found to have a statistically significant difference.)

In conclusion, the two groups, were involved but for fewer when WPI and CIT were compared. It is inappropriate to use SIT for comparison purposes on this data because the data were in so many ways different from the data bases of SIT and CIT, with respect to age, maturity and position. When one removes the senior students from the SIT pool and attempts to compare WPI, CIT and SIT outside of senior students, the SIT number becomes quite small. Therefore, comparing WPI with CIT, we find that only four of the sixteen dimensions were there relatively significant differences. In brief, we find that WPI students feel that they are slightly more stable, more broad, more flexible, and less wise than their counterpart in CIT view themselves. Although the differences between the student population responding to this set of items were not large, they were significant, and indicate that if one were to examine more closely, with better instruments, the time and money to use a clinical approach, one

...
...But we also found a difference in self-concept and nature of change among WVU students. 

In the questionnaire, the self-concept concept was measured by questions: 

- How do you rate your growth this year (1971)? 
- What do you think people will think of you 10 years from now? 
- What do you think people will think of you when you graduate? 
- What do you think other people will think of you when you graduate? 

When we used a third form of probing for self-concept information, i.e., an open-ended essay question administered through a questionnaire, we found one interesting difference between WVU students and COT students. The question was, "What do you think are the most successful accomplishments of the program here?" and the responses were analyzed in terms of freshman and senior responses..."
The most successful accomplishments are not always the ones measured as vocational outcomes. By far the most common achievement of the kind observed by the students at WPI is related to the "I". This work is part of the academic curriculum; students are required to gain a hands-on experience to see what life is like in the real world, to see the value of working and to deal with people of other disciplines. A common comment at WPI is that the development of self-reliance, perseverance, respect for others, and character development were also major accomplishments at WPI.

When drawing any statistical conclusions from this kind of information, it is interesting to note that the entire "set" of the WPI students understands that each unit of consciousness of what their programs is doing comes a little closer to a variety of dimensions, e.g., learning decision making, self-reliance, understanding the value of project work, etc. At CCT we are not aware of the accomplishments of the school and of themselves somewhat more in the realm related specifically to career preparation and post graduation. It seems that students at WPI are more acutely conscious of the...
participating in the Plan, the degree of interest and excitement among the stu-
dents has been low. The students feel that they are being forced to com-
plete a new skill set by their studies, which is not to be expected in
least of all that the long-term goals and objectives of the Plan, as well as
its perceived and publicized purpose, will be fulfilled for students stu-
dents. Beyond that is a direct preparation for an engineering career.

At this point in time, it is probably fair to say that in terms of self-concept, the SPI Plan is making students
more aware of and aware of their capabilities, their
responsibilities, and their possibilities for growth in direc-
tions beyond that of a traditional engineering career.

Although some students in the control school individually and
selectively mentioned these aspects of their educational pro-
grams and the relationship of these components to their own
development, these who did were far fewer and their responses
were not predominant in this area. In a sentence, it would
appear that the Plan, or the Plan's rhetoric, is penetrat-
ning through student consciousness to some extent and that students
feel somewhat differently about themselves as documented
partially by semantic differential results and other means
of obtaining data, i.e., interviews and open-ended essay
questions responses than students in comparison programs.
In addition, several interviews were conducted. The findings, which are summarized here, suggest that the attitudes of MPH students differed significantly from those of the other students at NIH in terms of: (1) attitudes towards the school; (2) specific attitudes towards the school; (3) attitude towards the school, prior to coming to NIH.

ATTITUDE TOWARDS THE SCHOOL, PRIOR TO COMING TO NIH

In general, indicators of attitudes toward school are reflected in students' past of applying or attending and how high the school ranked in their surveys when they were applying. There were no statistically significant differences in how each school was ranked as reported by respondents to Questionnaire A for its general student body. Nearly 80% of the students at all three schools indicated that their respective school had been their first choice (see Appendix for percentage figures). There were, however, significant differences in their reasons for choosing the school. Forty-two percent of the MPH students mentioned the plan as a specific reason (with only 10% mentioning the general school program in the comparison schools). This finding, coupled
the influence of the school on the performance of students. In order to do this, the study was designed to:

1. Determine how well the students were prepared for college, as indicated by their scores on the SAT and ACT exams.
2. Assess the students' attitudes towards their school and their future plans.
3. Evaluate the students' perceived difficulty of the curriculum.

The study found that the students at the three schools differed significantly in their SAT and ACT scores, with the students at School A scoring the highest, followed by School B and School C. The students at School A also reported higher levels of satisfaction with their school and their future plans, as well as a greater perceived difficulty of the curriculum.

Furthermore, the study found that the students who attended School A were more likely to attend college and pursue a higher education, while the students at School C were less likely to do so. The students at School A also reported higher levels of satisfaction with their school and their future plans, as well as a greater perceived difficulty of the curriculum.

Overall, the study suggests that the school has a significant influence on the performance and future plans of its students. The authors recommend that schools strive to improve the quality of their programs and to support their students in their future endeavors.
The pattern is that variation is interesting and predictable. SPI, in introducing the films, gave them a less "nervous" state than CCT or SIT at the same point in time. Hence, finding 1 and 2, i.e., that the faculty and students are both "more" involved in the process and a greater lack of certainty about what was going on, SPI students are also working harder, see less need for comparison with the need, and are spending more of their time working at the school, is the "core of the" Section D. Such attitudes reflect the reality of the transition and demands of the new program.

When used more their program in a different fashion (adjective pairs of comparison, there were still some significant differences. Again the synopsis will point these findings that are statistically significant. (Statistics and levels of significance for all items appear in Appendix C.)

1. SPI students, although finding their program purposeful, found it less purposeful than comparison school students,

2. SPI students, although finding their program strong, felt it less strong than do students at the comparison schools,

3. SPI students found their program more active than comparison school students,

4. SPI students found their program less stable or more changing than students at the comparison schools,

5. SPI students found their program more hopeful than students at the comparison schools,

6. SPI students found their program broader than comparison school students,

7. SPI students found their program faster than comparison school students,

8. SPI students found their program less cautious than CCT and SIT students,
WPI students found their program more flexible than COT and SIT students, and
WPI students found their program more complex than comparison school students.

WPI student views of the faculty at the school (given the same grid of adjective choices) were not as clear cut.

Attitudes toward the student body (again on the same grid of adjectives) indicate that WPI students think other students at the school are less good, more changing, more broad, more fast, less cautious, just as wise, as students at COT and SIT perceived their respective student bodies.

Perhaps not too much should be made of these student perceptions other than that they indicate to some extent a school in a state of flux and that the general direction of that change is active, hopeful, broader, faster, less cautious, more flexible, and more complex. The faculty and students are not precisely in tune with the envisioned and perceived program.

A further indication of student attitudes toward their school and its program can be gleaned from their essay responses to the question, "Pretend someone similar to yourself, but younger, asked your advice about coming to this school, what would you say? Why?" (Questionnaire B). This data has been analyzed thus far only for WPI students. A random sample of 50 responses of students was categorized and coded. Apart from six students who would recommend not coming because of the lack of girls and lack of a social life, the remainder were positive and/or gave the following kinds of advice:

6 Yes: very good school for learning; enjoyable courses, faculty, opportunities in abundance
5 suggest that they have a pretty good idea of what they want to go into; have a major in mind; person should be interested in learning, not just in getting a degree--need high motivation
4 don't be put off by "Braggarts"/"robot"/strange people here
2 must be prepared to emotional depression, high expenses; able to survive with little or no social life, work hard
It is interesting that the negative feelings about the school seem to center on the role of a social life rather than the newly introduced grading system. This is in the area of work and importance of self-direction in the range of student responsibility indicates that the motivational hopes of the Plan are more experienced as realities by students in its implementation.

Attitudes towards the school were elicited through small group and individual interviews were much more detailed than those reported above and generally involved attitudes towards specific components of the Plan or the school, e.g., seven-week terms, grading systems, negotiated admissions, etc. It is more appropriate to report on and examine these findings in the second part of this report, Implementation, than in this section. For the interested reader, however, a complete set of categorized interview responses appears in the Appendix for each school and for each wave of interviewing.

4. EDUCATIONAL GOALS

Along with differences in attitudes toward the school as evidence in reasons for coming, and attitudes while there, there were some differences in educational goals found between WPI students and those at the comparison schools. Two major sets of questionnaire items relate to these goals: (1) post graduate goals—plans after finishing school and (2) a set of sixteen items relating to educational and lifestyle goals (both in Questionnaire B). There were statistically significant differences among the schools on both types of items.
1. Per-graduate Goals

Eliminating SI data from consideration, it appears that a large percentage of respondents were in M.S. programs; we find that 2.2 of WPI students anticipate going on to graduate school while only 1.9 of CI students do. About half of each school expects to go directly to work. The remainder are undecided (13.9 for WPI and 16.0 for CI), or are aiming for the military.

2. Educational and Life-long Goals

Once again eliminating SI data from consideration, we find that in comparison with CI, WPI students feel it is:

1. More important to develop the desire and capacity for life-long learning,
2. More important to become an interesting individual person to yourself and others,
3. More important to be of service to others, and
4. More important to change the world for the better.

Although many educational and life-long goals students at all three schools agree, it is interesting that where there are differences, they once again reflect hopes or goals of the Plan, e.g., capacity for life-long learning and societal awareness and involvement.

SUMMARY--ATTITUDES AND EDUCATIONAL GOALS

WPI Plan students in selecting WPI seem to be more influenced by the program at the school than students at comparison schools, although the program at all schools was an important consideration for students prior to coming. Nearly 50% of students at all three schools were at their first choice school. Another significant factor at WPI and CI was
D. Composition of the School—Student Background and Ability Factors

In order to see if the characteristics of the student body at WPI changed over time, the American Council of Education Test was administered to all entering freshmen at WPI during Orientation Week of the past three years. This test was also administered at CCT and SIT in the same fashion and to the same entering freshman groups for the past two years. This information (see Appendix A) allowed us to look at changes at WPI in comparison with changes at the other schools in terms of many factors such as age, race, high school experience in terms of type of program and grades received, purpose for coming and educational goals, socioeconomic level (family occupations and income), financial resources and aid, anticipated major field of concentration, probable career or occupation and reasons for that choice, type of residence
planned at the school, political orientation, objectives considered essential or important in life, attitudes toward government and politics, marital status, etc. In addition, two schools involved (WPI and CCT) inserted ten questions of their own devising which also related to the areas mentioned above.

The easiest way to characterize WPI, CCT, and SIT in terms of these findings is to say that WPI and CCT were virtually twins in the patterns of response to the entire set of questions (with a few exceptions to be explored below). WPI and SIT were also related but more like first cousins, i.e. WPI and SIT students differed more on several dimensions such as racial background (10% fewer Caucasians at SIT), highest degree planned at the school or anywhere (somewhat lower for SIT), family income (somewhat lower for SIT), family educational attainment (somewhat lower at SIT), etc. The differences, although visible (i.e. greater than 10% between schools), were not, in fact, tremendously large except in a few instances which relate to reasons for choosing the school—something reported previously from another data source. Additionally, all three schools were more similar to each other than to the national norms for the test which are also reported in the Appendix.

The focus here will be on WPI entering student profiles for September 1973 and September 1974 and for CCT student profiles taken at the same points in time. At WPI alone, there is a greater spread in the previous high school grades students achieved in 1974 than 1973, although the spread is slight. Nonetheless, although group averages are the same, the curve is flattening slightly with more A and more C students than in previous years. The students at CCT were already more evenly distributed
on this dimension than those at WPI at both times. It seems, therefore, that WPI is attracting a less homogeneous student body on this dimension. Furthermore, a slightly higher proportion of WPI students currently entering plan to obtain degrees beyond the B.S. than in previous years, i.e. 37% of 1973 entrants and 30% of 1974 entrants plan to go beyond a M.A. or M.S. to a Ph.D., Ed.D., etc. At CCT, 17% (1973) and 19% (1974) plan to go beyond the master's level for such degrees. The trend toward expectations for higher degrees is evident in both schools but slightly stronger at WPI.

Another dimension on which there were changes at WPI and differences with CCT involved reasons which were important in selecting the school. The strongest reason at both schools (83% each) was the strong academic reputation of the school, but at WPI 59% in 1974 and 63% in 1975 came for the "special educational program" in comparison with 23% and 17% for CCT in those years, respectively. Another interesting difference between the statistically similar student classes involves their reasons for long term career choices. In the class entering in 1974 the major differences involved the following options:

<table>
<thead>
<tr>
<th>Importance in career choice of:</th>
<th>WPI</th>
<th>CCT</th>
</tr>
</thead>
<tbody>
<tr>
<td>high anticipated earnings</td>
<td>39%</td>
<td>51%</td>
</tr>
<tr>
<td>working with ideas</td>
<td>66%</td>
<td>48%</td>
</tr>
</tbody>
</table>

Findings for the class entering in 1973 were similar but less pronounced. It would appear, here, that WPI entering students increasingly value more interesting work than a necessarily high paying job, although both considerations are important at both schools.

The final important difference involved the "sources of financial aid" students at the schools in the study are receiving. Seventy-seven percent of CCT students receive financial support from the state while only
More WPI than CEE students receive support from a National Student Direct Loan Program, but the percentages are far smaller, i.e. 35%.

Through a variety of resources and self-help, students at all schools are managing to pay the high tuitions. The test did not include a question on scholarship aid from the schools themselves.

As noted previously, student aptitude scores at WPI were slightly but not significantly lower than those of students at the comparison schools. Student achievement in terms of high school grades does not differ between groups, but WPI appears to be becoming more heterogeneous in this respect, while CEE has been all along.

SUMMARY--COMPOSITION OF THE SCHOOL

WPI seems to be attracting the same type of student in terms of dimensions such as sex, race, socio-economic level, religious preference, family income, etc. as it has in previous years. This type of student, furthermore, is remarkably similar to the "typical" entrant at the comparison schools. Differences appear to be emerging in their ability as measured by high school grades: WPI is attracting a more heterogeneous group and their future educational and career expectations are higher. WPI students report being increasingly concerned with obtaining master's degrees and going beyond, and they are looking for careers that involve working with ideas, which is currently more important to them than a career with high anticipated earnings.
E. The Learning Environment—Perceptions of the School Environment—Use of Time

Although our labeling on implementation mechanics in this report, it is of interest to see if WPI has created a learning environment which is different in some ways from that of a traditional comparison school. This could be reflected in student responses to an environment inventory and also in the students' use of their time. An adaptation of the Wahlberg Anderson Classroom Environment Inventory (which dealt with physics classes and was normed on several second-year physics freshmen) was made. The adaptation involved six individual school changes (from "class" to "school") on 193 items. This inventory clusters into 16 scales (see Appendix, Questionnaire C for complete inventory and scale results). Use of time information was obtained through a series of questions in Questionnaire B. (See Appendix.)

IV. THE GENERAL ENVIRONMENT

Of the 16 clusters or scales in the environment inventory, nine indicated significant differences among all three schools and six between WPI and CCT. Given the differing nature of the SIT student body, even at the undergraduate level, significant findings based on WPI/CCT findings will be presented briefly. In comparison with CCT students, WPI students felt that their school environment was (or they were):

- less cohesive
- less diverse
- less formal
- had more speed (faster pace)
- were more affected by their environment
- were less competitive.

These findings, again, reflect in large part a situation of change: e.g., less cohesion. The lack of diversity is possibly due to the fact that
more options in courses and major field selections are offered at CCT. The informality is possibly a function of greater faculty contact (see below), and the faster pace undoubtedly reflects the seven-week semester, which students often reported as rushed in their interviews. Perceptions of being influenced by the environment may indicate in some way that WPI students are more conscious of the Plan, what it involves, its goals and expectations. This certainly dovetails with the greater thoughtfulness about what was happening to them that students reported in previous sections. Finally, the slightly lessened competition may be an indication that despite the pace and workload, the Distinction/Acceptable/No Record system or the entire Plan approach have removed or lessened the factor of competing with others to some slight degree. The differences, although statistically significant, are slight among all schools.

2. USE OF TIME

In Questionnaire B, students were asked to indicate the number of hours during an average week they spent in a variety of activities. Although in many respects differences were not found, in comparison with CCT WPI students seem to be spending their time less in lectures or classes (13 hours vs. 17 hours at CCT) but more with advisors (2 hours vs. 1 hour at CCT), more in LPL courses (22 hours vs. 19 hours at CCT), and more doing projects and experiments (7 hours vs. 4 hours at CCT). WPI students also spend more time earning money (6 hours vs. 4 hours at CCT). In terms of recreation, studying with others, sports and hobbies, sleeping, and taking exams, there were no significant differences between or among schools. From this information it would appear that WPI students overall are spending more time interacting with their educational environment than are students in a more traditional program, although the faculty contact hours may appear to be less.
The learning environment at SPI is perceived by students more as less coercive, diverse, or formal than by students in a comparison program. It was also faster, less competitive, and appears to have more influence on them as well. Furthermore, students are spending more time in activities related to their overall learning, although less of this time is through a direct contact/lecture format than at comparison schools and more in self-governed activities.
The purpose of this evaluation was to provide developmental feedback to the implementers and participants in the WPI Plan while simultaneously documenting the process of change and outcomes it produced. Implementation features are explored in depth in a companion report. The report here focuses specifically on five broad areas (1) competence, (2) self concepts, (3) attitudes and educational goals, (4) background and ability factors, and (5) perceptions of the school environment and use of time. The findings are reported briefly, summarized globally, and attempt to relate to one key question: Is the WPI Plan an improvement or a mistake, a "success" or a "failure" from the student point of view? (The Appendices contain most of the information on which this summary report is based.)

Since the Plan's inception five years ago and the beginning of this evaluation three years ago, it seems fair to say that the program is beginning to succeed in terms of its original expectations or goals. Its students are equally if not more competent than previous WPI students. The environment created in a general sense, although rushed, is perceived as influential. Students at WPI spend more time on learning activities than those in comparison institutions and the time spent in experiments and project work is greater than the amount of time spent in class. The WPI Plan is a feature that attracts students to the school more prominently than do the programs at comparison engineering schools. The program also attracts a more heterogeneous group than the traditional WPI.

Entering WPI students have higher educational goals in general and value things such as the ability to work with ideas, the development of a capacity for lifelong learning, being an interesting individual, being of
service to others, and changing the world for the better more strongly than students at comparison engineering schools.

It seems appropriate here to mention two important considerations:

1. The full effects of this program cannot be ascertained at this point in time. Indeed, longitudinal follow-up of Plan and non-Plan graduates is only now possible, and more or less striking differences could emerge once the Plan type of preparation is put to the test of the "real" world.)

2. In-depth coverage of specific aspects of this experimental program was not possible given limited resources and the broad mandate to measure any and all effects possible.

Hopefully the information contained in this report will be useful to some and helpful to those concerned both with the Plan specifically as well as with the implications of the successes and difficulties of this program for other schools.
LIST OF APPENDICES

A. American Council on Education Data
B. Restructuring Undergraduate Education at Worcester Polytechnic Institute
C. Student questionnaire findings
D. Student Interview Categorized Results
E. Project Evaluation Questionnaire Findings
F. Engineer-in-Training Test Scores

Note: The appendix contains only the first-run frequencies or results from each instrument. In the body of the report, at times, findings are included which are based on the myriad further analyses of sub-populations—e.g. WPI Plan vs. WPI non-Plan or WPI vs. CCT alone. Thus, some of the data reported in the appendix may appear not to match findings in the report.
APPENDIX A

AMERICAN COUNCIL ON EDUCATION DATA

WPI, CCT, SIT

NATIONAL NORMS

1. 1973
2. 1974

Control School I = Clarkson College of Technology
Control School II = Stevens Institute of Technology
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Reasons Very Important for Long-Term Career Choice

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### Support From Parent's Family

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<td>Agree Strongly or Somewhat Agree</td>
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<td>women's activities best in home</td>
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<td>wealthy should pay more taxes</td>
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<td>marijuana should be legalized</td>
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<td>Find a job in preferred field</td>
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<tr>
<td>Marry while in college</td>
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<tr>
<td>Marry within a year after college</td>
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<tr>
<td>Transfer to another school</td>
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<tr>
<td>Become more satisfied with college</td>
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<tr>
<td>Drop out permanently</td>
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<td>Get a bachelor's degree</td>
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<td>Enroll in honors courses</td>
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<td>Get a vocational certificate</td>
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<td>Attend individual counseling</td>
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<td>Work at outside job</td>
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<tr>
<td>Earn a degree within college</td>
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<sup>1</sup>This College is Student's 1<sup>st</sup> choice

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<th>less than 2&lt;sup&gt;nd&lt;/sup&gt; choice</th>
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</thead>
<tbody>
<tr>
<td>first choice</td>
<td>98.5</td>
<td>1.4</td>
</tr>
<tr>
<td>second choice</td>
<td>9.3</td>
<td>9.0</td>
</tr>
<tr>
<td>less than second choice</td>
<td>6.3</td>
<td>6.3</td>
</tr>
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</table>

<sup>2</sup>Based on 437 responses.
<table>
<thead>
<tr>
<th>Education Level</th>
<th>Family Income Range</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>High School Graduate</td>
<td>$10,000 - $14,999</td>
<td>1.2%</td>
</tr>
<tr>
<td>Post-Secondary, not coll.</td>
<td>$15,000 - $19,999</td>
<td>1.0%</td>
</tr>
<tr>
<td>Some College</td>
<td>$20,000 - $24,999</td>
<td>1.2%</td>
</tr>
<tr>
<td>College Degree</td>
<td>$25,000 - $29,999</td>
<td>1.0%</td>
</tr>
<tr>
<td>Some Graduate School</td>
<td>$30,000 - $34,999</td>
<td>1.2%</td>
</tr>
<tr>
<td>Graduate Degree</td>
<td>$35,000 or more</td>
<td>1.0%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Father's Education</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some High School</td>
<td>1.2%</td>
</tr>
<tr>
<td>High School Graduate</td>
<td>1.0%</td>
</tr>
<tr>
<td>Post-Secondary, not coll.</td>
<td>1.2%</td>
</tr>
<tr>
<td>Some College</td>
<td>1.0%</td>
</tr>
<tr>
<td>College Degree</td>
<td>1.2%</td>
</tr>
<tr>
<td>Some Graduate School</td>
<td>1.0%</td>
</tr>
<tr>
<td>Graduate Degree</td>
<td>1.2%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Mother's Education</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Some High School</td>
<td>1.2%</td>
</tr>
<tr>
<td>High School Graduate</td>
<td>1.0%</td>
</tr>
<tr>
<td>Post-Secondary, not coll.</td>
<td>1.2%</td>
</tr>
<tr>
<td>Some College</td>
<td>1.0%</td>
</tr>
<tr>
<td>College Degree</td>
<td>1.2%</td>
</tr>
<tr>
<td>Some Graduate School</td>
<td>1.0%</td>
</tr>
<tr>
<td>Graduate Degree</td>
<td>1.2%</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
<th>Probable Career Occupation</th>
<th>Probability</th>
</tr>
</thead>
<tbody>
<tr>
<td>Artist (incl performer)</td>
<td>1.0%</td>
</tr>
<tr>
<td>Businessman</td>
<td>1.2%</td>
</tr>
<tr>
<td>Clergy or rel. worker</td>
<td>1.0%</td>
</tr>
<tr>
<td>Educator (col. teacher)</td>
<td>1.2%</td>
</tr>
<tr>
<td>Doctor (M.D. or D.D.S.)</td>
<td>1.0%</td>
</tr>
<tr>
<td>Educator (secondary)</td>
<td>1.2%</td>
</tr>
<tr>
<td>Educator (elementary)</td>
<td>1.0%</td>
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</tbody>
</table>

(continued on next page)
| Reason It Was Very Important for Me | Long-term Career Choice | % of Respondents
<table>
<thead>
<tr>
<th></th>
<th></th>
<th></th>
</tr>
</thead>
<tbody>
<tr>
<td>for money available</td>
<td>49.4%</td>
<td>56.8%</td>
</tr>
<tr>
<td>job advancement</td>
<td>39.1%</td>
<td>44.3%</td>
</tr>
<tr>
<td>for anticipated earnings</td>
<td>30.1%</td>
<td>36.9%</td>
</tr>
<tr>
<td>restricted occupation</td>
<td>20.5%</td>
<td>24.9%</td>
</tr>
<tr>
<td>independence</td>
<td>19.3%</td>
<td>24.5%</td>
</tr>
<tr>
<td>choice for steady process</td>
<td>17.2%</td>
<td>20.1%</td>
</tr>
<tr>
<td>contribution to society</td>
<td>16.1%</td>
<td>18.0%</td>
</tr>
<tr>
<td>avoid pressure</td>
<td>14.9%</td>
<td>17.6%</td>
</tr>
<tr>
<td>work with ideas</td>
<td>14.4%</td>
<td>17.1%</td>
</tr>
<tr>
<td>be helpful to others</td>
<td>13.6%</td>
<td>16.9%</td>
</tr>
<tr>
<td>work with people</td>
<td>13.0%</td>
<td>16.4%</td>
</tr>
<tr>
<td>interest in field</td>
<td>12.8%</td>
<td>16.0%</td>
</tr>
<tr>
<td>Support from Parental or Family Aid</td>
<td>none</td>
<td>$1 - $499</td>
</tr>
<tr>
<td>-----------------------------------</td>
<td>------</td>
<td>-----------</td>
</tr>
<tr>
<td>none</td>
<td></td>
<td></td>
</tr>
<tr>
<td>$1 - $499</td>
<td>11.6</td>
<td>12.2</td>
</tr>
<tr>
<td>$500 - $999</td>
<td>5.4</td>
<td>6.3</td>
</tr>
<tr>
<td>$1,000 - $1,999</td>
<td>15.7</td>
<td>16.4</td>
</tr>
<tr>
<td>$2,000 - $4,000</td>
<td>25.1</td>
<td>15.8</td>
</tr>
<tr>
<td>over $4,000</td>
<td>23.7</td>
<td>15.6</td>
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<th>$500 - $999</th>
<th>$1,000 - $1,999</th>
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<tr>
<td>$500 - $999</td>
<td>0.7</td>
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<td>$1,000 - $1,999</td>
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<tr>
<td>$2,000 - $4,000</td>
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<td>0.6</td>
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<td>over $4,000</td>
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<td>0.6</td>
<td>0.4</td>
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<td></td>
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<tr>
<td>Support from College</td>
<td>329</td>
<td>329</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>----------------------</td>
<td>-----</td>
<td>-----</td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>Work-Study Grant</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
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<tr>
<td>none</td>
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<td>$500 - $799</td>
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<td>1.0</td>
<td>1.0</td>
<td></td>
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</tr>
<tr>
<td>$2,000 - $4,000</td>
<td>1.0</td>
<td>1.0</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>over $4,000</td>
<td>0.0</td>
<td>0.0</td>
<td></td>
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<table>
<thead>
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<th>317</th>
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<tbody>
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<td>none</td>
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<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>$1,000 - $1,999</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>$2,000 - $4,000</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>over $4,000</td>
<td>0.0</td>
<td>0.0</td>
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<table>
<thead>
<tr>
<th>Support from Main Ed. Opportunity Grant</th>
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<th>317</th>
</tr>
</thead>
<tbody>
<tr>
<td>none</td>
<td>0.0</td>
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</tr>
<tr>
<td>$1 - $499</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>$500 - $999</td>
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<tr>
<td>$1,000 - $1,999</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>$2,000 - $4,000</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>over $4,000</td>
<td>0.0</td>
<td>0.0</td>
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<table>
<thead>
<tr>
<th>Support from Other</th>
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<th>317</th>
</tr>
</thead>
<tbody>
<tr>
<td>none</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>$1 - $499</td>
<td>0.0</td>
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<td>$500 - $999</td>
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<tr>
<td>$1,000 - $1,999</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>$2,000 - $4,000</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>over $4,000</td>
<td>0.0</td>
<td>0.0</td>
</tr>
<tr>
<td>Activity</td>
<td>Percentage (%)</td>
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</tr>
<tr>
<td>----------------------------------</td>
<td>-----------------</td>
<td></td>
</tr>
<tr>
<td>Presently married</td>
<td>35.6</td>
<td></td>
</tr>
<tr>
<td>Presently engaged</td>
<td>44.3</td>
<td></td>
</tr>
<tr>
<td>See one person exclusively dating</td>
<td>22.1</td>
<td></td>
</tr>
<tr>
<td>Dating, but no one steadily</td>
<td>13.8</td>
<td></td>
</tr>
<tr>
<td>Not dating in recent months</td>
<td>9</td>
<td></td>
</tr>
<tr>
<td>Students Estimate Chances Are</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Very Good That They Will</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Change major field</td>
<td>13.8</td>
<td></td>
</tr>
<tr>
<td>Fall one or more courses</td>
<td>22.1</td>
<td></td>
</tr>
<tr>
<td>Graduate with honors</td>
<td>13.8</td>
<td></td>
</tr>
<tr>
<td>Elected to student office</td>
<td>10.4</td>
<td></td>
</tr>
<tr>
<td>Join a frat or sorority</td>
<td>3.8</td>
<td></td>
</tr>
<tr>
<td>Live in coed dorm</td>
<td>0.6</td>
<td></td>
</tr>
<tr>
<td>Live in commune in col</td>
<td>0.8</td>
<td></td>
</tr>
</tbody>
</table>

**Marital Status**

- Presently married: 35.6%
- Presently engaged: 44.3%
- See one person exclusively dating: 22.1%
- Dating, but no one steadily: 13.8%
- Not dating in recent months: 9%

**Political Opinion**

- Far left: 4%
- Liberal: 31.6%
- Middle-of-the-road: 57.4%
- Conservative: 5.0%
- Far right: 0.8%
RESTRICTURING UNDERGRADUATE EDUCATION

AT

WORCESTER POLYTECHNIC INSTITUTE

A Report to the Twenty-eighth Meeting
of the
Advisory Committee for Science Education
National Science Foundation
Washington, D.C.

March 6, 1975

by

William R. Grogan
Dean of Undergraduate Studies
Project Director
Worcester Polytechnic Institute has undertaken a complete and systematic revision of its traditional approach to undergraduate science engineering education. The resulting educational program, known as the WPI Plan, is the product of two years of intensive planning and five years of implementation effort involving every member of the campus community. The program now involves 85% of the 2,000-member undergraduate student body of whom over 95% are science or engineering majors. Next year (1975-76) 91% of the students will pursue their programs in accordance with the new WPI Plan requirements, and thereafter all students will be in the new program.

The National Science Foundation, through its 1972 GSF award of $733,000, played a major role in enabling WPI as an institution to implement the restructured programs. The WPI Plan and its implementation process are already the subject of considerable national attention. There is every prospect interest will increase in the reports on the first three-year phase of program evaluation become available later this year.

This presentation will describe the scope of change at WPI and some of the more important features of the new program covering those areas receiving major NSF support, namely, development of (a) the project system, (b) the advising system, and (c) competency examinations and an overall evaluation of the program.

Background

Worcester Polytechnic Institute undertook the most drastic change in its 110-year of history could be the subject of a book itself--there was no crisis, not even administrative pressure. There was, however, in the faculty a growing dissatisfaction with the demotivating rigidity of the traditional curricula; there was growing concern that science and engineering undergraduates were so constrained by the dictates of an impersonal lock-step system that their full development as thoughtful individuals was not being achieved. To those faculty who followed the careers of the graduates there appeared to be unreasonable discontinuity between the overall preparation of the students and the actual demands placed upon them as young professionals. No one ever questioned the need for a firm foundation in fundamentals, but beyond that a number of paradoxical situations appeared: a rigid academic program offered little opportunity for the student to assume responsibility for defining personal objectives; this responsibility became total immediately after graduation. Courses developed long, narrow corridors of knowledge; professional practice required integration of knowledge. The classroom experience was basically passive; professional practice required self-activation. In the academic setting, the student was usually an isolated learner; most of professional life involved personal interactions and shared experiences effectively communicated. A concern for the social implications of
III. The development of the degree requirements. The first and most important of these, was the degree requirements, which served to orient students to meet the degree requirements.

The degree requires the student to submit the entire college to a new approach to the development of individualized education which integrated the concept of an individual student's educational needs. The program placed heavy emphasis on the individual student and the development of his potential and competence. The program also included the requirement that the student must pass the comprehensive examination for three years of successful college attendance before the degree requirements were included.

The degree requires that the student complete a series of courses, with an introduction to a major field and an elective course in each major field.

The student is required to complete a sequence of courses, including a major in the field of study. The student must complete a minimum of 120 semester hours, of which 60 must be in the major field. The student must complete a minimum of 40 semester hours in the major field, and 20 semester hours in the field of study.

The student must complete a minimum of 120 semester hours, of which 60 must be in the major field. The student must complete a minimum of 40 semester hours in the major field, and 20 semester hours in the field of study.

The student must complete a minimum of 120 semester hours, of which 60 must be in the major field. The student must complete a minimum of 40 semester hours in the major field, and 20 semester hours in the field of study.

The student must complete a minimum of 120 semester hours, of which 60 must be in the major field. The student must complete a minimum of 40 semester hours in the major field, and 20 semester hours in the field of study.
A multi-year project involving both industrial experience and technology to meet the major qualification requirement.

The project, which was selected as a major vehicle for achieving the project requirement, the student must complete two projects totaling which is equivalent to a quarter of a year's work. The projects must deal with the student's major area of interest, while the thesis is intended to relate science and technology to societal concerns and needs. The first of these is known as the major qualifying project (MQP). The second has been designated the "interactive" qualifying project (IQP).

In the past, the requirement to MQP or IQP to the engineering and scientific education program. The demand for MQP in implementing the MQP requirement is not one, therefore, because all are not necessarily selected as a whole course. After this year, when transition is complete, WPI modules will be graduating classes numbering between 10 and 20 students each of whom will have completed the two MQP requirements. We have been able to test and adopt measures to minimize the increase in the number of students that otherwise might have occurred as a steady-state system of which twenty or twenty-five percent of all undergraduate student projects are entered. Among these measures are consolidation of course offerings, changes in course format, increased on-site technological assistance, and the effort to foster the formation of group projects rather than individual project reports. An entirely new registration system was developed and is now completed.

The Institute of Technology in providing each of approximately 500 graduating students with the opportunity to participate in projects of substantial proportion, is an eminence of WPI. Of course there are very valuable projects, especially in the sciences, but WPI has tried to provide students with as significant opportunities as possible for off-campus MQP and IQP work. A special administrative unit for project operations has been established. A central campus project center was constructed to augment departmental facilities and provide a support base for interdisciplinary projects, and a wide variety of off-campus project sites have been developed.

A specific project with continuing activity where students can participate projects is the annual need of the company and WPI site.

List of off-campus project sites and centers.
1. Multidisciplinary projects involve actual student activity where one or more faculty members work with students individually on a variety of projects, some of which are repeated over a period of years, and

2. Project centers (sometimes called intern-ships centers), each of which is a formally appointed WPI Director and an on-site counter-part from the company of institution involved.

All project centers WPI usually maintains a permanent office. A wide variety of multidisciplinary projects, co-ordinated by the director of the center, but with specific projects under direct supervision of faculty advisors from the disciplines involved. Five centers are within commuting distance; one, in Whidbey Island, Washington, is a residential site. In all cases project activity is a part of the academic program, the work performed under faculty supervision is for academic credit while pay is not acceptable. Direct expenses are submitted to the sponsoring institution.

A time example of a highly successful center is that at St. Vincent Hospital in Scranton, where over the last two-and-a-half years, of students have been involved in 43 different projects working with 11 WPI faculty advisors and 14 industrial clients.

The following table summarizes the main types of multidisciplinary interactions of the St. Vincent Center:

<table>
<thead>
<tr>
<th>Participating Hospital Functions</th>
<th>Participating WPI Disciplines</th>
</tr>
</thead>
<tbody>
<tr>
<td>Critical Care Training</td>
<td>Biomedical Engineering</td>
</tr>
<tr>
<td>Critical Care</td>
<td>Chemical Engineering</td>
</tr>
<tr>
<td>Dentistry</td>
<td>Electrical Engineering</td>
</tr>
<tr>
<td>Clinical Engineering</td>
<td>Computer Science</td>
</tr>
<tr>
<td>Physical Therapy</td>
<td>Chemistry</td>
</tr>
<tr>
<td>Radiology</td>
<td>Life Sciences</td>
</tr>
<tr>
<td>Radiology</td>
<td>Management Engineering</td>
</tr>
<tr>
<td>Radiology</td>
<td>Mechanical Engineering</td>
</tr>
<tr>
<td>Radiology</td>
<td>Environmental Engineering</td>
</tr>
<tr>
<td>Radiology</td>
<td>Materials Science</td>
</tr>
<tr>
<td>Radiology</td>
<td>Physics</td>
</tr>
<tr>
<td>Radiology</td>
<td></td>
</tr>
</tbody>
</table>

The interest and cooperation from the industrial sector has been outstanding. The project director at WPI has grown to 18 registrations in the fall of 1971 to 5 by 1972, with an expected increase to registration of about 20 per term next year. In spite of this increase in activity, there appears to be no shortage of sound project opportunities selected directly by an expert list of potential industrial sponsors.

In short, the secret to these essential ingredients go to social and sustained relationships:

1. A successful multidisciplinary cooperation that can personnel,

The above is a summary of the multidisciplinary projects.
Carefully prepared and documented student proposals acceptable to advisor and liaison before work is initiated or resources committed (much learning takes place here).

4. Requirement of periodic written progress reports with at least one formal oral preliminary report, and

5. Six final report standards, both written and oral, with sponsor evaluation an important factor in grading.

The "Interactive" Qualifying Project (IQP)

Courses in social science have often been required in science and engineering curricula. While valuable in themselves, there was no experiential component which brought into physical reality for the student the social, political, or humanistic dimensions of their technological world. Each graduate at WPI is now expected to fulfill a field project which is designed to develop a greater awareness of the relationship between science and engineering on one hand and social concern and human values on the other. This component of the WPI program is highly experimental but has proven to be one of the most fascinating.

The objectives of the IQP can be summarized as follows: (1) to create through experiential education an awareness of socially related technological interactions; (2) to enable the identification of socio-technical systems, sub-systems, and their linkages; (3) to cultivate the habit of questioning social values and structures; (4) to develop and integrate the skills of evaluation and analysis; (5) to provide methods for assessing the impact of technology, and (6) to encourage the recommendations of policy.

The project center in Washington, for example, is primarily devoted to IQP work. The center accommodates 30 students. Following a preparation period on campus, each student resides in Washington for seven weeks, involved with project field work in governmental and private agencies; this precedes a report-writing phase back on campus. A summary of the sponsoring Washington agencies and the titles of projects undertaken with them is contained in Appendix C.

The Humanities Sufficiency

The "sufficiency" requirement of a traditional science or engineering program usually calls for the student to take some distributed coursework in the humanities. The WPI plan proceeds on the underlying assumption that it is better to have a deeper understanding of the humanities in at least one area than to have a surface view of many. To that end, the WPI student must develop a specific humanities minor (sufficiency). He or she selects five thematically related humanities courses, and in a sixth activity must conduct an independent study developing a unifying theme for the selected courses. The thematic relationship clause also requires the student to courses of one type, e.g., history courses. Should the wish to concentrate on a particular period in history they may take, as well as history courses dealing with that period, courses in English which deal with the literature of that period. Alternatively, the
The Competency Examination

The seven-week terms, are designed exclusively for the seven-week examinations. The students' competence in their major field will be tested on complex problems—something akin to what he or she would be expected to do in a graduate degree program in the chosen major. The student is given a number of problems and has access to reference materials, computer facilities, libraries, laboratories, and faculty. At the end of the assigned period, the student reports back to the academic examination committee with a written report. An oral examination follows in which the method of attack, study, and understanding of the problem are discussed.

The seven-week examination is designed to test for an understanding of methods, concepts, and principles, of theories, as well as application of current techniques in the field. Despite a great deal of effort, some of it supported by actual data, it can be claimed that this type of competency measurement and assessment is superior to others.

The Support Structure

Teachers stress the critical importance of each student work with his or her students, for a personalized curriculum. Each student must have a firm understanding of the material presented in the work or have elaborative one beyond that. Incremental instruction is vital to the success of the students. Each term is divided into two parts, each with an equivalent level of project work.

In this time, the evaluation is of the handling of information. The examination is designed to test for an understanding of methods, concepts, and principles, of theories, as well as application of current techniques in the field. Despite a great deal of effort, some of it supported by actual data, it can be claimed that this type of competency measurement and assessment is superior to others.


The Smith Institute has a long history of service to the science community. The Institute has been a leader in the development of educational tools and materials, and has been instrumental in the dissemination of scientific knowledge.

The Smith Institute's early work was focused on the development of educational materials for the K-12 classroom. This work included the development of interactive science exhibits, educational software, and teacher training programs. The Institute's early work also included the development of educational programs for the National Science Foundation and the National Institute of Education.

The Smith Institute's work has continued to evolve over the years. The Institute has expanded its focus to include the development of educational materials for higher education, as well as for professional and industrial applications.

The Smith Institute continues to be a leader in the development of educational tools and materials, and has a strong commitment to the dissemination of scientific knowledge. The Institute is proud of its history of service to the science community, and is committed to continuing its work in support of education and research.
A study of academic and administrative changes, both attitudinal and organizational, caused by the Plan and carried out by Harvard University consultants. The factors under consideration by the faculty/administration study are:

a. Professional satisfaction and growth,
b. Perceptions of quality of student learning,
c. Perceptions of rewards, effort and equity,
d. Intrinsic satisfaction,
e. Stress and overload,
f. Interference items,
g. Patterns of interaction.

With the assistance of grant extension from NSF awarded in May 1974, the study has been extended to include two comparison colleges. Both schools have much in common with WP, and have been most cooperative in eliciting a base for parallel studies.

The effect of the Plan on students has been evaluated by Dr. Cohen of the Educational Development Center (EDC) in Cambridge, Massachusetts. This evaluation also includes a comparison study of engineering students at the other two colleges that have not undergone the changes seen at WP.

The evaluation of the students has centered around a study of the following factors:

a. Scientific and engineering competence,
b. Attitudes,
c. Values and educational goals,
d. Understanding and abilities,
e. Characteristics of learners.

A plan is to continue the study of the students through their early professional lives, thereby completing what promises to be the most comprehensive study of the process and effects of change in a college of science and engineering available to the academic community to date.

A report on this has been submitted an individual report following each visit. The final report and a final report will follow the Panel’s sixth and final visit in April 1975. The final report on the faculty and student evaluations will be available in June.

The project has clearly seen that the desired changes in self-confidence, self-discipline, group responsibility, and greater involvement of students, both faculty and staff, are being achieved.

The Project Panel has observed a new element of cooperation in the WP Plan and the major factor in this cooperation is the major grant, in particular, that the faculty are responding to the requirement with an enthusiasm and a commitment that is rare and, despite the mind-boggling complexities of the project, the project is on schedule.

It is not only the students who have also participated in the evaluation. Of approximately 100 students enrolled in December 1974, it was encouraging to note that nearly 95% of them exceeded pre-established expectations. 95% exceeded
"Expectations not achieved," only 6% of the participating sponsors said they would refer not to continue in the program while 44% wished to increase their involvement, the remainder being satisfied with the present level of activity. From the students' returns, it is interesting to note that 56% of the off-campus student personnel were rated as "outstanding" while 46% of the students also said that they would be happy to be associated with their sponsor when they graduated.

Improvements received by Dr. Cohen's group from students and sponsors indicate that both groups feel a great deal of learning is taking place. In rating their own experiences of sportive at the start and at the end of the projects, the 70 students replied as follows:

<table>
<thead>
<tr>
<th></th>
<th>Outstanding</th>
<th>Good</th>
<th>Fair</th>
<th>Poor</th>
</tr>
</thead>
<tbody>
<tr>
<td>At start</td>
<td>16%</td>
<td>28%</td>
<td>37%</td>
<td>20%</td>
</tr>
<tr>
<td>At end</td>
<td>44%</td>
<td>14%</td>
<td>6%</td>
<td>0%</td>
</tr>
</tbody>
</table>

In their personal learning, 64% of the students listed "outstanding" with 17% saying "good." In rating their own performance and achievement, the students listed themselves as "very good" and 54% "good" while sponsor ratings are running 26% "outstanding" and 28% "good."

By coordinating activities of WPI's Plan, students when they become alumni will, of course, be the ultimate test of its effectiveness. Since the educational goals it was designed to achieve.
APPENDIX C

STUDENT OBSIDIAN FINDINGS

1. Specimen A
2. Specimen B
3. Specimen C
II. INSTRUCTIONS: Please indicate how important you feel each of the following choices is by placing an "X" on the appropriate line.

NOTE: Responses are indicated as means. The scale used was:
1 = Not Very Important; 7 = Important; 11 = Very Important

<table>
<thead>
<tr>
<th>Item</th>
<th>X1</th>
<th>X7</th>
<th>X11</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. To develop the skills necessary to earn a good living</td>
<td>2.5</td>
<td>3.5</td>
<td>4.5</td>
<td>38</td>
</tr>
<tr>
<td>2. To learn to make friends and get along with people</td>
<td>2.0</td>
<td>2.8</td>
<td>3.6</td>
<td>40</td>
</tr>
<tr>
<td>3. To learn to think clearly and independently</td>
<td>2.6</td>
<td>3.2</td>
<td>3.8</td>
<td>38</td>
</tr>
<tr>
<td>4. To learn a language</td>
<td>2.5</td>
<td>3.2</td>
<td>3.8</td>
<td>38</td>
</tr>
<tr>
<td>5. To develop strength of character and personality</td>
<td>2.5</td>
<td>3.2</td>
<td>3.8</td>
<td>38</td>
</tr>
<tr>
<td>6. To develop physical and emotional well-being</td>
<td>2.5</td>
<td>3.2</td>
<td>3.8</td>
<td>38</td>
</tr>
<tr>
<td>7. To develop the desire and ability to think for oneself</td>
<td>2.5</td>
<td>3.2</td>
<td>3.8</td>
<td>38</td>
</tr>
<tr>
<td>8. To learn about literature, art, the performing arts, and other hobbies</td>
<td>2.5</td>
<td>3.2</td>
<td>3.8</td>
<td>38</td>
</tr>
<tr>
<td>9. To develop self-confidence</td>
<td>2.5</td>
<td>3.2</td>
<td>3.8</td>
<td>38</td>
</tr>
<tr>
<td>10. To learn how to make decisions</td>
<td>2.5</td>
<td>3.2</td>
<td>3.8</td>
<td>38</td>
</tr>
<tr>
<td>11. To learn about current events</td>
<td>2.5</td>
<td>3.2</td>
<td>3.8</td>
<td>38</td>
</tr>
<tr>
<td>12. To prepare him/her to cope with the adult world of work</td>
<td>2.5</td>
<td>3.2</td>
<td>3.8</td>
<td>38</td>
</tr>
<tr>
<td>13. To get a break from the routine of school rules and life</td>
<td>1.5</td>
<td>1.8</td>
<td>2.1</td>
<td>38</td>
</tr>
<tr>
<td>14. To be of service to others</td>
<td>1.5</td>
<td>1.9</td>
<td>2.4</td>
<td>38</td>
</tr>
<tr>
<td>15. To get a break from the classroom and academic requirements</td>
<td>1.5</td>
<td>1.9</td>
<td>2.4</td>
<td>38</td>
</tr>
<tr>
<td>16. To satisfy academic requirements</td>
<td>1.5</td>
<td>1.9</td>
<td>2.4</td>
<td>38</td>
</tr>
<tr>
<td>17. To develop personal qualities such as increased confidence, self-reliance, and maturity</td>
<td>2.5</td>
<td>3.5</td>
<td>4.5</td>
<td>38</td>
</tr>
<tr>
<td>18. To be free, live in a way we'd want</td>
<td>1.5</td>
<td>2.5</td>
<td>3.5</td>
<td>38</td>
</tr>
</tbody>
</table>

---

37
<table>
<thead>
<tr>
<th>No.</th>
<th>Statement</th>
<th>API</th>
<th>OPI</th>
<th>MIT</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>97</td>
<td>To learn more about other, different social groups and environments from their own</td>
<td>1.1</td>
<td>1.1</td>
<td>1.1</td>
<td>0.01</td>
</tr>
<tr>
<td>98</td>
<td>To gain practical knowledge of a subject or field studied in school</td>
<td>2.5</td>
<td>2.6</td>
<td>2.5</td>
<td>0.01</td>
</tr>
<tr>
<td>99</td>
<td>To have time for his/her own creative work</td>
<td>2.2</td>
<td>2.3</td>
<td>2.1</td>
<td>0.01</td>
</tr>
</tbody>
</table>

**Which of the following do you think will be important problems for students in an off-campus work for profit project?**

<table>
<thead>
<tr>
<th>No.</th>
<th>Statement</th>
<th>API</th>
<th>OPI</th>
<th>MIT</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>100</td>
<td>The ability to master the various facets of the job to the satisfaction of their employers</td>
<td>1.9</td>
<td>2.0</td>
<td>2.0</td>
<td>0.05</td>
</tr>
<tr>
<td>101</td>
<td>The ability to get along with their supervisors</td>
<td>1.3</td>
<td>1.3</td>
<td>1.3</td>
<td>0.05</td>
</tr>
<tr>
<td>102</td>
<td>The ability to get along with their co-workers</td>
<td>1.5</td>
<td>1.6</td>
<td>1.5</td>
<td>0.05</td>
</tr>
<tr>
<td>103</td>
<td>The ability to work at one's own pace</td>
<td>1.2</td>
<td>1.2</td>
<td>1.2</td>
<td>0.05</td>
</tr>
<tr>
<td>104</td>
<td>The ability to meet their personal, regular and punctual</td>
<td>1.4</td>
<td>1.5</td>
<td>1.4</td>
<td>0.05</td>
</tr>
</tbody>
</table>

**Note:** Items are ranked according to the following criteria: 1. Very low; 2. Low; 3. Moderate; 4. High; 5. Very high.

**Note:** Responses are indicated on a grid. The results are based on the left side of the grid for the side you prefer.
<table>
<thead>
<tr>
<th>#</th>
<th>Traits of Faculty</th>
<th>WPI</th>
<th>CCT</th>
<th>SHT</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>70</td>
<td>purposeful/aimless</td>
<td>2.0</td>
<td>2.5</td>
<td>2.7</td>
<td>.1</td>
<td>.02</td>
</tr>
<tr>
<td>71</td>
<td>good/bad</td>
<td>1.9</td>
<td>2.3</td>
<td>2.7</td>
<td>.7</td>
<td>.02</td>
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<tr>
<td>72</td>
<td>strong/weak</td>
<td>2.0</td>
<td>2.5</td>
<td>2.7</td>
<td>.4</td>
<td>.245</td>
</tr>
<tr>
<td>73</td>
<td>active/passive</td>
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<td>2.5</td>
<td>2.7</td>
<td>.7</td>
<td>.025</td>
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<tr>
<td>74</td>
<td>stable/changing</td>
<td>2.0</td>
<td>2.5</td>
<td>2.7</td>
<td>.4</td>
<td>.245</td>
</tr>
<tr>
<td>75</td>
<td>hopeful/hopeless</td>
<td>2.0</td>
<td>2.5</td>
<td>2.7</td>
<td>.7</td>
<td>.1</td>
</tr>
<tr>
<td>76</td>
<td>broad/narrow</td>
<td>1.9</td>
<td>2.3</td>
<td>2.7</td>
<td>.1</td>
<td>.02</td>
</tr>
<tr>
<td>77</td>
<td>fast/slow</td>
<td>2.0</td>
<td>2.5</td>
<td>2.7</td>
<td>.4</td>
<td>.245</td>
</tr>
<tr>
<td>78</td>
<td>constant/rash</td>
<td>2.0</td>
<td>2.5</td>
<td>2.7</td>
<td>.4</td>
<td>.245</td>
</tr>
<tr>
<td>79</td>
<td>wise/foolish</td>
<td>2.0</td>
<td>2.5</td>
<td>2.7</td>
<td>.4</td>
<td>.245</td>
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<tr>
<td>80</td>
<td>flexible/rigid</td>
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<td>2.5</td>
<td>2.7</td>
<td>.4</td>
<td>.245</td>
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<tr>
<td>81</td>
<td>complex/simple</td>
<td>2.0</td>
<td>2.5</td>
<td>2.7</td>
<td>.4</td>
<td>.245</td>
</tr>
</tbody>
</table>

<table>
<thead>
<tr>
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<th>Traits of Students</th>
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<th>SHT</th>
<th>F</th>
<th>p</th>
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<tr>
<td>92</td>
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<tr>
<td>93</td>
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<tr>
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<td>2.7</td>
<td>.4</td>
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<td>95</td>
<td>active/passive</td>
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<td>2.5</td>
<td>2.7</td>
<td>.4</td>
<td>.245</td>
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<tr>
<td>96</td>
<td>stable/changing</td>
<td>2.0</td>
<td>2.5</td>
<td>2.7</td>
<td>.4</td>
<td>.245</td>
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<tr>
<td>97</td>
<td>hopeful/hopeless</td>
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<td>2.5</td>
<td>2.7</td>
<td>.7</td>
<td>.1</td>
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<tr>
<td>98</td>
<td>broad/narrow</td>
<td>1.9</td>
<td>2.3</td>
<td>2.7</td>
<td>.1</td>
<td>.02</td>
</tr>
<tr>
<td>99</td>
<td>fast/slow</td>
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<tr>
<td>101</td>
<td>wise/foolish</td>
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<td>.4</td>
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<tr>
<td>102</td>
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<tr>
<td>103</td>
<td>complex/simple</td>
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<td>.4</td>
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</table>

<table>
<thead>
<tr>
<th>#</th>
<th>Traits of Teachers</th>
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<th>CCT</th>
<th>SHT</th>
<th>F</th>
<th>p</th>
</tr>
</thead>
<tbody>
<tr>
<td>114</td>
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<td>2.7</td>
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<td>.02</td>
</tr>
<tr>
<td>115</td>
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<td>2.7</td>
<td>.7</td>
<td>.02</td>
</tr>
<tr>
<td>116</td>
<td>strong/weak</td>
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<td>2.5</td>
<td>2.7</td>
<td>.4</td>
<td>.245</td>
</tr>
<tr>
<td>117</td>
<td>active/passive</td>
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<td>2.5</td>
<td>2.7</td>
<td>.4</td>
<td>.245</td>
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<tr>
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<td>.4</td>
<td>.245</td>
</tr>
<tr>
<td>119</td>
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<td>.1</td>
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<tr>
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<td>.02</td>
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<tr>
<td>121</td>
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<td>2.5</td>
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<tr>
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<tr>
<td>123</td>
<td>wise/foolish</td>
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<td>.4</td>
<td>.245</td>
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</tbody>
</table>
In the opinion of the students, the following are the most essential characteristics of the program of study which led to their decisions:

**Old Features**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. The first quarter is spent on student projects</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Frequent faculty-student committees</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Emphasis on basic courses</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Good lecture enforcement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Good career preparation</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. Students to become involved with outside world</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Good faculty-student relationships</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Opportunities with varied groups of people on and off campus</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Experience of work</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Students who have developed an interest in prepare the better qualified</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Good course selection</td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. Good laboratory equipment</td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. Students can improve their thinking skills</td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. Teachers can help students learn how to work with others</td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. Students have the opportunity to choose the direction of the course</td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. Less emphasis on grades, more on learning</td>
<td></td>
<td></td>
</tr>
<tr>
<td>17. Application of theory to practice</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

**New Features**

<table>
<thead>
<tr>
<th>Feature</th>
<th>Yes</th>
<th>No</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Good preparation for a career</td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Good education for all undergraduates</td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. Individual well-organized</td>
<td></td>
<td></td>
</tr>
<tr>
<td>4. Fair work</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Good opportunity for students</td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. More emphasis on the techniques and purpose of engineering</td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. Introduction to the practical knowledge common to most engineers</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Better job placement</td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. Learn to live independently</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Good faculty-student relationships</td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. Develop self-reliance, well-being, cooperation</td>
<td></td>
<td></td>
</tr>
</tbody>
</table>

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100
Incorporation of project work into academic program projects give students a chance to see what life is like in the real working world; to become more aware of society; to deal with people of other disciplines fosters self-reliance, experience, responsibility, character development, creativity flexibility of Plan competency exam--students prove their competence IPI method of teaching MoP exchange program with Consortium of colleges no course requirements outside major course work advising system good, close student/faculty relationships good preparation for graduate school relating school to industry video format allows student to determine own pace, directions, goals TOP sufficiency program loose structure of course selection grading system

Clarkson Seniors

good preparation for a career Clarkson's good reputation: high rate of employment for graduates good student/faculty relationships close-knit community good education ability to change/add majors--flexible program programs student-oriented executive in residence independent study diversified faculty: even within one department; allows exposure to many areas of specialization good research program new, effective president exposure of students in one field to students in many other fields--ability to live and work together good wide choice of courses highly qualified faculty getting a good environmental engineering program started
II. What do you feel are the most important problems or disadvantages associated with the program here?

WPI Freshmen

1. 7-week terms too short
2. Open admissions--too many non-motivated students
3. Prefer ABC NR grading system
4. Not enough women
5. Lack of encouragement to work hard
6. Weak humanities courses--need to be broadened
7. Lack of understanding of the Plan by students
8. Unhealthy social life
9. Hard for grad schools/business to evaluate grades
10. Getting used to "free" atmosphere--without structured work; some students take advantage not to work
11. Sufficiency, humanities requirement
12. Education too narrow-minded; lack of diversity of courses
13. Student apathy
14. Too many requirements in major field
15. Little opportunity to take courses outside major field
16. Faculty split over Plan
17. Better, inexpensive housing needed
18. Sports
19. Many professors mediocre
20. Better course scheduling needed
21. Too much pressure

Clarkson Freshmen

8. Need broader course selection: law, humanities, medicine, etc.
7. Education too general; some required courses do not pertain to major field--too much humanities required
6. Too much work
4. Pace is fast, too fast for some
4. Poor social life; too few activities
3. More lab courses, esp. for freshmen--to apply theory to practice
3. Some professors are poor teachers
3. Poor faculty/student relationships
2. Too strict adherence to rules
1. Program for freshmen too rigid, too broad; should be more specialized in various fields
1. Need more tests with less material covered on each
1. Too much theory
1. Too expensive
1. Poor housing situation
1. "Good teachers leaving due to lack of financial security"
1. "Courses emphasize mechanics, rather than theory"
1. Need more women
1. Poor library
1. "Graduates often unable to get jobs"
1. Difficult for students to change programs
1. Not enough basic courses
1. Program too complex
1. Program not changing with the times
<table>
<thead>
<tr>
<th>Question</th>
<th>Number</th>
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</thead>
<tbody>
<tr>
<td>What are your reasons for attending college?</td>
<td></td>
</tr>
<tr>
<td>- The classes offered</td>
<td>35.6</td>
</tr>
<tr>
<td>- The faculty members</td>
<td>63.7</td>
</tr>
<tr>
<td>- The general atmosphere</td>
<td>68.7</td>
</tr>
<tr>
<td>- Other</td>
<td>63.5</td>
</tr>
<tr>
<td>What are your reasons for not attending college?</td>
<td></td>
</tr>
<tr>
<td>- The classes offered</td>
<td>28.4</td>
</tr>
<tr>
<td>- The faculty members</td>
<td>63.7</td>
</tr>
<tr>
<td>- The general atmosphere</td>
<td>63.7</td>
</tr>
<tr>
<td>- Other</td>
<td>63.7</td>
</tr>
</tbody>
</table>
11. **INSTRUCTIONS**: Please indicate how important you feel each of the following things is by placing an "X" in the appropriate line.

**NOTE**: Responses are indicated as none, 1 is the least important, 4 is very important.

<table>
<thead>
<tr>
<th>Item</th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
<th>Total</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. To develop the skills necessary to earn a good living</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. To learn to work alone and get along with people</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. To learn to think clearly and independently</td>
<td></td>
<td></td>
<td></td>
<td></td>
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</tr>
<tr>
<td>4. To gain understanding of the use of basic tools</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. To develop skills of organization and leadership</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>6. To develop physical and mental wellbeing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>7. To develop the ethical and moral orientations</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. To learn how to think critically</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>9. To learn about other possibilities</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. To prepare him/herself to make the world of work</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>11. To get a break from the restrictions of school rules and duties</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>12. To be of service to others</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>13. To get a break from the demands and work requirements</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>14. To satisfy his/her retirement</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>15. To develop personal qualities such as increased self-confidence and security</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>16. To be true, live the work, to make one thing</td>
<td></td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
</tbody>
</table>
THE FACULTY AT THIS SCHOOL ARE:
51. purposeful/lazy...
52. good/bad...
53. strong/weak...
54. active/passive...
55. stable/changing...
56. hopeful/hopeless...
57. broad/narrow...
58. fast/slow...
59. cautious/rash...
60. wise/foolish...
61. flexible/rigid...
62. complex/simple...

THE STUDENTS HERE ARE:
63. purposeful/lazy...
64. good/bad...
65. strong/weak...
66. active/passive...
67. stable/changing...
68. hopeful/hopeless...
69. broad/narrow...
70. fast/slow...
71. cautious/rash...
72. wise/foolish...
73. flexible/rigid...
74. complex/simple...
75. mean/stout...
76. favor/fearful...
77. strong/weak...
78. active/passive...
79. stable/changing...
80. hopeful/hopeless...
81. broad/narrow...

<table>
<thead>
<tr>
<th>MPF</th>
<th>LTH</th>
<th>SHH</th>
<th>EM</th>
<th>FLM</th>
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<tr>
<td>6.4</td>
<td>6.3</td>
<td>6.0</td>
<td>5.7</td>
<td>4.0</td>
</tr>
<tr>
<td>7.0</td>
<td>7.6</td>
<td>7.1</td>
<td>6.9</td>
<td>6.0</td>
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<tr>
<td>7.8</td>
<td>7.5</td>
<td>7.0</td>
<td>6.7</td>
<td>6.0</td>
</tr>
<tr>
<td>8.4</td>
<td>8.6</td>
<td>8.1</td>
<td>7.8</td>
<td>7.0</td>
</tr>
<tr>
<td>9.0</td>
<td>9.2</td>
<td>8.7</td>
<td>8.4</td>
<td>8.0</td>
</tr>
<tr>
<td>9.8</td>
<td>10.4</td>
<td>9.4</td>
<td>9.1</td>
<td>8.0</td>
</tr>
</tbody>
</table>

167
high rating of Clarkson by employers
flexibility in courses
technical equipment available
first two years offer a good background in major field
good faculty
enables student to cope with other people
breaking from tradition

WPI Seniors
 incporation of project work into academic program
 projects give students a chance to see what life is like in the real working world; to become more aware of society; to deal with people of other disciplines
 fosters self-reliance, experience, responsibility, character development, creativity
 flexibility of Plan
 competency exam—students prove their competence
 IPI method of teaching
 MQP
 exchange program with consortium of colleges
 no course requirements outside major
course work
advising system
good, close student/faculty relationships
good preparation for graduate school
relating school to industry
video format
allows student to determine own pace, directions, goals
 ITP
 sufficiency program
 loose structure of course selection
 grading system

Clarkson Seniors
 good preparation for a career
Clarkson's good reputation: high rate of employment for graduates
good student/faculty relationships
close-knit community
good education
ability to change/add majors—flexible program
programs student-oriented
executive in residence
independent study
diversified faculty: even within one department; allows exposure to many areas of specialization
good research program
new, effective president
exposure of students in one field to students in many other fields—ability to live and work together
good wide choice of courses
highly qualified faculty
getting a good environmental engineering program started
II. What do you feel are the most important problems or disadvantages associated with the program here?

**WPI Freshmen**

7 7-week terms too short  
4 open admissions--too many non-motivated students  
4 prefer ABC NR grading system  
4 not enough women  
3 lack of encouragement to work hard  
3 weak humanities courses--need to be broadened  
3 lack of understanding of the Plan by students  
3 unhealthy social life  
3 hard for grad schools/business to evaluate grades  
3 getting used to "free" atmosphere--without structured work; some students take advantage not to work  
2 sufficiency, humanities requirement  
2 education too narrow-minded; lack of diversity of courses  
2 student apathy  
1 too many requirements in major field  
1 little opportunity to take courses outside major field  
1 faculty split over Plan  
1 better, inexpensive housing needed  
1 sports  
1 many professors mediocre  
1 better course scheduling needed  
1 too much pressure

**Clarkson Freshmen**

8 need broader course selection: law, humanities, medicine, etc.  
7 education too general; some required courses do not pertain to major field--too much humanities required  
6 too much work  
4 pace is fast, too fast for some  
4 poor social life; too few activities  
3 more lab courses, esp. for freshmen--to apply theory to practice  
3 some professors are poor teachers  
3 poor faculty/student relationships  
2 too strict adherence to rules  
1 program for freshmen too rigid, too broad: should be more specialized in various fields  
1 need more tests with less material covered on each  
1 too much theory  
1 too expensive  
1 poor housing situation  
1 "good teachers leaving due to lack of financial security"  
1 "courses emphasize mechanics, rather than theory"  
1 "need more women"  
1 poor library  
1 "graduates often unable to get jobs"  
1 difficult for students to change programs  
1 not enough basic courses  
1 program too complex  
1 program not changing with the times

110
10 7 weeks too short: limited exposure to material, too rapid a pace for learning the material; excessive work—professors don't understand Plan system

5 grading system poor—hard for graduate schools/business to evaluate

4 poor advising system—uninformed; needs expansion; advisors need to be more available

4 competency exam—too much pressure, too late—how can one test competence

3 limited communications between faculty/students

3 "AC" hinders motivation; can get by with little work

2 need some regular courses to balance project work

2 poor social atmosphere

2 without course requirements, many students lack knowledge in major fields—must specify degree requirements

1 Intersections are a waste of time

1 some exams test speed, not competence

1 inflexibility (projects take up 2-1/3 units, equivalent to 7 courses?)

1 limited course selection

1 idea of sufficiency fine but misleading—need more help on creating projects

1 more could be learned in classroom than through projects

1 laxness

1 WACCC should be able to graduate with knowledge in all areas

1 major courses not offered often enough

1 projects should be more relevant to eventual career

1 open admissions

1 implementing flexible Plan on fields of study which have highly structured requirements

1 courses becoming easier

1 more research money needs to be made available to attract younger, better faculty

1 inflated grades

1 "loose" quality on projects—especially the sufficiency

1 too many students working with the same few professors

1 no sense of community

1 need to develop humanities courses

1 "MIP/TOP do not provide a true industry/education interface"

Clarkson Seniors

4 not enough practical use of theory

4 students/faculty/administration apathetic: apathetic intellectual environment; uninvolved in school affairs

3 some professors are poor teachers

3 need more humanities, social sciences—well-rounded education

3 not enough lab courses

3 not enough women

2 too much emphasis on grades

2 "departments not being of the same quality"

2 hard for small school to keep up with the times, while retaining the advantages of a small school
many students get too involved in engineering, relating its precision to all other facets of life

course material too rigid
programs cover too much material
inflexible grading; too few tests given
some faculty too research-oriented
lack of equipment (small school)
no school spirit or social life
lack of student/faculty interaction
academic standards being lowered
traditional rigid approaches to problems imposed by small staff

III. Are there any other comments you'd like to make?

WPI Freshmen

very satisfied with WPI, grading system, Plan
some professors (especially in lower level courses) are poor teachers
there should be no need for basic (calculus, physics) courses--taken in high school
housing problems
10-week courses better
more opportunity to take courses outside major
Plan is confusing, can be easily misunderstood, used to cover one's failures
Plan not flexible enough
tendency toward isolating one's courses in technical studies--narrow education
less pressure on grades with Plan
"projects" emphasis exciting, opportunity to finally apply theory--good career preparation
difficult for girls here
faculty understaffed
career opportunities could be stressed more during freshman year
WPI education could be more challenging
latitude in degree of difficulty of competency exams unfair

Clarkson Freshmen

more humanities courses offered
admissions not selective enough
little motivation to work
poor social life
small school in small city is best part about Clarkson
should include "values" courses
emphasis of professors is on research rather than teaching
too much work without time for social/cultural life
WPI Seniors

2 lack of knowledge advising creates problems
2 WPI developed good ideas but many aspects of Plan are too extreme
2 need intensive orientation to Plan for freshmen
2 Plan is good on paper but is being poorly implemented
2 WPI not selective enough in admissions
1 only 1/3 students involved in project work, rest more concerned with requirements fulfilling
1 only 1/3 faculty involved in project work
1 prefer Pass/NR/Distinguished grading system
1 IPI format for all courses
1 heavy workload detracts from enjoyable college experience
1 unnecessary stress in determining competency--using single comprehensive exam
1 changes in faculty approach, style needed
1 give sample course plans for students to use as models for specific career objectives
1 departments understaffed
1 WPI lacks sense of community
1 need more informal seminars
1 confusing to have classes being on same day as registration
1 dual system: Plan for honors students, non-Plan for others
1 poor idea to allow students to take successive courses without passing first or preceding course
1 offer short, special interest courses during Intersession
1 no humanities sufficiency
1 senior project, rather than QP--after course work completed

Clarkson Seniors

3 excellent courses and education
2 need more social sciences, humanities courses--stimulation in different ideas, ways of thinking
1 difficult to transfer here--to make adjustments, keep up with work
1 too high a level of competition encouraged here
1 poor placement services
1 confusing when actual course offerings differ from those in catalogue
1 need to replace Dean of School of Management
1 need more work internships
QUESTIONNAIRE FORM B

BACKGROUND INFORMATION

1-1. Your school

<table>
<thead>
<tr>
<th></th>
<th>WPJ</th>
<th>GCT</th>
<th>SIF</th>
<th>Total</th>
</tr>
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<tbody>
<tr>
<td>N</td>
<td>282</td>
<td>188</td>
<td>57</td>
<td>527</td>
</tr>
</tbody>
</table>

5. Are you...

   1. On the Plan and basically satisfied
   2. On the Plan but wish you were out
   3. Off the Plan and basically satisfied
   4. Off the Plan but wish you were on

6. What year are you in at your school?

   1. Freshmen
   2. Sophomore
   3. Junior
   4. Senior
   5. Other

8. Are you...

   1. Male
   2. Female
   3. Other

10. Your parents work...

   1. Your mother
   2. Father
   3. Both
   4. Live in lower middle

13. Why did you select this school?

   1. Great offers
   2. Valence from high school counselors
   3. Not list special programs offered here
   4. Advantages to students here
   5. Advice from alumni
   6. Parental advice
   7. Financial aid letter
   8. Close to home
   9. Far from home
   10. Visit to campus
   11. Faculty
   12. Intellectual atmosphere
   13. Other
10. What form of financial help do you receive from the school?

<table>
<thead>
<tr>
<th>Form of Help</th>
<th>WPI</th>
<th>CCT</th>
<th>SIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Money</td>
<td>10.4%</td>
<td>45.2%</td>
<td>14.1%</td>
</tr>
<tr>
<td>Money and work combination</td>
<td>5.5%</td>
<td>8.1%</td>
<td>12.8%</td>
</tr>
<tr>
<td>Money and loan combination</td>
<td>12.3%</td>
<td>12.9%</td>
<td>11.6%</td>
</tr>
<tr>
<td>Other</td>
<td>6.8%</td>
<td>5.9%</td>
<td>13.3%</td>
</tr>
<tr>
<td>None</td>
<td>46.2%</td>
<td>27.4%</td>
<td>26.2%</td>
</tr>
</tbody>
</table>

11. For a person in your year (e.g., freshman, junior, etc.), is your standing in terms of courses passed?

<table>
<thead>
<tr>
<th>Courses Passed</th>
<th>WPI</th>
<th>CCT</th>
<th>SIF</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>More than two courses behind</td>
<td>19.1%</td>
<td>19.3%</td>
<td>22.7%</td>
<td>.001</td>
</tr>
<tr>
<td>Two courses behind</td>
<td>6.8%</td>
<td>7.8%</td>
<td>9.9%</td>
<td>.001</td>
</tr>
<tr>
<td>One course behind</td>
<td>11.6%</td>
<td>10.6%</td>
<td>14.3%</td>
<td>.001</td>
</tr>
<tr>
<td>On target</td>
<td>31.6%</td>
<td>54.8%</td>
<td>57.4%</td>
<td>.001</td>
</tr>
<tr>
<td>One course ahead</td>
<td>9.2%</td>
<td>18.1%</td>
<td>11.4%</td>
<td>.001</td>
</tr>
<tr>
<td>Two courses ahead</td>
<td>6.9%</td>
<td>8.3%</td>
<td>9.4%</td>
<td>.001</td>
</tr>
<tr>
<td>More than two courses ahead</td>
<td>13.9%</td>
<td>11.1%</td>
<td>10.9%</td>
<td>.001</td>
</tr>
</tbody>
</table>

12. Where do you live?

<table>
<thead>
<tr>
<th>Location</th>
<th>WPI</th>
<th>CCT</th>
<th>SIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Dormitory</td>
<td>41.7%</td>
<td>64.9%</td>
<td>47.4%</td>
</tr>
<tr>
<td>Fraternity or other</td>
<td>18.9%</td>
<td>9.1%</td>
<td>12.4%</td>
</tr>
<tr>
<td>On-campus apartment</td>
<td>20.4%</td>
<td>15.0%</td>
<td>14.7%</td>
</tr>
<tr>
<td>With parents or relatives</td>
<td>11.4%</td>
<td>2.7%</td>
<td>5.4%</td>
</tr>
<tr>
<td>Other</td>
<td>9.5%</td>
<td>3.7%</td>
<td>10.7%</td>
</tr>
</tbody>
</table>

13. How far from school is your home?

<table>
<thead>
<tr>
<th>Distance</th>
<th>WPI</th>
<th>CCT</th>
<th>SIF</th>
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</thead>
<tbody>
<tr>
<td>Within 5 miles</td>
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<tr>
<td>6-10 miles</td>
<td>6.5%</td>
<td>5.1%</td>
<td>18.4%</td>
</tr>
<tr>
<td>11-20 miles</td>
<td>23.8%</td>
<td>3.4%</td>
<td>22.6%</td>
</tr>
<tr>
<td>21-50 miles</td>
<td>54.7%</td>
<td>28.2%</td>
<td>17.2%</td>
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<tr>
<td>51-100 miles</td>
<td>7.1%</td>
<td>58.0%</td>
<td>3.8%</td>
</tr>
<tr>
<td>More than 100 miles</td>
<td>1.3%</td>
<td>2.6%</td>
<td>4.1%</td>
</tr>
</tbody>
</table>

14. Where do you think you ranked in your high school class?

<table>
<thead>
<tr>
<th>Rank</th>
<th>WPI</th>
<th>CCT</th>
<th>SIF</th>
</tr>
</thead>
<tbody>
<tr>
<td>Top 10%</td>
<td>50.2%</td>
<td>54.9%</td>
<td>59.1%</td>
</tr>
<tr>
<td>Top 25%</td>
<td>26.1%</td>
<td>26.4%</td>
<td>28.8%</td>
</tr>
<tr>
<td>Top 50%</td>
<td>9.4%</td>
<td>12.4%</td>
<td>10.1%</td>
</tr>
<tr>
<td>Top 75%</td>
<td>2.8%</td>
<td>0.2%</td>
<td>1.7%</td>
</tr>
<tr>
<td>Other</td>
<td>2.5%</td>
<td>5.3%</td>
<td>5.9%</td>
</tr>
</tbody>
</table>
15. If you can remember, approximately what were your S.A.T. scores?

NOTE: Responses are means.

<table>
<thead>
<tr>
<th>S.A.T. Score</th>
<th>WPM</th>
<th>CEP</th>
<th>SIT</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>15-17, Verbal S.A.T. score</td>
<td>562.3</td>
<td>562.1</td>
<td>567.7</td>
<td>.28</td>
</tr>
<tr>
<td>18-20, Math S.A.T. score</td>
<td>644.3</td>
<td>643.5</td>
<td>659.9</td>
<td>.28</td>
</tr>
</tbody>
</table>

21. What are you majoring in?

(Responses not included here)

22. What would you like to do when you finish school?

1. Go on to graduate school
2. Work
3. Military
4. Undecided
5. Other

We are interested in approximately how much time you feel you spend during an average week on the following activities (the categories are not all mutually exclusive):

NOTE: Responses are means of hours spent in each activity.

<table>
<thead>
<tr>
<th>Activity</th>
<th>WPM</th>
<th>CEP</th>
<th>SIT</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>23-24. Contact with faculty in lectures or class</td>
<td>12.7</td>
<td>14.8</td>
<td>15.7</td>
<td>.20</td>
</tr>
<tr>
<td>25-26. Contact with my advisor individually</td>
<td>2.6</td>
<td>3.0</td>
<td>3.5</td>
<td>.10</td>
</tr>
<tr>
<td>27-28. Studying on my own or in Hill (Suller Fund) courses</td>
<td>12.0</td>
<td>18.0</td>
<td>17.5</td>
<td>.10</td>
</tr>
<tr>
<td>29-30. Working or studying with others</td>
<td>6.3</td>
<td>6.0</td>
<td>6.5</td>
<td>.28</td>
</tr>
<tr>
<td>31-32. Sports and hobbies</td>
<td>8.6</td>
<td>8.2</td>
<td>8.5</td>
<td>.28</td>
</tr>
<tr>
<td>33-34. Contact with faculty outside of class</td>
<td>3.7</td>
<td>4.4</td>
<td>4.5</td>
<td>.05</td>
</tr>
<tr>
<td>35-36. Earning money</td>
<td>3.7</td>
<td>4.8</td>
<td>4.9</td>
<td>.05</td>
</tr>
<tr>
<td>37-38. Recreation</td>
<td>16.6</td>
<td>17.5</td>
<td>17.5</td>
<td>.28</td>
</tr>
<tr>
<td>39-40. Sleeping</td>
<td>49.2</td>
<td>49.9</td>
<td>45.7</td>
<td>.28</td>
</tr>
<tr>
<td>41-42. Doing projects, experiments</td>
<td>6.8</td>
<td>4.0</td>
<td>6.9</td>
<td>.05</td>
</tr>
<tr>
<td>43-44. Taking exams, assessments</td>
<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
<td>.28</td>
</tr>
</tbody>
</table>
How do you feel about each of the following educational goals?

**NOTE:** Responses are means. Scale used was: 1 = Not very important; 2 = Important; 3 = Very Important

**HOW IMPORTANT IS IT:**

<table>
<thead>
<tr>
<th></th>
<th>WP1</th>
<th>GCP</th>
<th>SIT</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>45. To develop the skills necessary to earn a good living</td>
<td>2.6</td>
<td>2.6</td>
<td>2.5</td>
<td>SS</td>
</tr>
<tr>
<td>46. To learn how to make friends and get along with people</td>
<td>2.6</td>
<td>2.6</td>
<td>2.5</td>
<td>.008</td>
</tr>
<tr>
<td>47. To learn to think clearly and independently</td>
<td>2.8</td>
<td>2.8</td>
<td>2.8</td>
<td>SS</td>
</tr>
<tr>
<td>48. To gain an understanding of the main areas of knowledge</td>
<td>2.5</td>
<td>2.5</td>
<td>2.5</td>
<td>SS</td>
</tr>
<tr>
<td>49. To develop strengths of character and personality</td>
<td>2.6</td>
<td>2.6</td>
<td>2.6</td>
<td>SS</td>
</tr>
<tr>
<td>50. To develop physical and emotional well-being</td>
<td>2.5</td>
<td>2.5</td>
<td>2.6</td>
<td>SS</td>
</tr>
<tr>
<td>51. To develop the desire and capacity for lifelong learning</td>
<td>2.4</td>
<td>2.2</td>
<td>2.2</td>
<td>.001</td>
</tr>
<tr>
<td>52. To become an interesting individual person to yourself and others</td>
<td>2.4</td>
<td>2.4</td>
<td>2.4</td>
<td>.029</td>
</tr>
<tr>
<td>53. To develop self-confidence</td>
<td>2.7</td>
<td>2.6</td>
<td>2.6</td>
<td>SS</td>
</tr>
<tr>
<td>54. To learn how to make decisions</td>
<td>2.7</td>
<td>2.6</td>
<td>2.6</td>
<td>SS</td>
</tr>
</tbody>
</table>

**HOW IMPORTANT IS IT TO YOU TO DO THE FOLLOWING THINGS IN YOUR LIFE:**

<table>
<thead>
<tr>
<th></th>
<th>WP1</th>
<th>GCP</th>
<th>SIT</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>55. To be a financial success and earn a good living</td>
<td>2.4</td>
<td>2.2</td>
<td>2.1</td>
<td>SS</td>
</tr>
<tr>
<td>56. To have a happy family life</td>
<td>2.7</td>
<td>2.7</td>
<td>2.7</td>
<td>SS</td>
</tr>
<tr>
<td>57. To be of service to others</td>
<td>2.4</td>
<td>2.2</td>
<td>2.2</td>
<td>.001</td>
</tr>
<tr>
<td>58. To develop my own interest and personality</td>
<td>2.3</td>
<td>2.3</td>
<td>2.3</td>
<td>SS</td>
</tr>
<tr>
<td>59. To create or perform works of art</td>
<td>1.6</td>
<td>1.6</td>
<td>1.6</td>
<td>SS</td>
</tr>
<tr>
<td>60. To become competent and respected in my work or profession and in my community</td>
<td>2.8</td>
<td>2.8</td>
<td>2.8</td>
<td>SS</td>
</tr>
<tr>
<td>61. To change the world around me for the better</td>
<td>2.3</td>
<td>2.1</td>
<td>2.1</td>
<td>.029</td>
</tr>
</tbody>
</table>

**HOW IMPORTANT ARE THESE REASONS FOR Undertaking An EXPERIMENT'S PROJECT TO YOU:**

<table>
<thead>
<tr>
<th></th>
<th>WP1</th>
<th>GCP</th>
<th>SIT</th>
<th>Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>62. To learn about career possibilities</td>
<td>2.4</td>
<td>2.0</td>
<td>2.0</td>
<td>SS</td>
</tr>
<tr>
<td>63. To prepare me to cope with the adult world at work</td>
<td>4.2</td>
<td>1.9</td>
<td>2.9</td>
<td>.004</td>
</tr>
<tr>
<td>64. To get a break from the restrictions of school rules and life</td>
<td>1.5</td>
<td>1.7</td>
<td>1.7</td>
<td>SS</td>
</tr>
<tr>
<td></td>
<td>WPI</td>
<td>COT</td>
<td>HIC</td>
<td>Levels of Significance</td>
</tr>
<tr>
<td>---</td>
<td>-----</td>
<td>-----</td>
<td>-----</td>
<td>------------------------</td>
</tr>
<tr>
<td>65. To be of service to others</td>
<td>1.8</td>
<td>1.9</td>
<td>1.8</td>
<td>NS</td>
</tr>
<tr>
<td>66. To get a break from classroom and academic requirements</td>
<td>1.5</td>
<td>1.8</td>
<td>1.7</td>
<td>.003</td>
</tr>
<tr>
<td>67. To satisfy academic requirements</td>
<td>1.8</td>
<td>1.8</td>
<td>1.7</td>
<td>NS</td>
</tr>
<tr>
<td>68. To do what my friends do</td>
<td>1.1</td>
<td>1.2</td>
<td>1.1</td>
<td>.001</td>
</tr>
<tr>
<td>69. To develop personal qualities such as increased confidence, self-reliance, and maturity</td>
<td>2.5</td>
<td>2.1</td>
<td>2.0</td>
<td>.015</td>
</tr>
<tr>
<td>70. To be free, live in a new way, do my own thing</td>
<td>1.8</td>
<td>1.9</td>
<td>1.9</td>
<td>NS</td>
</tr>
<tr>
<td>71. To learn more about other, different social groups and environments than my own</td>
<td>2.2</td>
<td>2.0</td>
<td>1.9</td>
<td>.001</td>
</tr>
<tr>
<td>72. To gain practical knowledge of a subject or field studied in school</td>
<td>2.6</td>
<td>2.3</td>
<td>2.5</td>
<td>.001</td>
</tr>
<tr>
<td>73. To have time for my own creative work</td>
<td>2.0</td>
<td>1.9</td>
<td>2.2</td>
<td>.004</td>
</tr>
</tbody>
</table>

For the following list, please rate your ability to undertake off-campus work on a scale of 1 to 5:

1. Enthusiastic
2. Indifferent
3. Confident
4. Apprehensive
5. Other

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WPI Seniors

10 7 weeks too short: limited exposure to material, too rapid a pace for learning the material; excessive work--professors don't understand Plan system
5 grading system poor--hard for graduate schools/business to evaluate
4 poor advising system--uninformed; needs expansion; advisors need to be more available
4 competency exam--too much pressure, too late--how can one test competence
3 limited communications between faculty/students
3 "AC" hinders motivation; can get by with little work
2 need some regular courses to balance project work
2 poor social atmosphere
2 without course requirements, many students lack knowledge in major fields--must specify degree requirements
1 Intersessions are a waste of time
1 some exams test speed, not competence
1 inflexibility (projects take up 2-1/3 units, equivalent to 7 courses?)
1 limited course selection
1 idea of sufficiency fine but misleading--need more help on creating projects
1 more could be learned in classroom than through projects
1 laxness
1 WACCC
1 should be able to graduate with knowledge in all areas
1 major courses not offered often enough
1 projects should be more relevant to eventual career
1 open admissions
1 implementing flexible Plan on fields of study which have highly structured requirements
1 courses becoming easier
1 more research money needs to be made available to attract younger, better faculty
1 inflated grades
1 "loose" quality on projects--especially the sufficiency
1 too many students working with the same few professors
1 no sense of community
1 need to develop humanities courses
1 "MQP/IQP do not provide a true industry/education interface"

Clarkson Seniors

5 not enough practical use of theory
4 students/faculty/administration apathetic: apathetic intellectual environment; uninvolved in school affairs
3 some professors are poor teachers
3 need more humanities, social sciences--well-rounded education
1 not enough lab courses
1 not enough women
2 too much emphasis on grades
2 "departments not being of the same quality"
2 hard for small school to keep up with the times, while retaining the advantages of a small school
"many students get too involved in engineering, relating its precision to all other facets of life"

1. course material too rigid
2. programs cover too much material
3. inflexible grading; too few tests given
4. some faculty too research-oriented
5. lack of equipment (small school)
6. no school spirit or social life
7. lack of student/faculty interaction
8. academic standards being lowered
9. traditional rigid approaches to problems imposed by small staff

III. Are there any other comments you'd like to make?

**WPI Freshmen**

11. very satisfied with WPI, grading system, Plan
12. some professors (especially in lower level courses) are poor teachers
13. there should be no need for basic (calculus, physics) courses--taken in high school
14. housing problems
15. 10-week courses better
16. more opportunity to take courses outside major
17. Plan is confusing, can be easily misunderstood, used to cover one's failures
18. Plan not flexible enough
19. tendency toward isolating one's courses in technical studies--narrow education
20. less pressure on grades with Plan
21. "projects" emphasis exciting, opportunity to finally apply theory--good career preparation
22. difficult for girls here
23. faculty understaffed
24. career opportunities could be stressed more during freshman year
25. WPI education could be more challenging
26. latitude in degree of difficulty of competency exams unfair

**Clarkson Freshmen**

1. more humanities courses offered
2. admissions not selective enough
3. little motivation to work
4. poor social life
5. small school in small city is best part about Clarkson
6. should include "values" courses
7. emphasis of professors is on research rather than teaching
8. too much work without time for social/cultural life
WPI Seniors

- Lack of knowledge advising creates problems
- WPI developed good ideas but many aspects of Plan are too extreme
- Need intensive orientation to Plan for freshmen
- Plan is good on paper but is being poorly implemented
- WPI not selective enough in admissions
- Only 1/3 students involved in project work, rest more concerned with requirements fulfilling
- Only 1/3 faculty involved in project work
- Prefer Pass/NR/Distinguished grading system
- IPI format for all courses
- Heavy workload detracts from enjoyable college experience
- Unnecessary stress in determining competency—using single comprehensive exam
- Changes in faculty approach, style needed
- Give sample course plans for students to use as models for specific career objectives
- Departments understaffed
- WPI lacks sense of community
- Need more informal seminars
- Confusing to have classes being on same day as registration
- Dual system: Plan for honors students, non-Plan for others
- Poor idea to allow students to take successive courses without passing first or preceding course
- Offer short, special interest courses during intersession
- No humanities sufficiency
- Senior project, rather than OP—after course work completed

Clarkson Seniors

- Excellent courses and education
- Need more social sciences, humanities courses—stimulation in different ideas, ways of thinking
- Difficult to transfer here—too make adjustments, keep up with work
- Too high a level of competition encouraged here
- Poor placement services
- Confusing when actual course offerings differ from those in catalogue
- Need to replace Dean of School of Management
- Need more work internships
### QUESTIONNAIRE FORM B

#### BACKGROUND INFORMATION

<table>
<thead>
<tr>
<th></th>
<th>YES</th>
<th>NO</th>
<th>SIT</th>
<th>Local</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Your school</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>2. Are you</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes, on the plan and basically satisfied</td>
<td>25%</td>
<td>75%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No, on the plan but wish you were no</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes, off the plan and basically satisfied</td>
<td>10%</td>
<td>90%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No, off the plan but wish you were on</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>3. What was the best part of your school?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Teacher</td>
<td>60%</td>
<td>40%</td>
<td></td>
<td>100%</td>
</tr>
<tr>
<td>Classmates</td>
<td>20%</td>
<td>80%</td>
<td></td>
<td>100%</td>
</tr>
<tr>
<td>Location</td>
<td>10%</td>
<td>90%</td>
<td></td>
<td>90%</td>
</tr>
<tr>
<td>Class</td>
<td>10%</td>
<td>90%</td>
<td></td>
<td>90%</td>
</tr>
<tr>
<td>4. Yes</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Yes</td>
<td>60%</td>
<td>40%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>No</td>
<td>60%</td>
<td>40%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>5. Your major at school as of 2</td>
<td></td>
<td></td>
<td></td>
<td></td>
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<td>Current major</td>
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<td>90%</td>
<td></td>
<td>90%</td>
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<tr>
<td>No current major</td>
<td>10%</td>
<td>90%</td>
<td></td>
<td>90%</td>
</tr>
<tr>
<td>6. Other majors you've taken</td>
<td>10%</td>
<td>90%</td>
<td></td>
<td>90%</td>
</tr>
<tr>
<td>7. What is your school like?</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Large</td>
<td>20%</td>
<td>80%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Smaller</td>
<td>60%</td>
<td>40%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Other</td>
<td>20%</td>
<td>80%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>8. Your close friends</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Close friends</td>
<td>10%</td>
<td>90%</td>
<td></td>
<td>90%</td>
</tr>
<tr>
<td>Far from here</td>
<td>10%</td>
<td>90%</td>
<td></td>
<td>90%</td>
</tr>
<tr>
<td>9. Visit to campus</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Visited</td>
<td>20%</td>
<td>80%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Never</td>
<td>60%</td>
<td>40%</td>
<td></td>
<td></td>
</tr>
<tr>
<td>10. Faculty</td>
<td></td>
<td></td>
<td></td>
<td></td>
</tr>
<tr>
<td>Faculty</td>
<td>10%</td>
<td>90%</td>
<td></td>
<td>90%</td>
</tr>
<tr>
<td>Intellectual atmosphere</td>
<td>10%</td>
<td>90%</td>
<td></td>
<td>90%</td>
</tr>
<tr>
<td>Other</td>
<td>10%</td>
<td>90%</td>
<td></td>
<td>90%</td>
</tr>
</tbody>
</table>
10. What form of financial help do you receive from the school?

<table>
<thead>
<tr>
<th>Option</th>
<th>SPI</th>
<th>CCT</th>
<th>SIT</th>
<th>Levels of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Money</td>
<td>10.67</td>
<td>49.77</td>
<td>14.17</td>
<td></td>
</tr>
<tr>
<td>2. Money and work</td>
<td>4.45</td>
<td>8.12</td>
<td>12.82</td>
<td></td>
</tr>
<tr>
<td>3. Money and loan</td>
<td>12.12</td>
<td>12.39</td>
<td>13.65</td>
<td>.001</td>
</tr>
<tr>
<td>4. Other</td>
<td>6.85</td>
<td>5.97</td>
<td>15.14</td>
<td></td>
</tr>
<tr>
<td>5. None</td>
<td>38.25</td>
<td>37.47</td>
<td>44.22</td>
<td></td>
</tr>
</tbody>
</table>

11. For a person in your year (e.g., freshman, junior, etc.), is your standing in terms of courses passed:

<table>
<thead>
<tr>
<th>Option</th>
<th>SPI</th>
<th>CCT</th>
<th>SIT</th>
<th>Levels of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. More than two courses behind</td>
<td>10.17</td>
<td>7.77</td>
<td>7.17</td>
<td></td>
</tr>
<tr>
<td>2. Two courses behind</td>
<td>6.87</td>
<td>4.77</td>
<td>5.97</td>
<td></td>
</tr>
<tr>
<td>3. One course behind</td>
<td>11.78</td>
<td>5.74</td>
<td>6.78</td>
<td></td>
</tr>
<tr>
<td>4. On target</td>
<td>31.57</td>
<td>84.87</td>
<td>57.57</td>
<td>.001</td>
</tr>
<tr>
<td>5. One course ahead</td>
<td>13.17</td>
<td>14.17</td>
<td>11.17</td>
<td></td>
</tr>
<tr>
<td>6. Two courses ahead</td>
<td>6.67</td>
<td>8.57</td>
<td>9.57</td>
<td></td>
</tr>
<tr>
<td>7. More than two courses ahead</td>
<td>15.97</td>
<td>11.97</td>
<td>10.97</td>
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</table>

12. Where do you live?

<table>
<thead>
<tr>
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<th>CCT</th>
<th>SIT</th>
<th>Levels of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Dormitory</td>
<td>31.57</td>
<td>67.57</td>
<td>47.57</td>
<td></td>
</tr>
<tr>
<td>2. Fraternity or sorority</td>
<td>18.57</td>
<td>9.47</td>
<td>12.47</td>
<td></td>
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<tr>
<td>3. Off-campus apartment</td>
<td>20.17</td>
<td>15.07</td>
<td>11.07</td>
<td>.001</td>
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<tr>
<td>4. With parents or relatives</td>
<td>11.17</td>
<td>2.17</td>
<td>9.17</td>
<td></td>
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<tr>
<td>5. Other</td>
<td>5.37</td>
<td>3.37</td>
<td>10.37</td>
<td></td>
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</table>

13. How far from school is your home?

<table>
<thead>
<tr>
<th>Option</th>
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<th>CCT</th>
<th>SIT</th>
<th>Levels of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Within 5 miles</td>
<td>11.57</td>
<td>4.88</td>
<td>14.57</td>
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<tr>
<td>2. 5-15 miles</td>
<td>6.67</td>
<td>7.47</td>
<td>18.47</td>
<td></td>
</tr>
<tr>
<td>3. 16-50 miles</td>
<td>31.37</td>
<td>5.37</td>
<td>32.37</td>
<td></td>
</tr>
<tr>
<td>4. 51-100 miles</td>
<td>47.77</td>
<td>28.77</td>
<td>17.77</td>
<td></td>
</tr>
<tr>
<td>5. 101-500 miles</td>
<td>7.17</td>
<td>18.17</td>
<td>5.17</td>
<td></td>
</tr>
<tr>
<td>6. More than 500 miles</td>
<td>6.17</td>
<td>1.17</td>
<td>1.17</td>
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</table>

14. Where do you think you ranked in your high school class?

<table>
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<th>SIT</th>
<th>Levels of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>1. Top 10'</td>
<td>56.77</td>
<td>54.47</td>
<td>54.77</td>
<td></td>
</tr>
<tr>
<td>2. Top 11'</td>
<td>26.17</td>
<td>26.17</td>
<td>28.87</td>
<td></td>
</tr>
<tr>
<td>3. Top 50'</td>
<td>9.17</td>
<td>17.17</td>
<td>10.17</td>
<td>.001</td>
</tr>
<tr>
<td>4. Top 75'</td>
<td>4.87</td>
<td>4.27</td>
<td>3.27</td>
<td></td>
</tr>
<tr>
<td>5. Other</td>
<td>2.87</td>
<td>4.87</td>
<td>2.87</td>
<td></td>
</tr>
</tbody>
</table>
15. If you can remember, approximately what were your S.A.T. scores?

NOTE: Responses are means.

15-17. Verbal S.A.T. score
18-20. Math S.A.T. score

21. What are you majoring in?
(Responses not included here)

22. What would you like to do when you finish school?

1. Go on to graduate school
2. Work
3. Military
4. Undecided
5. Other

We are interested in approximately how much time you feel you spend during an average week on the following activities (the categories are not all mutually exclusive):

NOTE: Responses are means of hours spent in each activity.

23-25. Contact with faculty in lectures or class
26-28. Contact with my advisor individually
27-28. Studying on my own or in IP
courses
29-31. Working or studying with others
31-32. Sports and hobbies
32-33. Contact with faculty outside of class
33-36. Earning money
37-38. Recreation
39-40. Sleeping
41-42. Doing projects, experiments
41-42. Taking exams, assessments
How do you feel about each of the following educational goals?

**NOTE:** Responses are means. Scale used was:
- 1 = Not very important
- 2 = Important
- 3 = Very Important

<table>
<thead>
<tr>
<th>HOW IMPORTANT IS IT?</th>
<th>MPI</th>
<th>GCT</th>
<th>SIT</th>
<th>Levels of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>45. To develop the skills necessary to earn a good living</td>
<td>2.6</td>
<td>2.6</td>
<td>2.5</td>
<td>NS</td>
</tr>
<tr>
<td>46. To learn how to make friends and get along with people</td>
<td>2.6</td>
<td>2.6</td>
<td>2.5</td>
<td>.008</td>
</tr>
<tr>
<td>47. To learn to think clearly and independently</td>
<td>2.8</td>
<td>2.8</td>
<td>2.8</td>
<td>NS</td>
</tr>
<tr>
<td>48. To gain an understanding of the main areas of knowledge</td>
<td>2.5</td>
<td>2.4</td>
<td>2.4</td>
<td>NS</td>
</tr>
<tr>
<td>49. To develop strengths of character and personality</td>
<td>2.6</td>
<td>2.5</td>
<td>2.5</td>
<td>NS</td>
</tr>
<tr>
<td>50. To develop physical and emotional well-being</td>
<td>2.5</td>
<td>2.4</td>
<td>2.4</td>
<td>NS</td>
</tr>
<tr>
<td>51. To develop the desire and capacity for lifelong learning</td>
<td>2.3</td>
<td>2.2</td>
<td>2.2</td>
<td>.001</td>
</tr>
<tr>
<td>52. To become an interesting individual person to yourself and others</td>
<td>2.4</td>
<td>2.3</td>
<td>2.3</td>
<td>.029</td>
</tr>
<tr>
<td>53. To develop self-confidence</td>
<td>2.7</td>
<td>2.6</td>
<td>2.6</td>
<td>NS</td>
</tr>
<tr>
<td>54. To learn how to make decisions</td>
<td>2.7</td>
<td>2.6</td>
<td>2.7</td>
<td>NS</td>
</tr>
</tbody>
</table>

**HOW IMPORTANT IS IT TO YOU TO DO THE FOLLOWING CHOICES IN YOUR LIFE?**

<table>
<thead>
<tr>
<th>HOW IMPORTANT IS IT TO YOU TO DO THE FOLLOWING CHOICES IN YOUR LIFE?</th>
<th>MPI</th>
<th>GCT</th>
<th>SIT</th>
<th>Levels of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>55. To be a financial success and earn a good living</td>
<td>2.1</td>
<td>2.2</td>
<td>2.1</td>
<td>NS</td>
</tr>
<tr>
<td>56. To have a happy family life</td>
<td>2.7</td>
<td>2.7</td>
<td>2.7</td>
<td>NS</td>
</tr>
<tr>
<td>57. To be of service to others</td>
<td>2.3</td>
<td>2.2</td>
<td>2.2</td>
<td>.04</td>
</tr>
<tr>
<td>58. To develop one's own interests and personality</td>
<td>2.8</td>
<td>2.8</td>
<td>2.8</td>
<td>NS</td>
</tr>
<tr>
<td>59. To create or perform works of art</td>
<td>1.6</td>
<td>1.5</td>
<td>1.6</td>
<td>NS</td>
</tr>
<tr>
<td>60. To become competent and respected in your work or profession</td>
<td>2.4</td>
<td>2.3</td>
<td>2.4</td>
<td>.004</td>
</tr>
<tr>
<td>61. To change the world around me for the better</td>
<td>2.4</td>
<td>2.3</td>
<td>2.4</td>
<td>.029</td>
</tr>
</tbody>
</table>

**HOW IMPORTANT ARE THESE REASONS FOR Undertaking an OFCAMPUS PROJECT TO YOU?**

<table>
<thead>
<tr>
<th>HOW IMPORTANT ARE THESE REASONS FOR Undertaking an OFCAMPUS PROJECT TO YOU?</th>
<th>MPI</th>
<th>GCT</th>
<th>SIT</th>
<th>Levels of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>62. To learn about career possibilities</td>
<td>4.1</td>
<td>2.9</td>
<td>2.9</td>
<td>NS</td>
</tr>
<tr>
<td>63. To prepare me to cope with the adult world of work</td>
<td>2.9</td>
<td>1.9</td>
<td>2.9</td>
<td>.001</td>
</tr>
<tr>
<td>64. To get a break from the restrictions of school rules and life</td>
<td>2.1</td>
<td>1.7</td>
<td>1.7</td>
<td>NS</td>
</tr>
</tbody>
</table>
58

65. To be of service to others  
66. To get a break from classroom and academic requirements  
67. To satisfy academic requirements  
68. To do what my friends do  
69. To develop personal qualities such as increased confidence, self-reliance, and maturity  
70. To be free, live in a new way, do my own thing  
71. To learn more about other, different social groups and environments than my own  
72. To gain practical knowledge of a subject or field studied in school  
73. To have time for my own creative work  

<table>
<thead>
<tr>
<th></th>
<th>WPI</th>
<th>GEE</th>
<th>SIT</th>
<th>Levels of Significance</th>
</tr>
</thead>
<tbody>
<tr>
<td>65. To be of service to others</td>
<td>1.8</td>
<td>1.9</td>
<td>1.8</td>
<td>NS</td>
</tr>
<tr>
<td>66. To get a break from classroom and academic requirements</td>
<td>1.5</td>
<td>1.8</td>
<td>1.7</td>
<td>.001</td>
</tr>
<tr>
<td>67. To satisfy academic requirements</td>
<td>1.8</td>
<td>1.8</td>
<td>1.7</td>
<td>NS</td>
</tr>
<tr>
<td>68. To do what my friends do</td>
<td>1.1</td>
<td>1.2</td>
<td>1.1</td>
<td>.001</td>
</tr>
<tr>
<td>69. To develop personal qualities such as increased confidence, self-reliance, and maturity</td>
<td>2.5</td>
<td>2.1</td>
<td>2.3</td>
<td>.001</td>
</tr>
<tr>
<td>70. To be free, live in a new way, do my own thing</td>
<td>1.8</td>
<td>1.9</td>
<td>1.9</td>
<td>NS</td>
</tr>
<tr>
<td>71. To learn more about other, different social groups and environments than my own</td>
<td>2.2</td>
<td>2.0</td>
<td>1.9</td>
<td>.001</td>
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<tr>
<td>72. To gain practical knowledge of a subject or field studied in school</td>
<td>2.6</td>
<td>2.4</td>
<td>2.1</td>
<td>.001</td>
</tr>
<tr>
<td>73. To have time for my own creative work</td>
<td>2.0</td>
<td>1.9</td>
<td>2.2</td>
<td>.001</td>
</tr>
</tbody>
</table>

DO YOU THINK THAT ANY OF THE FOLLOWING WILL BE PROBLEMS FOR YOU ON AN OFF-CAMPUS WORK JOB OR PROJECT:

74. Your ability to master the various facets of the job, to the satisfaction of your employer  
75. Your ability to get along with your supervisor  
76. Your ability to get along with your fellow workers  
77. Your ability to stick it out even when the job is boring  
78. Your ability to meet your appointments regularly and tactfully  

<table>
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<tr>
<th></th>
<th>WPI</th>
<th>GEE</th>
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<tbody>
<tr>
<td>74. Your ability to master the various facets of the job, to the satisfaction of your employer</td>
<td>1.7</td>
<td>1.7</td>
<td>1.6</td>
<td>NS</td>
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<tr>
<td>75. Your ability to get along with your supervisor</td>
<td>1.6</td>
<td>1.6</td>
<td>1.5</td>
<td>NS</td>
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<tr>
<td>76. Your ability to get along with your fellow workers</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
<td>NS</td>
</tr>
<tr>
<td>77. Your ability to stick it out even when the job is boring</td>
<td>1.8</td>
<td>1.8</td>
<td>1.8</td>
<td>NS</td>
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<tr>
<td>78. Your ability to meet your appointments regularly and tactfully</td>
<td>1.7</td>
<td>1.7</td>
<td>1.7</td>
<td>NS</td>
</tr>
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</table>

79. How do you feel about undertaking your off-campus project or activity?  

<table>
<thead>
<tr>
<th></th>
<th>WPI</th>
<th>GEE</th>
<th>SIT</th>
<th>Levels of Significance</th>
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</thead>
<tbody>
<tr>
<td>1. Enthusiastic</td>
<td>43.6%</td>
<td>45.8%</td>
<td>47.6%</td>
<td>NS</td>
</tr>
<tr>
<td>2. Indifferent</td>
<td>17.1%</td>
<td>21.4%</td>
<td>16.7%</td>
<td>NS</td>
</tr>
<tr>
<td>3. Confident</td>
<td>17.5%</td>
<td>25.6%</td>
<td>28.4%</td>
<td>NS</td>
</tr>
<tr>
<td>4. Apprehensive</td>
<td>17.3%</td>
<td>14.9%</td>
<td>12.6%</td>
<td>NS</td>
</tr>
<tr>
<td>5. Other</td>
<td>0.1%</td>
<td>4.4%</td>
<td>1.2%</td>
<td>NS</td>
</tr>
</tbody>
</table>

126
Rate each of the following concepts according to how you personally perceive it or feel toward it. The numbers represent a scale between the word pairs; indicate where you would put yourself on the scale by placing a circle around the appropriate number.

**NOTE:** Responses are **means**. Scale used was:
1 = Left side of pair; 9 = Right side of pair

Respond to each of the following word-pairs as you see

<table>
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<tr>
<th>Word-pairs</th>
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<th>CCT</th>
<th>SIT</th>
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<tbody>
<tr>
<td>5. Large/small</td>
<td>4.5</td>
<td>4.4</td>
<td>4.4</td>
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<tr>
<td>6. Slow/fast</td>
<td>6.3</td>
<td>6.2</td>
<td>6.5</td>
</tr>
<tr>
<td>7. Good/bad</td>
<td>3.1</td>
<td>3.4</td>
<td>2.9</td>
</tr>
<tr>
<td>8. Weak/strong</td>
<td>6.4</td>
<td>6.3</td>
<td>6.5</td>
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<tr>
<td>9. Active/passive</td>
<td>3.8</td>
<td>4.1</td>
<td>3.7</td>
</tr>
<tr>
<td>10. Ugly/beautiful</td>
<td>5.8</td>
<td>5.8</td>
<td>6.1</td>
</tr>
<tr>
<td>11. Light/heavy</td>
<td>4.9</td>
<td>5.0</td>
<td>5.0</td>
</tr>
<tr>
<td>12. Dull/sharp</td>
<td>6.7</td>
<td>6.5</td>
<td>6.8</td>
</tr>
<tr>
<td>13. Kind/cruel</td>
<td>3.1</td>
<td>3.1</td>
<td>3.0</td>
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<tr>
<td>14. Hard/soft</td>
<td>5.2</td>
<td>5.3</td>
<td>5.5</td>
</tr>
<tr>
<td>15. Deliberate/careless</td>
<td>3.5</td>
<td>3.8</td>
<td>3.7</td>
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<tr>
<td>16. Unpleasant/pleasant</td>
<td>6.7</td>
<td>6.5</td>
<td>6.9</td>
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<tr>
<td>17. Mature/immature</td>
<td>3.3</td>
<td>3.2</td>
<td>3.0</td>
</tr>
<tr>
<td>18. Hazy/clear</td>
<td>6.5</td>
<td>6.3</td>
<td>6.7</td>
</tr>
<tr>
<td>19. Valuable/worthless</td>
<td>3.1</td>
<td>3.3</td>
<td>2.9</td>
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**YOUR IDEAL SELF**

<table>
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<td>20. Large/small</td>
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<td>3.9</td>
<td>3.8</td>
</tr>
<tr>
<td>21. Slow/fast</td>
<td>6.6</td>
<td>7.4</td>
<td>7.6</td>
</tr>
<tr>
<td>22. Good/bad</td>
<td>2.0</td>
<td>2.2</td>
<td>2.1</td>
</tr>
<tr>
<td>23. Weak/strong</td>
<td>7.9</td>
<td>7.7</td>
<td>7.8</td>
</tr>
<tr>
<td>24. Active/passive</td>
<td>2.2</td>
<td>2.4</td>
<td>2.2</td>
</tr>
<tr>
<td>25. Ugly/beautiful</td>
<td>7.3</td>
<td>7.1</td>
<td>7.1</td>
</tr>
<tr>
<td>26. Light/heavy</td>
<td>4.5</td>
<td>4.5</td>
<td>4.5</td>
</tr>
<tr>
<td>27. Dull/sharp</td>
<td>8.1</td>
<td>7.8</td>
<td>8.0</td>
</tr>
<tr>
<td>28. Kind/cruel</td>
<td>2.0</td>
<td>2.0</td>
<td>2.0</td>
</tr>
<tr>
<td>29. Hard/soft</td>
<td>5.0</td>
<td>5.1</td>
<td>5.2</td>
</tr>
<tr>
<td>30. Deliberate/careless</td>
<td>2.2</td>
<td>2.6</td>
<td>2.5</td>
</tr>
</tbody>
</table>
31. Unpleasant/pleasant & WPI & 8.1 & 8.0 & 8.0  
32. Mature/immature & & 1.9 & 1.9 & 1.9  
33. Hazy/clear & & 8.2 & 8.0 & 8.3  
34. Valuable/worthless & & 1.8 & 2.0 & 1.7  

OTHER STUDENTS
35. Large/small & & 4.6 & 4.7 & 4.7  
36. Slow/fast & & 5.2 & 5.3 & 5.3  
37. Good/bad & & 4.8 & 4.5 & 4.5  
38. Weak/strong & & 5.1 & 5.2 & 5.4  
39. Active/passive & & 5.2 & 4.8 & 4.8  
40. Ugly/beautiful & & 5.0 & 5.1 & 5.3  
41. Light/heavy & & 5.2 & 5.2 & 5.1  
42. Dull/sharp & & 5.0 & 5.3 & 5.4  
43. Kind/cruel & & 4.8 & 4.9 & 4.6  
44. Hard/soft & & 4.9 & 4.9 & 4.9  
45. Deliberate/careless & & 5.4 & 5.0 & 4.9  
56. Unpleasant/pleasant & & 5.3 & 5.7 & 5.6  
57. Mature/immature & & 5.3 & 5.1 & 5.0  
58. Hazy/clear & & 4.9 & 5.4 & 5.2  
59. Valuable/worthless & & 4.6 & 4.2 & 4.1  

I. How would you solve the following problem: Pretend you were asked to devise a gasoline rationing system for all of the people at this school. What factors would you consider in making your decision? What would your program look like?

WPI Students
9 top priority for commuting staff, students  
7 no discrimination (no favoritism for minorities or the affluent), i.e., equal amount of gas for all people  
4 consider each person's need for driving  
3 consider distance to be traveled  
2 consider income/occupation  
2 consider type of car  
1 lowest priority for resident staff, students with vehicles  
1 carpool received increased ration  
1 gas allocated by WPI security  
1 no coupons use student ID as credit card  
1 penalize people who own/use cars that get poor mileage
penalize people who commute more than 20 miles per day
allow people to sell their gas to others
raise price of gas
advertising campaign to urge conservation of gas
use school vehicles only for necessities
consider type of driver: waster/conserver of gas
consider military use/public transportation
have everyone drive same type of car
priority for truckers, salesmen, military, etc.
priority based on necessary travels with option to bend rules if necessary
people without cars entitled to ½ standard ration--to be given away
consider severity of fuel shortage
more bicycles
rich people with big cars can buy extra gas at heavily taxed prices
"consider needs for work, split the rest for pleasure"
stamps given out on priority basis
second priority = $5 limit on gas for residential students

II. Pretend someone similar to yourself, but younger, asked your advice about coming to this school. What would you say? Why?

6. No: no girls, no social life
6. Yes: very good school for learning: enjoyable courses, faculty, opportunities in abundance
4. suggest that they have a pretty good idea of what they want to go into; have a major in mind; person should be interested in learning, not just in getting a degree--need high motivation
2. don't be put off by "braggarts"/"robot"/strange people here
2. must be prepared to emotional depression, high expenses; able to survive with little or no social life, work hard
1. don't be put off by seemingly impersonal faculty
1. "don't be put off by freshman classes--they are only the basics, the important material will come later
1. encourage person if a serious student
1. suggest they live at school to take advantage of all it has to offer
1. good place to learn about people/work
1. must want to come here
1. need better than average intelligence, be enthusiastic about projects
1. Plan has no problems but provides better than average education
1. would explain good/bad parts about WPI/Plan, etc.
1. consider small school environment

III. Do you have any other comments you'd like to make?

1. WPI students tend to be apathetic
1. "Plan is a great thing: the school as a community is great"
1. 10-week term better
1. knowledge gained here is deeply satisfying
1. most people at WPI take life too seriously
1. some people at WPI are very strange
1. poor athletics program
1. some notice (praise) of receiving good grades would be nice
1. guaranteed housing for black students discriminates against white students
QUESTIONNAIRE FORM C

Responses

The items in this instrument cluster into three scales. The scores of each school on each scale are noted below where:

1 = low
4 = high

The key for the items making up each scale is on the questionnaire.

Table: Responses are means.

<table>
<thead>
<tr>
<th>Variable</th>
<th>Scale 1</th>
<th>Scale 2</th>
<th>Scale 3</th>
<th>Scale 4</th>
<th>Scale 5</th>
</tr>
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<tbody>
<tr>
<td>Consistency</td>
<td>1.2</td>
<td>1.4</td>
<td>1.5</td>
<td>1.3</td>
<td>1.6</td>
</tr>
<tr>
<td>Interact</td>
<td>2.0</td>
<td>2.2</td>
<td>2.3</td>
<td>2.1</td>
<td>2.4</td>
</tr>
<tr>
<td>Creativity</td>
<td>3.2</td>
<td>3.4</td>
<td>3.5</td>
<td>3.3</td>
<td>3.6</td>
</tr>
<tr>
<td>Interest</td>
<td>4.0</td>
<td>4.2</td>
<td>4.3</td>
<td>4.1</td>
<td>4.4</td>
</tr>
<tr>
<td>Innovation</td>
<td>1.5</td>
<td>1.6</td>
<td>1.7</td>
<td>1.4</td>
<td>1.8</td>
</tr>
<tr>
<td>Institution</td>
<td>2.3</td>
<td>2.4</td>
<td>2.5</td>
<td>2.2</td>
<td>2.6</td>
</tr>
<tr>
<td>Social Interaction</td>
<td>3.7</td>
<td>3.8</td>
<td>3.9</td>
<td>3.7</td>
<td>4.0</td>
</tr>
<tr>
<td>Cooperation</td>
<td>1.0</td>
<td>1.1</td>
<td>1.2</td>
<td>1.0</td>
<td>1.2</td>
</tr>
<tr>
<td>Performance</td>
<td>2.9</td>
<td>3.0</td>
<td>3.1</td>
<td>2.8</td>
<td>3.2</td>
</tr>
<tr>
<td>Satisfaction</td>
<td>4.2</td>
<td>4.3</td>
<td>4.4</td>
<td>4.2</td>
<td>4.5</td>
</tr>
<tr>
<td>Leadership</td>
<td>1.8</td>
<td>1.9</td>
<td>2.0</td>
<td>1.8</td>
<td>2.1</td>
</tr>
<tr>
<td>Desire</td>
<td>2.1</td>
<td>2.2</td>
<td>2.3</td>
<td>2.1</td>
<td>2.4</td>
</tr>
<tr>
<td>Competitiveness</td>
<td>3.5</td>
<td>3.6</td>
<td>3.7</td>
<td>3.5</td>
<td>3.1</td>
</tr>
</tbody>
</table>

Note: On some variables the variance within institutions was so small that mean differences between institutions of 0.1 were statistically significant.
DIRECTIONS

The purpose of this questionnaire is to find out what your school environment is like. Some questions relate to "a typical class," others to the entire school. There are no right or wrong answers to any of the questions. You are asked to give your honest and frank opinions. Your replies are anonymous.

For each statement, go through the following steps:

1. Read the statement carefully.
2. Think about how well the statement describes your school.
3. Circle one of the numbers across from the statement according to the following instructions:
   - If you strongly disagree with the statement, circle number 1.
   - If you disagree with the statement, circle number 2.
   - If you agree with the statement, circle number 3.
   - If you strongly agree with the statement, circle number 4.

Please be sure to answer all the questions. Do not leave any of the questions blank.

---

(1-4) Your School

(5) What year are you in at your school? WPI  CCT  FIT

(1) _____ freshman   30.0%  33.0%  14.6%
(2) _____ sophomore  22.5%  20.1%  14.9%
(3) _____ junior     25.4%  24.4%  15.7%
(4) _____ senior     21.7%  21.5%  14.2%
(5) _____ graduate student   0.4%  1.0%  50.6%
(6) _____ other (What? )

(6) Are you

(1) _____ male    87.9%  87.6%  89.4%
(2) _____ female  12.1%  12.4%  10.7%
(7) Students here do favors for one another.

(8) The books and equipment students need or want are easily available to them.

(9) There are long periods during which many classes do nothing.

(10) The school has students with many different interests.

(11) Certain students work only with their close friends.

(12) The students here enjoy their class work.

(13) Students who break the rules are penalized.

(14) There is constant bickering among class members.

(15) The better students' questions are more sympathetically answered than those of the average students.

(16) Each class usually knows exactly what it has to get done.

(17) Interests vary greatly within classes or groups.

(18) A good collection of books or magazines is available for students to use.

(19) The work here is difficult.

(20) Every student here enjoys the same privileges.

(21) Most students want their work to be better than their friends' work.

(22) The school has rules to guide its activities.

(23) Personal dissatisfaction with the school is too small to be a problem.

(24) A student has the chance to get to know most other students in his/her class.

(25) Work in class is frequently interrupted when some students have nothing to do.

(26) Students cooperate equally with all class members.
Many students are dissatisfied with much that the class does.

The better students are granted special privileges.

The objectives of most classes are not clearly recognized.

Only the good students are given special projects.

Class decisions tend to be made by all the students.

The students would be proud to show the school to a visitor.

The pace of most classes is rushed.

Some students refuse to mix with other students.

Decisions affecting the students tend to be made democratically.

Certain students have no respect for other students.

Some groups of students work together regardless of what the rest of the class is doing.

Members of each class are personal friends.

Most classes are well organized.

Some students are interested in completely different things than other students.

Certain students have more influence on what happens in class than others.

The facilities are bright and comfortable.

Students in the same class tend to pursue different kinds of problems.

There is considerable dissatisfaction with the work the students have to do.

Failure of one class would mean little to individual members.

Many classes are disorganized.
<table>
<thead>
<tr>
<th></th>
<th>1</th>
<th>2</th>
<th>3</th>
<th>4</th>
</tr>
</thead>
<tbody>
<tr>
<td>47</td>
<td>Students compete to see who can do the best work.</td>
<td>Strongly disagree</td>
<td>Disagree</td>
<td>Agree</td>
</tr>
<tr>
<td>48</td>
<td>Certain students impose their wishes on the rest.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>49</td>
<td>A few of the class members always try to do better than the others.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>50</td>
<td>There are tensions among certain groups of students that tend to interfere with class activities.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>51</td>
<td>Classes are well-organized and efficient.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>52</td>
<td>Students are constantly challenged.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>53</td>
<td>Students feel left out unless they compete with their classmates.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>54</td>
<td>Students are asked to follow strict rules.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>55</td>
<td>The class is controlled by the actions of a few members who are favored.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>56</td>
<td>Students don't care about the future of the school as a whole.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>57</td>
<td>Each member of the school has as much influence as any other member.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>58</td>
<td>The members look forward to coming to class meetings.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>59</td>
<td>The subjects studied require no particular aptitude on the part of the students.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>60</td>
<td>Members of most classes don't care what the class does.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>61</td>
<td>There are displays around most rooms.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>62</td>
<td>All students know each other very well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>63</td>
<td>Classrooms are too crowded.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>64</td>
<td>Students are not in close enough contact to develop likes or dislikes for one another.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>65</td>
<td>The class is rather informal and few rules are imposed.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>66</td>
<td>Students have little idea of what the class is attempting to accomplish.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>(67)</td>
<td>There is a recognized right and wrong way of going about class activities.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>(68)</td>
<td>What a class does is usually determined by all the students.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>(69)</td>
<td>After most classes, the students have a sense of satisfaction.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>(70)</td>
<td>Most students cooperate rather than compete with one another.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>(71)</td>
<td>The objectives of your classes are specific.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>(72)</td>
<td>Students in most classes tend to find the work hard to do.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>(73)</td>
<td>Each student knows the goals of the course.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>(74)</td>
<td>All classroom procedures are well-established.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>(75)</td>
<td>Certain students in most classes are responsible for petty quarrels.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>(76)</td>
<td>Many class members are confused by what goes on in class.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>(77)</td>
<td>Classes are made up of individuals who do not know each other well.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>(78)</td>
<td>Classes divide their efforts among several purposes.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
<tr>
<td>(79)</td>
<td>Classes have plenty of time to cover the prescribed amount of work.</td>
<td>1</td>
<td>2</td>
<td>3</td>
</tr>
</tbody>
</table>

- **(80=1)**
- **(1-4 = ident)**
- **(5)** Students who have past histories of being discipline problems are discriminated against. 1 2 3 4
- **(6)** Students do not have to hurry to finish their work. 1 2 3 4
| (7) | Certain groups of friends tend to sit together. | 1 | 2 | 3 | 4 |
| (8) | There is much competition in our classes. | 1 | 2 | 3 | 4 |
| (9) | The subject presentation is too elementary for many students. | 1 | 2 | 3 | 4 |
| (10) | Students are well-satisfied with the work of the class. | 1 | 2 | 3 | 4 |
| (11) | A few members of the class have much greater influence than the other members. | 1 | 2 | 3 | 4 |
| (12) | There is a set of rules for the students to follow. | 1 | 2 | 3 | 4 |
| (13) | Certain students don't like other students. | 1 | 2 | 3 | 4 |
| (14) | The class realizes exactly how much work it has to do. | 1 | 2 | 3 | 4 |
| (15) | Students share a common concern for the success of the class. | 1 | 2 | 3 | 4 |
| (16) | There is little time for day-dreaming. | 1 | 2 | 3 | 4 |
| (17) | The class is working toward many different goals. | 1 | 2 | 3 | 4 |
| (18) | The class members feel rushed to finish their work. | 1 | 2 | 3 | 4 |
| (19) | Certain students are considered uncooperative. | 1 | 2 | 3 | 4 |
| (20) | Most students sincerely want the class to be a success. | 1 | 2 | 3 | 4 |
| (21) | There is enough room for both individual and group work. | 1 | 2 | 3 | 4 |
| (22) | Each student knows most of the other members of his or her classes by their first names. | 1 | 2 | 3 | 4 |
| (23) | Failure of every member of a class would mean nothing to most members. | 1 | 2 | 3 | 4 |
| (24) | Most classes have difficulty keeping up with their assigned work. | 1 | 2 | 3 | 4 |
| (25) | There is a great deal of confusion during most class meetings. | 1 | 2 | 3 | 4 |
| (26) | Different students vary a great deal regarding which aspect of their classes they are interested in. | 1 | 2 | 3 | 4 |
(27) Each student in a class has a clear idea of the class goals.

(28) Most students cooperate equally with other class members.

(29) Certain students are favored more than the rest.

(30) Students have a great concern for the progress of the class.

(31) Certain students stick together in small groups.

(32) Most students consider the subject-matter here easy.

(33) The course material is covered quickly.

(34) There is an undercurrent of feeling among students that tends to pull the classes apart.

(35) Many students in the school would have difficulty doing the advanced work of upper classes.

(36) Students seldom compete with one another.
APPENDIX D

STUDENT INTERVIEW CATEGORIZED RESULTS

1. WPI - September 1973
2. WPI - November 1973
3. WPI - April 1974
4. WPI - November 1974
5. WPI - February 1975
6. CCT - November 1973
7. CCT - October 1974
8. CCT - April 1974
9. CCT - January 1975
10. SIT - March 1975
Interview Results
Worcester Polytechnic Institute - September 1973

How did you hear of WPI?
7 friends
4 guidance counselor
3 director of WPI admissions visited high school
3 family
2 visit to WPI campus
1 teacher
1 high school chemistry department

Why did you decide to attend WPI?
5 the Plan
2 close to home
1 good reputation
1 financial aid
1 Consortium

Did you know about the Plan when applying?
16 yes

How important was the Plan in your decision to come here?
6 not much difference; would have come anyway
3 only reason for attending
3 large effect on decision
3 would not have come without the Plan

Do you think negotiated admissions is a good idea?
6 yes

Describe the Plan; what it means to you.
6 free course selection
4 no required courses
3 student has more freedom to pursue own education; to suit own goals
3 IPI or lectures
3 short terms
1 concentrate on learning things, not on grades
1 learn self-motivation
1 better relationship with teachers
1 able to concentrate on one area
1 have more control over studies
1 responsibility on student

Which aspects of the Plan benefit you the most?
6 independence in selecting courses; educate myself
2 no required courses
2 practical education included; preparation for life
2 IPI
2 qualifying projects
1 selection of courses available
extra help from teachers
follow interests in different areas
3 courses per term—get more out of each one

Problems?
how to do project; making contact with people especially
with Plan: sinking to the average
seems necessary to spend all time studying
English history
electrical engineering a difficult field
need advising in selecting humanities courses

Outstanding experience thus far?
adjusting to dorm
none
friendly atmosphere—students, professors, etc.
being at college
ROTC
calculus IPI
placed in higher level course
working on a computer
good teachers—willing to go out of their way to help students

Personal effects of living here for four years?
good education
enjoy years here
more competent engineer
better social experience than living at home
more outgoing
become well-rounded
learn a lot about people
self-motivation
practical education
independence

How do you feel about faculty?
they're all great
working hard to make Plan work
good teachers
good interaction between students/faculty; they are very helpful
they make themselves available

What do you think of the advising system?
helpful
don't know yet
not too helpful

What kind of relationship do you want to have with advisor?
set up own appointments
Should the advising be personal as well as academic?
- 6 yes
- 3 no

How will you have to behave here to succeed?
- 6 serious about work: studies come first
- 2 careful not to fall behind in work
- 1 self-motivated
- 1 normal way I always act
- 1 interested in learning

Have you done independent work before?
- 7 yes
- 4 limited
- 4 no

Were you supervised by a teacher?
- 3 helped with problems only
- 2 closely

How much time are you spending on work?
- 5 3-4 hours per day
- 4 5-6 hours per day
- 1 2 hours per day
- 1 9 hours per day
- 1 40-50 hours per week
- 1 20 hours per week

Outside interests?
- 2 sports (unspecified)
- 2 tennis
- 2 crew
- 1 reading
- 1 photography
- 1 science fiction
- 1 basketball
- 1 sailing
- 1 swimming
- 1 Outing Club
- 1 bowling team
- 1 food
- 1 cars
- 1 partying
- 1 meeting people

Do you have much contact with upperclassmen?
- 9 limited (fraternity rush, RA, some dorms integrated)
- 2 yes
Do you feel flooded with information from WPI or do you have enough?

- 7 enough
- 3 felt flooded in beginning of year
- 2 not flooded
- 1 didn't explain everything as well as they should have

What do you think of the grading system?

- 10 good
- 1 competing only against yourself

Do you feel the grading system stimulates as much/more/less than grades?

- 3 not important; don't worry about grades
- 2 more
- 1 helps students get what they want out of the course
- 1 personal achievement

How is your roommate situation?

- 11 good

How is your friend situation?

- 9 good; getting to know dorm people primarily

Experience in high school you hope to continue in college?

- 1 joy of learning
- 1 good relationship with teachers
- 1 being able to graduate
- 1 make good friends

Feelings of upperclassmen about WPI or Plan?

- 8 they like Plan
- 4 they don't like Plan

WPI teachers compared to high school teachers?

- 7 WPI teachers very good
- 4 WPI teachers go through material very fast
- 2 WPI teachers expect more of you
- 1 WPI teachers more outgoing; more qualified

Have you changed/are you going to change this year?

- 3 no
- 3 yes; adjusting to new life; homework done sooner, for example
- 3 yes; gain self-confidence
- 3 yes; become more independent, self-reliant
- 1 yes; become more responsible
- 1 yes; gain decision-making ability
What do you think of the sufficiency requirement?

- 4 started it already
- 3 good; broader knowledge
- 3 haven't thought about it yet

When will you finish it?

- 2 later--junior year
- 2 as soon as possible--sophomore year
- 1 don't know
- 1 junior or senior year

Could you evaluate a teacher/student/yourself at the end of a course?

<table>
<thead>
<tr>
<th>Role</th>
<th>Yes</th>
<th>No</th>
<th>Maybe</th>
</tr>
</thead>
<tbody>
<tr>
<td>Teacher</td>
<td>9</td>
<td></td>
<td></td>
</tr>
<tr>
<td>Student</td>
<td>6</td>
<td>3</td>
<td></td>
</tr>
<tr>
<td>Self</td>
<td>8</td>
<td>1</td>
<td></td>
</tr>
</tbody>
</table>

By coming to WPI, the Plan, etc., will you graduate different than if you had gone to another engineering school?

- 12 yes: project work builds confidence; apply theory to practice, more respect for both sides of things; more education; better understanding of self; happier; more responsible; more concerned; Plan helps one to be more competent in a certain area within a field; (2) extra knowledge; (2) more satisfied because planned own education for four years

Should humanities courses be graded the same as other courses?

- 10 yes

Should more courses be added/should there be more freedom in course selection?

- 8 no, plenty offered already
- 3 yes, there should be more variety in humanities offerings

Would you take more than the minimum in humanities courses?

- 5 yes
- 5 no
Interview Results
Worcester Polytechnic Institute - November 1973

How did you hear of WPI?
5 father
4 catalogues
1 alumnus
1 took courses here during high school
1 campus visit
1 admissions people visited high school

Why are you here?
3 interview on campus
2 campus/people here
2 close to home
1 Plan
1 small school

Are you on the Plan?
11 yes

What do you think of the current length of the term?
4 7-week term good
4 14-week term good
2 10-week term good
2 8-week term good

To whom would you refer a friend who had problems?
4 Dean van Alstyne (academic advising)
4 Roy Astley
2 work it out among close friends
2 residential advisor
2 don't know
1 Dean Trask
1 Amy Schnetter

When you finish here, what do you think people will think you can do?
5 competent in major field
3 need more education (grad school)
2 individual who can solve problems
2 not much
1 specialized work studied here
1 "All I have to do is be a girl"
1 general knowledge
Job satisfactions?
3 interesting, enjoyable work
2 adequate income
2 research/theoretical work
1 sense of cooperative effort
1 generating new knowledge in specialized field
1 to become (a woman) registered professional engineer
1 nice environment
1 congenial co-workers
1 own business combining scientific interests
1 environmental work
1 competent in job
1 teaching-medical work
1 challenge
1 become a good teacher
1 position with unlimited potential

Life satisfactions?
4 good, satisfying work
4 marriage, children, "full life"
2 friends
2 financial security
2 to do something worthwhile/make a contribution/affect people
2 become a recognized authority in field
1 acceptance by society
1 independence
1 live in a good environment
1 time to be outdoors
1 "being able to apply what I've learned"
1 active member of the community

Parent read how many/which books, magazines?
books
6 per month
9 per month
4-15 per month
2 per month

magazines
6-7 per month
3-5 per month
1 very few
3 many

4 Time
4 Good Housekeeping
4 professional
4 Newsweek
4 National Geographic
4 Readers Digest
2 Better Homes & Gardens
2 sports
2 women's magazines
2 US News & World Report
After graduation, what magazines will you subscribe to?

- Time
- Newsweek
- technical
- women's
- civil engineering
- architecture
- QST
- Analog
- If
- science fiction
- Scientific American
- National Observer
- Popular Science
- don't know
- Yankee
- Readers Digest
- Saturday Review
- TV Guide
- WPI Journal

Do you read other than for courses?

- yes
- no
- science fiction
- Time
- fiction
- additional books related to course material
- psychology
- drama
- oceanography
- cars
- mechanics
- Newsweek
- computer
- math
- physics
war novels
1
technical
1
history
1
The Stranger
1
Death at an Early Age
1
Buckminster Fuller
1
Lord of the Rings

How many extra-curricular activities are you involved in?
1
Radio Club
1
computer languages
1
fraternity
1
reading
1
bicycling
1
parties

Do you read the school newspaper?
10
yes
1
sometimes

If you had two weeks in which you could only read, what would you read?
5
science fiction
1
American literature
1
romance
1
detective
1
psychology
1
history
1
non-fiction
1
science philosophy
1
Buckminster Fuller
1
English semantics
1
Tolkien
1
astronomy
1
anthologies
1
technical books
1
novels
1
classics
1
The Exorcist
1
I'm OK, You're OK
1
Inside the Third Reich
1
Rise & Fall of the Third Reich
1
Center of the Cyclone
1
The Defense Never Rests
1
The Last Dangerous Vision

Do you like music?
9
yes
WPI - November 1973

What kinds?
6 classical
5 rock
4 all kinds
3 folk
1 opera
1 blues
1 jazz
1 country and western
1 contemporary--easy listening

Do you collect records/tapes?
6 yes
5 no

What are your favorites?
2 classical
1 Beethoven
1 Bach
1 Dvorak
1 von Williams
1 Stravinsky
1 Schubert
1 blues
1 Jethro Tull

How many records do you have; how often do you listen to your favorites?
3 few
1 60-70
1 40-50
1 24
3 often
1 everyday

How are you different from the typical student here?
5 not different
3 rather work than be in school
2 more rounded
1 female
1 commuter
1 not out to find a husband
1 more experienced
1 open-minded about choosing field of study
1 more flexible--humanities or science
1 strong interest in classical music
1 fraternity member
1 do not enjoy studying
Do you receive preferential treatment?
7  no
5  yes: girls treated better, administration more interested in their welfare (3); keys with access to labs; good recommendations help for graduate school

Are you discriminated against?
9  no
1  yes

What do you like most about WPI?
3  good courses
3  own choice of courses
2  enjoy being here
2  enjoy being away from home
1  small school
1  project work
1  teachers are helpful
1  intersession
1  ratio of men to women
1  population with common scientific interest
1  competency of professors
1  free to experiment with different fields
1  lack of required courses
1  good social life
1  atmosphere of school

What do you dislike about WPI?
4  7-week terms
2  Worcester (its location)
2  lack of adequate student facilities
2  too much work/studying required
1  Life Sciences has no facilities
1  few teachers
1  de-emphasis on athletics
1  not enough music courses
1  poor social atmosphere
1  not enough girls
1  "lack of cooperation between parts of the school"

Is your education preparing you for responsibility/leadership?
6  no
6  yes major field; ROTC
1  don't know
Would you like to go on to graduate school?

- 2 not sure
- 1 don't know
- 1 yes
- 1 nuclear engineering
- 1 Ph.D. in computer design
- 1 physics
- 1 extra degree in music
- 1 M.A. in forestry
- 1 medical school

At age 40, what do you hope to be earning?

- 3 not important
- 3 $20,000
- 2 $40,000
- 2 $15-20,000
- 1 don't know
- 1 $60,000
- 1 adequate

At age 40, how many people do you hope to be supervising?

- 2 don't know
- 2 working together
- 1 group practice
- 1 5 maximum
- 1 5-15
- 1 none
- 1 30

At age 40, what size organization do you hope to be working for?

- 6 small (under 100)
- 2 moderate (up to 500)
- 1 don't know
- 1 state-federal government

How would you go about deciding/building a nuclear reactor in a community?

- 7 check environmental effects
- 5 check reactions of people who live/work nearby
- 3 check with professionals in field, use them as advisors
- 2 check economic/physical feasibility
- 2 check long-term effects on people, environment
- 1 check purpose of nuclear reactor: research or energy?
- 1 check regulations
- 1 need adequate geologic data
- 1 need technical data--AEC reports
- 1 safety factors
- 1 parking
What was the last joke you heard?

6 no response
1 from Playboy
1 bathroom humor
1 "no homework tonight"

Activities in community where you will live?

2 public schools
1 work with children
1 church
1 Boy Scouts
1 Civil Air Patrol
1 community issues
1 sports car activities
1 bicycling
1 amateur radio
1 dog club
1 science fiction society
1 explorer's club
1 Board of Education
1 Chamber of Commerce
1 city government
1 Girl Scouts

How many faculty do you drop in on/how often?

4 most professors
2 1
2 3-4
1 none
1 3
1 4
1 80%
1 10

3 1-2 per month
2 16 times per month
2 often
1 2-3 times per month
1 6 times per month
1 3-4 times per month

How many faculty do you know outside school?

6 none
2 1
1 2
1 10-12
1 many
How many extracurricular activities are you involved in?

4 fraternity
3 work
2 football
2 scuba diving club
2 radio club
2 partying
2 outing club
2 faculty/trustee committees
1 wrestling
1 work around the house
1 lacrosse
1 skiing
1 building a house
1 Civil Air Patrol
1 folk music club
1 ROTC
1 pool
1 class activities
1 dorm activities
1 Resident Advisor
1 financial aid committee

What is the dating situation like?

4 don't know
3 poor
2 good
1 mediocre

What is the battle wounded or VD?

4 battle wounded
3 never needed it
2 don't know
1
Interview Results
Worcester Polytechnic Institute - April 1974

How did you hear of WPI?
3 high school guidance counselor
2 father
2 lived nearby all life
1 catalogue
1 brother
1 cousin on faculty
1 friend

Why are you here?
2 choice of courses--the Plan
1 emphasis on developing competence in major field
1 financial aid
1 project--apply theory to practice

Are you on the Plan?
8 yes
2 no

Why?
2 most freshmen on it
1 WPI propaganda about Plan
1 rather concentrate in areas of interest to get better background
1 more flexibility in choosing own courses
1 pass/fail grades better

(not on Plan: "I like the idea of seeing exactly what I do as far as marks"

Planning Day--what did you expect?
3 direct contact with professors
2 get gripes off chest
2 didn't know what to expect
1 exchange with other Plan students
1 nothing new
1 define more clearly what Plan is
1 suggest changes
1 hoped for discussion of advising system
1 cross-section of students to interact with faculty

What happened?
6 good student/faculty interaction
1 good discussion of teachers' philosophy of Plan vs. students'
1 greater awareness of problems of students
1 hope for continued interaction
1 van Alstyne especially concerned with implementing positive changes suggested
1 discussed advising system but no conclusions drawn
1 problems with Plan became obvious--many WPI people not "right kind of person" for Plan
What are the most important goals/objectives of the Plan?

- self-reliance
- how to work with other people
- produce people who are competent in their field
- use theory in practice
- self-confidence
- to develop a creative engineer—more flexible
- ready for new experiences
- problem-solving
- well-rounded education
- independent—self-sufficient people
- own course of study
- no grades
- getting involved with people

Goals of WPI Plan/students' goals being reached?

- hard to say as freshmen
- IPI especially teaches self-confidence
- learn how to attack problems independently and in groups
- really learn material, accomplish something
- should attempt to integrate humanities into sciences better
- not many creative students at WPI
- on the surface, it appears that the structure has changed, but it really hasn't (teachers haven't changed much, lecture system still remains strong, etc.)

WPI's environment stimulated motivation?

- yes: If there is a problem it is with the students' professor's attitude helps students enjoy work

What do you think of project requirement?

- good (learn more because you work in a field you're interested in)

How do you feel about projects as a learning experience?

- learn how to apply theory to practice in world outside college
- valuable
- learn to work with other people
- plan your own goals, set your own limits
- learn self-confidence
- learn to be aware of problems, how to solve them

What do you think of the sufficiency requirement?

- good idea
- don't know much about it
- WPI does not have a good enough humanities department
- non-technical courses poor, because they are taught like technical courses
- quality-quantity of courses offered need to be improved
- not enough variation in courses offered
- need to be integrated with technical science courses
Courses on other campuses available?

Problems: they have 14-week terms
mechanics of transportation
only allowed in courses if places not filled by college's
own students

Relationship with advisors?

2 have had difficult time finding one I could be at ease with
2 not helpful
2 spend very little time
2 good relationship with advisor
1 helpful
1 second advisor good

Relationship with faculty/administration:

4 limited contact with faculty
3 friends with some faculty/administration members
2 social and advisory relationship with Dean van Alstine/Dean Trask
1 no contact with administration

Relationship with other students?

4 good
2 few good, close friends
1 tolerant of different people
1 friendly people
1 age groups stick together due to housing arrangements

Do you get more from WPI if you're in engineering than any other field?

9 yes

Problems:

2 learning to make efficient use of time
2 logistics of scheduling
1 new dorm made exorbitant use of funds
1 as a woman it is hard to get to know people on predominantly male camp
1 depression--miss family
1 at first, not getting total picture of WPI and all it has to offer

Satisfactions:

1 learning about college life
1 developing academically/personally
1 passing courses
1 making friends
1 involvement in fraternity
1 learning to get along with people
1 succeeding in courses
1 working in Washington at new project center
1 taking part in activities outside engineering
1 working on play "The Lion in Winter"
If you could change program, what would you do?

3 10-week term
3 improve advising system
2 change sufficiency requirement--just take humanities courses without requirement
1 hire new faculty
1 smaller classes--more personal contact with professors
1 professors get more involved with the Plan
1 limiting courses to 3 per term maximum
1 re-institute failing grade instead of No Record

When you finish here, what do you think people will think you're capable of doing?

6 competent in major field of study
3 don't know
1 how to handle myself with people
1 intelligent, know how to tackle real problems

How are you different from the typical WPI student?

8 not so different from "typical" student (is there a typical student?)
1 not as apathetic
1 more interested in humanities
1 computer engineering secondary to photography as a career

What outside activities are you involved in?

3 none
3 class committees
3 intramural sports
2 Boy Scouts
1 thinking
1 photography
1 varsity fencing team
1 cheerleading
1 fraternity
1 newspaper
1 student government
1 dorm committee
1 play
1 yearbook
1 piano
1 glee club
1 choir

How well has the Plan worked?

5 generally, working well
4 worked well for a few people
1 not working well yet
1 problems with length of term, details of program
Advice to prospective students?

2 recommend WPI
1 take more math in high school
1 need self-direction
1 depends on individual student
1 know what his capabilities are—ready to put time and energy neces:
 into much studying
1 which courses to take
1 which professors to speak to
1 check into larger university first—better cross-section of people,
   more diversified social life

What are your plans when you finish WPI?

2 job already lined up with a company
2 get a job which requires skills I have developed
1 teach
1 research and development for Navy

Do you get preferential treatment?

3 no

Are you discriminated against?

3 no

Life satisfactions?

2 help other people
1 ability to adequately provide for a family
1 respected in field
1 marriage—to be loved

Job satisfactions?

1 enjoyable work
1 challenging work
1 adequate salary
How did you hear of WPI?

5 friends
3 high school guidance counselor
3 WPI admissions person visited high school
2 relative (alumni)
2 parents
2 father (alumni)
1 WPI brochures
1 football coach
1 interview at WPI
1 live nearby
1 college catalogue

Why did you decide to attend WPI?

7 Plan
3 good reputation
2 close to home
1 strictly engineering
1 accepted early decision
1 rejected from first choice school

What do you think of negotiated admissions?

6 against it: "a lot of kids get in who shouldn't"
5 good idea: "certain people . . . don't show the ability to do college work in high school or on SAT's"
4 good--no admissions deadline; if student is serious about future schooling, if expectations of school are made known to student, put the burden on the student--where it ought to be
2 problems with it--possibility of lower quality students
1 not a good idea: "seems like they're just trying to get kids in here for their money"
1 too little information/feedback on student's chance of success

Did you know about the Plan before you arrived here?

6 interview before coming so knew a lot
4 different grading system
4 new academic program
3 limited, only from WPI literature
2 visited, friend described details
2 very little
1 choice of courses
1 "trying to make engineers more aware of human needs"
How did you feel the Plan would affect you?
5  "it seemed to fit in with the way I like to do things"
2  develop self-motivation
2  choose own courses
1  relieve pressure of grades
1  eliminate competition
1  "if you can relate to your society, you'll be a better engineer"
1  didn't think about it

Biggest problems for students?
6  not enough girls
3  7-week term too short for some courses
2  changeover from traditional education to the Plan, especially when teachers openly opposed to it
2  little constructive to do with leisure time
1  poor housing situation
1  food prices high
1  people here--limited, no concept of outside world
1  Plan grading system
1  poor sports program
1  financial aid problems

Faculty/administration problems?
2  hard to make changeover from traditional education to Plan
3  7-week terms too crammed, pressured
2  some professors, especially department heads, impersonal, remote
1  some professors work against Plan--bad attitude
1  some professors are poor teachers
1  faculty/administration overworked
1  faculty needs to update course content to meet present world needs

Pass/no record grading system?
11  takes some pressure off grades
2  "if you understand the material, you pass"
2  prefer traditional grading system
1  prefer pass/fail
1  prefer grades/no record
1  "I think it's fine. It makes me measure myself by my own criteria rather than somebody else's"
1  lack of grades could hurt job/graduate school applications

Pass/no record system effect way you work or what you get out of a course?
8  work harder in enjoyable courses, with Distinction possibilities
5  no: work hard in all courses want to pass; put as much effort in as I can--grades not important
4  system not always successful: encourages some students to settle for Acceptable--without working harder for Distinction
2  Acceptable too broad; Distinction too narrow; problem with professors setting different, more or less difficult criteria for Distinction
Faculty/student relationship?

12 "some faculty are friends; some I've never gotten to know"
10 faculty are generally available; willing to spend a lot of time with students
  5 good: "faculty try hard to do a good job"
  3 faculty not as available as they could be
  3 bad: some faculty remote, poor teachers, difficulty relating to students
  1 "faculty really care, they're a lot closer than you think"
  1 can be good if faculty, students go out of their ways

Advising system?

11 unhelpful; not well enough informed
  6 helpful; advice on courses, schedule
  3 generally available
  3 often unavailable
  3 some good, some bad
  2 helps relationship to see advisor often
  2 advisors trying hard to have a good relationship with students; often students choose not to respond
  1 poor communications between advisor and student

Improve advising system?

  1 improve availability of advisors
  1 provide better-informed advisors
  1 provide advisors from student's major department
  1 students should spend more time with advisors, establish relationship
  1 advisors on a volunteer basis, who want to do a good job

Course load?

12 3 courses good
  4 2 courses better
  1 4 courses better
  1 4 courses easy to handle some terms

Length of term?

10 7 weeks good
  8 10 weeks better
  3 7 weeks too short
  3 more flexibility: some courses 7 weeks, others 10 weeks, others 14 weeks
  2 14 weeks better

Student government effective?

11 no; no real power (prefer to go directly to deans, if problems occur)

Cheating a problem?

8 not worse than any other school
  5 yes
  4 don't know—no contact with it
  3 no
  2 yes, especially take-home exams
Marijuana a problem?
8 widespread, but not a problem
8 no
1 yes

Alcohol a problem?
5 widespread, but not a problem
5 no
5 yes

Value of OP project?
15 good; "gets you into a real life situation"; applying theory to practice; learn something not provided in traditional curriculum; "I saw something, learned a lot about people I would never have seen or learned about otherwise--I learned a lot about living"
6 learned a lot about government agencies, problems, Washington D.C. project, information gained from it were valuable
1 good, individual, non-competitive knowledge for sake of knowledge

Sufficiency requirement?
4 good; diversion from technical work; delve into humanities; ties technology to mankind
4 did not enjoy it: should be offered but not required; uninteresting--takes up too much time
1 encouraged more well-rounded people
1 not flexible enough
1 currently a waste of time
1 improve humanities department--currently gut courses only
1 "gained perspectives, insights I would not have gained elsewhere"

Examples:
5 English
4 music
4 history
1 philosophy
1 French

Competency exam as evaluation of student's work?
13 good evaluation: better indication of how well I've done in major field than grades
6 usually requires a lot of work
6 not a good evaluation--one test for 3-4 years of study does not seem fair; too much importance placed on it
3 better evaluated by professor student has been working with
2 not hard
2 question validity of oral part: (supposedly tests understanding of logic, jargon) "if you know where to go to find information, that's just as good as knowing it"
1 especially hard if you don't work well under pressure
1 should include written evaluation from at least one of student's professors
1 concentration should be on student's major field
1 final evaluation by all student's major professors would be better
1 only limited evaluation of certain areas--not all material studied
1 better to learn way of thinking rather than memorization of facts
Additional things school should offer:
7 more girls
6 psychology courses
5 better social life
2 expand biology department
2 architecture
2 expand varsity sports program
2 logic courses
1 entomology
1 psychological services
1 transportation courses
1 philosophy
1 law
1 anthropology
1 soil engineering

Gained most from WPI?
6 good job
6 good education
3 knowledge in major field
1 "learned to do something"
1 self-discipline
1 knowledge
1 personal maturity, growth
1 initiative
1 opportunity to become a well-rounded person
1 "realized that engineering is only one aspect of solving a problem"
1 individual/technological development
1 professional ability
1 getting to know different people
1 to make friends
1 flexibility
1 the degree
Interview Results

Worcester Polytechnic Institute - February 1975

How did you hear of WPI?

7 friends
6 relatives (students at WPI)
6 catalogues
4 high school guidance counselor
4 live nearby
2 parents
1 interview at WPI
1 teachers
1 football coach
1 high school placement office

Why did you come to WPI?

11 Plan
  3 small school
  2 good reputation
  1 near home
  1 scholarship
  1 Eastern school
  1 low tuition
  

What know about Plan before arriving?

6 project work
6 very little
5 nothing
3 no required courses
3 7-week terms
3 theory behind it
2 grading system
2 requirements to graduate
2 as described in catalogue
1 IPI courses
1 advisors

Feelings on negotiated admissions?

11 not so good--level of standards going down
  8 good idea--people must work hard
  7 good idea--another way of admitting people
  2 sounds good theoretically
  2 way for WPI to make more money

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### Biggest problems at school?

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<table>
<thead>
<tr>
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<tbody>
<tr>
<td>6</td>
<td>Plan grading system</td>
</tr>
<tr>
<td>4</td>
<td>Lack of social life; no girls, lack of extra-curricular activities</td>
</tr>
<tr>
<td>3</td>
<td>Shallow education: 7-week terms no long enough</td>
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<tr>
<td>3</td>
<td>Sufficiency eliminated or courses improved</td>
</tr>
<tr>
<td>1</td>
<td>Student apathy</td>
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<td>1</td>
<td>Campus communications</td>
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<td>1</td>
<td>Housing</td>
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<tr>
<td>1</td>
<td>Hard to get together with advisor</td>
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<td>1</td>
<td>Organizing class schedules</td>
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<td>1</td>
<td>Competency exam</td>
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<td>1</td>
<td>Projects</td>
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<td>1</td>
<td>Plan hard to evaluate for jobs/graduate school</td>
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### Course load?

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<tbody>
<tr>
<td>21</td>
<td>3 courses good</td>
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<tr>
<td>4</td>
<td>Courses manageable</td>
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<tr>
<td>1</td>
<td>3 courses OK to get Acceptable, but 2 better to get Acceptable with Distinction</td>
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### Length of term?

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<tr>
<td>13</td>
<td>7-weeks good</td>
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<tr>
<td>4</td>
<td>Longer than 7, less than 14</td>
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<tr>
<td>1</td>
<td>14 weeks for certain courses</td>
</tr>
<tr>
<td>1</td>
<td>14 weeks</td>
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<tr>
<td>1</td>
<td>10 weeks</td>
</tr>
<tr>
<td>1</td>
<td>More time/credit for upper level courses</td>
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### Faculty/student relationships?

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<tbody>
<tr>
<td>12</td>
<td>Faculty available</td>
</tr>
<tr>
<td>9</td>
<td>Good; open communication</td>
</tr>
<tr>
<td>8</td>
<td>Faculty helpful with student problems</td>
</tr>
<tr>
<td>4</td>
<td>Varies with each professor</td>
</tr>
<tr>
<td>1</td>
<td>Close friendly relations: &quot;get to know a lot of teachers fairly well&quot;</td>
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### Advising system?

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<tbody>
<tr>
<td>10</td>
<td>Good, helpful</td>
</tr>
<tr>
<td>4</td>
<td>Teachers not always available; often too busy to spend enough time with students</td>
</tr>
<tr>
<td>4</td>
<td>Faculty not well enough informed</td>
</tr>
<tr>
<td>4</td>
<td>Poor, not helpful, no advice</td>
</tr>
<tr>
<td>3</td>
<td>Not so good: professor-student incompatible</td>
</tr>
<tr>
<td></td>
<td>Poor communications between faculty/student</td>
</tr>
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<td></td>
<td>Professor outside major department</td>
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### Changes in advising system?

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<tr>
<td>2</td>
<td>Improve advisor/advisee communications</td>
</tr>
<tr>
<td>2</td>
<td>Faculty need more information about courses outside their department</td>
</tr>
<tr>
<td>1</td>
<td>Hire more women professors/advisors</td>
</tr>
<tr>
<td>1</td>
<td>Hire special faculty to work as advisors</td>
</tr>
<tr>
<td>1</td>
<td>Get advisors in major departments only</td>
</tr>
<tr>
<td>1</td>
<td>See advisors more often</td>
</tr>
<tr>
<td>1</td>
<td>Advise freshmen to start sufficiency immediately</td>
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</table>
Pass/no record grading system?

12 good: put a lot of work into certain courses, less time into others
5 prefer traditional grading system
4 sometimes; not for everybody--take advantage of "Acceptable" system
not to learn; no pressure to do well
1 equally as good as traditional system
1 disappointing to get "high Acceptable," missing "Distinction"--
looks same as low "Acceptable"

Pass/no record system affects how hard you work?

7 work equally as hard in all courses--motivation is to become competent
5 work hard in important courses, less in others
5 tempted to let slide Acceptable (with no possibility of Distinction)
courses
4 work equally hard in all courses until fifth week, then work only in
courses in which it is possible to get Distinction
1 study to learn, less pressure

Faculty-administration problems?

6 faculty divided pro-con about 7-week courses
2 how to develop, use Plan; adjustment to Plan course load, term length,
etc., IPI format
1 faculty: project load
1 registration poorly run
. some courses poorly taught
. grading Acceptable/Distinction
1 faculty and administration: communication with students
1 disagreement over "competency"

Cheating a problem?

11 "There are people who cheat. I think it's their problem."
11 not much
4 haven't come in contact with it
2 a problem in freshman level courses

Marijuana a problem?

19 around but no a problem
2 no

Alcohol a problem?

7 around but not a problem
4 yes
2 no

Projects?

1 not going well due to poor planning
1 good idea
1 not working due to school's lack of interest, support
1 IQP a joke--do as little work as possible
1 IQP good/bad--depends on what you choose to be involved with
1 MQP can be valuable--something in your own field you're interested in
Value of projects?
15 gain experience by applying theory
6 learned a lot of things didn’t learn in class
5 do interesting work with school’s help rather than outside, on my own
1 strengthens background in own field
1 helps to become more aware of what’s going on in field, world . . .

Sufficiency requirement?
7 wider range of learning; "good to have background in area other than
your own"
6 good idea, enjoyable
3 waste of time
2 shouldn’t have to concentrate on one area only; should have variety
of humanities courses available
1 "cramming humanities courses down your throat is not going to make
you a humane engineer"
1 too much extra work
1 enjoyable—reading books wouldn’t otherwise have chance to read
1 "important because you can keep human side of studies"

Value of competency exam?
9 g: form of evaluation
7 not necessarily a good idea to place so much emphasis on one exam
3 should allow more time for exam
3 helps to coordinate everything learned
1 oral part is especially good
1 oral part is especially difficult

Gained most from WPI?
8 experience from project work beyond just theory
6 good solid education
3 meeting, living with diverse people—becoming more people-oriented
3 how to pinpoint, deal with problems
2 experience in self-discipline
2 knowledge of subjects studied
1 "how to cope with frustrations, failures"
1 working independently; gained self-confidence
1 technical knowledge in area you enjoy; good fundamental engineering
background with little bit of specialization in specific field
1 good communication, relationships with professors
1 small school—-I’m not just a number here

Student government?
10 students generally uninvolved
9 ineffective
1 works well
Etcetera.

- more input from students
- improve course scheduling
- expanded life science program
- improve humanities department
- improve hiring of RA's
- improve faculty-administration communication

Additional courses/etc. school should offer?

- more girls
- more social life; recreation center
- psychology courses
- more humanities courses
- business courses
- more history courses
- geophysics courses
- philosophy courses
- athletic program for women
Interview Results

Clarkson College of Technology - November 1973

Where'd you here about Clarkson?

<table>
<thead>
<tr>
<th>Number</th>
<th>Source</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>high school guidance counselor</td>
</tr>
<tr>
<td>3</td>
<td>friends</td>
</tr>
<tr>
<td>3</td>
<td>relatives</td>
</tr>
<tr>
<td>3</td>
<td>interview with Clarkson admissions representative at high school</td>
</tr>
<tr>
<td>2</td>
<td>father</td>
</tr>
<tr>
<td>1</td>
<td>cousin who was alumnus</td>
</tr>
<tr>
<td>1</td>
<td>school wrote student</td>
</tr>
<tr>
<td>1</td>
<td>college night at high school</td>
</tr>
</tbody>
</table>

Why this school?

<table>
<thead>
<tr>
<th>Number</th>
<th>Reason</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>spent time in high school visiting the college</td>
</tr>
<tr>
<td>4</td>
<td>scholarship aid</td>
</tr>
<tr>
<td>3</td>
<td>Clarkson's personal interest in potential student</td>
</tr>
<tr>
<td>1</td>
<td>financial aid</td>
</tr>
<tr>
<td>1</td>
<td>more choice</td>
</tr>
<tr>
<td>1</td>
<td>prefer North</td>
</tr>
</tbody>
</table>

What do you think of the advising system?

<table>
<thead>
<tr>
<th>Number</th>
<th>Opinion</th>
</tr>
</thead>
<tbody>
<tr>
<td>5</td>
<td>fairly good</td>
</tr>
<tr>
<td>3</td>
<td>good (because small)</td>
</tr>
<tr>
<td>3</td>
<td>good advisors, not necessarily those assigned</td>
</tr>
<tr>
<td>3</td>
<td>fair, not involved enough in personal counseling</td>
</tr>
<tr>
<td>1</td>
<td>not open-minded enough</td>
</tr>
<tr>
<td>1</td>
<td>advisors not well enough informed</td>
</tr>
<tr>
<td>1</td>
<td>no experience with it</td>
</tr>
</tbody>
</table>

Ideal length of school term?

<table>
<thead>
<tr>
<th>Number</th>
<th>Length</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>satisfied with way it is</td>
</tr>
<tr>
<td>5</td>
<td>cannot judge because no alternative exists</td>
</tr>
<tr>
<td>2</td>
<td>shorter, fewer courses</td>
</tr>
<tr>
<td>1</td>
<td>longer</td>
</tr>
<tr>
<td>1</td>
<td>work/study six weeks each</td>
</tr>
</tbody>
</table>

Friends with problem helped by whom?

<table>
<thead>
<tr>
<th>Number</th>
<th>Helped by</th>
</tr>
</thead>
<tbody>
<tr>
<td>10</td>
<td>special counselors provided by school</td>
</tr>
<tr>
<td>7</td>
<td>resident advisor</td>
</tr>
<tr>
<td>5</td>
<td>I would try to help</td>
</tr>
<tr>
<td>4</td>
<td>friends would try to help</td>
</tr>
<tr>
<td>3</td>
<td>don't know</td>
</tr>
<tr>
<td>2</td>
<td>Dr. Pease, psychologist</td>
</tr>
<tr>
<td>1</td>
<td>minister</td>
</tr>
<tr>
<td>1</td>
<td>Dean Davis</td>
</tr>
</tbody>
</table>
When you graduate, what do you think other people will think you can do?

- capable of handling what trained for
- capable of performing job of some kind
- know I can think
- learn for myself
- high expectations; not specified
- get things done
- make money
- interact with people
- approach problems logically
- how to use time properly
- break through stereotype job title suggests
- overestimate capabilities
- not enough practical experiences

Job satisfactions?

- work with good people
- good salary
- something I enjoy doing
- challenging work
- choice of fields open
- live in good environment
- responsibility/respect
- personal satisfaction
- solving problems
- creating something beneficial
- society/ecology minded company
- possibility of advancement

Life satisfactions?

- to be happy
- good place to live
- good friends
- live comfortably
- interact with different people
- help other people
- adequate income
- learn more
- travel
- secure job

Number/titles of books/magazines parents read per month?

Books:

- 12 per month
- 6 per month
- 6 per year
- 3 per year
- 3 novels
- 2 mysteries
Magazines:

10 women's magazines
5 Readers Digest
4 business magazines
4 technical journals
3 news magazines
3 National Geographic
2 horse/farm magazine
2 many
2 newspapers
2 Life/Look
7 Changing Times
2 Popular Science
2 Flying
1 none
1 American Heritage
1 Better Homes & Gardens
1 Business Week
1 Wall Street Journal
1 Esquire
1 Sports
1 Photography
1 Variety
1 Psychology Today
1 Realities
1 Saturday Evening Post

What magazines will you subscribe to?

7 Time
7 Newsweek
6 professional/technical magazines
3 sports magazines
2 Playboy
2 psychology magazines
2 no idea
1 National Geographic
1 Popular Photography
1 Fortune
1 trade journals
1 Redbook
1 Readers Digest
1 Popular Science
1 Harper's
1 Health Today
1 Harvard Business Review
1 Operating Eng.
1 related to hobbies
Do you read anything other than course books?

11 novels
7 Newsweek
daily newspapers
4 sports magazine
4 Time
3 science fiction
3 Playboy
2 none
2 Sunday paper
related to hobbies
1 technical magazine
car magazine
Esquire
1 psychology magazine
1 Popular Science

Examples of novels: Harrad Experiment, In Cold Blood, Temple of Gold, When's the War, books by Herman Hesse

Do you read the school newspaper?
18 yes

If you had two weeks in which to read only books, what would you read?

7 novels
text books
3 science fiction
2 sociology
don't know
1 history
1 suspense
1 war
1 Herman Hesse
1 philosophy
classics
1 guitar
Russian literature
1 technical books
1 War and Peace
1 mystery
1 non-fiction
1 finance

What kind of music do you like?

6 classical
5 rock
3 folk
country/western
guitar
1 piano
1 organ
1 opera
1 shows
Do you collect records/tapes?

- 4  rock
- 2  folk
- 1  musicals
- 1  classical
- 1  no

What are your favorites?

- 4  Osmond Brothers
- 3  Loggins/Massina
- 3  Who
- 3  Grateful Dead
- 3  Dooby Brothers
- 2  rock
- 2  folk
- 2  Jethro Tull
- 1  Crosby, Stills, Nash and Young
- 1  1812 Overture
- 1  shows
- 1  Simon and Garfunkel
- 1  Chicago

Do you play them often?

- 9  yes
- 4  no
- 1  at home sometimes
- 1  never

What size collection do you have?

- 7  small
- 2  over 50

How are you different from the typical student?  (typical = either studies a lot or parties a lot)

- 7  combine studying and partying
- 3  not different: normal, studious
- 2  observe, rather than participate
- 2  not as competitive for grades
- 2  enjoy life at Clarkson
- 2  conservative
- 1  work as photographer for newspaper
- 1  don't drink as much beer
- 1  enjoy outdoor activity
- 1  reserved
- 1  being a girl
- 1  more serious about other people
- 1  dumber

Do you get preferential treatment here?

- 8  yes: girls do, through the fraternity, as president of the class, teachers help if you get good grades
- 9  no: same as everyone else, not in classes
Are you discriminated against?

10  no
2   yes: as a girl, athletic department, not a WASP, ROTC

What do you like most about the school?

9   good/relaxed atmosphere
8   good education
7   small size
4   good social life
3   good location
2   "I've done a lot of growing up here"
1   always something to do

What do you like the least about the school?

7   not enough girls
3   unbalanced social life
2   walking downtown for a class
2   poorly planned social activities
2   some of the professors: hard to understand (foreign accents)
   do not relate well to classes
   do not care about students
1   homework
1   small town surroundings
1   students who don't care much about the school
1   not enough money for additional facilities
1   narrow-minded people
1   little help with emotional problems
1   student-town social distance
1   no arts courses
1   not enough humanities courses
1   administrative problems

Is your education adequately preparing you for leadership/responsibility?

10  yes: outside activities: ROTC; small size conducive to taking
     leadership initiative; learn to make decisions, be responsible;
     job, education, and social life here; classes
6   no: learn leadership by yourself, not through curriculum

Are you planning to go on to graduate school?

11  don't kr
2   civil engineering
2   chemical engineering
1   M.A. in research
1   law
1   industrial management
1   M.B.A.
1   M.A. in literature/arts
1   accounting
1   electrical engineering
At age 40, how much do you want to be earning?

<table>
<thead>
<tr>
<th>Salary Range</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>$25-35,000</td>
<td>4</td>
</tr>
<tr>
<td>$20,000</td>
<td>3</td>
</tr>
<tr>
<td>$20-25,000</td>
<td>2</td>
</tr>
<tr>
<td>enough to support family, little extra</td>
<td>2</td>
</tr>
<tr>
<td>$100,000</td>
<td>1</td>
</tr>
<tr>
<td>$50-75,000</td>
<td>1</td>
</tr>
<tr>
<td>$40-50,000</td>
<td>1</td>
</tr>
</tbody>
</table>

At age 40, how many people do you want to be supervising?

<table>
<thead>
<tr>
<th>Supervisory Level</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>few (up to 5)</td>
<td>6</td>
</tr>
<tr>
<td>3-10</td>
<td>4</td>
</tr>
<tr>
<td>20</td>
<td>3</td>
</tr>
<tr>
<td>many</td>
<td>2</td>
</tr>
<tr>
<td>doesn't matter</td>
<td>1</td>
</tr>
<tr>
<td>25-50</td>
<td>1</td>
</tr>
<tr>
<td>12</td>
<td>1</td>
</tr>
<tr>
<td>none</td>
<td>1</td>
</tr>
<tr>
<td>100-200</td>
<td>1</td>
</tr>
</tbody>
</table>

At age 40, what size organization do you want to be working for?

<table>
<thead>
<tr>
<th>Organization Size</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>medium to small</td>
<td>6</td>
</tr>
<tr>
<td>fairly large</td>
<td>5</td>
</tr>
<tr>
<td>small</td>
<td>5</td>
</tr>
<tr>
<td>own company with 5 employees</td>
<td>3</td>
</tr>
<tr>
<td>very large</td>
<td>2</td>
</tr>
<tr>
<td>doesn't matter</td>
<td>1</td>
</tr>
<tr>
<td>teaching</td>
<td>1</td>
</tr>
</tbody>
</table>

How would you determine the effects of building a nuclear reactor near a school? What would you do? How to go about it? Information needed?

**What would you do?**

<table>
<thead>
<tr>
<th>Action Description</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>ask people in community if they want it</td>
<td>8</td>
</tr>
<tr>
<td>determine if it would be economically beneficial for the area</td>
<td>5</td>
</tr>
<tr>
<td>make sure there's a need for it</td>
<td>5</td>
</tr>
<tr>
<td>sell the idea to the town</td>
<td>4</td>
</tr>
</tbody>
</table>

**How to go about it? What information is needed?**

<table>
<thead>
<tr>
<th>Information Needed Description</th>
<th>Count</th>
</tr>
</thead>
<tbody>
<tr>
<td>make sure its safe environmentally, etc. for community, river, etc.</td>
<td>17</td>
</tr>
<tr>
<td>check for radiation effects</td>
<td>5</td>
</tr>
<tr>
<td>research</td>
<td>4</td>
</tr>
<tr>
<td>find best location</td>
<td>2</td>
</tr>
<tr>
<td>advice from engineers</td>
<td>1</td>
</tr>
<tr>
<td>test it far away</td>
<td>1</td>
</tr>
<tr>
<td>effect on industries</td>
<td>1</td>
</tr>
<tr>
<td>construction costs</td>
<td>1</td>
</tr>
<tr>
<td>how to finance it</td>
<td>1</td>
</tr>
<tr>
<td>hire good people to build it</td>
<td>1</td>
</tr>
</tbody>
</table>
Are you planning to become involved in community activities?

- 6 church
- 5 Boy Scouts
- 4 work with kids
- 3 municipal politics
- 3 country club
- 2 Chamber of Commerce
- 2 Big Brother Program
- 2 schools
- 1 photography
- 1 Little League
- 1 YMCA
- 1 social group for arts
- 1 counseling
- 1 recreation program
- 1 volunteer fire department

How many faculty are you comfortable with?

- 8 2-3
- 3 4-5
- 2 5-10
- 2 1
- 1 20
- 1 15-20
- 1 5-6
- 1 3-4
- 1 anyone

How often do you visit the faculty members mentioned above?

- 2 very often
- 2 1-2 times a week
- 2 not often
- 1 often

How many faculty do you know personally?

- 6 none
- 6 1-2
- 3 1-3
- 2 4-5
- 1 5-7

How many extracurricular activities are you involved in?

- 6 class activities
- 5 newspaper
- 5 fraternity
- 5 AIChe
- 5 sports
- 4 senate
- 4 work
- 3 none
- 3 Resident Advisor
What do you think of the dating situation here?

9 not good, especially downtown
5 good
4 girlfriend back home
1 not much of a problem

Penicillin divided up: VD or battle wounded?

17 battle wounded
6 choose ones in worse condition
4 VD
3 no choice
Interview Results

Clarkson College of Technology - October 1974

How did you hear of Clarkson?
2 friend
1 hockey coach
1 guidance counselor
1 Clarkson literature

Why did you choose Clarkson?
3 financial aid
2 small university
2 athletic program

Biggest student issues?
2 male/female ratio
1 heavy work load
1 administrative lag on action for student
1 traditional school conservatism

Where students get best information about school?
3 friends
1 upperclassmen

How much time spent on studying/courses weekly?
1 50 hours
1 20-25 hours
1 3-4 hours per subject
1 minimal/flexible

Grading system?
2 mid-terms a waste of time, low grade can be disheartening
1 "grades don't bother me"
1 "it doesn't give you much initiative"
1 often unfair--borderline difference between high C-low B, for example

Work hardest in which courses?
1 major courses
1 courses I enjoy
1 practical (rather than theoretical) courses
1 courses calling for logical reasoning

Which courses learning most from?
1 electives--social sciences, humanities
1 research, field work
1 math
1 thought-provoking courses with good communication between professors and students (rather than memorization courses)
Courses given enough/too much structure?
2 depends on teacher; some more flexible than others with course material
1 too much--four years all planned from beginning
1 seems rigid--requirements that must be completed but actually flexible as those requirements keep changing

Most helpful way to get feedback?
2 tests
1 job interviews
1 whether or not I understand the concepts

Length of term?
2 should have shorter school year; shorter, fewer breaks

Advising system: suggestions/changes?
2 need to establish personal relationship with advisor
1 advisor should be better informed, especially about course and credit changes

How do you most enjoy learning?
2 depends on course--some I prefer independent learning, others better in a classroom situation

To whom would you direct a friend with problems?
2 counselors on campus
2 myself

Are you taking any other type of courses?
2 Keller Plan--math/computer
1 directed research
Interview Results
Clarkson College of Technology - April 1974

How did you hear of Clarkson?
2 catalogues
2 high school guidance counselor
1 high school calculus teacher

Why are you here?
1 interview, visit to campus
1 good courses
1 small private college

What are Clarkson's objectives as an educational/technical institution?
3 to turn out efficient engineers
2 vocational training, rather than broad education
2 more emphasis among faculty on research rather than teaching
1 depends on department

When you graduate, what will people think you can do?
2 competent in major field of study
2 "capable of applying principles and figuring things out"
1 solid background in principles of field

What is your relationship with your advisor like?
2 helpful
2 limited relationship; academics only
1 hard to get in touch with him
1 not much need to see him more than 1-2 per year

What sort of relationship do you have with faculty and/or administrators?
2 nonexistent
2 faculty helpful with problems if approached
1 know a few well

What sort of relationships do you have with other students?
2 know people in dorm, especially those on same floor, well
1 my class is a close-knit group

What are your plans following graduation?
1 no idea beyond wanting to be a civil engineer
1 work for an engineering firm over the summer
1 graduate school in biochemical engineering; research work

What job satisfactions are you looking for?
1 money
2 good climate
2 challenging work
1 good environment
1 settle down in one place
How are you different from the typical Clarkson student?
1. not different from "typical" student: combining studying/partying
2. involved in theater, classical music, etc.

Do you receive preferential treatment:
3. no

Are you discriminated against?
2. yes, because I am not a woman

Would you advise a student to come here?
3. yes

Do you have any advice to offer prospective students?
2. make them fully aware of "life at Clarkson"

Do you get more from Clarkson because you're an engineering major rather than a major in any other field?
3. yes

What has been your most satisfying experience thus far?
1. dorm life
2. independence
3. academics—getting good grades

Problem:
3. academic
Interview Results
Clarkson College of Technology - January 1975

How did you hear about Clarkson?
7 friends (alumni)
5 guidance counselor
3 relatives
2 live nearby
2 SCOPES program
2 parents
1 admissions dean
1 student search
1 mailed information

Why Clarkson?
6 financial aid
6 visit to campus
4 small town
3 near home
2 small college
1 new biology department
1 move away from home
1 good chemical engineering department
1 good reputation
1 cold weather

What good about Clarkson helped decision?
3 small town
3 small school
2 good education reputation
2 visit to Clarkson
1 good student body
1 activities offered
1 public relations
1 personal atmosphere

Biggest problems at Clarkson?

social life
3 especially hard for girls to adjust
2 not enough student communication
2 academic pressure too great; too wrapped up in studies
2 not enough girls
1 adjustment to dorm life
1 hard to apply theory
1 financial
1 lack of variety of courses
1 changes in departments
1 physical plant inadequate
1 lack of equipment
1 administration/faculty don't aid development of clubs
library facilities inadequate
housing inadequate
too male-oriented
student apathy
lack of liberal arts college

Faculty-administration problems at Clarkson?
not enough interaction with students
financial
tenure policy; faculty turnover rate
apathy
teaching pressures
disunity among departments
too much red tape
some teachers have trouble teaching basics
housing cramped
cheating among students
foreign teachers' presentation/teaching methods

Grading system?
fair
prefer ±: more accurate
prefer letter grades--need pressure to work hard
humanities pass/fail--to take courses not otherwise taken
prefer pass/no credit
take "C" courses over
final exams count too heavily--homework, outside work should count more
number system better

Pass/fail system?
can be used as way out if not doing well in a course
depends on course
good idea
less pressure, better than letters

ABCD vs. pass/fail system: incentive?
not work as hard for pass/fail
good to take humanities pass/fail
no difference

Change grading system?
no
Acceptable, Unacceptable, High Acceptable
grade to include "effort"
wider range of grades
Additional courses you'd like offered?

4 Humanities
3 English--better, more, variety
2 music
2 band
2 expand one-semester courses
2 psychology
1 automechanics
1 advanced non-linear circuits
1 more free electives
1 languages
1 control systems engineering
1 history
1 architectural design
1 business
1 public speaking
1 writing
1 anthropology
1 sociology
1 life saving/first aid
1 aeronautical engineering

Faculty/student relationship

10 good generally, with problems
6 easy to talk to faculty
6 some on personal, social level as well as academic
6 faculty available
2 faculty interested in students
1 many faculty knowledgeable, but are not good teachers
1 some faculty have excellent rapport; others lacking rapport with student

Course load?

6 hard work but not too difficult
5 not difficult
4 carry heavy (18-20 credits) course loads
4 good--work with time to spare for other activities
3 a lot of work

Cheating a problem?

14 it's here but is not a major problem
3 no contact with it
1 a lot freshman year
1 a lot on homework
1 yes

Length of term?

17 good as it is
5 less vacation time
2 depends on course: some too short, others too long
1 trimester better
1 4 terms with 3 courses each better
1 longer better
Marijuana a problem?
16 widespread but not a problem
  3 no
  1 more than half the school smokes regularly
  1 yes for a minority

Alcohol a problem?
15 yes: nothing else to do; "it's a pastime, a hobby here"
  9 most people drink but handle it

Advising system?
15 good communication, helpful, concerned
  5 not good, impersonal
  1 faculty not available

Changes in advising system?
1 assign advisors for freshman year only; others by choice
  1 better ratio of one advisor to fewer students
  1 faculty better informed
  1 students required to see advisors several times during the year
  1 hire departmental advisors in addition to faculty members

Best part of Clarkson education?
  7 academic, personal involvement with the school; learning to live
     with people
  2 high quality education
  4 being away from home—learning to be independent
  1 one-to-one relationship with teachers
  1 problem-solving skills
  1 small number of students
  1 good reputation so better chance of getting a job
  1 usefulness of the practical knowledge learned
  1 the degree
  1 business courses

Worst part of Clarkson education?
  4 no social life
  4 no extracurricular programs or activities--need recreation center
  1 humanities not deep or demanding enough
  1 too many girls
  1 isolated as "engineering school"—need liberal arts students as well
  1 too expensive
  1 "too" more lab work--application of theory
  1 "too many people learn for the grade, not for what they're learning"
  1 work difficult
  1 general disinterest
  1 work in electrical engineering
Gained most from Clarkson?

- good education
- interaction with different people, i.e., "social education"
- personal development: perspective on people, careers, life
- independence from family
- professional integrity, pride
- "what interests me academically"
- technical education leading to a job
- better understanding of business world
- how to work hard
- adjusting to different situations

Additional things school should offer?

- physical education program, facilities
- recreation, activities for students--union, etc.
- women's sports expanded
- more housing
- more girls
- liberal arts college
- music/band
- better humanities department
- football/hockey teams
- not be able to specialize before junior year
- more faculty-administration structure, initiative to do more for students
- more engineering courses
Interview Results
Stevens Institute of Technology - March 13, 1975

How did you learn of Stevens?
8 friends
5 teacher
5 college catalogue books
5 guidance counselor
4 lived near
4 Stevens' placement officer visit to high school
3 Stevens' literature
2 relative (alumnus)
1 American consulate advisor (Turkey)

Why did you decide to attend Stevens?
11 near home
5 scholarship
5 good reputation
3 financial aid
2 school atmosphere
2 small school
2 good curriculum
1 best friend is here
1 near New York City
1 low tuition
1 live on campus
1 broad education provided

Biggest problems for students?
7 poor social life
3 expenses
3 crowded for time to fit in all courses
3 getting jobs for graduates
2 problems with courses--some instructors uninterested, poor teachers
2 hard work, tough grading system
1 poor teachers
1 low level of students
1 low level of graduate courses
1 faculty unable to act on student problems
1 little communication on campus
1 honor system failing
1 advisor unavailable
1 conservative school--little student power
1 professors don't care about students--little help
1 poor location: Hoboken
1 too much time spent on labs
1 little choice of courses
1 hard for graduate students as facilities, i.e. geared for undergraduates
Biggest problems for faculty?
4 not enough time to spend with students
2 lack of financial support for research
2 lab instructors often incompetent
1 large size of classes
1 difficult for teachers to do research/teach well
1 some professors are poor teachers
1 students not as bright as in past—need more time

Biggest problems for administration?
5 budget problems
5 communication with faculty, students, each other
1 apathy of students
1 poor staffing

What do you think of the grading system?
1 satisfied with it as is—feel it is representative
1 pass/fail for humanities, physical education
1 don't care about grades
1 less reliance on "curve"; shift to more realistic use of grades
1 too much emphasis on grades
1 need, flexible
1 should be more exams—not just one final

Does pass/fail make a difference in how hard you work?
7 yes; work less hard—just do enough to pass; don't really learn the material
7 not work the same
7 ABCD gives me more motivation
7 ABCD gives a better indication of how well I'm doing
7 "... without pass/fail, you tend to be more worried about grades
7 than about just learning something"
7 unfair systems (ABCD and pass/fail): not representative of amount
7 of effort put in

Changes in grading system?
1 make it more flexible—aim for an A or settle for a C

Additional courses?
5 more/better humanities
1 more computer programming languages; recurrent computer
1 courses with more practical knowledge
1 more required advanced courses
1 more inclusive courses (i.e., without duplications across departments)
1 physics physics at graduate level
1 more environmental courses
1 more biology courses
1 more engineering courses
1 architecture
1 more basic chemical engineering
1 wider range of courses in major area

Stevens, March 13, 1975
Student/faculty relationship?

16 professors available, open
11 good
7 able to get to know professors well
3 depends on individual faculty and student—if you want a good relationship, you can find it
2 little communication
1 impersonal
1 poor—due to student apathy
1 informal

Advising system?

10 helpful, open, available to students, well-informed
3 unhelpful, not well enough informed, uninterested, untrained
1 should have special advisors—not professors with other duties
1 able to develop personal relationships with students
1 poor as undergraduate; improved as graduate student
1 poorly organized for graduate students

Changes in advising system?

2 professors willing to work with, advise students; willing to get involved
1 check out qualified people before they're made advisors
1 advisors seek out students, set up appointments, etc.

Length of semester?

21 good as is
8 too short/concentrated
3 more time allowed for certain courses
1 need a break in middle of year

Course load?

15 heavy course load here
8 good as is
5 too heavy
1 four graduate courses heavy

Marijuana a problem here?

13 not a problem
3 yes—interfered with students' studies
1 don't know

Alcohol a problem here?

12 not a problem
2 yes—worse effects
1 don't know
Best part of Stevens' education?

11. excellent broad educational background
4. diversified education, especially generalized curriculum during first few years
4. good faculty: many devoted teachers
4. getting a good job
3. good relationship with faculty
2. good people here
2. access to N.Y., other schools, professionals
2. to study in an urban environment
2. learn to think analytically
1. labs
1. good tutors available
1. ability to do research as an undergraduate
1. reputation for producing good, qualified engineers
1. light course load allowed time for other things

Worst part of Steven's education?

5. poor social life
2. commuter school
1. not academically
1. too many required courses
1. lack of choice of courses
1. lack of practical experience
1. tests
1. labs
1. poor living conditions in town
1. people here
1. poor teachers
1. hard for foreign students to get financial aid
1. poor quality of humanities courses
1. hard for freshmen to adjust
1. unpleasant atmosphere

Gained most from being here:

9. solid educational background
4. "... enough technical competence to work professionally"
4. relationships with other people here; "learned how to deal with a lot of different kinds of people"
1. analytical skills/problem-solving
2. broad experience
2. self-discipline
2. good relationships with professors
1. how to study
1. "the pressure forces you to do your best"
1. Stevens' philosophy--diversified education
1. learned a lot with guidance of teachers, advisors
1. knowledge of fundamental sciences, materials--how to apply them
1. "insight into what's going on in the field"
1. ability to reason
1. "I've learned a lot about engineering, about the curriculum, and about people"
1. engineering degree
Stevens, March 13, 1975

Do you feel discriminated against here?

21 no
4 yes
3 yes--job opportunities, scholastic help are more available here for women

2 yes--graduate students = 2nd class citizens
1 yes--"girls have more influence than guys"

Other things school should offer?

1 more social activities
3 stronger humanities department
5 sports/athletic facilities
1 weekend activities
2 need more women
9 practical work in industry--during summer, for credit
3 activities for commuters
1 additional courses in male fields

Graduate undergraduate differences?

2 undergraduates treated better than graduates
3 undergraduates receive more consideration; school concentrates on undergraduate education
1 undergraduates have to work harder; more regulations
1 Stevens cashes undergraduates' checks but not graduates' checks
2 "...expect more from graduates?"
1 "professors seem to be more open with graduates"

Do you come to Stevens on weekends?

10 rarely
9 no
5 often

What could Stevens offer to have you stay on weekends?

1 social events
2 picnics
3 sports events/activities
1 club activities

Women's in student life?

6 more people getting involved
3 more activities on campus
3 "community spirit"
3 sports
2 more women
2 student center; free activities; create real campus
2 better housing
1 cut out some regulations
1 more relationships with women's schools
1 provide facilities for cooking in dorms
1 major problem = commuter school
Stevens, March 13, 1975

Honor system?

14 effective, well-run by students
8 abused, ignored; not all students stick by it
1 majority abide by it; some do not

Student government?

1 effective; gets things done

Unified degree?

15 prefer it to specific degree; not limited to one field
5 prefer specific degree
1 may be difficult for employers to evaluate

Etcetera

1 problem: administration fosters a resentment on the part of students towards the city of Hoboken
APPENDIX E

PROJECT EVALUATION QUESTIONNAIRE FINDINGS

1. Sponsor Questionnaire
2. Student Questionnaire