



## Assessing Internship and Industrial Placement

### Introduction

Many universities organize internship and industrial placement for their engineering students as part of their undergraduate learning.

Internships and placements are work experience obtained during the undergraduate years. Generally, both internships and placements serve the purpose of providing students with work experience. However, one may wonder whether internship and placement are the same or different. In fact, a small number of universities distinguish between the two terms, whereas some others use the two terms interchangeably.

For example, The University of Hull (Goodhall, 2013) considers internship and placement to be the same, whereas at The University of South Australia in Adelaide (n.d.), internship and placement are categorized differently, in terms of the level of supervision, the duration, and the tasks undertaken.

For the purpose of our engineering education website, we will consider internship and placement to be the same.

Although the organizations of internships and placements are often administered by the university's career services office, faculty, and department, students may also participate in organizing the internship and placement themselves. Both internship and placement provide students with the opportunity to gain valuable working experience in the field that they have chosen, and to enhance their prospects for future employment and career before their graduation.

There are various types of assessment that can be used to assess internship and industrial placement, and they are often used jointly to assess the learning outcomes of internships and placements.



- Reflective Journal
- Report
- Viva Voce / Oral Presentation
- Poster Presentation
- Portfolio
- Logbook
- Learning Contract
- Survey

In the following section, we will present and discuss each of these assessment methods with currently practiced examples.

**References:**

- Goodhall, J. (2013). Internships and placements. Retrieved from <http://www2.hull.ac.uk/student/careers/paidinternships.aspx>
- The University of South Australia. (n.d.). Public relations internships, placements and work experience. Retrieved from <http://w3.unisa.edu.au/printernship/slides/launch.ppt>

## Reflective Journal

### What is Reflective Journal?

Reflective journal is a written series of students' ideas, personal thoughts, experiences, reflections, and insights gained during and after their internship/placement. It provides a record of students' internship/placement activities.

### Examples

#### ***Example 1: Internship at the University of Toronto, Mississauga***

In their internship courses, The University of Toronto Mississauga (2011) requires students to complete a learning journal as one of the assessment components (others include class meetings/workshops, an oral presentation, and a portfolio). The learning journal functions as a review and analysis of the student's accomplishments during the internship/placement. Entries must be entered chronologically with date and number of hours worked recorded. The learning journal also contains the industrial supervisor's/tutor's feedback and suggestions regarding the internship/placement.

#### ***Example 2: Summer Practical Training at the Hong Kong Polytechnic University***

In the Summer Practical Training of their Electrical Engineering program, The Hong Kong Polytechnic University (n.d.) requires students to keep a weekly training journal to identify their training progress. According to their subject description form, the journal should cover the following:

- Location of the training;
- Overview of the host organization;
- The student's roles and responsibilities;
- Required skills and knowledge;
- Development and growth of skills and knowledge;
- Learning experiences and learning outcomes;
- Effects of training on future career goals.



**References:**

- The Hong Kong Polytechnic University. (n.d.). Subject description form: EE3010A summer practical training. Retrieved from <http://www.ee.polyu.edu.hk/ee/documents/41470/EE3010A.pdf>
- The University of Toronto Mississauga. (2011). Internships. Retrieved from <http://www.utm.utoronto.ca/iccit/internships>



## Report

### What is a Report?

There are various types of report: practical, field-work, laboratory, technical etc. Generally, report is a systematic and well-organized document that defines and analyzes a subject or a problem. For example, engineering students are often required to write a progress or technical report as part of their internship/placement assessment.

### Examples

Western University (2013) and National University of Singapore (n.d.) require students to submit an internship report as one of the assessment tasks for their internship programs. Generally, students are required to write eight to nine pages that covers:

- The overview of the company;
- Description of the student's position(s) and role(s) – technical and non-technical work, training received and skills learned, special assignment(s), and etc.;
- Major projects and distinctiveness of the internship/placement;
- Applicability of internship/placement to the student's degree and program;
- Effects of internship/placement on the student's employment/career goals;
- Students' overall thoughts of the internship/placement and the company.

### References:

- National University of Singapore. (n.d.). EG3602 vacation internship programme: Guidelines on writing VIP report. Retrieved from <http://www.eng.nus.edu.sg/undergrad/epmc/forms/Guidelines%20on%20writing%20VIP%20Report.pdf>
- Western University. (2013). Internship report guidelines. Retrieved from [http://www.eng.uwo.ca/coop/current\\_students/internship\\_secop\\_documents/internship\\_report\\_guidelines.html](http://www.eng.uwo.ca/coop/current_students/internship_secop_documents/internship_report_guidelines.html)

## Viva Voce/Oral Presentation

### What is Viva Voce/ Oral Presentation?

Viva voce or oral presentation is rarely a standalone assessment and it is often used to accompany other assessments such as a dissertation, a report, a poster presentation, a portfolio etc. In a viva voce, students demonstrate not only their understanding and knowledge of their internship/placement outcomes, but also their ability to effectively communicate their ideas to a group of audience. It is also common that the student's presentation is followed by a discussion section, where the supervisor may ask questions and the student needs to respond and defend any presented materials.

### Examples

#### ***Example 1: Internship/Placement at the Free University of Bozen/Bolzano***

An oral presentation is employed as a dissertation defence task in the internship/placement courses at The Free University of Bozen/Bolzano (n.d.). The dissertation defence is public and it consists of a 10-minute oral presentation of the dissertation completed by the student and a discussion on the student's presentation and dissertation. Students are allowed to incorporate the use of slides in their oral presentation.

#### ***Example 2: Internship at the Université Catholique de Lille***

In their internship course, Université Catholique de Lille (2011) employs viva voce as an oral examination in addition to students' completion of internship/placement and a written report. Students are expected to present the content of their internship/placement experiences, to defend their presentation and perspectives. The viva voce lasts 45 minutes and includes 20 minutes of interview with the jury. At the end of the viva voce, the jury's president comments on the presented work according to the following:

- Presentation of the company's strategies;
- Definition of the company's missions and actions;
- Students' reflections on the project;
- Debate with the jury.



### References:

- The Free University of Bozen/Bolzano. (n.d.). Bachelor in Computer Science and Engineering – Thesis. Retrieved from [http://www.unibz.it/en/inf/progs/bacsie/thesis/default.html#thesis\\_evaluation](http://www.unibz.it/en/inf/progs/bacsie/thesis/default.html#thesis_evaluation)
- Université Catholique de Lille. (2011). Lesson details: Viva voce examination of the improvement internship. Retrieved from [http://www.univ-catholille.fr/our-academic-departements/lesson-details.asp?cours\\_Id=12614&etb=GoPwSyl&langue=2](http://www.univ-catholille.fr/our-academic-departements/lesson-details.asp?cours_Id=12614&etb=GoPwSyl&langue=2)



## Poster Presentation

### What is Poster Presentation?

Poster presentation is a form of presentation that employs the use of visual components. It is often accompanied by an oral presentation, where students have to demonstrate their communication skills by delivering their knowledge of their internship/placement to their supervisors/tutors and other students.

### Example

Calvin College (2013) requires students to make a poster in their programs such as International Internship, Summer Internship, Summer Research, and etc. In order to ensure that all posters would be of excellent quality and professional presentation, Calvin College provides students with guidelines on poster design, as the following:

- To create the poster, students may use PowerPoint, Fireworks, PhotoShop, Adobe Illustrator, and etc.
- All posters should include some pictures of the work done in internship/placement, i.e., the job site, the co-workers, product samples, and etc. Students are reminded to ask for the company's permission for using these pictures.
- Generally, posters are presented in formal sections, i.e., abstract, introduction, methods, results, discussion, acknowledgements, goals, and objectives. (Not all of these categories are necessarily applicable.)

### References:

- Calvin College. (2013). Current student resources: Posters. Retrieved from <http://www.calvin.edu/academic/engineering/students/Current/poster.html>





## Portfolio

### What is Portfolio?

Portfolio is a compilation of documentation of a student's past achievements. In the context of internship/placement, portfolio often includes students' major pieces of work, feedback from their supervisor/industrial tutor, and their own reflective analysis. A complete and well-organized portfolio can show a student's development and learning progress in internship/placement.

### Examples

#### ***Example 1: Internship at the Australian National University***

In assessing students' learning outcomes of their engineering internships, The ANU College of Engineering and Computer Science (n.d.) has adapted portfolio – e-Portfolio – as one of the assessment items. This e-Portfolio requires students to keep a reflective journal of tasks and experiences over the course of their internships. The journal entries include written reflections and documentary media such as photographs, diagrams, videos, audio files etc., as evidence of their internship experience.

#### ***Example 2: Internship at the Pennsylvania State University***

In their Energy and Mineral Engineering internship program, The Pennsylvania State University (2011) incorporates portfolio as one of the standard assessment methods (65% of the overall assessment). Students are expected to develop their portfolio throughout the semester and grades will be given based on the organization, presentation, and completeness and authenticity of record of their portfolio. Contents of portfolio may include the following:

- A title page including student name, semester, sponsoring organization, and sponsor (supervisor);
- Introduction (400 to 800 words) – the student's academic and work background, interests, and basis for internship;



- Description of the sponsoring entity (400 to 800 words) – background of the sponsoring entity and its organization, products and services offered, markets served, locations, size of company, company's history;
- Description of internship job (400 to 800 words) – the student's tasks and responsibilities, and professional interactions within and external to the host organization;
- Students' reflections on overall internship experience;
- Samples of internship work – artifacts demonstrating learning experiences and outcomes. (Each artifact must be annotated with date, description, purpose, audience, and students' roles in creating the artifact.);
- All journal entries during internship;
- Glossary of terms related to internship experience;
- A bibliography of resources – texts, references, documents, and websites used during the internship;
- Contact information for organizations and personnel involved;
- A current updated resume.

#### References:

- The ANU College of Engineering and Computer Science. (n.d.). ePortfolios: A novel way to assess engineering interns. Retrieved from <http://hubsandspokes.cecs.anu.edu.au/files/ePortfolioConferenceHandout.pdf>
- The Pennsylvania State University. (2011). Your internship portfolio. Retrieved from <https://www.e-education.psu.edu/egee495/node/454>



## Logbook

### What is Logbook?

Logbook contains a record or proof of a student's learning accomplishments, learning experience, and learning outcomes. Students can include their logbooks in their CV for future, job seeking purposes.

### Examples

#### ***Example 1: Industrial Attachment Programme at the National University of Singapore***

National University of Singapore (2013) requires engineering students to complete a student log sheet during their Industrial Attachment Programme. This log sheet must be updated weekly and must be attached to students' final report at the end of internship. Basically, the log sheet records the number of week, work(s) performed by the student, and the supervisor's/industrial's signature and comments.

#### ***Example 2: Internship at Texas State University***

Texas State University (n.d.) requires students to keep a daily work log for their internship program. Students must provide details of their internship including:

- Day and time of activities;
- Goal(s) and objective(s);
- Activities and duties performed;
- Reactions and comments from their supervisor/industrial tutor.

### References:

- National University of Singapore. (2013). EG3601: Industrial attachment programme (12MCs). Retrieved from <http://www.eng.nus.edu.sg/undergrad/epmc/siap.html>
- Texas State University. (n.d.). TECH 4390 Internship material packet (2012/2013 edition). Retrieved from <http://gato-docs.its.txstate.edu/department-of-technology/Internship-Documents/PDF/TECH-4390-Packet-2012-2013/TECH%204390%20Packet%202012-2013.pdf>



## Learning Contract

### What is Learning Contract?

Learning contract is drawn between students and their supervisor/industrial tutor to develop learning plans. Learning objectives, strategies, and expected learning outcomes are negotiated, with the student's competency and the supervisor's/tutor's expectations taken into account.

### Example

Baldwin Wallace College (2013) includes a learning contract in their Internship Site Supervisor Handbook. This learning contract is an agreement between the student, company (employer), and faculty coordinator, on the goals, objectives, and action plan of an internship/placement.

### References:

- Baldwin Wallace College. (2013). Internship information. Retrieved from <http://www.bw.edu/career/employer/intern/>



## Survey

### What is Survey?

Survey is an evaluation that employs the use of rating scales and questions that trigger short, open-ended responses, from both the student's and the company's perspectives. It is considered a fairly objective assessment method.

### Examples

#### ***Example 1: Civil Engineering Industrial Training/Internship Program at the University of Hong Kong***

In their CIVL2005 and CIVL2009 courses, The University of Hong Kong (2013) incorporates a performance appraisal form to assess the student's performance in a 4-week, industrial training/internship program. The performance appraisal form includes rating scales for the company's perception of student's knowledge, work quality, initiative, co-operation, reliability, punctuality etc.

#### ***Example 2: Co-op & Internship Program at the Pennsylvania State University***

The Pennsylvania State University (2009) incorporates mid- and end-of-semester evaluations as a means to ensure that both the students and the company are having alike positive experience with their Co-op & Internship program. Evaluations cover the following:

- Students' level of satisfaction with internship/placement;
- Students' perception of their technical skills used in internship/placement;
- Students' perceived assistance from the company;
- Students' perceived applicability of internship/placement;
- Company's impressions of students' quality of work and professionalism;
- Company's perception of students' preparedness for internship/placement;
- Company's views on students' development as a result of internship/placement;
- Company's overall thoughts about students' internship/placement.

The University of the West Indies (2013) provides templates of internship evaluation forms, please see references below.



### References:

- The Pennsylvania State University. (2009). Engineering co-op & internship evaluation data. Retrieved from <http://www.engr.psu.edu/career/faculty/data.aspx#student>
- The University of Hong Kong. (2013). Manual on industrial training/internship. Retrieved from [http://www.civil.hku.hk/civil\\_intranet/beng/pdf/12-13/Manual\\_2012%203\\_20130122.pdf](http://www.civil.hku.hk/civil_intranet/beng/pdf/12-13/Manual_2012%203_20130122.pdf)
- The University of the West Indies. (2013). Student internship evaluation form. Retrieved from [http://sta.uwi.edu/eng/outreach/form\\_StudentInternEval.htm](http://sta.uwi.edu/eng/outreach/form_StudentInternEval.htm)
- The University of the West Indies. (2013). Employer internship evaluation form. Retrieved from [http://sta.uwi.edu/eng/outreach/form\\_EmployerInternEval.htm](http://sta.uwi.edu/eng/outreach/form_EmployerInternEval.htm)
- The University of the West Indies. (2013). Employer's intern assessment form. Retrieved from [http://sta.uwi.edu/eng/outreach/form\\_EmployerAssesment.htm](http://sta.uwi.edu/eng/outreach/form_EmployerAssesment.htm)