Basics on Doing Outcome Assessment

- **What is Assessment**: Assessment is an ongoing process, which involves the use of varied methods and data to evaluate student learning so as to determine whether or not learning outcomes are being met; make use of the findings to identify weaknesses or gaps with corrective action taken to improve teaching and learning (**Program/Student Learning Outcome**). For non-teaching administrative units, outcome assessment is undertaken to ensure the improvement of support services provided to students with the view to helping them become successful. Examples of support service offices include the Admissions Office, Registrar, Academic Advising, etc.
    - ➢ The purpose of assessment is to ensure continuous improvement by developing measurable outcomes with targets, assessing them, and making changes where needed to improve the learning experience of students.
- **Why the need for assessment:** It helps address questions such as whether or not students are meeting the learning goals set by faculty in the respective courses and programs of study.
    - ➢ Assessment reveals the strengths and weaknesses associated with learning outcomes, program operational outcomes or administrative unit support service outcomes, and suggests ways to address the weaknesses to improve student learning and or service delivery. Thus, determine if what is being done is working and if not what can be done to make it better.
    - ➢ Assessment is also done to help the University meet its accreditation requirements from accrediting bodies. Without accreditation, the University loses its ability to award federal financial aid, and may have to close down.
    - ➢ To effectively and fairly assess students, faculty need to clearly communicate the learning outcomes (goals) of the course/program in the course syllabus so students know exactly what they need to do to become successful in the course/program based on established rubrics by faculty. For administrative units, department/office goals and outcomes need to be clearly identified and communicated before assessment is done.
    - ➢ The University's accrediting body, the Middle States Commission on Higher Education (MSCHE) as part of its assessment stipulations expects the University to "systematically evaluate its educational and other programs and make public how well and in what ways the University is accomplishing its purpose".
    - ➢ Use assessment results to review and revise academic programs as well as support services and provide professional development activities with the view to improve student success such as retention, graduation, transfer and placement rates.

- **The two main perspectives on outcome assessment-**
    - ➢ **Direct assessment with examples:** This form of assessment provides direct evidence of student knowledge, skills and capabilities expected of them and are measured through a wide range of means such as term papers, exams, tests, portfolios, standardized test scores among other considerations. Assessment of

this kind provides direct evidence on the types of skills or knowledge students are expected and able to acquire as evident through course work per agreed upon rubrics.

➢ **Indirect assessment with examples:** Unlike direct assessment, indirect assessment assesses the perceptions, opinions or thoughts of students in a course, activity or program. These perspectives could be gathered through, surveys (examples are course evaluations, alumni surveys, student opinion surveys, campus climate survey etc.), interviews, focus group discussions among others. Indirect assessments do not provide a strong evidence of student learning like direct assessment. They supplement direct assessment in providing a robust assessment outcome. Example, asking students through a survey as to what they have learned from a course or program (indirect assessment) compared to their actual performance in the course/program based on grades (direct assessment). Indirect assessment may be used to supplement direct assessments when conducting student learning outcome assessment.

- **What is program assessment:** Program assessment refers to the process where a program is self-assessed by faculty teaching in the program aimed at ensuring continuous improvement on identified indicators of success such as program learning outcomes, retention, persistence, among others. The goal is to ensure that students are learning what the program intended them to learn upon completion of the program.

- **Program level learning outcome:** Program level learning outcomes are those learning-related outcomes that a student should be able to demonstrate upon successful completion of a program.

- **Program level operational outcomes:** Program level operational outcomes demonstrate a program's performance but are not specific to areas or domains of student learning (e.g. employment rates could be a program operational outcome but they are not specific to an area of academic content that the student may be expected to know/demonstrate/perform on upon program completion).

- **What are program learning goals:** They are the basis or standards upon which a program is assessed to determine whether or not it is meeting its intended outcomes. They provide context on the purpose of a program and the expected outcome/result at the end of the program.

   ➢ Program learning goals are written in the form of broad statements and are usually long term in nature. They are followed by objectives, which provide the specifics on how and when assessments are done.

   Example: Upon completion of this program:

➢ students will be able to know and apply the theory of cognitive behavior; will be able to interpret and apply data to solving community problems; will be able to learn and apply the mechanics of developing programming codes.

What are Program/Course Learning Objectives: Unlike goals, which are broad statements, objectives are very specific and specify expected results at the end of a course/program as well as show how the results will be achieved. Objectives are usually aligned with benchmarks, which state the yardstick against which they will be measured.

Example, upon the completion of this course/program, students will be able to:

➢ learn and apply the theory of cognitive behavior in diagnosing and counseling learning disability.
➢ learn how to write an organized term paper to include introduction, problem statement, critical thinking, conclusion, researching the literature and the citing of references using the APA style.
➢ As stated earlier, objectives need to be specific (who, what, where, how), measurable, achievable, relevant, and with a specified timeframe (when will the objective be assessed and attained?)

- **Difference between Objectives and Outcomes:** Objectives state the specifics on what is **expected** to be learned or attained at the end of a program while outcomes provide the **evidence or results** that indicate whether or not the objective was attained.

- **What are course/program learning outcomes:** These are specific skills or knowledge that students are expected to acquire and are able to demonstrate upon completion of a course or program.

- **Learning outcomes (objectives) could be viewed from three perspectives.** Cognitive, affective and behavioral.
  ➢ Cognitive outcomes focus on what students are expected to know
  ➢ Affective outcomes focus on what students are expected to think or care about
  ➢ Behavioral outcomes focus on what students are expected to be able to do upon graduation from a program.

Examples- upon completion of this course/program students will be able to:

➢ Develop and organize an electronic portfolio (cognitive).
➢ Be able to acquire critical thinking skills that make them able to write term papers, analyze varied perspectives to an issue, and draw sound conclusions (affective).
➢ Acquire skills and self-regulation that help them with time management and completion of respective course assignments (behavioral).

- **Difference between output and outcome:** Output refers to the count or evidence at the end of a process, activity, event or program. Such results are usually attained in the immediate short term. Outputs do not provide specific evidence as to the quality or impact an event or activity has had on trainees, students or beneficiaries.
  - ➢ Example, a resume writing workshop on campus led to 40 students in attendance. The 40 students who attended will be the output.
  - ➢ Second example- 20 students out of 60 had 'A's in a course/program, while 10 had failed grades. This does not tell us anything about the subject matter on which the students were graded based on rubrics.
- **Outcomes** on the other hand provide evidence that demonstrate what has been attained or achieved as a result of an event, activity, or taking a particular course. Outcomes also address evidence on quality, impact or value.
  - Outcomes focus on the assessment and measurement of the success of the process and for that matter program or course effectiveness. An outcome based on the example given with the 20 students will be- 20 students had 'A's based on the program/course rubrics used in the assessment of students' term paper. The rubric used examined for paper content on introduction, organization, critical thinking etc.), students ability to identify key concepts, ability to apply concepts to solving problems. An outcome related to the resume writing workshop will be measuring things like how well the attendees were able to design their resume, use the right phraseology on work experiences etc.
  - **Bloom's taxonomy** provides active verbs to aid in the development of measurable outcomes.

Action Words from Bloom's Taxonomy					
Knowledge	**Understand**	**Apply**	**Analyze**	**Evaluate**	**Create**

define	explain	solve	analyze	reframe	design
identify	describe	apply	compare	criticize	compose
describe	interpret	illustrate	classify	evaluate	create
label	paraphrase	modify	contrast	order	plan
list	summarize	use	distinguish	appraise	combine
name	classify	calculate	infer	judge	formulate
state	compare	change	separate	support	invent
match	differentiate	choose	explain	compare	hypothesize
recognize	discuss	demonstrate	select	decide	substitute
select	distinguish	discover	categorize	discriminate	write
examine	extend	experiment	connect	recommend	compile
locate	predict	relate	differentiate	summarize	construct
memorize	associate	show	discriminate	assess	develop
quote	contrast	sketch	divide	choose	generalize
recall	convert	complete	order	convince	integrate
reproduce	demonstrate	construct	point out	defend	modify
tabulate	estimate	dramatize	prioritize	estimate	organize
tell	express	interpret	subdivide	find errors	prepare
copy	identify	manipulate	survey	grade	produce
discover	indicate	paint	advertise	measure	rearrange
duplicate	infer	prepare	appraise	predict	rewrite
enumerate	relate	produce	break down	rank	role-play
listen	restate	Report	calculate	score	adapt
observe	select	Teach	conclude	select	anticipate
omit	translate	Act	correlate	test	arrange
read	ask	Administer	criticize	argue	assemble
recite	cite	Articulate	deduce	conclude	choose
record	discover	Chart	devise	consider	collaborate
repeat	generalize	Collect	diagram	critique	collect
retell	give examples	Compute	dissect	debate	devise
visualize	group	Determine	estimate	distinguish	express
	illustrate	Develop	evaluate	editorialize	facilitate
	judge	Employ	experiment	justify	imagine
	observe	Establish	focus	persuade	infer
	order	Examine	illustrate	rate	intervene
	report	Explain	organize	weigh	justify
	represent	Interview	outline		make
	research	Judge	plan		manage
	review	List	question		negotiate
	rewrite	Operate	test		originate
	show	Practice			propose
	trace	Predict			reorganize

- **What are benchmarks (also called targets):** Benchmarks are specific measures, which help determine the effectiveness of a program, activity, an office/department or event. To determine effectiveness, a benchmark has to be established against which comparisons are made. Thus, benchmarks provide the yardstick against which to determine success or failure. Benchmarks can be internal or external. Internal benchmarks refer to the situation where a program/course uses its own data as baseline to determine whether or not any improvement was made. With external benchmarking, data from a similar course or program in another institution or department is used as the yardstick to determine how ones program compares with that of another institution or department.
- **What are rubrics:** Specific sets of criteria that are clearly defined and used by faculty to assess student performance in a course or program. It is thus a form of grading scheme used by faculty. The criterion used assesses a student's ability at each level of performance and assigns a value to each level. It provides levels of proficiency that describe a continuum from excellent to poor performance. To help students have a good understanding on how they are being assessed, it is advisable that faculty share grading rubric with students via the course syllabus.
- **What is a measurable outcome:** Measurable outcomes are crafted with the ability to quantify or measure specific tangible results. Outcomes could also be assessed qualitatively. A measurable outcome needs to focus on a specific issue or characteristics, have a clearly identified means of determining results as well as a clear criteria on how success will be measured.
    - ➢ Bad example: Upon completion of this program, students will become successful at whatever they do.
    - ➢ Good example: Upon completion of this program, students will be able to develop a project plan, apply theory to solving specific problems, do market analysis etc.

- **Example of Direct Outcome Assessment Using Bloom's Taxonomy, Program Learning Outcome, Benchmark, and Assessment Finding**

Program learning outcome- Upon completion of this program, students will be able to:

1. Enumerate (Bloom's active verb) the steps and processes involved in the development and execution of a marketing plan.

Name of Department/Program: Marketing and Human Relations.						
Name of Person Responsible: Dan Doe						
Email Address: fdfndd@wpunj.edu						
University Strategic Plan Goal and or	**College/Dept. Goal to Assess**	**Means of Assessment (How will goal be**	**Benchmark- Expected Outcome (Target**	**Summary of Assessment Findings**	**Use of Results**	**Budget/Resource Allocation Implications**

Objective		assessed?)	expected to be met)			
Goal 1:Offer academic programs of the highest quality.	Students expected to enumerate marketing steps and processes, develop a marketing plan, and produce an execution plan in a hypothetical marketing firm.	Assessment of marketing steps and processes to be determined through a term project.	30 of 35 students enrolled in the program are expected to score at least 85% in the term project per developed rubric.	Thirty-two students scored 85% or higher in the term project. The goal was, therefore, exceeded by two students.	Feedback from students through course evaluations revealed that some students did not clearly understand lecture content geared toward steps and processes. A flow model to be developed and used in subsequent courses to explicate the process.	The program will need $20,000 to purchase a color copier to print and distribute copies of the flow process for students.

- **Continuous Improvement Loop Based on Program Outcome Assessment Findings:** The use of the flow process model will be assessed in next academic year's courses to see if it improves students' success in subsequent course projects.

The University released funds for the purchase of the colored printer. Feedback received from students taught in subsequent courses revealed satisfaction with the use of the flow chart developed. In the opinion of the students, the flow chart greatly enhanced their understanding of expectations of the term project.

- **Examples of Indirect Assessment:**

Faculty teaching in courses or programs could assess students' perception of courses through indirect measures. This includes students' feedback through end of term/semester course evaluations, surveys administered to students seeking their views on how well the course was taught as well as course content. Also, use of results from NSSE and other student-related surveys, program review data, alumni survey, graduation and retention data, and student demographic statistics among other considerations.

For example, 40% of the students who took course …… indicated in the course evaluation that they had difficulty understanding content of the textbook used for the course and will appreciate the formation of discussion groups to help them understand course material. Faculty took student suggestions into consideration in the selection of an easily understood textbook for subsequent courses. Discussion groups were also formed for class. Course evaluations for the next class revealed that 80% of the students were satisfied with the new textbook, and 95% liked the formation of the discussion groups. The two identified issues (gaps) are now addressed for continuous improvement.

- **What are outcome assessment findings/results:** These are the end results arrived at after the goals and objectives developed are assessed at the end of the assessment cycle to determine whether or not established benchmark was met.
- **Linking outcome assessment results to the allocation of resources (use of results):** After outcome assessment findings are made, the results have to be used in requesting budgetary resources where applicable to support continuous improvement. This helps focus assessment on issues or areas that contribute to improved student learning.
- **Curriculum mapping from courses to program learning outcomes:** This refers to the process where course learning outcomes are mapped to program learning outcomes to help assess the effectiveness of program learning outcomes. An example of a Curriculum map is presented below:

Curriculum Map of Program Learning Outcomes

- **Name of Program:**   **Submitted by:**   **Program Coordinator:**   **Date submitted:**
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- KEY: I-Introduced;   R-Reinforced;   M-Mastered

		Courses Aligned with SLOs									
SLO No.	Program Learning Outcomes (PLOs)	GEO 1010	GEO 1020	GEO 2000	GEO 2040	GEO 3010	GEO 3300	GEO 3700	GEO 4010	GEO 4020	GEO 4060
SLO 1	Students will be able to describe the fundamental concepts of geology including the origin, composition, and evolution of the Earth, and how the Earth system responds to internal and external forces, including the forces of humans.	I	R	R		R	R		M	M	
SLO 2	Students will be able to apply geologic knowledge, scientific research principles, and critical thinking skills to address a range of problems.		I		R	R		R		M	M
SLO 3	Students will be able to demonstrate interdisciplinary approaches by applying physics, chemistry, biology and mathematics, as appropriate, to understand geological processes.		I		R					M	M
SLO 4	Students will be able to utilize computers, field and laboratory equipment, software, and instrumentation appropriate to the field of geology.				I	R		R			M
SLO 5	Students will be able to effectively conduct a scientific field research project and communicate research results in both written and oral form.	I	R	R		R		R	R	M	M