

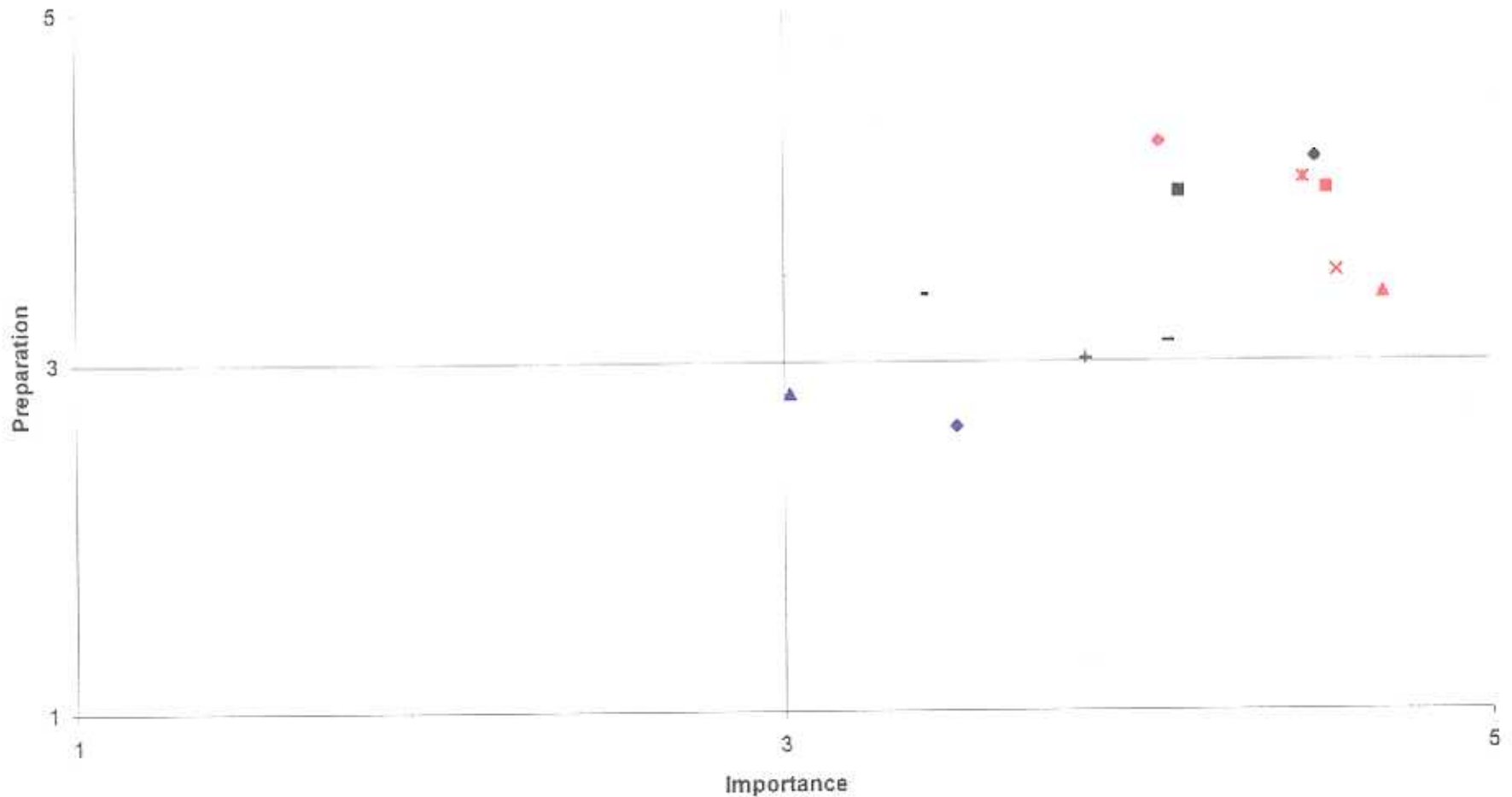
## ALUMNI/AE 2001 SURVEY RESULTS (posted Sept. 2005)

These survey results are from the first administering of a WPI-designed survey of alumni/ae done in spring 2001 for the graduating classes of 1998, 1995, 1990, 1985, 1980 and 1975. This survey was WPI's first attempt to administer a questionnaire asking alums, among other things, to evaluate both how well they believe WPI prepared them for their current work and how important these areas (learning outcomes) are in their estimation. This summary covers only the responses to question one, which asked alums to rate both **importance and quality of preparation for 22 outcomes**. (These outcomes are discussed below.) The 22 specific questions were derived from the ABET Criteria 3 and 4 outcomes but generalized to be applicable to graduates of any WPI major.

The complete survey results break information out into various categories by major and year. In this report, we deal only with information aggregated over all class years and majors. Information on specific majors was given to the relevant department heads, for preparation of accreditation self-studies, in 2001-02. Below is a chart summarizing the findings in terms of importance vs. quality of preparation.

Perhaps because this survey was our first attempt and not user-tested, the overall response rate was disappointingly low—less than 20% of some 3000 surveys returned either by web access or by mail. Perhaps the strongest conclusion to be drawn is that WPI must foster stronger connections to its alumni/ae so that response rates to such surveys on outcomes will be significantly improved in the future.

### Alumni Survey Data - All Majors - All Years



- |                                |                            |                                 |                              |
|--------------------------------|----------------------------|---------------------------------|------------------------------|
| ◆ Fundamental Knowledge        | ■ Leader in Project        | ▲ Oral Communication            | × Written Communication      |
| × Process Skills               | ◆ Formulate/Solve Problems | + Code of Ethics                | - Work Impacts Society       |
| - Continuous Upgrade of Skills | ◆ Current Societal Issues  | ■ Design Product/Process/System | ▲ Civic/Community Activities |

Almost all the responses from all 6 groups (defined by year of graduation) rate the **importance** to them at the current stage of their career for each of the 22 learning outcomes as a 3.0 or more on a scale of 1 (least) to 5 (most). In terms of Importance (x axis), only “Integrating the concept of sustaining the environment into decision making” rated below a 3.0 in four of the six charts. (The only chart in this report is the aggregate one above.)

In terms of **Preparation** (y axis), the following eight learning outcomes were all rated by both the “engineering and computer science” and “non-engineering” groups **as less than a 3.0** in Preparation:

- Integrating the concept of sustaining the environment into decision making.
- Being able to recognize conflicts of interest in my professional work.
- Understanding current social issues (e.g., political, cultural, economic).
- Integrating cost factors into decision making.
- Understanding the code of ethics for my chosen profession.
- Making decisions consistent with the public welfare.
- Integrating manufacturability factors into decision making.
- Knowing when to disclose factors that might endanger the public or the environment.

Of these outcomes alums felt they were comparatively less well **prepared for**, they rated the following as **least important**:

- Making decisions consistent with the public welfare.
- Understanding current social issues (e.g., political, cultural, economic).

They rated as **most important**:

- Being able to recognize conflicts of interest in my professional work.
- Understanding the code of ethics for my chosen profession.
- Integrating cost factors into decision making.

The remaining twelve outcomes were rated as **above a 3.0 in both Preparation and Importance**.

- Using mathematics to solve problems.
- Using the scientific method to solve problems.
- Using engineering methods to solve problems.
- Designing and conducting research.
- Analyzing data resulting from research.
- Designing a device, experiment, program or proof to meet someone else's specifications.
- Using process skills necessary to be an effective member of a team.
- Formulating and solving real-world problems.
- Communicating effectively orally.
- Communicating effectively in writing.
- Understanding how my professional work impacts society.
- Understanding the need for continuously updating my professional skills after graduation.
- Using state-of-the-art techniques, skills and tools necessary for my current work.
- Understanding the importance of honest criticism of my professional work.

Of these twelve, **for engineers and computer scientists, the three least important were:**

- Understanding how my professional work impacts society.
- Designing and conducting research.
- Designing a device, experiment, program or proof to meet someone else's specifications.

For the **remaining alums, the three least important were:**

- Using engineering methods to solve problems.

- Designing a device, experiment, program or proof to meet someone else's specifications.
- Understanding how my professional work impacts society.

**All respondents agreed the following three outcomes were the most important to them:**

- Formulating and solving real-world problems.
- Communicating effectively orally.
- Communicating effectively in writing.

However, with respect to how well prepared they were, **both groups indicated that they rated the importance of communications higher than any other outcome but relatively low in the quality of preparation.**

**Finally, in terms of ranking quality of preparation and perception of current importance, all respondents rated the following highly in both categories:**

- Using mathematics to solve problems.
- Using the scientific method to solve problems.