Example of Assessment Plan and Analysis Associate Level-Clinical Competency Goal

Goal I– Students will demonstrate clinical competency.					
Student Learning Outcomes –	**Measurement Tools** – A minimum of 2 measuring tools/assessment 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.
1. Students will apply magnetic field safety measures.	Lab Practical Form Question #9	Semester 2	Students will receive a **≥ 8.0 (average score)** *(on a 10-point scale)*	2021 8.3 (average score) n = 8/9 (number of students who met score of 8.0 or higher) **Met**	2020 **9.04** n = 10 2019 **9.30** n = 8 2018 **8.80** n = 8 2017 **8.2** n = 8 2016 **8.70** n = 9
	Clinical Evaluation Form Question #4	Semester 5	Students will receive a **≥ 9.5** *(on a 10-point scale)*	2021 9.7 n = 8/9 **Met**	2020 **9.34** n = 10 2019 **9.30** n = 8 2018 **8.80** n = 8 2017 **9.33** n = 8 2016 **9.70** n = 9
2. Students will obtain magnetic resonance images of acceptable diagnostic quality.	Clinical Evaluation Form Question #10	Semester 3	Students will receive a **≥ 8.0** *(on a 10-point scale)*	2021 8.5 n = 8/9 **Met**	2020 **8.40** n = 10 2019 **8.20** n = 8 2018 **8.53** n = 8 2017 **7.41** n = 8 2016 **8.70** n = 9
	MRI 340 Final Examination Questions 20-27	Semester 5	Students will receive a **≥ 90%** *(on average of all questions)*	2021 88 n = 7/9 **Unmet**	2020 **94** n = 10 2019 **97** n = 8 2018 **96** n = 8 2017 **87** n = 8 2016 **89** n = 9

Analysis – (To include key findings, 3-5 year trending comparisons, steps to take to enhance student learning):
Goal I SLO 1: The benchmark for both the first year and second year students has been met for 2021, but data results for the second-year students has been inconsistent for the past 6 years with no discernable trend. Discussion included concerns with the first-year students being assessed in the laboratory setting which may not be a realistic situation, while the second-year students are being assessed in the clinical setting by many different technologists. Data will continue to be evaluated. A future potential action plan may

be to have the clinical preceptors evaluate the second-year students to obtain more consistent inter-rater reliability. This will be analyzed again next year with feedback from the clinical preceptors.

Goal I, SLO 2: The results for the second-year students for 2021 did not meet the benchmark of 90, but was close with an average of 88, and overall has shown an increase since 2017. These are very positive since the action plans were implemented in 2016. It may be time for a new benchmark, this will be considered for the Fall 2023 cohort with the new incoming students and will continue to be evaluated.

Action Plan based on Analysis: Increase the benchmark for Goal I, SLO 2 for the first-year students to 8.5 from 8.0.
Re-evaluation Date: Fall 2022 at the next assessment committee meeting.

Results/Improvement(s) noted based on the action plans that were implemented: It was reiterated that in 2016, a new process for evaluating students was implemented. Supervising technologists and clinical preceptors attend a workshop where simulated competencies and evaluations take place. Discussion occurs so evaluators are grading consistently and providing constructive feedback to the students immediately. Additionally, students were required to complete more simulations in the laboratory setting prior to attempting in the clinical setting. They are also required to have a minimum of three completions of an exam before performing a competency examination. This is reinforced by the department managers who stated the new graduates are obtaining excellent MR images and their repeat rates are slightly lower than some of the experienced technologists.

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Example Assessment Plan and Analysis-Associate Level Critical Thinking Goal

Goal – Students will develop and apply effective critical thinking skills.					
Student Learning Outcomes –	**Measurement Tools** – A minimum of 2 measuring tools/assessment 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.
1. Students will adapt magnetic resonance procedures for non-routine situations.	Lab simulation grading form *Items # 6 - 8*	Semester 3	Students will receive a **score ≥ 8.5** (average score for cohort) *(on a 10-point scale)*	2021 (Year) Average = 8.9 (average score for cohort) n = 9/9 (number of students who met benchmark/number of students who completed assignment)	2020 **9.04** n = 10 2019 **9.30** n = 8 2018 **8.80** n = 8 2017 **8.2** n = 8 2016 **8.70** n = 9
	Performance evaluation form: *Items # 3a & 3b – Identification of artifacts and correction*	Semester 5	Students will receive a **score ≥ 9.0** *(on a 10-point scale)*	2021 Average = 9.2 n = 8/9	2020 **9.34** n =10 2019 **9.30** n = 8 2018 **8.80** n = 8 2017 **9.33** n = 8 2016 **9.70** n = 9
2. Students will critique images for diagnostic quality.	Image critique assignment and presentation *Items # 9 & 10*	Semester 3	Students will receive a **score ≥ 8.0** *(on a 10-point scale)*	2021 Average = 8.5 n = 8/9	2020 **8.40** n =10 2019 **8.20** n = 8 2018 **8.53** n = 8 2017 **7.41** n = 8 2016 **8.70** n = 9
	Image critique clinical evaluation form *Item # 12*	Semester 5	Students will receive a **score ≥ 9.0** *(on a 10-point scale)*	2021 Average= 8.9 n = 7/9	2020 **9.05** n = 10 2019 **9.7** n = 8 2018 **9.65** n = 8 2017 **8.73** n = 8 2016 **8.90** n = 9

Analysis – To include key findings, 3-5 year trending comparisons, steps to take to enhance student learning:
Critical Thinking Goal, SLO 1: It is noted that the performance evaluation data was slightly lower this year. It could be an anomaly; however, a new faculty member was recently hired, and they implemented changes to the lab. The slight decrease could be a result of students adjusting to the change in teaching methods. The discussion also included concerns that these students seemed a little more intimidated with non-routine exams.
SLO 2: The second-year students did not meet the benchmark. It is interesting to note that the first-year students exceeded expectations in this area while the second-year students did not. Feedback from the students and input from the clinical instructors indicate that more image critique sessions might be helpful.

Action Plan based on Analysis:
SLO 1: Based on the discussion points, we will add more hands-on examination lab practice with smaller groups, so every student has more one-on-one practice time and then reassess next year.
SLO 2: We will implement an image critique session into each class of the image critique course. It will include instructor presentations along with student presentations. In addition, the students will be required to complete 5 image critiques per semester as part of the clinical grade. The clinical instructors will review the critiques with the students based on the mentoring/training and rubric from the clinical coordinator to ensure all the clinical instructors understand the expectations for the reviews prior to implementation. We will reassess the changes and the impact on the students' skill level.

Results/Improvement(s) noted based on the action plans that were implemented:
SLO 1: Based on feedback from the students and the clinical instructors, the one-on-one extra practice time seemed to improve the students' confidence levels and there was a noticed improvement in their non-routine positioning skill levels. We will continue to keep the smaller groups and the extra practice time since there was such a noticeable improvement.
SLO 2: There has been a slight improvement in this area with the students. However, it did not have the impact that was hoped for. We will consider additional methods for improving student skills in this area. One idea that came from our discussions with the advisory board members was to have the second-year students give image critique presentations to the first-year students. They may put more effort into their presentations, and it may benefit them to have to lead the instruction/teach it. We will implement this in 2022 and reassess its impact.

Re-evaluation Date: Fall 2023 at the next assessment committee meeting.

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Example Assessment Plan Bachelor's Level- Communication Goal

Goal 1– Students will demonstrate the ability to communicate effectively.

Student Learning Outcomes	Measurement Tools – A minimum of 2 measuring tools/assessment 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.
1.1 Students will communicate effectively as a part of the healthcare team.	MRI 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
	MRI 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
1.2 Students will demonstrate the ability to communicate through written correspondence pertaining to healthcare.	MRI 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
	MRI 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 aseverage" 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 program. In semester IV, students get the opportunity to work in small groups made up of magnetic resonance, 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, once 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 new lab that has only been in use for 3 years.

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 student's communication skills?

Student Learning Outcome 1.2

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 score.

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.

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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