

**Bowling Green State University**  
**Division of Student Affairs**  
**Student Learning Outcomes Assessment Report**

This template\* is designed to assist you as you prepare your assessment report. When preparing this report, please be sure to focus on student learning outcomes. We understand that departments and units assess various aspects of the student experience. This report should focus only on the student learning outcomes' piece of the larger assessment puzzle. Please complete requested information in the space below each box; tailor the length of the report to your needs. For assistance in preparing an assessment plan or help in better understanding the assessment process please see Appendix 1.

**Student Affairs Department or Unit** (*i.e. Career Center, Athletics, CMAI*)

**Student Support Services – Advising and Tutoring Components**

**Academic Year in Which Assessment Was Completed**

2007

**Director/Report Author(s)**

Sidney Childs/ Crystal Taylor

**Description of Event(s)/Program(s)/Project(s) Being Assessed:**

*This report should include student learning outcome assessment projects for your department/unit. While we understand that student satisfaction, facility usage, customer satisfaction, staff development, and other specific issues are important to measure for various units, please do not include those evaluations in the descriptive area of your report. This section should provide a summary of the event(s)/program(s)/project(s) on which you are focusing in this report. It should also give the Assessment Committee an overview of the focus and participants. If you are including multiple programs, clearly indicate this by using a consistent numbering or lettering system throughout the report.*

Activities assessed include:

1. The total advising experience that SSS member students receive; academic, financial aid, career, graduate school, and personal.
2. The tutoring component from the tutee perspective.

**Student Learning Outcomes of Event(s)/Program(s)/Project(s):**

*Student learning outcomes are what we strive for students to learn by attendance/participation in the event(s)/program(s)/project(s) you are assessing. Outcomes should be established prior to the event/program/project taking place.*

*\*For more information on writing student learning outcomes, please see Guide for Writing Student Learning Outcomes.*

1. Advising Component Learning Outcomes
  - a. Understand and be able to access, navigate, and utilize college services
  - b. Independently evaluate, map, and manage their progress toward degree completion or transfer by using advising materials and degree audits

- c. Identify and use supplemental offices on campus
  - d. Identify the need to apply for tutoring services and then utilize the service.
  - e. Prepare a preliminary class schedule during the pre registration period
  - f. Make appropriate adjustments in their educational plan when necessary
2. Tutoring Component Learning Outcomes
- a. Students will learn their preferred learning style and study strategies that work with that style
  - b. To apply for tutoring early in the semester
  - c. To engage with instructors to positively impact their grades
  - d. To utilized support services as needed

**Assessments Administered:**

*This section should describe the assessment methods used to measure the student learning outcomes. You should also include when the assessment took place, how the assessment was conducted, and philosophical descriptions of instruments used (please attach the instrument as an appendix). Methods can be both quantitative and qualitative and should be directly aligned with the stated student learning outcomes. Examples of assessment tools include, but are not limited to, the following: surveys, feedback/focus groups, interviews, observation, and evaluation.*

1. Assessment of the advising component is done by survey, interviews and observation. The SNAP 8 survey administered two weeks prior to the end of the semester via email. Every student in the program receives the link and several reminder emails to complete the survey. Interviews by SSS advisors also collect a great deal of data. Case notes identify learning outcomes as they happen during the advising interview. Observation is also used. Both the Director and the Assistant Director observe staff advisors during the advising session at various times during the semester to determine if each student who receives advising is getting the necessary information for learning to take place.
2. Assessment of the tutoring component is done by survey, interviews and evaluation. SNAP 8 survey was administered two weeks prior to the end of the semester via email to all tutees. The Assistant Director interviews each tutee prior to distributing the tutor assignment. During that appointment students are given the BARSCH learning style inventory to identify their specific learning style. At that time each tutee is given a handout with tips and tools designed to assist them with study strategies tied to their preferred learning style. Additionally, each tutor is required to complete a weekly evaluation of each tutee they see. This is done to ensure that tutees are utilizing the support services as needed. In the event that a student is consistently missing appointments, the Assistant Director will call the student in the office to see why the student is not using services, if necessary the student is required to see the tutor at least twice a week for at least an hour each session, however if the student is well above a C in the course, they are allowed to reduce the tutoring time. In the event that a student doesn't want to meet with the tutor or continues to miss appointments, the tutor assignment is cancelled.

**Analysis and Interpretation of Data Collected:**

*This section should contain an analysis of the data collected and how the data relates to the stated student learning outcomes. Questions to think about include, but are not limited to, the following: How many students participated? What details need to be included so the committee fully understands the population and the setting? Did the students learn what you stated they would learn? Be sure to explain.*

1. Advising analysis – 250/343 students seen in Fall and 203/318 students seen in Spring. The 2007/2008 surveys were completed by 47 students. According to the results 71% of respondents received course registration services. 76% of students knew and used study strategies to improve academic grades. 87% of students stated they were comfortable approaching their instructor to discuss issues with them. 81% had completed personal goal setting with the SSS advisor. 75% learned how to access and use a variety of services on campus as a result of meeting with their advisor. 88% knew to apply for a tutor as a result of meeting with their SSS advisor. A review of the case records indicate that many of the students who consistently saw their advisor learned to ask for assistance before they had academic trouble. This is also evident in the increased number of tutor requests we received and filled in the Spring semester. During registration most advising sessions included students pulling their own DARS reports, reading through their reports to determine which areas they needed to work toward filling. Many students recognized that they had taken extra courses in various sections of the report and began to pay closer attention to the registration process. It is this writer's opinion that each student that utilized SSS advising services gained knowledge in each of the areas listed. As noted in the Spring advising report, many students made return visits to their advisors this semester.
2. Tutoring analysis – Fall 2007 – 98 requests for service, 88% were filled. Spring 2008 140 requests 88% filled. Total students in 2007/2008 using tutoring services – 130. Each student assigned a tutor was required to complete the BARSCH learning style inventory at least once during the academic year. Only about 1/3 of all tutor requests came in at the deadline, which is set one week after the last day to withdraw from a class. This indicates that the majority of the students understand the need to apply for tutoring before they get into academic trouble. Spring 2008 a SNAP survey was sent to each student who used tutoring services in 2007/2008. There was a very low response rate only 13 responses. However, 75% agreed that their tutor instructed them to communicate with their professor, and the advising survey asked the same question and had 87% agree that they were comfortable communicating with the instructor. 100% stated that their tutor instructed them on how to use various study strategies to improve academic performance. Tutors also completed weekly evaluations and as a result only three students lost the use of the tutor for failing to meet at regularly scheduled times. I am confident that students using tutorial services learned each of the outcomes assessed. This is also evident in our success rate 66% received a C or better in the course tutored.

**Action Plan Based on Assessment Results:**

*Now that you have assessed the student learning outcomes, and collected, compiled, analyzed, and interpreted the data, what will you do with the results? This section is where all your hard work takes shape into an action plan.*

1. Advising – our action plan involves increases advising appointments with students. Advising staff is working toward meeting the following goals for their assigned caseloads:
  - 75% of First year students seen at least 2 times
  - 75% of STAR students seen at least 4 times
  - 50% of remaining caseload at least 2 times

In addition we would like to increase response rate on the survey. This semester we will be implementing short evaluations at the end of appointments. We will collect information from each student for one week during the Fall semester and one week during the Spring semester as a way to increase coverage of the evaluation tool. This will be in addition to the end of the semester survey that is emailed out. The goal here is to get responses from more students. We

have already started having appointments in two residence halls so that students have evening access to our advising staff. These hours will take place one night a week on a rotating basis.

2. Tutoring – the action plan here is to increase the number of students applying for and using tutoring services. We will do so by advertising tutoring through signage in the office and via our newsletter. Also, we will be hiring more and better qualified tutors to assist our students. Advisors will continue to push the availability of tutors at each advising session. The Assistant Director will meet with also restructure the tutor assignment meeting to include an in depth conversation about the use of tutoring services. Those students unwilling to meet with tutors will lose the tutor so that students who need a tutor and will use the services can have a chance to see a tutor. Also, the evaluation will need to be reworked. Spring 08 the SNAP survey was used, however all the data was sent via email and was unable to be tabulated using the SNAP database. The Assistant Director has since been trained and will be better able to operate the survey. We will be asking the tutees to complete evaluations earlier in the semester and for each tutor so that we can determine if there is an issue with particular tutors. This is currently not done, we have no way of knowing how the tutoring session is going for the tutee because we do not currently ask the tutees to evaluate individual tutors.

**Additional Assessment Project(s):**

*Please list additional assessment initiatives/projects completed by your department/unit not related to student learning outcomes. Briefly highlight the participants and the outcomes.*

None at this time.

Please see the attachments for the evaluations used to complete this report.

[http://survey.bgsu.edu/surveys/StudentSupportSvc/studentsupportservices\\_2007\\_2008\\_advisingsurvey/studentsupportservices\\_2007\\_2008\\_advisingsurvey.htm](http://survey.bgsu.edu/surveys/StudentSupportSvc/studentsupportservices_2007_2008_advisingsurvey/studentsupportservices_2007_2008_advisingsurvey.htm)

[http://survey.bgsu.edu/surveys/StudentSupportSvc/spring\\_08\\_tutee\\_evaluation/spring\\_08\\_tutee\\_eval.htm?id=f9fa3](http://survey.bgsu.edu/surveys/StudentSupportSvc/spring_08_tutee_evaluation/spring_08_tutee_eval.htm?id=f9fa3)

**Student Affairs Department or Unit** (i.e. Career Center, Athletics, CMAI)

**Student Support Services Writing Component**

**Academic Year in Which Assessment Was Completed**

2007

**Director/Report Author(s)**

Sidney Childs, Director; Sue Zwyer, Writing Specialist

**Description of Event(s)/Program(s)/Project(s) Being Assessed:**

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programs, clearly indicate this by using a consistent numbering or lettering system throughout the report.

- A. Writing One-to-One Consultations—Early Stages of Writing
- B. Writing One-to-One Consultations—Drafting Stages of Writing
- C. Writing One-to-One Consultations—Revising Stages of Writing
- D. Writing One-to-One Consultations—Editing Stages of Writing
- E. Graduate School Consultations—Writing a Statement of Purpose

**Student Learning Outcomes of Event(s)/Program(s)/Project(s):**

A. Student writers will learn how to brainstorm for ideas and learn the following strategies:

- 1. analyzing writing assignment directions
- 2. freewriting
- 3. listing
- 4. concept mapping
- 5. creating a tentative research question
- 6. narrowing a paper's focus

B. Students will learning the following strategies:

- 1. how to create a rough draft “for the writer’s eyes only”
- 2. how to analyze the rhetorical situation: the writer’s purpose, persona, audience, arguments
- 3. how to determine a workable thesis statement
- 4. how to determine supportable arguments using logic
- 5. how to determine a logical organizational pattern

C. Students will learn the following strategies:

- 1. How to read and analyze students writers’ peer feedback
- 2. How to read and analyze instructor’s oral and written feedback
- 3. How to re-see and re-focus paper for clarity and correctness

D. Students will learn the following strategies:

- 1. How to proofread their own papers using instructor and writing consultant prompts
- 2. How to use writing handbooks, writing handouts, and online writing sources
- 3. How to use electronic spelling and grammar checks

E. Students will learn the following strategies:

- 1. How to analyze the directions for the S.O.P.
- 2. How to draft multiple versions of the S.O.P.
- 3. How to research the proposed institution’s programs and faculty
- 4. How to include short- and long-term educational and professional goals
- 5. How to consult with BGSU faculty in their proposed field for feedback on S.O.P.

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Because of Student Support Services grant guidelines, I must **track grades** of students using SSS writing services, and consistently over 75% have earned grades of C or better. Although writing center professionals strive to help the student become a better writer rather than to help the student pass each individual paper, student grades can be a valid indication of student learning.

To assess student learning I explained and modeled writing practices and then **observed** students as they drafted papers in our writing conferences. I also **examined and analyzed** the drafts of papers that they brought with them for face-to-face sessions or that they emailed me. I worked with students writing argument papers for their English 110/111/112 classes, and their instructors evaluated their students' work using a rubric. I incorporated the rubric guidelines and created a session report to indicate what specific stage the writer was at and a checklist to indicate the specific points the students worked on during the session. When students worked with me on a draft of a paper, they often created concept maps, crafted tentative thesis statements, and created lists of arguments for support in favor of and opposed to their tentative thesis. They created those documents and left the writing session with them so they could continue to draft their papers. Thus, the **students' creation of the written documents** represent student learning. I often made copies of any concept maps or lists that they created and put the documents into their writing folders after the session and these copies represent archival documents. I requested that students send me an electronic version of both the draft that they may have brought in and as well as their revised draft. At the end of writing sessions, students completed **session evaluation surveys** forms that asked students open-ended questions including "What did you learn in this session that you can apply to future writing situations. In addition, because writing consultants complete a writing **session report** at the end of each writing session that goes to instructors with a copy also kept in their writing files, I was able to review the work accomplished in each session. Both professional and peer writing consultants create reports indicating the observable work completed during sessions, and the reports themselves represent a valid document of student learning.

For students working with me on **Statements of Purpose (SOP) for admission to graduate school**, I reviewed drafts of their essays from their early drafts to their final submitted draft. I then contacted students to determine whether they were admitted to the graduate programs for which they had applied.

### **Analysis and Interpretation of Data Collected:**

*This section should contain an analysis of the data collected and how the data relates to the stated student learning outcomes. Questions to think about include, but are not limited to, the following: How*

*many students participated? What details need to be included so the committee fully understands the population and the setting? Did the students learn what you stated they would learn? Be sure to explain.*

Student Support Services participants qualify for the federally funded grant program because they are first-generation college students who have financial need as determined by federal low income guidelines. They may also have a physical or learning disability. All participants have academic need as evidenced by ACT scores of 21 or below, high school GPAs of 2.5 or lower, and placements into developmental courses in one or more classes in reading, writing, and math. Many students have not attended schools that have adequately prepared them for college-level work, and because of that they are considered “at risk” by university administrators.

My peer tutors and I work with SSS participants to help them improve their critical thinking, reading, researching, and writing skills in order to help them successfully pass their General Studies Writing (GSW) series—English 110/111/112—courses that require them to write argument papers advancing their own positions on a debatable topic using logical reasoning and often supporting their stances with other sources, thus requiring research skills. In addition, students come in for help with courses across the disciplines that require writing—from 100-level to 400-level papers. Student writers work in one-to-one writing sessions at whatever stage of the writing process they may be—from analyzing the writing assignment to understand what is required, to brainstorming for a topic, considering arguments in favor of and opposed to a tentative thesis, all the way through creating multiple drafts working through organizing their ideas, revising for clarity, and editing to ensure they are submitting papers that demonstrate standard edited English.

During fall and spring semesters in the academic year 2007, 92 SSS participants received help in all courses requiring writing. During this time 82 received help in their GSW courses with 68 passing their courses and 42 participants came for help in 54 courses across the curriculum earning 48 passing grades. Because SSS is a grant funded program which stipulates that SSS staff track student grades, the **passing grades earned** do represent an indication of student learning.

In addition, writing consultants completed **session reports** that were sent to instructors listing the active learning demonstrated by students during each session. In fall and spring semesters, and in the first month of summer semester, 92 SSS participants came for 533.49 hours of writing help. The number of individual writing sessions equaled 517, and 517 session reports were completed. An analysis of these reports indicated that student writers coming in to work on writing projects at various stages of the writing process and they left the session having advanced their ideas and learning. The writing session reports indicate that students who came in with drafts read their papers aloud and left the session with revised paper drafts or computer drafts. Those who had not yet begun a draft of their paper left with brainstormed lists of their ideas, concept maps showing relationships between ideas, possible arguments in favor and opposed to their tentative stance, and counterarguments and rebuttals for their paper. Those who were in the research stage of writing actively sat at computers and writing consultants helped them use library databases to find credible research articles and books. Reports indicated that often writers worked on critical reading during the session, isolating and underlining published authors’ theses and arguments in support of those theses. Reports also indicate that those who came with more advanced drafts read their papers aloud and focused on grammar, punctuation, and mechanics in order to clarify their meanings and edit their papers for standard edited English. In some cases, writing consultants made copies of the prewriting and drafting student writers completed during sessions and included it in the students’ writing folders.

Two different session report forms were used during fall and the beginning of spring semester. The writing center director and I created a new report that we used for the remainder of spring semester, and we continue to revise the instrument so that the questions we pose apply to specific learning outcomes and more accurately reflect the goals of each session.

**Students completed session evaluations** after individual writing consultations. One session report was used during fall and the beginning of spring semester, and a new report was created and used the remainder of spring semester. In these session evaluations students were asked to consider whether they were active learners during their consultation time. One hundred percent of those answering the question said yes, and many elaborated stating that they asked questions, they actively answered questions posed by writing consultants about their assignments and were given opportunities and time to explain their ideas and reasoning. Many noted they actively collaborated with consultants on critically reading and discussing textbook material for their courses or for researched articles they found during the session or brought to their session. SSS participants articulated in writing what they had worked on that was most helpful to them during their writing sessions. SSS participants completed over 100 reports and in an analysis of those reports the overwhelming majority of students were able to clearly articulate in writing the active learning they done during the session. They indicated they analyzed the audience for their papers, worked on creating more logical organizational patterns, developed their ideas more fully, saw the importance of counterarguments and rebuttal, better understood citation conventions when using other writers' ideas and written words, and better understood various points of grammar, punctuation, and mechanics. Two other questions asked students to articulate what specifically they had learned during the session and what they most liked about the session. An analysis of the written comments made indicate that students' learning depended on what stage they were in the writing process. Students who had not begun their writing projects or who had started drafting without carefully considering the assignment sheet directions wrote they learned how to analyze writing instructions to understand what the instructor's expectations were for the writing project. Others who were at the prewriting stage often noted they learned to consider their own experiences and the background knowledge they already had in order to find a topic for a paper or to create a tentative thesis statement. Others wrote that they learned how to ask themselves questions about their topics, how to make concept maps and webs to explore ideas, how to keep their papers on topic, how to better organize their arguments, and how to develop their ideas more fully by including pertinent examples and providing their readers with their line of reasoning. Students writing argument papers requiring research indicated they learned how to use library databases to ensure they had credible academic sources. Those at the editing stage said they learned how to use reference tools like writing and grammar handbooks, online sources like Purdue's Online Writing Lab (OWL) and online MLA, APA, and ASA websites, and BGSU's library and Writing Center homepages for appropriate handouts.

The version of the writing session evaluation being used asked students to assign a numerical value considering how helpful they thought the writing session was. On a scale of 1 to 4 with 1 being "definitely helpful" and 4 being "not helpful," 97% of students indicated the session was extremely helpful. The other 3% rated their session a 2, indicating it was very helpful.

For upper-division students working on their Statement of Purpose (SOP) essays for graduate school, I am able to assess student learning by the multiple drafts they bring in as they craft their essays. I then follow up to see that they have submitted their SOPs and determine whether they have been admitted to the graduate programs for which they have applied. This spring and fall I worked with two students. One student worked with me on her SOP as well as her application essay for an internship and scholarship. The student will be enrolled in her program in the fall and she received an internship/scholarship. The other student with whom I worked is awaiting notice of her admission to graduate school.

**Action Plan Based on Assessment Results:**

*Now that you have assessed the student learning outcomes, and collected, compiled, analyzed, and interpreted the data, what will you do with the results? This section is where all your hard work takes shape into an action plan.*

In analyzing the student learning outcomes as well as the tools used to measure them, I can see that I need to continue to hone the writing session evaluation. More questions need to first ask what stage the writer was at when she/he came to the session, and from there ask for specific information about the learning that applies to that specific level.

After attending the Student Affairs Outcomes Assessment Workshop Bonnie Fink, from the Center for Teaching and Learning, conducted and after follow-up consultations with Bonnie Fink, I discovered much. I now realize that because of the individual nature of one-to-one writing sessions, the student learning can be observed and demonstrably indicated by the movement of the writer during the session. Thus, students need to continue to become active learners as evidenced by the critical reading, thinking, writing, and researching they do during each session. More often writing consultants will have to articulate the specific goal of each session and explain to students why what they are doing in the session works for the stage of writing at which they are at and how they can use some of the same transferable skills to other writing projects.

I also realized the benefit of including a question on the session reports asking students to articulate what they learned during the session. Doing this at the end of each session will ensure that students provide more feedback and more immediate feedback than if they take a session evaluation form with them to complete and bring back at a later time. And because SSS participants sign session report forms indicating they received the help indicated for the amount of time indicated, this will be an added verifiable account of student learning.

**Additional Assessment Project(s):**

I am analyzing research on the Daly-Miller Test which indicates students' levels of writing apprehension to ensure that the test is not culturally biased. After determining whether the test is acceptable, I plan to administer the test to students on their first visit using SSS writing services and at the end of the semester to determine whether students' levels of writing apprehension decrease.

Time IN \_\_\_\_\_

Writing Center  
Student Support Services\_\_\_\_ Send  
\_\_\_\_ Do Not Send

Time OUT

Session Report

Name \_\_\_\_\_ POO \_\_\_\_\_ Date \_\_\_\_\_

Writing Consultant \_\_\_\_\_ Minutes \_\_\_\_\_

Instructor \_\_\_\_\_ Course and Section No. \_\_\_\_\_

Type of Writing Assignment \_\_\_\_\_ Student HAD \_\_\_\_\_ DIDN'T HAVE assignment sheet

Intended Audience \_\_\_\_\_ Unspecified \_\_\_\_\_

**Writer is at what stage of the writing process?**

- \_\_\_ prewriting:
  - \_\_\_ reading/thinking/talking about topic
  - \_\_\_ researching
  - \_\_\_ exploratory writing
  - \_\_\_ outlining
- \_\_\_ rough draft
- \_\_\_ revising
- \_\_\_ editing
- \_\_\_ final draft
- \_\_\_ rewriting previously turned-in paper

**Writer needed assistance with content:**

- \_\_\_ understanding the subject matter
- \_\_\_ determining a main idea (thesis) for the paper
- \_\_\_ using logic
- \_\_\_ developing ideas through explanations and examples
- \_\_\_ adopting appropriate tone and diction for situation, purpose, and audience
- \_\_\_ finding adequate vocabulary to express ideas
- \_\_\_ other

**Writer needed assistance with organization or format:**

- \_\_\_ organizing information in a way that is easy to follow and makes sense
- \_\_\_ arranging information into introduction, body, and conclusion
- \_\_\_ following specific format required
- \_\_\_ understanding academic writing conventions
- \_\_\_ other

**Writer needed assistance with grammar or mechanics:**

- \_\_\_ using correct punctuation
- \_\_\_ understanding subject-verb agreement
- \_\_\_ eliminating fragments and/or run-on sentences
- \_\_\_ using correct spelling
- \_\_\_ using appropriate articles, prepositions, and verb endings
- \_\_\_ other

**COMMENTS**

**Topics Not Covered**

**My signature certifies that on this day I have received these services from Student Support Services**

\_\_\_\_\_  
**Signature**

\_\_\_\_\_  
**Date**

<b>Student Affairs Department or Unit</b> (i.e. Career Center, Athletics, CMAI)
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**Student Support Services Math Component**

<b>Academic Year in Which Assessment Was Completed</b>
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2007

<b>Director/Report Author(s)</b>
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Mr. Sidney Childs/ Jennifer Twu

<b>Description of Event(s)/Program(s)/Project(s) Being Assessed:</b>
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Math Mathematics Component: Math 095 and Math 112

<b>Student Learning Outcomes of Event(s)/Program(s)/Project(s):</b>
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The learning outcomes of students in mathematics are associated with practical applications. In the following are student learning outcomes for the math courses.

**Student Learning Outcomes for Math 095:**

Students have:

- understood the set of real numbers and the subset of real numbers
- used the real number line to order real numbers
- used the real number line to find the distance between two real numbers
- determined the absolute value of a real number
- added, subtracted, multiplied, and divided real numbers
- wrote repeated multiplication in exponential form and evaluated exponential expressions
- used order of operations to evaluate expressions
- evaluated expressions

- identified and used the properties of real numbers
- developed additional properties of real numbers
- solved percent problems using the percent equation
- used ratios to compare unit prices for products
- solved proportions relating to daily application
- identified the terms and coefficients of algebraic expressions
- simplified algebraic expressions by combining like terms and removed symbols of grouping
- evaluated algebraic expressions by substituting values for the variables
- translated verbal phrases into algebraic expressions, and vice versa
- constructed algebraic expressions with hidden products
- checked Solutions of equations
- solved linear equations in standard form
- solved linear equations in nonstandard form
- plotted points on a rectangular coordinate system
- determined whether ordered pairs are solutions of equations
- used the distributive property and the FOIL Method to multiply polynomials
- used special product formulas to multiply two binomials
- used multiplication of polynomials in application problems
- factored greatest common monomial factors from polynomials
- factored polynomials by grouping terms
- factored the difference of two squares
- factored polynomials completely by repeated factoring
- factored trinomials of the form  $x^2 + bx + c$  and  $ax^2 + bx + c$
- factored polynomials using the guidelines for factoring
- recognized and factor perfect square trinomials
- used the Distributive Property to add and subtract like radicals
- used the product and quotient rules for radicals and simplified radical expressions

### **Students Learning Outcome for Math 112:**

Students have:

- used mathematical modeling to write algebraic equations representing real-life situations
- used mathematical models to solve business-rated problems
- used formulas to solve application problems
- sketched the graphs of the inequalities
- identified the properties of inequalities that can be used to create equivalent inequalities
- solved linear inequalities
- solved compound inequalities
- solved application problems involving inequalities
- sketched graphs of equations using the point-plotting method
- found and used  $x$ - and  $y$ -intercepts as aids to sketching graphs
- used a pattern to write an equation for an application problem, and sketched its graph
- determined the slope of a line through two points

- wrote linear equations in slope-intercept form and graph the equation
- used slopes to determine whether two lines are parallel, perpendicular or neither
- used slopes to describe the rates of change in real-life problems
- wrote equations of lines using point-slope form
- wrote equations of horizontal, vertical, parallel, and perpendicular lines
- used linear models to solve application problems
- used the rules of exponents to simplify expressions
- rewrote exponential expressions involving negative and zero exponents
- identified leading coefficient and degrees of polynomials
- added and subtracted polynomials using a horizontal format and a vertical format
- used polynomials to model and solved real-life problems
- used the Zero-Factor Property to solve equations
- solved quadratic equations by factoring
- solved higher-degree polynomials by factoring
- solved application problems by factoring
- found the domain of a rational function
- simplified rational expressions
- used linear models to solve application problems
- determined the  $n^{\text{th}}$  roots of numbers and evaluated radical expressions
- used the rules of exponents to evaluate or to simplify expressions
- used the product and quotient rules for radicals and simplified radical expressions
- determined the products of conjugates
- simplified quotients involving radicals by rationalizing the denominator

As such, students are evaluated with respect to several functional areas including knowledge, research skills, problem solving skills, communication skills, and teamwork skills. Overall, the main learning outcomes include students using appropriate analytic methods to solve problems, formulating effective questions, sharing information with others, and learning modeling methods appropriate for subject. Therefore, students are able to appreciate math and apply it throughout their daily life and future careers.

**Assessments Administered:**

*This section should describe the assessment methods used to measure the student learning outcomes. You should also include when the assessment took place, how the assessment was conducted, and philosophical descriptions of instruments used (please attach the instrument as an appendix). Methods can be both quantitative and qualitative and should be directly aligned with the stated student learning outcomes. Examples of assessment tools include, but are not limited to, the following: surveys, feedback/focus groups, interviews, observation, and evaluation.*

Both quantitative and qualitative methods were utilized to assess student-learning outcomes.

To evaluate the students in our Math courses (090/095/112), I used a variety of methods in order to get a better-rounded view of how students are learning. These methods were used to see how the student worked with new subjects, understood concepts as we progressed in the course, and performed when tested.

- Pre-Test and Post Test

This gave us an understanding of what the students' knowledge of the subject was. The Pre-Test was given at the beginning of the semester, which was prior to any instruction. The Post Test was used to compare the students' understanding at the beginning of the semester with the students' understanding at the end of the semester. The comparison showed that the students gained knowledge since the beginning of the semester. Therefore, the Post Test allowed the students to demonstrate their understanding of concepts and the content of the subject. It also demonstrated their ability for critical thinking.

- The Math Journal

The math journal allowed the student to write about how the course was going. The journals contained things that went well or concepts that they struggled with. It gave the student an opportunity to take an introspective look at how they were performing in the course.

- Homework and Tests

Homework was given frequently to the student. It helped the student reinforce what they learned in class. It also gave them the opportunity to ask questions if they did not understand. Tests were given to the students to check their progress and understanding of concepts. As such, the tests were given at specific times to ensure their learning. In addition, the tests were well-balanced to ensure that there was not too little or too much material.

- Group work/Group teaching

During SI sessions, we had the opportunity to try to work out concepts that students may have struggled with. We can work through problems as a class. This helps students see how a problem is solved from beginning to end. It can solidify a students' understanding of a concept and it can help the student who did not understand the concept and needed further clarification. This also gives the SI get an understanding of what students are having problems with. It is a time to see how well or not so well students understand the concepts.

- Workshop Fun Activities
- Progress Reports

These reports were given to students during a one-on-one meeting with the instructor. This was an opportunity for students to voice their concerns directly to the instructor. The

instructor discussed how the student was performing as well as how he or she may perform in the future. Progress Reports were given to the students for two reasons: 1) allow the student to know how he or she is doing and 2) give the student a way of tracking how they are doing.

**Some other forms of assessment we use for our Math (090/095/112) course are:**

- Tests (Quizzes, Chapter test, Mid-term and Final exam)
- Interviews (Conduct individual conference)
- Questionnaires (Survey of students pre-knowledge)
- Structured questions (Using different formats of tests)
- Assignments (Variety of assignments, homework/class work)
- Practical exercises/demonstrations (Student created questions/everyday occurrences of math)
- Projects (Group project in statistics and view of world mathematicians)
- Role-plays (SI section)
- Simulations (Students perform their favor teaching style)
- Aural/Oral Questions (Interactive lesson plan)
- Observations (Observe student's response and feedback/Office hours)
- Self-report assessment (Math Journal)

**Analysis and Interpretation of Data Collected:**

*This section should contain an analysis of the data collected and how the data relates to the stated student learning outcomes. Questions to think about include, but are not limited to, the following: How many students participated? What details need to be included so the committee fully understands the population and the setting? Did the students learn what you stated they would learn? Be sure to explain.*

There were thirty-four students participated in this year. The data was collected via the pre-test and posttest was conducted to measure the results of student learning outcome. To provide better curriculum and instruction for student learning, the pretest was conducted at the beginning of semester to evaluate each student's mathematics foundation and abilities. Throughout the whole semester students engaged in group teaching and learning in addition to individual tutoring and supplemental instruction sessions. A posttest was conducted the week prior to final exams. By using t-test to compare the result of same group of students' pre-test and post-test, the results indicate a significant improvement from the beginning of semester for Math 095 ( $M = 62.4$ ,  $SD = 28.9$ ), to the end of the semester ( $M = 76.5$ ,  $SD = 35.6$ ),  $p < .05$ . as well as for Math 112 ( $M = 10.25$ ,  $SD = 4.72$ ) over the semester ( $M = 19.5$ ,  $SD = 7.77$ ),  $p < .05$ .

The results show a significant difference in learning outcomes between students who completed their assignments and regularly participated in classes and SI sections as they did much better than the students who were often absent from these activities. The pre-test and post-test generates a numerical evaluation of student learning which can be compared to determine how well a student has grasped a particular concept. Qualitative methods were also processed to evaluate students' learning outcome such as by observations of students' enthusiasm, teamwork, and dedication allow for the formation of operational statements describing specific student behaviors that provide evidence of the acquisition of knowledge, skills, abilities, capacities, and attitudes. Another assessment is attendance and participation as students are expected to learn by attending class and participating in learning activities to achieve their academic goals. Due to the small class sizes, individual students received much attention from the instructor and SI leader's feedback. Students also spent a large extent of time in the resource room studying on their own, working in groups, and discussing questions with the instructor. Students who obtained grades of C and above reached the college algebra learning objective and outcome benchmarks. Consequently, these students identified the vital elements of any problem and understood mathematical ideas and processes. In addition, these students gave strong supporting examples and counterexamples, which showed their understanding of the problems presented. Passing rates surpassed the goal for both the fall and spring semester.

**Action Plan Based on Assessment Results:**

*Now that you have assessed the student learning outcomes, and collected, compiled, analyzed, and interpreted the data, what will you do with the results? This section is where all your hard work takes shape into an action plan.*

The results showed that our students had a higher passing rate than other section classes. Through much encouragement, some students were motivated to do better in class. In addition to the regular tests, quizzes, and homework, it is a requirement for students to meet with me if he or she did not do well on the first test. These students were also required to meet with SI leaders and his or her SSS advisor to improve their learning progress. Meeting with instructors and SI leaders helped students see that it was vital to attend class, participate, and complete assignments. Students who came to class more had access to additional practice questions and were accustomed to tests. The test review workshops assisted students who needed help

preparing for an exam because it gave them more time to ask and practice questions. Moreover, these workshops helped students overcome their text anxiety and improved their learning of mathematics.

I periodically examined assessment results and decided whether the students were meeting learning benchmarks. To help the students receive a better learning outcome, I proposed a learning contract within the syllabus that required students to write their notes, follow good study habits, practice their assignments, and attend reviewing workshop. If the majority of the students did not succeed at a certain activity or project, the project was revised to ensure that the students understood the concept. Also, individual conferences and progress data was used to help determine what were the best methods for new projects and activities in order to encourage student learning.

**Additional Assessment Project(s):**

*Please list additional assessment initiatives/projects completed by your department/unit not related to student learning outcomes. Briefly highlight the participants and the outcomes.*

I have managed several instructional leaders and student workers. These employees were responsible for serving SSS students. I always set teaching planning for each SI sections for both instruction leaders to have better service for our students. Feedback from student's workers suggested the need for confirmation of accomplish tasks with supervisor. To best serve our SSS students and maximize efficiency through teamwork, student workers needed to complete a form and report what they had accomplished during the day. These changes provided a method to check student progress in an on-going manner and also structured alternative interventions as needed. This written documentation offered student workers the opportunity to demonstrate how much they have contributed to the student services in the resource room. Overtime, this provided supervisors the data necessary to determine the most effective management strategy and to provide better services to SSS students.