Brian J. Leonard, M.B.A., R.T.(R) Tricia Leggett, D.H.Ed., R.T.(R)(QM), FASRT

March 14, 2024

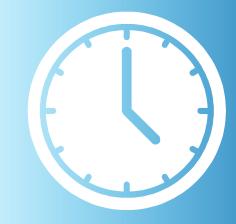
Outcomes Assessment Seminar



Housekeeping Items

- Moderators
- Webinar Etiquette
- Schedule/Breaks/Questions
- CE Credit
 - Attendance
 - Post Test
 - Survey







JRCERT Program Statistics (February 2024)

- Radiography 620
- Radiation Therapy 72
- Magnetic Resonance 15
- Medical Dosimetry 18



Joint Review Committee on Education in Radiologic Technology

- Established in 1969
- Autonomous since 1994
- 701 accredited programs
 - 4 Modalities
- Recognized by USDE and CHEA
- Specialized and Institutional Accreditor
 - o Title IV



Mission Statement

Promotes excellence in education and elevates the quality and safety of patient care through the accreditation of educational programs in radiography, radiation therapy, magnetic resonance, and medical dosimetry.



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- Accreditation Services Assistant Meagan Cruz
- Administrative Assistant Janet Luczak, B.S.



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Janet Luczak B.S. Administrative Assistant

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JRCERT Updates

- Interpretation for Objective 1.1
- USDE Update
- CHEA Update
- DE Guide
- JRCERT Website <u>www.jrcert.org</u>
- 2021 Standards: Flip Books (New Resources)
- LINK eLearning course and modules
- Online Portal





Today

- Limited time
- Overview of assessment and the assessment process
- Take advantage of resources:
 - Assessment Corner
 - Assessment Plan Checklist (New)
 - Institutional assessment
 - Internet search engine







LINK Show more



Learning Management System

JRCERT LINK

Courses offered in the Learning Management System

Currently Available:

- 2021 Standards Course
- Interim Report Module
- Intro to the Accreditation Process
- Developing an Outcomes Assessment
 Plan
- New Program Director's eLearning Plan
- Introduction to JRCERT Policies and Procedures

Learning Innovation Networking Knowledge

Program Resources

Home / Program Resources

Expand All / Collapse All

JRCERT

Excellence in Education

Accreditation Report Help	Ð
Assessment Corner	÷
Magnetic Resonance Safety Module for Programs	•
Position Statements and Best Practices	Đ
Publications	Đ
Fee Schedule	÷
JRCERT Brochure on the Value of Programmatic Accreditation	Đ

Program Resources

Home / Program Resources

Expand All / Collapse All



Magnetic Resonance Safety Module for Programs

Position Statements and Best Practices

Publications

+

JRCERT

+

https://www.jrcert.org/jrcert-standards/

Accreditation Standards

Printable PDFs

- 2021 Radiography Standards
- 2021 Radiation Therapy Standards
- 2021 Magnetic Resonance Standards
- 2021 Medical Dosimetry Standards

Flipbooks

- 2021 Radiography Standard Flipbook
- 2021 Radiation Therapy Standards Flipbook
- 2021 Magnetic Resonance Standards Flipbook
- 2021 Medical Dosimetry Standards Flipbook

	ents will demonstr	Timeframe -			Past 3 - 5 years
Student Learning Outcomes	Measurement Tools – A minimum of 2 measuring tooklassessment methods per student learning outcome is required.	Timeframe – A formative measure used (while students are in the first year of the program), and a summative measure used (when students are close to program completion and/or graduates) is recommended for best practices.	Benchmark Should be a score above passing. Examples are: A percentage score, A score based on a scale, such as a Likert score (include the scale)	Actual Data Results Include the number of students evaluated	Past 3 - 5 years of Data Results - Identify each year's results separately for comparison purposes.
 Students will communicate effectively as a part of the healthcare team. 	RADT 225 Clinical Preceptor Evaluation (Question #9 – Patient Communication)	Program Semester 2	100% of students will receive a 4 out of 5 or higher	n= 21 mean: 3.95 range: 2.0 - 5.0 2.0= 1 3.0= 3 4.0= 13 5.0= 4	2020: 3.95 2019: 3.76 2018: 3.85 2017: 4.19 2016: 3.55
	RADT 333 Interprofessional Lab Simulation Rubric (Question #3)	Program Semester 4	100% of students will receive at least 8 out of 10 or higher	n= 18 mean: 9.4 range: 8-10 8= 2 9= 7 10= 9	2020: 9.4 2019: 8.9 2018: 8.2
 Students will demonstrate the ability to communicate through written correspondence pertaining to healthcare. 	RADT 350 Research Paper	Program Semester 3	100% of students will receive a score of 85 or better	n= 18 mean: 84.1 range: 72-98 5 students scored under an 85 (72, 77, 80, 81, 84)	2020: 84.1 2019: 82.9 2018: 77.6 2017: 78.7 2016: 79.0
	RADT 412 Case Study Management Project	Program Semester 4	100% of students will receive a score of 85 or better	n= 18 mean: 88.4 range: 82-100 2 students scored under 85 (78 & 82)	2020: 88.4 2019: 88.1 2018: 82.3 2017: 85.4 2016: 81.9

Student Learning Outcome 1.1

Analysis: The results of the 1.1 SLO is showing that our students have strong communication skills. 17 out of 21 students in the class received an "above average" or "excellent" rating on their Clinical Preceptor Evaluation regarding patient communication for Clinic II. 3 students received a rating of "average" and one student received a rating of "below average." The goal was 4.0 and the class as a whole scored an average of 3.95. This is the student's second semester of being in clinic, and the student's ability to communicate is expected to continually increase as they progress through the



Joint Review Committee on Education in Radiologic Technology

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at Blass Bash dan's Land Communication Coal

new lab that has only been in use for 3 years. student's communication skills? Student Learning Outcome 1.2 score

> Re-evaluation Date: 2021 - We have decided that the research paper will continue to be assessed because we believe it is an attainable goal, and if we continue to foster the student's ability to write a research paper they will be more prepared if they decide to work towards their masters degree later on. We also believe it is the reason the students do so much better on the case management project. We are going to look for a different evaluation tool to replace the case management project. Although we will continue to have the assignment, we are going to look for a different tool that might provide more insight into the ability of the students to use written communication effectively in the healthcare environment.

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program. In semester IV, students get the opportunity to work in small groups made up of radiography, nursing, respiratory therapy and clinical science laboratory students. This group project is a clinical simulation in which each team member communicates to the group their part of the patient care process. The rubric is used by instructors from the different areas to grade each student's contribution to the group, one part specifically pertaining to their communication skills. The students this year showed great communication skills, all receiving an 8 out of 10 or higher.

Action Plan based on Analysis: In clinic III, as we do every year, (to counter the comfort level students begin to feel in this semester), we will reiterate in our clinical meeting the importance of great patient communication and reintroduce the AIDET principle. We will also explain to them that our expectation for their ability to give great patient communication will also go up as they begin clinic III. With the 4 students that did not receive an "above average" or "excellent" rating we will have a one-on-one meeting with them to help to help them identify how to improve their patient communication skills. We will continue to use the interprofessional simulation lab to evaluate the students' communication skills as it is a

Results/Improvement(s) noted based on the action plans that were implemented: In 2017, we implemented the AIDET principle into our curriculum at the suggestion of a couple of our clinic sites. Since then we have seen a big increase in our student's confidence when interacting with patients. The interprofessional simulation lab has really added insight for the students on what other healthcare professionals do for the patients and increased their ability to communicate with healthcare workers outside of the radiology department.

Re-evaluation Date: 2021 - Do we want to keep using the Clinical Preceptor Clinical evaluation tool to assess our

Analysis: The research paper continues to be one of the biggest challenges for the students throughout the entire program. The overall average for the class was an 84.1, but 5 out of 18 students did not score an 85 or higher; although, only 1 student did not receive an overall passing score (77 or higher). We continue to see an upward trend in scores over the last 5 years. The following semester the students complete the case management study and scores are generally better. This year the mean was 88.4, with only 2 students not receiving a score of 85 or higher. All students achieved a passing

Results/Improvement(s) noted based on the action plans that were implemented: In 2017, we revised the rubric for the research paper, provided an example paper, and provided more instructions on how to conduct research for their paper. This seemed to help students in their expectations of the assignment and their ability to gather quality research articles. The case management project has undergone little change in the last 5 years.

Assessment

What is it?

The systematic collection, review, and use of information to improve student learning and educational quality.

Palomba and Banta, Assessment Essentials, 1999

The process of providing credible evidence of resources, implementation actions, and outcomes undertaken for the purpose of improving the effectiveness of instruction, programs, and services in higher education.

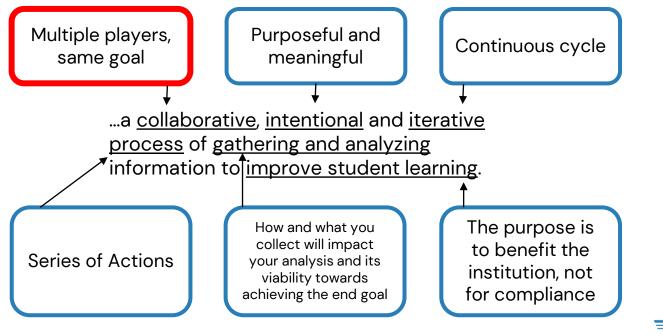
Assessment Essentials, 2nd Ed., 2015

 Assessment involves the use of empirical data on student learning to refine programs and improve student learning.

Allen, Assessing Academic Programs in Higher Education, 2004



Educational Assessment is



https://higheredconnects.com/guide-to-assessment/

Self Assessment

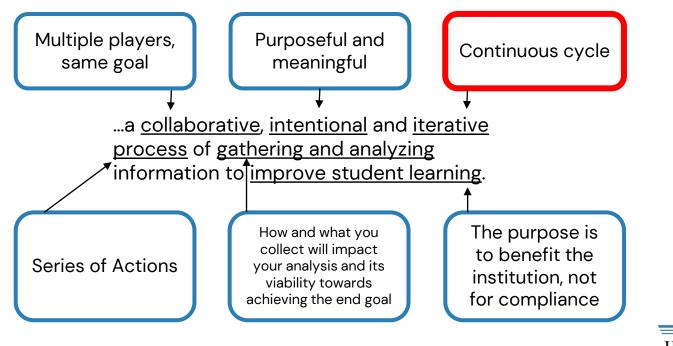
- A process that provides information to participants, allowing clear evaluation of the process, the ability to understand the overall quality of the process and the opportunity to identify areas for improvement.
- Structure to compare, voice concerns, identify outcomes, low stakes for improvement, better prepared to share goals, practices, and measurable outcomes



New Leadership Alliance, 2012



Educational Assessment is



https://higheredconnects.com/guide-to-assessment/

Goal of Assessment?

- Information-based decision making
- "The end of assessment is action"
- Gather enough data to provide a reasonable basis for action
- Do not attempt to achieve the perfect research design... gather enough data to provide a reasonable basis for action.

Walvoord (2010)





What does Assessment Involve?

- Making expectations explicit
- Making expectations transparent (public information)
- Using the results to explain, document, and improve performance

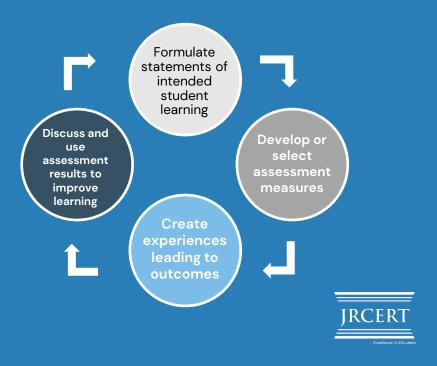
Reporting on processes and results



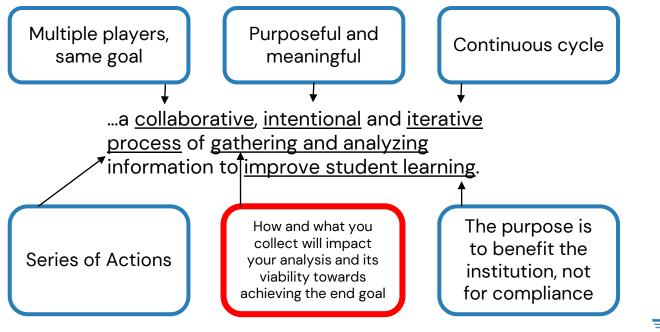


Four Fundamental Components of Learner– Centered Assessment

- Formulate Statements of Intended Student Learning Outcomes
- Developing or Selecting Assessment Measures
- Creating Experiences Leading to Outcomes
- Discussing and Using Assessment Results to Improve Teaching and Learning



Educational Assessment is



https://higheredconnects.com/guide-to-assessment/

Four fundamental components of the assessment cycle





Plan

- What do we want students to learn?
- What have we been told my students need improvement in?
- Formulating Statements of Intended Learning Outcomes





Do

- How do we teach the identified areas effectively?
- Developing or Selecting Assessment Measures
- Creating Experiences Leading to Outcomes





Check

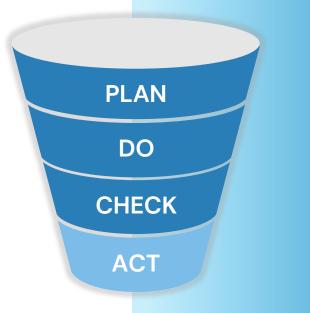
- Are our outcomes being met?
- Evaluation of assessment data





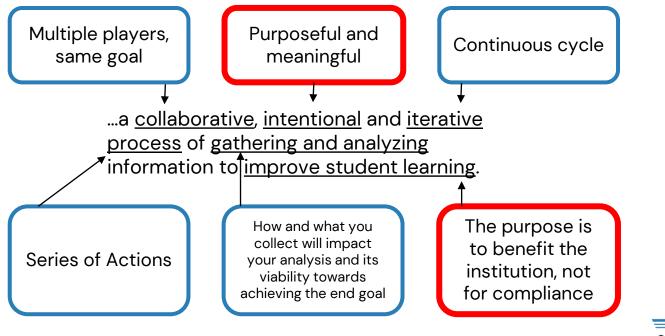
Act

- How do we use what has been learned?
- How can we change current practices to increase student learning in the future?
- Reinforce or revise practices to enhance student learning





Educational Assessment is



https://higheredconnects.com/guide-to-assessment/

Pitfalls of Assessment

Compliance with external demands

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Gathering data no one will use or data that is required (# of comps, dosimeter)

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Making the process too complicated

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Course Grades

- Course grade cannot pinpoint concepts that students have or have not mastered
- Grading Criteria
- Attendance, Participation, Bonus points
- Inter-rater reliability or vague grading standards
- Not holistic
- Do grades have a place in an Assessment plan?





Pitfall: gathering all data in one area

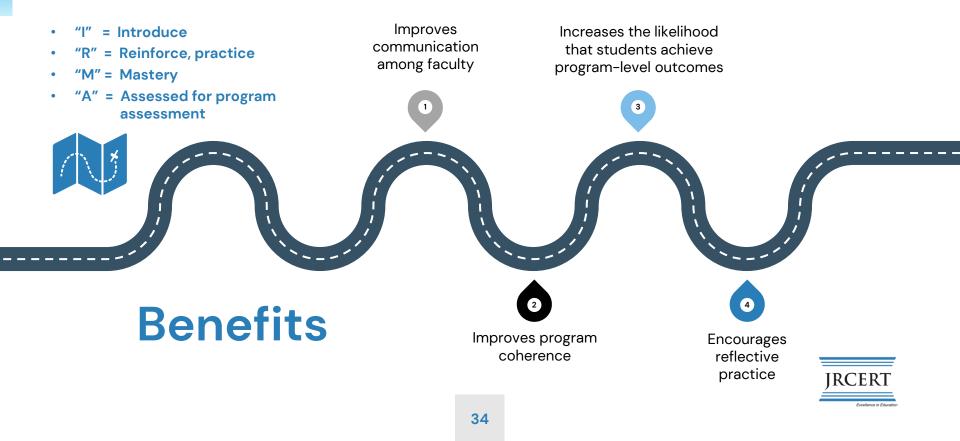
Ex: Gathering only clinic-related results

Ex: Results using the same measurement tool (evaluations)





Curriculum Map



What are the types of assessment?

Student Learning

What students will do or achieve

- Knowledge
- Skills
- Attitudes

Program Effectiveness

What the program will do or achieve

- Certification pass rate
- Job placement rate
- Program completion rate





Types of assessment

Formative Assessment

- During progression
- Allows for intervention within the program

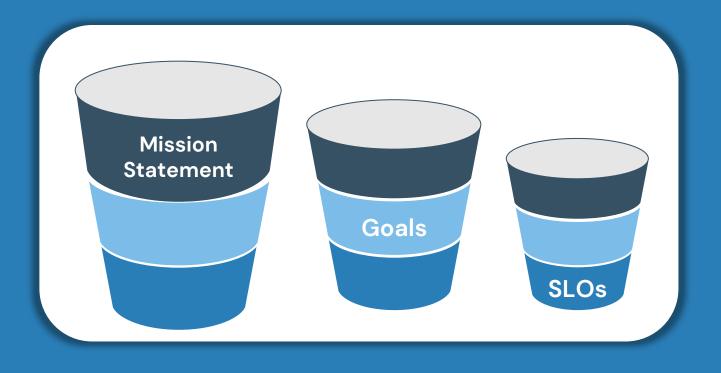
Summative Assessment

At conclusion





Mission Statement, Goals, and SLOs

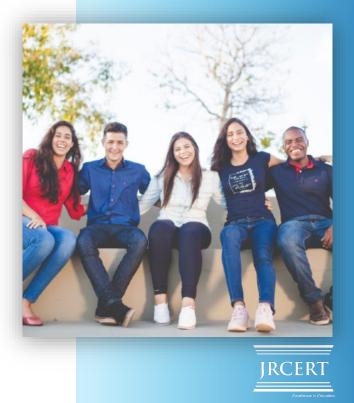




Mission Statement

Mission Statement - The program's mission statement should clearly define its purpose or intent and is reevaluated every three years.

- Is the program's mission statement consistent with the focus of the institution's mission?
- Is it easily understood?
- Does it reflect what is expected from graduates?



Mission Statement

Our program is an integral part of the School of Allied Health Professions and shares its values. The program serves as a national leader in the education of students in the radiation sciences and provides learning opportunities that are innovative and educationally sound. In addition to exhibiting technical competence and the judicious use of ionizing radiation, graduates provide high quality patient care and leadership in their respective area of professional practice.

Consideration is given to the effective use of unique resources and facilities. Strong linkages with clinical affiliates and their staff are vital to our success. Faculty and staff work in a cooperative spirit in an environment conducive to inquisitiveness and independent learning to help a diverse student body develop to its fullest potential. The faculty is committed to the concept of lifelong learning and promotes standards of clinical practice that will serve students throughout their professional careers.

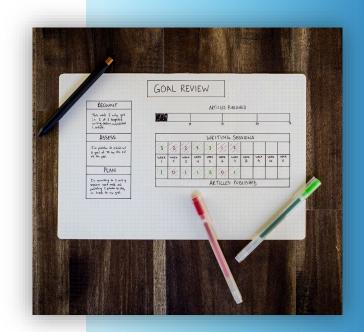
Mission Statement -

The mission of our program is to produce competent entrylevel radiation therapists.



Goals

- Broad statements of student achievement that are consistent with the mission of the program
- Should address all learners and reflect clinical competence, critical thinking, and communication skills
- Programs can add more, if desired





Goals Should NOT:

- Contain assessment tools
- Contain increases in achievement
- Contain program achievements



Goals ?

The program will prepare graduates to function as entry-level ____.

The faculty will assure that the JRCERT accreditation requirements are followed.

Students will accurately evaluate images for diagnostic quality.

85% of students will practice age-appropriate patient care on the mock patient care practicum.



Student Learning Outcomes





Student Learning Outcomes

- Specific
- Measurable
- Attainable
- Realistic
- Targeted / Time-based





Student Learning Outcomes

Students will

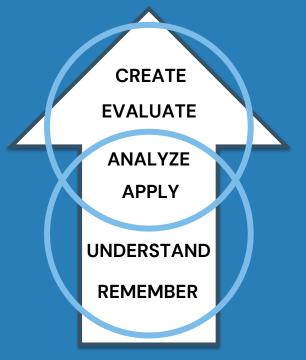
- The JRCERT requires at least SIX Outcomes
- You need at least two per each goal.

Action verb

Something



HIGHER-LEVEL THINKING SKILLS









Lower Division Course Outcomes

R	EMEMBER	UNDERSTAND		APPLY		ANALYZE	EVALUATE	CREATE
	Cite	Associate		Apply		Analyze	Arrange	Appraise
	Count	Classify		Calculate		Appraise	Assemble	Assess
	Define	· ·		Classify		Calculate	Collect	Choose
	Draw	Compare		Demonstrate		Categorize	Compose	Compare
		Compute		Determine Dramatize		•	•	Criticize
	Identify	Contrast				Classify	Construct	
	List	Differentiate		Employ		Compare	Create	Determine
	Name	Discuss		Examine		Debate	Design	Estimate
	Point	Distinguish		Illustrate		Diagram	Formulate	Evaluate
	Quote	Estimate	Interpret		Differentiate	Integrate	Grade	
	Read	Explain		Operate			e e	Judge
	Recite	Express		Order		Distinguish	Manage	Measure
	Record	Extrapolate		Practice		Examine	Organize	Rank
		Interpolate		Report	1 I.	Experiment	Plan	Rate
	Repeat	Locate		Restructure		Inspect	Prepare	Recommend
	Select	Predict		Schedule		Inventory	Prescribe	
	State	Report		Sketch		Question	Produce	Revise
	Tabulate	Restate		Solve		•	Propose	Score
	Tell	Review		Translate		Separate		Select
	Trace	Tell		Use		Summarize	Specify	Standardize
	Underline	Translate		Write		Test	Synthesize	Test
							Write	Validate

Upper Division Course/Program Outcomes

REMEMBER

Cite Count Define Draw Identify List Name Point Ouote Read Recite Record Repeat Select State Tabulate Tell Trace Underline

UNDERSTAND Associate Classify Compare Compute Contrast Differentiate Discuss Distinguish Estimate Explain Express Extrapolate Interpolate Locate Predict Report Restate Review Tell Translate

APPLY Apply Calculate Classify Demonstrate Determine Dramatize Employ **Examine** Illustrate Interpret Locate Operate Order Practice Report Restructure Schedule Sketch Solve Translate Use Write

ANALYZE		EVALUATE	CREATE
Analyze		Arrange	Apprais
Appraise		Assemble	Assess
Calculate		Collect	Choose
Categorize		Compose	Compar
Classify		Construct	Criticize
Compare		Create	Determi
Debate		Design	Estimat
Diagram		Formulate	Evaluate
Differentiate		Integrate	Grade
Distinguish		Manage	Judge Measure
Examine		Organize	Rank
Experiment		Plan	Rate
Inspect		Prepare	Recomm
Inventory		Prescribe	Revise
Question		Produce	Score
Separate		Propose	Select
Summarize		Specify	Standar
Test		Synthesize	Test

Write

Appraise Assess Choose Compare Criticize Determine Estimate Evaluate Grade Judge Measure Rank Rate Recommend Revise Score Select Standardize Test Validate

Difference Between Goals and Outcomes

Goals

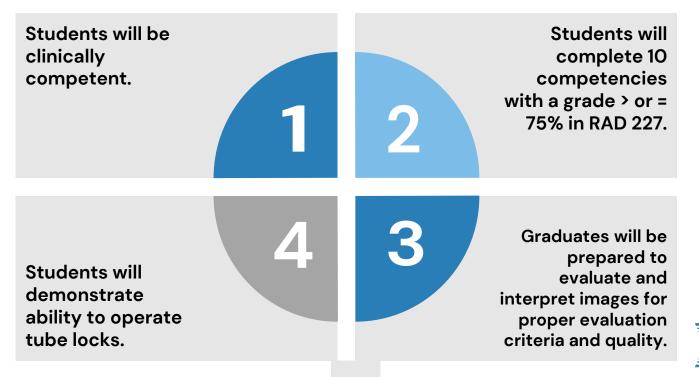
- Broad Statements
- General
- Intangible
- Abstract
- Difficult to measure

Outcomes

- Focused
- Precise
- Tangible
- Concrete
- Measurable



Student Learning Outcomes?



JRCERT

Standard Six: Program Effectiveness and Assessment: Using Data for Sustained Improvement



Portal Update: Narratives & Documentation

- Narratives in the portal are capped to 3,000 characters per response
- Documentation uploaded to the portal is capped at 15 documents (PDF) per response.
- Professional staff reserve the right to return the self-study report back to the program to comply with these requirements





The program maintains the following program effectiveness data:



- Five-year average credentialing examination pass rate of not less than 75% at first attempt within 6 months of graduation**
 - **within the next testing cycle after graduation for MD programs
- Five-year average job placement rate of not less than 75% within twelve months of graduation
- Annual program completion rate



Credentialing examination pass rate

Number of grads passing on first attempt compared to number of grads who take exam within six months of graduation

Within next testing cycle for MD programs





Job Placement Rate

- Number of grads employed in the radiologic sciences compared to number of grads actively seeking employment
- Not actively seeking:
 - Grad fails to communicate with program officials regarding employment status after multiple attempts
 - Grad unwilling to relocate
 - Grad unwilling to accept employment (Salary/hours/etc.)
 - Grad on active military duty
 - Grad is continuing education





Program Completion Rate

- Number of students who complete the program within the stated program length
- Program specifies the entry point
- Program determines benchmark
- Do not need to consider students that attrite due to nonacademic reasons:
 - Financial, medical/mental health, family reasons
 - Military deployment
 - Change in major
 - Nonacademic withdrawals as defined by the institution.





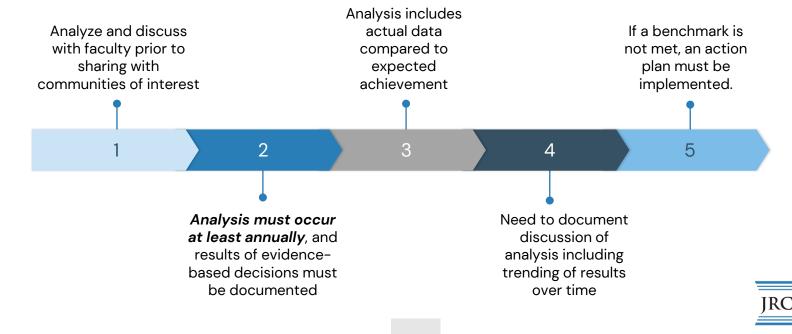


Excellence in Education

Required Program Response None

Actual PED will be provided in 6.2

The program analyzes and shares its program effectiveness data to facilitate ongoing improvement



xcellence in Educal

Required Program Response

- Describe examples of evidence-based changes that have resulted from the analysis of program effectiveness data and discuss how these changes have maintained or improved program effectiveness outcomes.
- Provide actual program effectiveness data since the last accreditation award.
- Provide documentation of an action plan for any unmet benchmarks.
- Provide documentation that program effectiveness data is shared in a timely manner.





The program has a systematic assessment plan that facilitates ongoing program improvement.

- Plans must include:
 - Goals in relation to clinical competency, communication, and critical thinking;
 - Two SLO's per goal
 - Two assessment tools per SLO
 - Benchmarks for each assessment method to determine level of achievement
 - Timeframes for data collection
- Bachelor's degrees and higher should consider additional content when developing goals and SLO's
- Must assess graduate and employer satisfaction (method and timeframes are prerogatives of the program)





Objective 6.3 – Required Program Response



Describe how the program determined the goals and student learning outcomes to be included in the systematic assessment plan.



Describe how the program uses feedback from communities of interest in the development of its assessment plan.



Describe the program's cycle of assessment.

Pi

Provide a copy of the program's current assessment plan





Objective 6.4 – The program analyzes and shares student learning outcome data to facilitate ongoing improvement.



Use assessment results to promote students' success and maintain and improve student learning outcomes



Analyze and discuss with faculty prior to sharing with communities of interest

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Analysis must occur at least annually, and results of evidencebased decisions must be documented



Analysis includes actual data compared to expected achievement



Need to document discussion of analysis including trending of results over time



If a benchmark is not met, an action plan must be implemented.



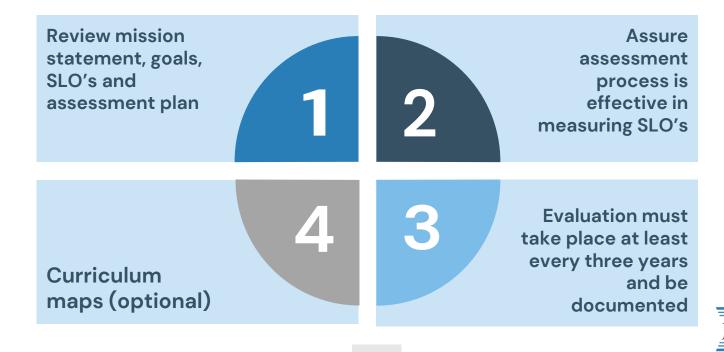
Required Program Response

- Describe examples of changes that have resulted from the analysis of student learning outcome data and discuss how these changes have maintained or improved student learning outcomes.
- Describe the process and timeframe for sharing student learning outcome data results with its communities of interest.
- Provide actual student learning outcome data and analysis since the last accreditation award.
- Provide documentation of an action plan for any unmet benchmarks.
- Provide documentation that student learning outcome data and analysis is shared in a timely manner.





Objective 6.5 - The program periodically reevaluates its assessment process to assure continuous program improvement.



Objective 6.5 – Required Program Response

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Describe how assessment process reevaluation has occurred.



Discuss changes to the assessment process that have occurred *since the last accreditation award*.



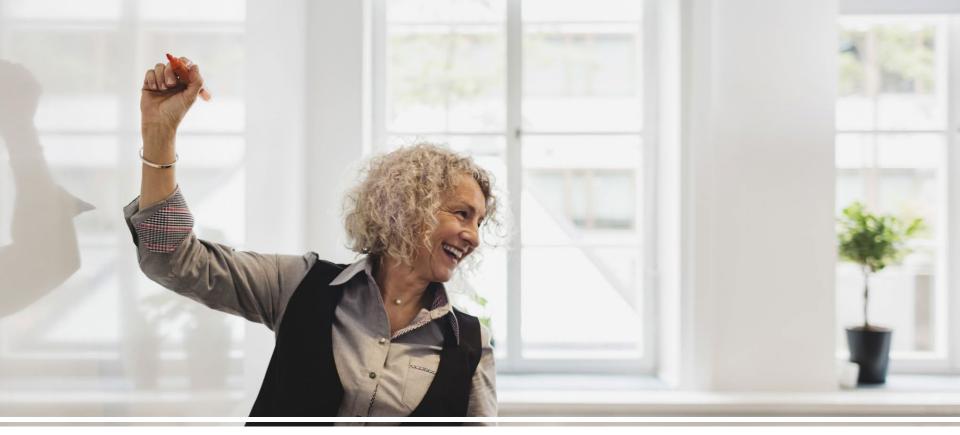
Provide documentation that the assessment process is evaluated *at least once every three years.*











Reviewing an Assessment Plan



Student Learning Outcomes –best practices would suggest multiple SLOs to determine whether the goal has been met.



Sufficient learning outcomes to determine whether the goal has been met? ~ SLOs should not "restate" the goal. ~ Is the SLO truly reflective of achieving the goal?



Outcomes should be significant accomplishments; many class assignments may not be good SLOs. Are any of the SLO's a class assignment?



Assessment Measurements

The most important criterion when selecting an assessment method is whether it will provide <u>useful information</u> – information that indicates whether students are learning and developing in ways faculty have agreed are important. (Palomba & Banta, 1999)



Types of Assessment Measurements

Direct Assessment Measurements

- Demonstrate learning
- Performance learning allows students to demonstrate their skills through activities

Indirect Assessment Measurements

 Provides reflection about learning



Direct Measures

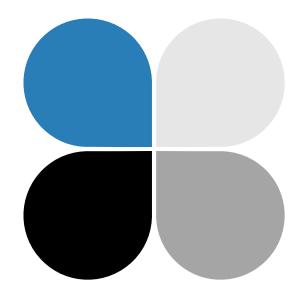
- Allen (2004) defines direct measures as those that "require students to demonstrate their achievement" (p. 6).
- Suskie (2009) provides an easy to understand description of direct evidence of student learning as the "tangible, visible, self-explanatory, and compelling evidence of exactly what students have and have not learned" (p. 20).
- Direct assessments can be further delineated as objective measurements or performance measurements.





Indirect Measures

- Often, those that identify the perception of learning by a selfreport from a student or graduate.
- Suskie (2009) describes this type of evidence as a "proxy...that students are probably [emphasis added] learning" (p. 20).



 Course grades, questionnaires, surveys, reflective essays, focus groups, etc.

 This type of evidence is important when institutions, departments, or programs desire to ascertain the level of student-, graduate-, and/or employer-satisfaction.



Measurements

Direct

- Rubrics
- Specific Questions on an Exam
- Capstone Courses
- Portfolios
- Case Studies

Indirect

- Surveys (Graduate, Employer)
- Self-Evaluations
- Exit Interviews
- Focus Groups
- Reflective Essays



What Should Measurement Tools Do For You?

Must measure the outcome

Should represent your students' achievements as accurately as possible



2

Should assess not only whether the students are learning, but how well



Measurements

3

Let's look at our tools.

2

Are the results providing us with credible evidence?

What do our tools tell us about our students' learning?



Assessment Plan Review

Measurement Tools – Assessment best practices suggest the use, where appropriate, of two or more measurement tools for each SLO. Measurement from multiple perspectives can often provide a more accurate picture of student learning.

- Do tools validate one another so that the data is accurate and reliable?
- Are enough measurement tools utilized to assure a valid picture on student achievement?
- Are there too many tools for each SLO and wasting time on collection of data? ~ Are the best tools available being used to measure the SLO? ~ Have they provided results that we believe accurately measure the SLO? ~ Should different tools be considered? ~ Should the existing tool be modified to improve the accuracy and validity of the results provided?
- Large enough sample size from each measurement tool to yield valid results? For example, results from an employer survey to assess critical thinking skills and only two surveys (the "n" number) were returned from a graduating class of fifteen, the data would not be sufficient to provide reliable assessment information from this tool.
- Identify the "n" number, i.e., the sample size when reporting the results.



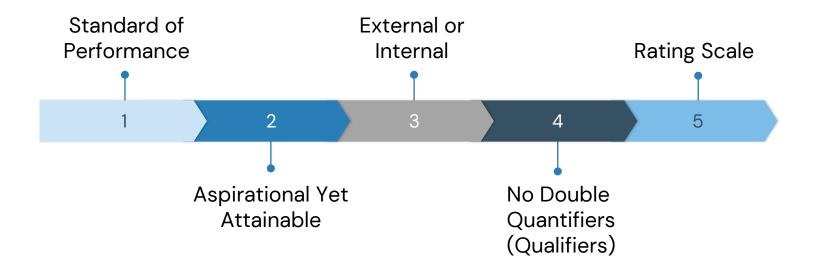


Benchmarks

- A point of reference which measurements may be made
- Something that serves as a standard by which others may be measured or judged









Benchmarks (Examples)

ΤοοΙ	Benchmark	Timeframe
Capstone course – Final Portfolio	≥ 94.5 pts (100 scale)	5th Semester
Clinical Evaluation Form (Section 2)	≥4.0 (5.0 scale)	5th Semester
Debate Rubric	≥ 31.5 points (35 possible points)	4th Semester



Assessment Plan Review

Benchmarks – Programs must set the expectations for how well the students are learning. If only a section/part of a measurement tool is used, then the program must be able to set a benchmark for that particular subsection of the entire measurement tool.

- Is the benchmark consistent with the measurement tool?
- Do benchmarks align with reasonable expectations.
- If a benchmark is raised, what must be done to improve the program in order to get the students to that higher level?
- Should we lower a benchmark if the benchmark is not met for several cycles of assessment?



Establish a Timeframe

JRCERT

Data Sampling

- Population All enrolled students.
- Sample size is defined as the number of individual pieces of data collected and can be a subset of the population of students.
- Sample size is important in determining the accuracy and reliability of data findings.



- Most programs have fairly small enrollments, use of the entire cohort will provide better data (vs. sampling).
- When can a sampling be useful in data collection?
- <u>The smaller your sample</u> size, the more likely outliers -- unusual pieces of data - can skew your findings.



Data Sampling Frequency

Data Sampling Frequency

Frequency-How often the sampling occurs Can be stated in terms of time or number Time - Can be every Number-Every 3rd student, semester, every year, every every other competency cohort

Data Sampling Tips

Data Sampling Tips What questions are being asked of the data

Make sure you have developed a useful tool

Determine the frequency of sampling

Determine the sample size



Assessment Plan Review

Timeframes

- Is the formative assessment timeframe appropriate?
- Summative assessment is used to determine if program graduates are at the achievement level consistent with the program's mission. Should we establish any different timeframes for summative measurement? ~ Would feedback obtained post-graduation from graduates or employers be valuable in the assessment process?

Individual Responsible

- Are the individuals responsible for collecting assessment data appropriately identified in the plan?
- Are the individuals identified the best resource or should someone else be identified to perform this task?
- Do these individuals understand the importance of their respective roles in the assessment process?





Assessment Plan Review (Cont'd)

Reporting Results – Assessment results should be reported in a format that is correlated with the benchmark. If the benchmark is based upon a Likert scale, then the results should be reported using the same scale. Actual data must be reported.

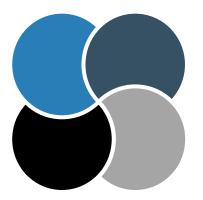
- Are we reporting "generalizations" rather than actual results?
- Did the distribution of scores identify multiple students barely exceeding the minimum benchmark, or were scores concentrated at the upper end of the grading scale?
- If using a class average as the benchmark, report the actual average score.
- When reporting the data, are we also reporting the sample size ("n" number), i.e., the number of data inputs reviewed to determine the reported results?



Data Collection and Analysis

SO WHAT?

WHO CARES?



HOW MUCH?

HOW OFTEN?



Collect and Trend the Data

Report the actual data

- On assessment plan
- On separate document

Should facilitate comparison

- Comparison of cohorts
- Comparison of students attending certain clinical setting

Show dates



Data Analysis

 What do the data say about your students' mastery of subject matter, of research skills, or of writing and speaking?



- What do the data say about your students' preparation for taking the next career step?
 - Do you see areas where performance is okay, but not outstanding, and where you'd like to see a higher level of performance?

UMass-Amherst, OAPA: http://www.umass.edu/oapa/oapa/publications/



Data Analysis



Identify benchmarks met

- Sustained effort
- Monitoring
- •Evaluate benchmarks



Identify benchmarks not met

- •Targets for improvement
- •Study the problem before trying to solve it!!
- •Evaluate benchmark



Identify 3 years of data (trend)



How Can Assessment Data Be Used?

Primary Uses

- Curriculum Review
- Requests to Curriculum Committee
- Accreditation Reports and Reviews

UMass-Amherst, OAPA

Secondary Uses

- Recruiting
- Alumni Newsletter
- Other publications
- Grants and other Funding



Data Collection and Analysis?

Outcome	Benchmark	Results	Analysis/Action	
Students will demonstrate radiation protection.	*85% of students will average a score of ≥ 5.0 (6.0 scale).	100% of students scored 5 or better.	Benchmark met.	
Students will select appropriate technical factors.	*75% of students will average a score of 85% or better.	100% of students scored 85% or better.	Continue to monitor.	
Employers will find our graduates as proficient in radiation protection and safety.	80% of employer surveys will rate grads as Above Average or Excellent.	100% of employers rate our grads as being Above Average or Excellent in proficiency of radiation protection skills.	No Action Needed.	



2021–2022 Data Collection and Analysis Example

Outcome	Benchmark	Results	Analysis/Action
Students will demonstrate radiation protection.	≥ 5.0 (6.0 scale)	5.28	Benchmark met. For the past 2 years this result has increased (07/08: 4.90; 08/09: 5.15). This may be attributed to an increased emphasis of rad. protection throughout this semester.
Graduates will manipulate the 'typical' examination protocol to meet the needs of a trauma patient	≥4.0 (5.0 scale)	3.40	Benchmark not met. This result continually improves with each cohort (07/08: 3.25; 08/09: 3.33). The increased amount of lab time throughout the curriculum could be attributed to an increase in this result. Continue to monitor. *Action Plan Needed *



Assessment Plan Review

Analysis of Assessment Results – the assessment plan's value to the department lies in the evidence it offers about overall department or program strength and weaknesses, and in the evidence it provides for change (Wright, 1991).

- What does the data say about the students' mastery of subject matter?
- Were benchmarks met?
- Are students prepared as graduates of a JRCERT accredited program?
- What are the areas of program strengths?
- What are the areas of program weaknesses?
- Formally documented

Ongoing Assessment

is cumulative

is fostered when assessment involves a linked series of activities undertaken over time

may involve tracking progress of individuals or cohorts

is done in the spirit of continuous improvement





Closing the Cycle

The process of drawing conclusions should be open to all those who are likely to be affected by the results – the communities of interest.

Analysis of the assessment data needs to be shared and formally documented. For example, meeting minutes from Assessment or Advisory Committee.



Keeping Your Documentation

- Copy of Assessment Plan
- Actual tools for each one identified in plan

 Do calculations on this tool.
- Example of each tool (blank).



For **<u>each</u>** year:

- Meeting minutes that document analysis and sharing of the SLO and PED data.
- Documentation of examples of changes that were implemented as a result of data gleaned from assessment process.
- Meeting minutes documenting that the assessment plan has been evaluated to assure that measures are adequate and that the process is effective in measuring SLOs.





Assessment Checklist—Assuring Quality in Student Learning Outcome Assessment Planning and Implementation

Sys	tematic Assessment Plan Development	Go	al #1 (Clinical Competency	Go	al #2 Ci	ritical Thinking	 l #3 Communicate ctively
	Engage Communities of Interest in the development		SLO	#1		SLO #	1	SLO #1
	of the assessment plan and its components.		0	Measurement Tool #1		o N	Aeasurement Tool #1	 Measurement Tool #1
	Review your institutional and program Mission			 Timeframe 			 Timeframe 	 Timeframe
	Statements.			 Benchmark 			 Benchmark 	 Benchmark
	Develop Program Goal Statements.			 Data 			 Data 	 Data
	 Align goals with the mission statement of the 			 Analysis 			 Analysis 	 Analysis
	program.			 Improvements 			 Improvements 	 Improvements
	 Create goals that are student centered and 		0	Measurement Tool #2		o N	Aeasurement Tool #2	 Measurement Tool #2
	reflect student learning.			 Timeframe 			 Timeframe 	 Timeframe
	 Focus the goals on the end results of learning. 			 Benchmark 			 Benchmark 	 Benchmark
	Develop Specific Student Learning Outcomes (SLO).			 Data 			 Data 	 Data
	o Specific			 Analysis 			 Analysis 	 Analysis
	 Measurable 			 Improvements 			 Improvements 	 Improvements
	 Attainable 		SLO #			SLO #2		SLO #2
	 Relevant 		0	Measurement Tool #1		o N	Aeasurement Tool #1	 Measurement Tool #1
	 Time-bound 			 Timeframe 			 Timeframe 	 Timeframe
	Develop or identify Measurement Tools.			 Benchmark 			 Benchmark 	 Benchmark
	o Rubric			 Data 			 Data 	 Data
	 Test question 			 Analysis 			 Analysis 	 Analysis
	 Clinical or skill evaluation/practical 			 Improvements 			 Improvements 	 Improvements
	 Others 		0	Measurement Tool #2		o N	Aeasurement Tool #2	 Measurement Tool #2
	 Ensure at least one direct measure. 			 Timeframe 			 Timeframe 	 Timeframe
	Set a Benchmark for each Measurement Tool.			 Benchmark 			 Benchmark 	 Benchmark
	 Use historic data trends to establish benchmark. 			 Data 			 Data 	 Data
	 Set benchmark to be attainable with good 			 Analysis 			 Analysis 	 Analysis
	performance.			 Improvements 			 Improvements 	 Improvements
	 Set benchmark above minimum passing score. 							
	Establish a Timeframe.							
	 Identify who will collect the data from which 							
	course at what point in the curriculum.							
	 Determine the timing for data collection. 							

With sincere gratitude to Tracy Herrmann, Ph.D., R.T.(R), FAEIRS, for using her expertise to develop this checklist for the JRCERT.





Measurement Tool. Identify inconsistencies in the data. from the analysis of data. Average percentage score Determine if the benchmark was met. Determine which faculty/staff will implement the new ideas and plans in assessments. Include number of students evaluated (Sample size). Discuss positive and concerning results. Determine which benchmarks will be updated and the timing. Include past 3-5 Years of data results for comparison purposes (Trend data). Indicate updates from previous action plans with signs of improvement and document data from action plans until benchmark(s) met. Stadents Review the student learning outcome to determine if it is still appropriate. Reflect on the effectiveness of the measurement tool in relation to the student learning outcome. Review the timeframes and benchmarks for appropriateness. Share data, benchmarks met or not met, analysis, Share data, benchmarks met or not met, analysis, Records.	Implement Plan and Collect Data	Analyze Data and Share with Communities of Interest	Implement Changes for Improvement
shared with communities of interest in meeting minutes and other pertinent assessment records.oGoals Assessment Plan	 Collect Actual Data results for each Measurement Tool. Average percentage score Average score based on rubric or Likert scale (include scale) Include number of students evaluated (Sample size). Include past 3-5 Years of data results for comparison purposes (Trend data). 	 Analyze data for each SLO. Identify inconsistencies in the data. Determine if the benchmark was met. Review data trends and compare to past assessments. Discuss positive and concerning results. Develop an action plan. Indicate updates from previous action plans with signs of improvement and document data from action plans until benchmark(s) met. Review the student learning outcome to determine if it is still appropriate. Reflect on the effectiveness of the measurement tool in relation to the student learning outcome. Review the timeframes and benchmarks for appropriateness. Share data, benchmarks met or not met, analysis, and actions with Communities of Interest. o Clinical Competence o Critical Thinking Document the analysis of the data and how it was shared with communities of interest in meeting 	 Implement ideas or action plans that come from the analysis of data. Determine which faculty/staff will implement the new ideas and plans in which courses. Determine which benchmarks will be updated and the timing. Notify those impacted. Students Faculty Clinical preceptors and staff Managers Re-evaluate the changes as needed. Document the action plan, implementation, and results in meeting minutes and other pertinent assessment records. Complete and document a holistic review of your assessment plan in consultation with Communities of Interest at least every three years. Mission Goals

Resources:

- MR Assessment Plan Example
- Developing an Outcomes Assessment Plan Module
- Sample meeting minutes



With sincere gratitude to Tracy Herrmann, Ph.D., R.T.(R), FAEIRS, for using her expertise to develop this checklist for the JRCERT.

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Please let us know of any questions we can answer for you.



THANK YOU!



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programmatic accreditation.



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