Objectives, Problem Statement, Activities/Methods and Evaluation (OPSAME)

Developing an initial outline around these elements will provide a logical well-conceived framework that can be developed further into a proposal.

Objectives
Describe what you want to accomplish: X% of students who earned a grade of “C” in Organic I will successfully matriculate Organic II with a grade of “C” or better. What outcomes will we be able to say we’ve achieved at the end of the project? What will have changed?

- Objectives arise directly out of the needs or issues identified (and are backed up by data analysis and research). Generally, each problem you describe is associated with an objective. Don’t overestimate what you can accomplish.
- Objectives describe who or what will change in terms of a behavior, attitude, condition, knowledge, or status (BACKS). Outcomes can be expressed in terms of enhanced learning (knowledge, perceptions/attitudes or skills) or conditions, (increased literacy, self-reliance, certifications) or behavior (lose 10 pounds, increase study time by 20%).
- Objectives are measurable; they are often framed using verbs such as increase, decrease, improve, and expand. Think ahead to what types of data you can collect to evaluate whether you have achieved your objective. This is also a way of checking whether your objective is realistic.
- A well-worded objective addresses the who, when, what, and how of measurement. For example: By the end of the 20xx-20xx academic year, 80% or approximately 20 student participants will pass Organic II with a “C” or better as demonstrated by student performances on the American Chemical Society Organic II final Exam and DFW percentages (students receiving a “D”, “F”, or withdrawing).
- An objective can be described as the “then” in an “if…then” statement. If we do this (methods/activities), then this will happen (objectives). For example, say your objective is to increase the number of students who get a “C” in Organic II. If students attend all PTI class sessions, score 80% or higher on the assessment test at the end of the week, attend 75% of the bi-monthly luncheons and meet with their peer mentors then they will receive a grade of “C” or better.

Problem Statement (Need)
The problem section of a proposal makes a case for the relevance of your project and explains to the funder why your proposed program is important. Therefore you must give some compelling reasons about why the program is necessary and outline the specific needs the program will address. Support the needs you write about with citations from research and reliable sources. Use the most recent information available. Always describe the problem in terms of the people you intend to serve. DO NOT describe the need in terms of the financial needs of the organization requesting the funding.

- Start with the largest manifestation of the problem and work down to the population you will serve. (Similar to most institutions across the country, Armstrong State University (ASU) struggles with high (40%) DFW percentages (students receiving a “D”, “F”, or
withdrawing) in Organic I and II. Although the university provides free support services in the form of tutoring and supplemental instruction, DFW percentages remain high. Moreover, chemistry majors who perform poorly in these introductory courses find themselves ill-prepared for the rigors of the upper-level chemistry courses. Analysis of the past three years of student grades shows that 85.4% of students who made a “C” in Organic I will make a “C” or worse in Organic II, with 60.0% earning grades of DFW. The data also shows 75% of African Americans making a “C” in Organic I earn grades of DFW.

- Cite sources of information.
- Describe briefly what needs to change to address the need/solve the problem.
- Remember to describe the problem as a glass that is half full, not half empty! Do not paint a picture so bleak that it makes the funder think the situation is hopeless.

**Activities/Methods (Work Plan)**

In this section you describe the work you will undertake to achieve your objectives.

- Remember that there are often many different activities you could conceivably undertake. Select those that are most appropriate and can realistically solve the problem and/or achieve your objective.

- Activities can include: workshops, seminars, classroom coaching, mentoring, classroom visits, holding a poetry contest, etc.

- A well described activity will give you a general idea of who the participants are, how often the activity will take place, and some idea about the content of the particular activity. For example: We will hold a Pre-Term Intervention (PTI) program for one week, three hours/day, immediately prior to the start of the academic term. The program will be student-centered and taught as a hybrid of minilectures and POGIL (Process-Oriented Guided Inquiry Learning) exercises, facilitated by multiple faculty members. Two POGIL certified instructors (both have backgrounds in organic chemistry) will train intervention instructors. The PTI program will use four mechanisms to improve 24 students’ performances in Organic II. First, foundational concepts covered in Organic I will be reviewed and used to introduce some Organic II topics. Second, since the PTI program will be taught by different faculty members, the students will be introduced to a variety of teaching styles that they will likely encounter in Organic II and later in their upper-level courses. Third, incorporation of POGIL along with minipre-lectures offers these at-risk students an alternative, active learning strategy to reinforce the core Organic concepts, and finally, students enrolled in this program will benefit from having a smaller class size that will create a less intimidating atmosphere, affording them a level of familiarity with their faculty members and classmates. These early interactions should promote student classroom engagement during the regular semester and a willingness to seek faculty help when needed. In addition to the one-week PTI program, students will be assigned a peer-mentor and students will be expected to participate in roundtable lunch discussions twice a month with the intervention instructors and peer-mentors. The luncheons will provide a platform to discuss any challenges the students are facing and avenues to remedy concerns, allow faculty to discuss their on-going research and emphasize how students may get involved, and will bring in outside speakers to introduce students to career options within chemistry.
Remember: Your budget will basically describe with numbers the methods and activities you describe here in words.

**Evaluation**
What will you do to assess progress and determine if your program is working well and you are successfully achieving your objectives? Evaluation activities should be both formative (assessing progress while project is still underway) and summative (assessing outcomes.)

- Formative evaluation helps you to determine if you are moving toward your objective or if you need to make adjustments to your methods or other program components. Use it as a management tool to make modifications in service delivery or make decisions about priorities.
- Think about evaluation in terms of the data you will or can collect as a measure of progress toward (or success in) attaining an objective.
- Describe the evaluation activities and plan. Link these back to specific objectives.
- Evaluation tools often include pre- and post-tests and surveys, specific “off the shelf” assessment tools, standardized tests, focus groups and interviews, participant reports, structured observations.
- Data analysis often includes studying results of tests and surveys (sometimes using rubrics for assessment), transcripts from interviews and focus groups, written logs and reports.