

Pre-College (Middle School and High School) Participation Instruments

Audience

Middle School and High School girls who participate in recruitment/skills development activities.

Options:

These three rigorous surveys provide data on the effectiveness of an activity in meeting its objectives:

Survey:	When to Administer:	For your high visibility, highly resourced activities use all 3 instruments!
Pre-Participation	Prior to student participation	
Immediate Post Participation	At the end of the activity	
Follow-up	Three to six months after activity to see if activity's impact is lasting.	

When administering a pre- and post- survey is not possible, or when the activity is a brief, one time event and/or a low resourced or low-visibility one, there is a fourth option—the “**Pre-College PDQ**” Participation survey. Administer it once at the end of the event.

Note: The PDQ instrument will provide formative feedback on the event that can help you improve delivery but, because of the lack of a pre-assessment, you will not be able to determine the impact of the activity in achieving your objectives.

Measures:

- Impact of participation in WIE/WISE recruiting/skills development activities.
- Knowledge of what engineers do.
- Course-taking plans for high school.
- Aspects of being an engineer that are appealing.
- Intentions to study engineering.
- Satisfaction with the activity.

Using the Results:

- Determine whether specific activities meet objectives.
- Determine how to improve activities.
- Correlate with student enrollment to measure impact of activity on recruiting
- Compare pre- and post- results to assess activity impact.
- Make evaluation decisions regarding activity (e.g., enhance, delete from schedule).
- Report results to stakeholders.
- Determine satisfaction of participants.

Go to aweonline.org for more detailed documentation of all AWE instruments and products.

Longitudinal Assessment of Engineering Self-Efficacy (LAESE)

Audience

Undergraduate Engineering students.

NOTE: This instrument has been validated with women students only.

When To Use:

Longitudinally, at beginning of each academic year.

Measures:

An overall measure of a student's sense of self-efficacy in the context of studying engineering, as well as the outcomes they expect from the study of engineering. Specific measurement areas include the following.

- Student efficacy in “barrier” or challenge situations.
- Student expectations about work load in college.
- Student expectation of outcomes from studying engineering.
- Student process of choosing a major.
- Student coping strategies in difficult situations.
- Influence of role models on study and career decisions.

Using the Results

- Determine changes in student self-efficacy in engineering over course of studies.
- Ascertain overall impact of different levels of participation in a program or participation in specific activities on women's self efficacy in studying engineering.
- Make evaluation decisions regarding overall program activity (e.g., add, change or delete programming).
- Correlate student retention with student self- efficacy data collected with LAESE.
- Correlate with participation in activities to identify impact of program activities on self efficacy.
- Identify opportunities for institutional interventions, change and remediation.

For tips on encouraging students participating see “How to Gain Participation for Survey Data Collection”.
Go to aweonline.org for more detailed documentation of all AWE instruments and products.

Undergraduate Mentee Instruments

Audience

Undergraduate women students who participate in mentoring programming as recipients of the mentoring – the “mentees”.

Options:

There are two versions of this instrument:

- The **Undergraduate Pre Mentee** instrument is to be administered before mentees begin to participate in the mentoring program in order to collect baseline data on each participant.
- The **Undergraduate Post Mentee** instrument is to be administered to mentees after or towards the end of participating in the mentoring program in order to collect data on the impact of the activity on participants.

AWE Recommends: Use both the pre and post surveys in order to see how participant responses change from one time to the next. Although you cannot directly attribute these changes to the mentoring program, these changes do provide some evidence of the programs effect.

Measures:

The instrument measures whether the activity meets its objectives. Specifically, the instrument assesses the following topics that are the most common objectives for mentee participants in mentoring programs.

- Feelings of isolation or inclusion in engineering.
- Commitment to completing an engineering degree.
- Impact of role models on behaviors and feelings.
- Influence of activity participation on academic/social behaviors.

Additionally, the instrument includes formative items that are designed to determine level of respondent participation in the activity and her overall satisfaction with the activity.

Using the Results:

- Determine whether this activity meets its objectives.
- Determine how to improve activities.
- Correlate with student retention to measure impact of activity on retention
- Compare pre and post results to assess activity impact.
- Make evaluation decisions regarding activity (e.g., enhance, delete from schedule).
- Report results to stakeholders.
- Use results in conjunction with other AWE tools to gain a more complete understanding of impact.

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Undergraduate Mentor Instruments

Audience

Undergraduate women students who participate in mentoring programming as the mentors.

Options:

There are two versions of this instrument:

- The **Undergraduate Pre Mentor** instrument is to be administered before mentors begin to participate in the mentoring program in order to collect baseline data on mentors/leaders.
- The **Undergraduate Post Mentor** instrument is to be administered to mentors after or towards the end of participating in the mentoring program in order to collect data on the impact of the program on mentors/leaders.

AWE Recommends: Use both the pre- and post- mentor surveys to see how participant responses change from one time to the next.

Measures:

The instrument measures whether the activity met its objectives. Specifically, the instrument assesses the following topics that are the most common objectives for the mentors participating in a mentoring program.

- Ability to lead other students.
- Ability to provide direction and offer productive suggestions.
- Ability to communicate effectively
- Ability to solve problems that arise during activities.

Additionally, the instrument includes formative items that are designed to determine the extent that the respondent participated in the activity and her overall satisfaction with the activity.

Using the Results:

- Determine whether specific activities meet objectives.
- Determine how to improve activities.
- Correlate with student retention to measure impact of activity on retention.
- Compare pre and post results to assess activity impact.
- Make evaluation decisions regarding (e.g., enhance, delete from schedule).
- Report results to stakeholders.
- Use results in conjunction with other AWE tools to gain a more complete understanding of impact.

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Undergraduate PDQ Instruments

Audience

Undergraduate women students who participate in WIE activities for which rigorous data collection is not practical.

Options:

There are two versions of this instrument:

- The **Undergraduate Engineering Participant PDQ** survey is to be administered to student activity participants at the end of an activity.
- The **Undergraduate Engineering Leader PDQ** survey is to be administered to student activity leaders at the end of an activity.

AWE Recommends: Use these surveys only for activities that are not highly resourced or highly visible in your program. The data collected will be helpful in gathering feedback on participant experience in the activity but does not provide information on long-term impact on students. For more visible activities, refer to other AWE instruments.

Measures:

These instruments collect formative data designed to determine the extent that the respondent participated in the activity, her overall satisfaction with the program and whether activity objectives are met in the short term. Formative items address:

- Did participants receive adequate help?
- Were the leaders helpful?
- Do respondents have suggestions for improving the activity?
- Did students understand the objectives of the activity?

Using the Results

- Examine results for items that address participant satisfaction to determine how to improve activities.
- Examine results to determine if participants are aware of activity objectives.
- Report results to stakeholders.

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Students Leaving Engineering Instrument

Audience

Undergraduate women and men students who have recently transferred out of engineering.

When To Use:

Administer the instrument to students when you determine they have transferred out of engineering.

Measures:

The survey measures student reasons for deciding to transfer out of engineering either into another campus academic unit, a different higher education institution or deciding to drop out of school completely. Specifically the instrument measures:

- Initial commitment to and preparation for studying engineering.
- Impact of course workload, climate, advising, teaching, etc. on decision to transfer.
- Other factors /events that contributed to decision to transfer.
- Participation in academic and in extra-curricular activities.
- Retrospective confidence in finishing a degree in engineering.
- Confidence in completing a(nother) degree.

Using the Results

- Identify major factors that contribute to students' decision to leave.
- Quantify student initial commitment to completing engineering degree.
- Report results to key engineering administrators and faculty.
- Differentiate these factors between student groups (e.g. men / women, majority / minority students).
- Examine activity participation and satisfaction relative to student decision to leave.
- Use results to influence curricular and programmatic initiatives.

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