



MODULE: STANDARD OPERATING PROCEDURES (SOP)

OVERVIEW

Learning Objectives

At the conclusion of this module, you will be able to:

- Interpretation: Define what Standard Operating Procedures are
- Interpretation: Identify elements that appear on an SOP
- Interpretation: Identify the importance of SOPs to research
- Application: Write an SOP for a non-scientific procedure
- Evaluation: Evaluate an SOP for a scientific procedure

Checklist

Prior to meeting with mentor

- Familiarize with SOP handouts
- Put together SOP for making a peanut butter and jelly sandwich
- Read through research papers provided by your research advisor/mentor
- Five-Minute reflection

Discussion with mentor

- Things that can go wrong during SOP development and later implementation.
- Review the PB&J SOPs'
- Grasp of research papers
- Discuss how project fits into big picture
- Five-Minute Reflection

Mentee Deliverables

1. **Deliverable 1: Bring a printed copy of your PB&J SOP to the next meeting.**
2. **Deliverable 2: Bring a printed copy of your responses to the Five-Minute Reflection to the next meeting.**



Materials for this Module

- Handout 1: SOP Template
- Handout 2: SOP for Weighing a Sample

Introduction

Standard Operating Procedures (SOPs) are the backbone of conducting research. SOPs by definition are “detailed, written instructions to achieve uniformity of the performance of a specific function”. In essence, if you perform an experiment in the lab, you should be able to hand those instructions to a labmate, and they should be able to complete the same experiment. To take this a step further, you should be able to give an SOP to someone in a different lab at your university, a lab across the country, or a lab in a different country, and everyone should be able to successfully complete the experiment. Creating SOPs is hard work, and requires an iterative cycle to determine consistency. For this week, we will create two SOPs, one based on an everyday activity, and the other based on an experiment you perform in the lab with your advisor.



Assignment(s) for this Module

Write an SOP for a non-scientific application

Review Handout 2 which is a sample SOP describing the use of a scale. Note the details and structure needed in an SOP for a simple task. Does it seem too detailed for such a simple activity?

Your turn, follow the template provided in the sample Handout 1, SOP Template, and write an SOP on how to make a peanut butter and jelly (PB&J) sandwich. Assume that you will provide this SOP to an individual with no concept of a PB&J, they will build the sandwich from your instructions alone. A quality SOP will be thorough enough to guide them through the process from start to finish. Refer back to the scale example in Handout 2 when you have questions about amount of detail or formatting.

Deliverable 1: Bring a printed copy of your PB&J SOP to the next meeting.

Five-Minute Reflection

Come up with one question to discuss with your mentor (maybe a concept you are unclear on, something you found interesting, etc.)

What information did you feel was the most informative? Least?

Why are SOPs so important to research and collaboration?

Deliverable 2: Bring a printed copy of your responses to the Five-Minute Reflection to the next meeting.