



## Dental Hygiene Bachelor Degree Completion Program Assessment Report 2017-18

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### Section 1 – Program Mission

The mission of the Bachelor of Science in Dental Hygiene *degree-completion* program is to provide an opportunity for licensed dental hygienists at any stage in their career to complete a bachelor's degree for professional growth, current and future employment options, and/or entry into a graduate program.

The mission, goals, objectives, and student learning outcomes for the program are reviewed annually by the program faculty at the fall meeting during convocation.

### Section 2 – Program Goals

The goals were developed during the annual spring meeting to address how the faculty and program can help our diverse population of working professional students achieve our Program Mission.

#### *Our Commitment to our Students:*

- Provide a quality bachelor-degree completion program that recognizes the achievement of passing the dental hygiene national board exam and state or regional clinical exams.
- Recognize the growth in career opportunities and provide core courses to expose students to business management, education, public health, and evidence-based decision making.
- Build positive relationships between core dental hygiene faculty and students to mentor and help students achieve degree goals.
- Help students plan a course schedule that ensures academic success by factoring in professional and personal commitments.
- Allow students to explore further areas of interest by offering elective choices.
- Prepare students for graduate-level courses.

### Section 3 – Program Description and History:

Oregon Tech (OT) has offered a dental hygiene degree at the Klamath Falls campus since 1970. Although the program started as an Associate of Applied Science (AAS) degree, beginning in 1985 students had the option of completing a Bachelor of Science (BS) degree by extending their studies one more year. In 2003 the program transitioned to a BS degree only. In 2011 Oregon Tech began a second BS dental hygiene program at Chemeketa Community College in Salem, Oregon.

The licensing requirements are the same whether students graduate with an AAS or BS degree in dental hygiene. In the United States (US), all dental hygienists with an AAS degree have at least three years of undergraduate courses. During the freshman year, pre-dental hygiene students complete required prerequisites and then apply for acceptance into an accredited dental hygiene program. Once admitted, students continue for two more years. In the United States there are approximately 230 AAS and 60 BS accredited dental hygiene programs. ([dentalcareersedu.org](http://dentalcareersedu.org))

In 1996, OT was one of the first colleges in the US to offer dental hygienists with AAS degrees an opportunity to complete their BS degree through 'distance education'. The student's prerequisite courses (one academic year) are reviewed for credit transfer. The student's dental hygiene courses (two academic years) are transferred as 'block credits' through documentation of passing the Dental Hygiene National Board Exam.

Oregon Tech’s Bachelor of Dental Hygiene Outreach (BDHO) was designed to allow dental hygienists the flexibility to plan their course schedules to meet the demands of their professional and personal lives. Depending on credits transferred to our institutions, students’ course plans can all look different. All students must complete a minimum of 45 credits from OT to complete their bachelor’s degree. All courses are offered 100% online. Students may begin any term and choose whether to take one or several courses a term.

Students are exposed to a variety of career opportunities, including business, management, education, and public health. Besides options for general education requirements, students also have dental hygiene elective choices to further explore and learn skills in their area of interest. The BDHO program includes:

- Six required dental hygiene core courses
- Three dental hygiene elective choices from a list approved by the department
- OT general education and elective requirements needed for a bachelor’s degree

In the US we now have approximately 50 BS dental hygiene completion programs ([ADEA degree completion programs](#)). Even with the increased competition, OT has managed to keep a steady enrollment. Because students begin any term and plan the pace of their course schedule, students might graduate after completing four terms or take several years to complete the program. The BDHO has students graduating at the end of every term.

Actively enrolled Spring term:		Graduate totals from Su-F-W-Sp Terms:	
2018	51 (88 courses)	2018	10
2017	50	2017	27
2016	68	2016	22
2015	59	2015	25
2014	Tracked Fall term	2014	35

Employment rates and salaries are not quantifiable for our BDHO students. Before students enter our bachelor degree completion program they are already licensed, working dental hygienists. Work settings include clinical dental hygiene, education, public health, management, corporate sales, and/or entrepreneur. Graduates might continue in their place of employment, branch out into a new field, begin a graduate program, or a combination of the various options. Currently OT employs several BDHO graduates who teach in clinics, labs, and/or didactic in our Klamath Falls and Salem dental hygiene programs.

For the 2018 Best Online Colleges ranking, SR Education Group researched and analyzed accredited online schools across the nation, taking into consideration academic strength factors as well as annual tuition rates. *“Inclusion on this list shows high academic standards and a commitment to affordability, two key factors important to prospective students.”* (SR Education Group email to Department Chair.) Oregon Tech made this ranking at 9th for bachelor’s degrees in Dental Hygiene. The full list is available here: [SR Education - Best DH Online Programs](#)

The promotional badge we received from SR Education Group is now posted on our website:



## Section 4 – Program Student Learning Outcomes

The American Dental Hygienist Association (ADHA) addresses six competencies dental hygienists should demonstrate, but our BDHO students achieve those standards in their AAS programs. [ADHA Standards for Clinical Dental Hygiene](#)

The ADHA has identified professional roles for dental hygienists that correlate with our Program Mission and PSLOs:

*“Overview: The dental hygienist plays an integral role in assisting individuals and groups in achieving and maintaining optimal oral health. Dental hygienists provide educational, clinical, and consultative services to individuals and populations of all ages in a variety of settings and capacities. The professional roles of the dental hygienist include the following: Clinician, Corporate, Public Health, Researcher, Educator, Administrator, and Entrepreneur.”* [ADHA Professional Roles of the Dental Hygienist](#)

The American Dental Educators Association (ADEA) also recognizes the expanding roles of dental hygienists, which align with our BDHO Program Mission and PSLOs:

*“For those with a passion for dental hygiene who do not wish to practice clinically, there are many career paths outside of the operatory available in education, research, administration, public health and corporate business.”*  
[ADEA Career Options](#)

BDHO students take a minimum of 15 courses with Oregon Tech, but only six are required core courses that dental hygiene faculty teach. Core courses address the PSLOs listed below with each course aligned with one PSLO and assessment. Even with the assessment limitation of six courses, the PSLOs address the professional roles and career options identified by the ADHA and ADEA. Other required and elective courses in the BDHO program also address the PSLOs, including minor degree options. A proposal for an updated business minor is anticipated to be approved by OT’s Curriculum Planning Commission during academic year 2018-19.

**See Appendix** – Professional Courses (Exhibit A), Recommended Electives (Exhibit B), and Business Minor for Dental Hygiene (Exhibit C).

Program Student Learning Outcomes (PSLOs) were reviewed by faculty at the annual program meeting during convocation. The assessment cycle was updated so PSLO 2 could be assessed with ESLO Inquiry and Analysis, and PSLO 6 could be assessed with ESLO Written Communication. Minor wording changes were made for clarity.

Upon graduating from the BDHO program at Oregon Tech, students will:

1. Analyze the strengths and limitations of different research designs and their impact on the dental hygiene profession. (Assessed in **DH 453** – *Research and Evidence-Based Dentistry I*)
2. Apply evidence-based decision making to evaluate and incorporate emerging treatment modalities into dental hygiene practice. (Assessed in **DH 455** – *Research and Evidence-Based Dentistry II*)
3. Analyze your dental hygiene department to identify problems and areas where there is needed improvement; clarify the problem; and propose viable solutions. (Assessed in **DH 454** – *Dental Practice Management*)
4. Identify current and emerging issues in the profession of dental hygiene. (Assessed in **DH 401** – *Overview of Advanced Dental Hygiene*)
5. Assess the oral health care needs of a community and develop a strategic plan that addresses identified needs. (Assessed in **DH 470** – *Community Program Planning I*)
6. Design instruction that includes teaching strategies and assessments to meet a variety of learning style needs. (Assessed in **AHED 450** – *Instructional Methods*)

## Section 5 – Essential Student Learning Outcomes

Oregon Tech's Essential Student Learning Outcomes (ESLOs) support Oregon Tech's institutional mission and core themes. The assessment structure is to have three pathways (foundation, essential practice, and capstone) for each of the six ESLOs.

The uniqueness of the BDHO program is not conducive to following the exact, same assessment pathways as students who achieve most, if not all, of their credits through OT courses.

The reasons BDHO students cannot be assessed in the same manner as BS dental hygiene students is because:

- BDHO students are required to take a minimum of 15 OT courses; BS students (depending on where they took their prerequisite courses) are required to take 51-64 OT courses
- Although BDHO students are required to take general education and elective courses to earn a bachelor's degree, students' course plans are all unique depending on previous courses transferred from other colleges
- Of the 15 required OT courses for BDHO students, only six courses are taught by dental hygiene faculty in the BDHO program

All BDHO students graduated from an AAS dental hygiene program accredited by the Commission on Dental Accreditation (CODA). The accreditation process is rigorous, and programs must address specific standards related to "...student evaluation methods that measure all defined program competencies..." and "...the evaluation methods used in the dental hygiene program should include process and end-product assessments of student performance, as well as a variety of objective testing measures." [CODA Accreditation Standards - 2.6 Curriculum](#)

**ESLO 1: Communication – OT students will communicate effectively orally and in writing**

- Assessed in AAS program – CODA Standard 2-8a: *General education content must include oral and written communications, psychology, and sociology*; CODA Standard 2-15: *Graduates must be competent in communicating and collaborating with other members of the health care team to support comprehensive patient care.*
- Assessed in students' communication courses transferred from previous colleges and/or through OT courses as needed
- The six required BDHO dental hygiene courses do not have an 'oral' communication component, so cannot be assessed
- 'Written' communication is assessed in the BDHO program

**ESLO 2: Inquiry and Analysis – OT students will engage in a process of inquiry and analysis**

- Assessed in AAS program – CODA Standards on Critical Thinking 2-22: *Graduates must be competent in the evaluation of current scientific literature*; and 2-23: *Graduates must be competent in problem solving strategies related to comprehensive patient care and management of patients.*
- Assessed in students' courses transferred from previous colleges and/or through OT courses as needed
- Inquiry and Analysis is assessed in the BDHO program

**ESLO 3: Ethical Reasoning – OT students will make and defend reasonable ethical judgments**

- Assessed in AAS program – CODA Standard 2-19: *Graduates must be competent in the application of the principles of ethical reasoning, ethical decision making and professional responsibility as they pertain to the academic environment, research, patient care and practice management.*
- Assessed in students' required course equivalency for OT's DH 275 - Ethics
- No assessment activity to address from the six required BDHO dental hygiene courses

**ESLO 4: Teamwork – OT students will collaborate effectively in teams or groups.**

- Assessed in AAS program – CODA Standard 2-15: *Graduates must be competent in communicating and collaborating with other members of the health care team to support comprehensive patient care.*
- Assessed in students' SPE 221 – Small Group and Team Communication course transferred from previous college and/or taken through OT
- No assessment activity to address from the six required BDHO dental hygiene courses

**ESLO 5: Quantitative Literacy – OT students will demonstrate quantitative literacy.**

- Assessed in students’ MATH 243 – Introductory Statistics or MATH 361 – Statistical Methods course transferred from previous college and/or taken through OT
- Assessed in AAS programs through anesthesia course (i.e. proper dosage calculations) and clinical experiences (i.e. use of indices)

**ESLO 6: Diverse Perspectives – OT student will explore diverse perspectives.**

- Assessed in AAS program – CODA Standard 2-15: *Graduates must be competent in communicating and collaborating with other members of the health care team to support comprehensive patient care. One of the ‘intents’ listed under this Standard is: The ability to communicate verbally and in written form is basic to the safe and effective provision of oral health services for diverse populations. Dental Hygienists should recognize the cultural influences impacting the delivery of health services to individuals and communities (i.e. health status, health services and health beliefs).*
- No assessment activity to address from the six required BDHO dental hygiene courses

See Appendix – Six Required DH Courses in BDHO with PSLO and ESLO Assessment Plan (Exhibit D)

**Section 6 – Curriculum Map**

Not included for BDHO because students only have six required Dental Hygiene (DH) courses and remaining nine (approximate) courses vary depending on students’ transfer credits and program plan.

**Section 7 – Assessment Cycle**

<b>Assessment Cycle</b>							
PSLOs and ESLOs – Six Year Cycle	2017-18	2018-19	2019-20	2020-21	2021-22	2022-23	2023-24
<b>1.1</b> Analyze the strengths and limitations of different research designs and their impact on the dental hygiene profession <b>(DH 453)</b>	PSLO				PSLO		
<b>1.2</b> Use evidence-based decision making to evaluate and incorporate emerging treatment modalities into dental hygiene practice <b>(DH 455)</b>	PSLO						PSLO
<b>ESLO – Inquiry and Analysis</b>	<b>ESLO</b>						<b>ESLO</b>
<b>1.3</b> Analyze your dental hygiene department to identify problems and areas where there is needed improvement; clarify the problem; and propose viable solutions. <b>(DH 454)</b>		PSLO					
<b>1.4</b> Identify current and emerging issues in the profession of dental hygiene <b>(DH 401)</b>				PSLO			
<b>1.5</b> Assess the oral health care needs of a community and develop a strategic plan that addresses identified needs. <b>(DH 470)</b>			PSLO				

1.6 Design instruction that includes teaching strategies and assessments to meet a variety of learning style needs. (AHED 450)						PSLO	
ESLO – Written Communication						ESLO	

See Appendix – Six Required DH Courses in BDHO with PSLO and ESLO Assessment Plan (Exhibit D)

## Section 8 – Methods for Assessment

Because of the limitation of only six courses in BDHO that faculty can use to conduct assessments, only one direct and one indirect measure are used for each PSLO and the ESLO.

PSLO 1: BDHO Online, DH 453, 201702, Suzanne Hopper				
<b>PSLO 1:</b> Analyze the strengths and limitations of different research designs and their impact on the dental hygiene profession.				
<b>Assignment overview:</b> Students begin with a clinical treatment question that arises from a patient care decision. Students apply skills learned in the course that include searching for research evidence and analyzing the evidence for validity, reliability, and bias in relation to the clinical question. The assignment is repeated three times. The first time, students use ‘lower-levels’ of research evidence and the second time ‘mid-levels’ of evidence. The assignment used for this assessment is the third time. Students analyze higher levels of evidence in three randomized controlled trials (RCTs) and summarize how well the evidence answered the clinical question. Each week addressed a different clinical question. Students see how higher levels of research evidence have the potential to answer clinical questions with higher degrees of reliability, validity, and confidence in study results.				
<b>Assessment – direct measure:</b> Objectives, Criteria, and Rubric found in Appendix – Exhibit E Because assignment assessed was scaffolded from two previous assignments, the goal was for 90% of students to perform at the competent or proficient level. Raw data included in Appendix - Exhibit E				
Performance Criteria	Assessment Methods	Measurement Scale	Minimum Acceptable Performance (MAP)	Results n = 9
Three RCT articles – correctly identified ‘level’ of evidence and explained rationale	“Analyzing RCT” assignment evaluated by course instructor using rubric (see Exhibit E)	Proficient, Competent, or Novice	90% of students scoring competent or proficient	8 - Proficient 1 - Competent  MAP = 100%
Three RCT articles - Explained in one to two well-developed and detailed paragraphs on how well the article addressed the PICO question	“Analyzing RCT” assignment evaluated by course instructor using rubric (see Exhibit E)	Proficient, Competent, or Novice	90% of students scoring competent or proficient	7 - Proficient 1 - Competent 1 - Novice  MAP = 89%
<b>Assessment – indirect measure:</b> Student Exit Survey; Students were asked to “rate their proficiency in the following area”:				
Analyze the strengths and limitations of different research designs and their impact on the dental hygiene profession		<b>Results (n = 7):</b> 86% High Proficiency (6/7 students) 14% Proficient (1/7 students) 0% Some Proficiency or Limited Proficiency		

**PSLO 2 and ESLO Inquiry & Analysis: BDHO Online, DH 455, 201703, Suzanne Hopper**

**PSLO 2:** Apply evidence-based decision making to evaluate and incorporate emerging treatment modalities into dental hygiene practice.

**ESLO:** Inquiry and Analysis

**Assignment overview:** Students identify a clinical question from their own patient pool. The question involves a newer type of treatment or product and compares it to a gold-standard using evidence-based decision-making principles (EBDM). Students are assessed for clearly stating a clinical question; conducting computerized searches to find the best and most recent evidence; critically analyzing the studies for validity, reliability, statistical significance, and potential bias; determining if results have practical and clinical significance; determining if studies and analysis answered the clinical question with a high degree of confidence; and submitting the report in a Critical Analysis Summary format. The students repeat this assignment two times to provide an opportunity to apply EBDM principles to reinforce skills and choose two different clinical questions from their patient pool.

**Assessment – direct measure:** Objectives, Criteria, and Rubric found in Appendix – Exhibit E  
Because assignment is repeated two times and the second one is assessed for this PSLO, the goal was for 90% of students to perform at the competent or proficient level.

Raw data included in Appendix - Exhibit E

<b>Performance Criteria PSLO</b>	<b>Assessment Methods</b>	<b>Measurement Scale</b>	<b>Minimum Acceptable Performance (MAP)</b>	<b>Results N = 11</b>
Correctly identified and stated a clinical question	“Critical Analysis of Research II” assignment evaluated by course instructor using rubric (see Exhibit E)	Proficient, Competent, or Novice	90% of students scoring competent or proficient	11 - Proficient MAP = 100%
Identified “type” of research; Accurately stated and explained “level of evidence”	“Critical Analysis of Research II” assignment evaluated by course instructor using rubric (see Exhibit E)	Proficient, Competent, or Novice	90% of students scoring competent or proficient	11 - Proficient MAP = 100%
Correctly stated p-value and described relation to study results; Correctly stated standard deviation and described relation to study results; Discussed if studies were double-blind and completion rates	“Critical Analysis of Research II” assignment evaluated by course instructor using rubric (see Exhibit E)	Proficient, Competent, or Novice	90% of students scoring competent or proficient	11 - Proficient MAP = 100%
Clearly described issues of validity and reliability for each research article; backed up statements by referring to information in articles and learned in course	“Critical Analysis of Research II” assignment evaluated by course instructor using rubric (see Exhibit E)	Proficient, Competent, or Novice	90% of students scoring competent or proficient	10 - Proficient 1 - Novice MAP = 91%
For each article: Identified potential bias and for each type explained in 1-2 sentences why potential for bias existed	“Critical Analysis of Research II” assignment evaluated by course	Proficient, Competent, or Novice	90% of students scoring competent or proficient	10 - Proficient 1 - Novice MAP = 91%

	instructor using rubric (see Exhibit E)			
For each article: Clearly described results using several well-developed sentences	“Critical Analysis of Research II” assignment evaluated by course instructor using rubric (see Exhibit E)	Proficient, Competent, or Novice	90% of students scoring competent or proficient	11 - Proficient MAP = 100%
In detail described clinical and/or practical significance of each study; used information learned in course to back up statements; one well-developed paragraph for each study; answers how effective was the treatment and how much change does treatment cause AND/OR subjects representative of PICO question and feasibility of study	“Critical Analysis of Research II” assignment evaluated by course instructor using rubric (see Exhibit E)	Proficient, Competent, or Novice	90% of students scoring competent or proficient	10 - Proficient 1 - Novice MAP = 91%
Concluded report by combining the information gleaned from critically analyzing all articles; shared opinion on how well the evidence answers the clinical question; discussed if this information will change how you practice dental hygiene	“Critical Analysis of Research II” assignment evaluated by course instructor using rubric (see Exhibit E)	Proficient, Competent, or Novice	90% of students scoring competent or proficient	11 - Proficient MAP = 100%
<b>Performance Criteria ESLO Inquiry and Analysis</b>	<b>Assessment Methods</b>	<b>Measurement Scale</b>	<b>Minimum Acceptable Performance (MAP)</b>	<b>Results</b>
Identify a meaningful question or topic of inquiry	“Critical Analysis of Research II” assignment evaluated by course instructor using Oregon Tech’s Inquiry and Analysis Rubric	1-4 according to ESLO – Inquiry and Analysis Rubric	90% of students scoring 3 or higher	11 – scored ‘4’ MAP = 100%
Critically examine existing knowledge and views on the question or topic of inquiry	“Critical Analysis of Research II” assignment evaluated by course instructor using Oregon Tech’s Inquiry and Analysis Rubric	1-4 according to ESLO – Inquiry and Analysis Rubric	90% of students scoring 3 or higher	11 – scored ‘4’ MAP = 100%

Collect evidence based on the methodology or principles of the discipline	“Critical Analysis of Research II” assignment evaluated by course instructor using Oregon Tech’s Inquiry and Analysis Rubric	1-4 according to ESLO – Inquiry and Analysis Rubric	90% of students scoring 3 or higher	10 - scored ‘4’ 1 - scored ‘2’  MAP = 91%
Critically analyze and distinguish evidence obtained	“Critical Analysis of Research II” assignment evaluated by course instructor using Oregon Tech’s Inquiry and Analysis Rubric	1-4 according to ESLO – Inquiry and Analysis Rubric	90% of students scoring 3 or higher	10 - scored ‘4’ 1 - scored ‘2’  MAP = 91%
Come to a judgement based on evidence and understand the limitations and implications of that judgement	“Critical Analysis of Research II” assignment evaluated by course instructor using Oregon Tech’s Inquiry and Analysis Rubric	1-4 according to ESLO – Inquiry and Analysis Rubric	90% of students scoring 3 or higher	10 - scored ‘4’ 1 - scored ‘3’  MAP = 100%
<b>PSLO #2 Assessment – indirect measure:</b> Student Exit Survey; Students were asked to “rate their proficiency in the following area”:				
Use evidence-based decision making to evaluate and incorporate emerging treatment modalities into dental hygiene practice		<b>Results (n = 7):</b> 86% High Proficiency (6/7 students) 14% Proficient (1/7 students) 0% Some Proficiency or Limited Proficiency		
<b>ESLO Inquiry and Analysis – indirect measure:</b> Student Exit Survey; Students were asked to “rate their proficiency in the following area”:				
ESLO 2. Inquiry & Analysis: Thinking critically and analytically		<b>Results (n = 7):</b> 57% High Proficiency (4/7 students) 43% Proficient (3/7 students) 0% Some Proficiency or Limited Proficiency		

**See Appendix** - Assessments, Assignment Descriptions, and Rubrics (Exhibit E); BDHO Exit Survey (Exhibit F)

**History of Results:**

PSLO 1 and 2, and Institutional Student Learning Outcome (ISLO) “Critical Thinking and Problem Solving” (similar to ESLO “Inquiry and Analysis”) were assessed during Academic Year 2013-14. PSLO 1 was assessed in DH 455. PSLO 2 and the ISLO were assessed in DH 453. Minimum acceptable standards were met with no performance improvements needed.

Starting academic year 2017-18, the DH 453 and 455 courses were reassigned to be taught by a different instructor and so were redesigned. The course goals and objectives remained the same, but the instructor created new assignments, assessments, and rubrics. During the assessment planning meeting during fall convocation the faculty determined PSLO 1 would be best assessed using an assignment in DH 453, and PSLO 2 and ESLO Inquiry and Analysis using an assignment in DH 455.

### ***Assessment Shared with Faculty:***

The BDHO has one full-time and one adjunct faculty member who teach the six required dental hygiene courses. Faculty met via web-conferencing on August 1st to discuss outcomes from the direct and indirect assessments. It was noted that assessment data was derived from two sets of students – 1) direct assessments from current BDHO students enrolled in courses that were assessed and 2) indirect assessments from BDHO students as they graduated each term throughout the academic year.

### ***Interpretation of Results:***

**PSLO 1 Direct Assessment:** Faculty were pleased with the results. Although one student scored at the novice level for one of the performance criteria, the MAP results were still at 89% for that criteria, just 1% short of the high goal of 90%. The other performance criteria showed results of 100% of students meeting the MAP.

**Indirect Assessment:** Students rated their proficiency level for the PSLO at 86% High Proficiency; 14% Proficient.

Faculty discussed the positive learning outcome was enhanced through scaffolding of the assignment with two similar assignments assigned before this assignment and assessment. The faculty also agreed that the assignment was a good match for the PSLO assessment. No changes to the assignment or assessment are required, and the PSLO will be reassessed in 5 years. (See assessment cycle in Section 7.)

**PSLO 2 and ESLO Inquiry and Analysis – Direct Assessment:** Faculty were very pleased with the results. Results showed all eight performance criteria for the PSLO, and all five performance criteria for the ESLO met the high goal of 90% for the MAP.

**Indirect Assessment:** Students rated their proficiency level for the PSLO at 86% High Proficiency; 14% Proficient. Students rated their proficiency level for the ESLO at 57% High Proficiency; 43% Proficient.

Faculty agreed that the assignment that was assessed aligned well with the PSLO and ESLO. Once again it was noted that using a scaffolded assignment helps students achieve positive learning outcomes. No changes to the assignment or assessment are required. The PSLO and ESLO will be reassessed in six years when Oregon Tech once again assesses the ESLO.

## **9. Evidence of Improvement in Student Learning.**

BDHO did not have a specifically scheduled “closing the loop” assessment from the 2016-17 assessment activities. PSLO 4 was assessed in the DH 401 course with positive results and no changes suggested. PSLO 4 will be assessed again during the assessment cycle 2020-21, but because the DH 401 course now has a different instructor, a new assignment and assessment will be conducted.

PSLO 6 and ESLO for Written Communication were assessed in AHED 450, also with positive results and no changes suggested.

## **10. Data-driven Action Plans: Changes Resulting from Assessment**

Faculty discussed that an action plan for this assessment cycle was not needed due to positive results for PSLO 1 and 2, and ESLO Inquiry and Analysis. This was the first time the course instructor taught DH 453 and 455, and so it was the first time the assignments were assessed for the PSLOs and ESLO. The instructor kept exemplary student work samples to include when the courses are taught again. It has been the faculty’s experience that providing excellent student work samples helps improve the quality of student work to an even higher level.

When faculty meet during Convocation they will set a date to review and discuss the assignment and rubric that will be used for the direct assessment for AY 2018-19. Faculty plan to meet via video conferencing and together grade a random sampling of student work for the current PSLO and/or ESLO. The goal of this exercise will be to discuss and calibrate on how to grade the various performance criteria.

## Appendix

### Exhibit A – Professional Courses Required for BDHO

Course	Description	Credits
AHED 450	Instructional Methods	3
BUS 317	Healthcare Management	3
DH 401	Overview of Advanced Dental Hygiene	3
DH 453	Research & Evidence Based Dentistry I	3
DH 454	Dental Practice Management	3
DH 455	Research & Evidence Based Dentistry II	3
DH 470	Community Program Planning I	3
	Humanities electives (two)	6
MATH 243	Introductory Statistics	4
SPE 321	Small Group and Team Communication	3
	Communication elective (from General Education list)	3
	Dental Hygiene electives (three; approved by advisor)	9
	<b>Total Professional Course Credits</b>	<b>46</b>

### Exhibit B – Recommended Electives

Electives approved by Dental Hygiene Department			
Clinical Practice	Management	Education	Public Health
BIO 336, Essentials of Pathophysiology	DH 465 Dental Hygiene Entrepreneurship	AHED 451, Instructional Experience Pre-req=AHED 450	DH 471, Community Program Planning II Pre-req = DH 470
RCP 326, Disaster Preparedness **2 credit class	PHIL 342, Business Ethics (can use as HUM elective)	AHED 460, Fundamentals of Distance Ed Pre-req=AHED 450	WRI 410, Grant Writing Pre-req = WRI 227
COM 205, Intercultural Communication	BUS 226, Business Law	SOC 225, Medical Sociology	COM 205, Intercultural Communication
SOC 225, Medical Sociology	ACC 201/203, Principles of Accounting	PSY 347, Organizational Behavior	SOC 225, Medical Sociology
PSY 347, Organizational Behavior	PSY 347, Organizational Behavior	PSY 301, Basic Counseling Techniques (check pre-reqs)	PSY 347, Organizational Behavior
BUS 313, Health Care Systems & Policy	BUS 313, Health Care Systems & Policy		BUS 313, Health Care Systems & Policy
PSY 301, Basic Counseling Techniques (check pre-reqs)	BUS 223, Marketing I <b>OR</b> BUS 337, Principles of Health Care Marketing		SOC 325, Global Population Health Pre-req = SOC 225
PSY 336, Health Psychology I Pre-req = PSY 202	BUS 345, Fraud Examination		SOC 335, Health Inequality & Cultural Competency Pre-req = SOC 225

PSY 337, Health Psychology II	BUS 349, Human Resource Management		
	BUS 441, Leadership Pre-req = BUS 349		
	BUS 308, Principles of International Business		

### Exhibit C – Business Minor (Proposal – awaiting CPC approval)

Business Minor for Dental Hygiene - Required OIT Courses		
Course #	Course Title	Credits
ACC 201	Principles of Accounting I	4
BUS 317	Health Care Management	3
BUS 337	Healthcare Marketing	3
BUS 226	Business Law	3
	One course approved by dental hygiene department	3
	One course chosen from upper-division BUS, PSY, or SOC	3
<b>Total Credits</b>		<b>19</b>

The minor includes 16 credits of required course work plus one elective choice listed in the above table. The total number of credits is 19, twelve of which are upper-division.

### Exhibit D – Six Required DH Courses in BDHO with PSLO and ESLO Assessment Plan

<b>PSLO 1</b>	Analyze the strengths and limitations of different research designs and their impact on the dental hygiene profession.
<b>ESLO</b>	n/a
<b>Course</b>	DH 453 – Research and Evidence Based Dentistry I
<b>Direct Assessment</b>	Module Four – <i>Analyze Randomized Controlled Trials</i>
<b>Indirect Assessment</b>	Student Exit Survey
<b>Assessment Cycle</b>	2017-18; 2021-22
<b>PSLO 2</b>	Apply evidence-based decision making to evaluate and incorporate emerging treatment modalities into dental hygiene practice.
<b>ESLO</b>	Inquiry and Analysis
<b>Course</b>	DH 455 – Research and Evidence Based Dentistry II
<b>Direct Assessment</b>	Module Four – <i>Critical Analysis of Research II</i>
<b>Indirect Assessment</b>	Student Exit Survey

<b>Assessment Cycle</b>	2017-18; 2023-24
<b>PSLO 3</b>	Analyze your dental hygiene department to identify problems and areas where there is needed improvement; clarify the problem; and propose viable solutions.
<b>ESLO</b>	n/a
<b>Course</b>	DH 454 – Dental Practice Management
<b>Direct Assessment</b>	Practice Application Project
<b>Indirect Assessment</b>	Student Exit Survey
<b>Assessment Cycle</b>	2018-19; 2024-25
<b>PSLO 4</b>	Identify current and emerging issues in the profession of dental hygiene.
<b>ESLO</b>	n/a
<b>Course</b>	DH 401 – Overview of Advanced Dental Hygiene
<b>Direct Assessment</b>	Module Ten – <i>Workforce Models: Compare and Contrast</i>
<b>Indirect Assessment</b>	Student Exit Survey
<b>Assessment Cycle</b>	2016-17; 2020-21
<b>PSLO 5</b>	Assess the oral health care needs of a community and develop a strategic plan that addresses identified needs.
<b>ESLO</b>	n/a
<b>Course</b>	DH 470 – Community Program Planning I
<b>Direct Assessment</b>	Community Oral Health Strategic Plan
<b>Indirect Assessment</b>	Student Exit Survey
<b>Assessment Cycle</b>	2019-20; 2025-26
<b>PSLO 6</b>	Design instruction that includes teaching strategies and assessments to meet a variety of learning style needs.
<b>ESLO</b>	Written Communication
<b>Course</b>	AHED 450 – Instructional Methods
<b>Direct Assessment</b>	Module Ten – <i>Final 4 MAT Lesson Plan Project</i>
<b>Indirect Assessment</b>	Student Exit Survey
<b>Assessment Cycle</b>	2015-16; 2022-23

## Exhibit E – Assessments, Assignment Descriptions, and Rubrics

<b>PSLO 1: BDHO Online, DH 453 – Module Nine, 201702, Suzanne Hopper</b>
PSLO 1: Analyze the strengths and limitations of different research designs and their impact on the dental hygiene profession.
<b>Assignment overview:</b> Students begin with a clinical treatment question that arises from a patient care decision. Students apply skills learned in the course that include searching for research evidence and analyzing the evidence for validity, reliability, and bias in relation to the clinical question. The assignment is repeated three times. The first time, students use ‘lower-levels’ of research evidence and the second time ‘mid-levels’ of evidence. The assignment used for this assessment is the third time. Now students analyze higher levels of evidence (Randomized Controlled Trials). Each week addressed a different clinical question. Students see how higher levels of research evidence have the potential to answer clinical questions with higher degrees of reliability, validity, and confidence in study results.
<b>Course Objectives:</b> The assignment and assessment align with the following Course Objectives: <ul style="list-style-type: none"> <li>• Compare and contrast lower levels of evidence - editorials/expert opinion, case study/series, and case-</li> </ul>

controlled studies (**Module Seven assignment – scaffolds to Module Nine assignment-assessment**)

- Compare and contrast mid-to-high levels of evidence - cohort studies (**Module Eight assignment – scaffolds to Module Nine assignment-assessment**) and randomized control trials (**Module Nine assignment – assessed for PSLO 1**)
- Given a clinical scenario, develop a PICO question, analyze research articles, and summarize how well the evidence answers the PICO question

**Module Nine Assignment: “Analyzing RCT” (24 points)**

Quick overview: Below you will see a clinical scenario. You will 1) convert the scenario into a PICO question, 2) read three articles that I provided, 3) analyze each article and determine how well the information answered the PICO question, and 4) write results in a Table format addressing criteria learned so far in this course.

*Scenario: Your patient is a 34-year old man who is new to your practice. Craig has healthy teeth and gingiva, but is unhappy with the color of his teeth. He would like whiter-looking teeth. He is very reluctant to pay the \$450 your dental practice charges for in-office whitening. He asks you if the whitening strips he sees advertised on TV and in magazines would work just as well to whiten his teeth.*

**Step One:** Identify the P-I-C-O and convert the scenario into a PICO question. Use this format:

P:  
I:  
C:  
O:

Then state the PICO question using the phrases as practiced in the last two assignments. (*In a patient with...will...as compared to...increase/decrease/reduce, etc.*)

**Step Two:** Complete the following Table for *each article*. (Articles found in Course Materials under the Module Nine Lecture.)

**Table** (with added notes from me in red that you can delete when copying/pasting this Table into your assignment document):

<b>Criteria:</b>	
Title of study/paper; Peer-reviewed journal? (yes or no)	
Study design	
Type of study	Therapy/prevention, diagnosis, etc. and why?
Experimental or non-experimental? Primary or secondary research? Quantitative or qualitative?	
Level of evidence	Low, medium, or high; Why?
Subjects representative of your patient in clinical scenario?	Explain why or why not
Is this treatment feasible in your clinical setting?	Explain why or why not
Describe potential types of bias	Refer to your Bias Guide/Resource – remember you are looking for <i>potential bias</i> , so it’s OK to make assumptions about bias. List each bias and include 1-2 sentences on why that bias exists or potentially may exist (The more the better! No wrong answers as you address potential bias.) 😊

Your team's answer to the PICO question	1-2 well-developed and detailed paragraphs beginning with PICO question written in correct format; refer to information learned from the article
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**Article #1: "Tooth Whitening with Hydrogen Peroxide"**

**Article #2: "Clinical Trial Comparing Two Systems"**

**Article #3: "Placebo-Controlled Six Week"**

See grading criteria and rubric below.

**Grading Rubric: (24 pts)**

Criteria:	Proficient	Competent	Novice
Writing Mechanics	Title of article in each table <b>and whether peer-reviewed or not</b> , no writing errors, written for the professional reader (3 pts.)	Missing 1-2 elements and/or writing errors (1-2 pts.)	Missing 3 or more elements and/or writing errors (0 pts.)
PICO	Correctly identified the P-I-C-O; Wrote PICO question using correct phrases listed under Step One (4 pts.)	Incorrectly identified one of the PICO components and/or did not use phrases correctly (2-3 pts.)	Incorrectly identified two of the PICO components and/or did not use phrases correctly (0-1 pts.)

*The following criteria apply to the combination of all 3 Tables/articles:*

Study Design	Correctly identified (1 pt.)		Incorrect (0 pts.)
Type of Study	Correctly identified (1 pt.)		Incorrect (0 pts.)
Experimental or non-experimental; Primary or Secondary; Quantitative or Qualitative	Correctly identified (1 pt.)		Incorrect (0 pts.)
Level of evidence	Correctly identified and explained "why" (2 pts.)	Correctly identified but did not clearly explain "why" (1 pt.)	Incorrectly identified and/or did not explain "why" (0 pts.)
Subjects	In detail, explained if subjects could be representative of patient in clinical scenario (2 pts.)	Explained if subjects could be representative of patient in clinical scenario but needed more detail (1 pt.)	Explanation too brief and/or not clear (0 pts.)
TX feasibility	In detail explained if treatment would be feasible in a clinic setting (2 pts.)	Explained if treatment would be feasible but needed more detail (1 pt.)	Explanation too brief and/or not clear (0 pts.)
Potential bias	Identified potential bias and for each type explained in 1-2 sentences why potential for bias existed (4 pts.)	Identified potential bias but could have found more types and/or did not clearly explain the	Mentioned very little potential bias and/or explanations weak (0-1 pt.)

		why of each type of bias (2-3 pts.)				
Answer to PICO	Explained in 1-2 well-developed and detailed paragraphs on how well the article addressed the PICO question (4 pts.)	Paragraphs needed to be more detailed and/or better explanation on how article addressed PICO question (2-3 pts.)	Paragraphs did not clearly address how well article addressed the PICO question (0-1 pt.)			
<b>Raw Data – PSLO 1 Assessment Rubric:</b>						
<b>Performance Criteria:</b>	<b>Proficient</b>	<b>Competent</b>	<b>Novice</b>	<b>Mean</b>	<b>Mode</b>	<b>Stdev</b>
Writing Mechanics and Peer Review	9	0	0	3	3	0
PICO	8	1	0	2.778	3	0.629
Study Design	9	0	0	3	3	0
Type of Study	9	0	0	3	3	0
Experimental or non-experimental; Primary or Secondary; Quantitative or Qualitative	9	0	0	3	3	0
Level of Evidence	8	1	0	2.778	3	0.629
Subjects	7	2	0	2.556	3	0.831
Treatment Feasibility	8	1	0	2.778	3	0.629
Potential Bias	7	2	0	2.556	3	0.831
Answer to PICO	7	1	1	2.444	3	1.066

**PSLO 2 and ESLO Inquiry & Analysis: BDHO Online, DH 455, 201703, Suzanne Hopper**

**PSLO 2:** Apply evidence-based decision making to evaluate and incorporate emerging treatment modalities into dental hygiene practice.

**ESLO:** Inquiry and Analysis

**Assignment overview:** Students identify a clinical question from their own patient pool. The question involves a newer type of treatment or product and compares it to a gold-standard using evidence-based decision-making principles (EBDM). Students are assessed for clearly stating a clinical question; conducting computerized searches to find best and most recent evidence; critically analyzing the studies for validity, reliability, statistical significance, and potential bias; determining if results have practical and clinical significance, determining if studies and analysis answered the clinical question with a high degree of confidence, and submitting the report in a Critical Analysis Summary format. The students repeat this assignment two times to provide an opportunity to apply EBDM principles to reinforce skills and choose two different clinical questions from their patient pool.

**Course Objectives:** The assignment and assessment align with the following Course and Module Objectives:

- Apply evidence-based decision-making practices when treating patients
- Conduct computerized searches to find research studies to answer clinical questions using the best and most recent evidence.
- Critically analyze research studies for validity, reliability, statistical significance, and bias.
- Determine if results in research studies have practical and clinical significance.
- Determine if research studies and analysis answered the clinical question with a high degree of confidence.

**Module Four Assignment: “Critical Analysis of Research II” (27 points)**

**Step One:** Create a clinic scenario from your patient pool. You could address a treatment you currently provide, a type of diagnostic equipment your office uses, product recommendations, etc.

**Step Two:** Develop a PICO question for your clinical scenario. Remember to write your PICO question using the following format: *In a patient with.... (P) will... (I) as compared to... (C) increase/decrease/etc..... (O)?*

**Step Three:** Use phrases from your PICO question to search and find **three, full-text, relevant** research articles.

**Notes:**

- ✚ Remember you may enlist the aid of an OIT Librarian to help
- ✚ If you have difficulty finding three, full-text articles, you may use one Abstract OR one CAT for your third resource.

Examples: 1) Three full-text articles, OR 2) Two full-text articles and one Abstract or CAT

**Step Four:** Complete the following Table. All of your analysis will be in one Table.

**Table** (\*with added notes from me in red that you delete when copying/pasting this Table into your assignment document):

<b>Criteria:</b>	<b>*I do have a copy of this Table in Course Materials</b>
Titles of full-text articles and Abstract or CAT if applicable; Number each resource; Peer-reviewed journal? (yes or no)	#1 FT <i>"Name of the full-text article"</i> (Yes) #2 FT <i>"Name of the full-text article"</i> (No) #3 Ab <i>"Title of the abstract"</i> (Yes) or <i>"Title of CAT"</i>
Study design; level of evidence	#1 Systematic Review; high – with explanation #2 Cohort Study; medium – with explanation #3 RCT; high – with explanation
Double-blind?	#1 Yes and no; but authors stated most RCT included in the SR were "double-blind" studies #2 n/a #3 Yes
>80% completion rate?	#1 Yes #2 Yes #3 Couldn't tell – was not stated
Statistical significance:	For each study, discuss if the results of statistical analysis of data were unlikely to have been caused by chance, at a predetermined level of probability. If applicable, is the Standard Deviation small? If applicable, Probability (P Value) – less than 0.5? (continue listing #1, 2, 3 separately)
Validity	For each study did the test (research) really measure what it was supposed to measure? (Basically we're asking "is there any value or real-life application from this study"?) (continue listing #1, 2, 3 separately)
Reliability:	For each study, whatever type of testing/measuring tool was used, can you trust that results were consistent? Why or why not? (Remember that reliability is concerned with <b>accuracy</b> of measurement) (continue listing #1, 2, 3 separately)

Describe a minimum of three potential types of bias for each article:	Refer to your Bias Guide/Resource – remember you are looking for <i>potential bias</i> , so it's OK to make assumptions about bias. List each bias and include 1-2 sentences on why that bias exists or potentially may exist for each article (continue listing #1, 2, 3 separately)
Results	What were the results of each study? For each article use <b>several sentences</b> to discuss the results.  Note: Do NOT copy/paste the “results” section from the study for your response. You need to answer this question in your own words.
Clinical significance? Practical significance?	<b>Well-developed and detailed paragraph</b> using information you've learned in our course to back up your statements <b>for each article</b> . May answer the question - <i>How effective</i> is the intervention or treatment, or how much change does the treatment cause? And/or - Were the subjects in the study representative of the patient? Is the treatment feasible in your clinic setting?  (continue listing #1, 2, 3 separately)
Conclusion – answering your PICO question	At this point do NOT talk about each article separately. Summarize everything you learned and your opinion on how well the evidence answer the PICO question. How will this information change how you practice dental hygiene and/or educate your patients? This should be a <b>minimum of two well-developed paragraphs</b> .

#### Grading Rubric: (27 points)

Criteria:	Proficient 3 points	Competent 2 points	Novice 0-1 point
Writing Mechanics: no writing errors, written for professional reader	No writing errors, written for the professional reader	A couple of minor writing errors OR used some layman language	Several writing errors OR used layman language
Clinical question and PICO	Listed clinic question at top of report; Correctly identified the P, I, C, and O	Did not state clinical question at top of report OR incorrectly identified either the P, I, C, or O	Did not state clinical question at top of report OR incorrectly identified 2 or more of the P, I, C, and O
Articles and Peer Review: 3 full-text OR 2 full-text plus 1 Abstract or CAT	Listed and numbered titles of articles and Abstract or CAT if applicable; Identified “type” of research; Accurately stated and explained “level of evidence”; identified if peer-reviewed	Listed and numbered titles of articles and Abstract or CAT if applicable; 1 error in listing “type” or not enough explanation of “level of evidence” with one of the articles; or did not state if peer-reviewed	Did not listed title of one of the articles OR 2 or more errors in listing “type” or “level of evidence” with one or more of the articles or did not state if peer-reviewed
Statistics	For each study (if applicable): Correctly stated p-value and described relation to study results; Correctly	For each study: Not clear in explanation of p-value in relation to study results or not clear in explanation of	For each study: Explanations on p-value, SD, double-blind, and the completion rates in relationship to studies results too brief or not clear enough

	stated standard deviation and described relation to study results; Discussed if studies were double-blind and also completion rates	SD in relation to study results OR did not discuss if studies were double-blind and the completion rates	
Validity and Reliability	Clearly described issues of validity and reliability for each research article; backed up statements by referring to information in articles and learned in this course	Not clear in describing issues of validity and reliability for one of the articles OR needed more detail in backing up statements in one of the articles	Not clear in describing issues of validity and reliability for two or more of the articles OR needed more detail in backing up statements in one or more of the articles
Potential bias – minimum of three for each article	For each article: Identified potential bias and for each type explained in 1-2 sentences why potential for bias existed	For one or more articles: Identified potential bias but could have found more types and/or did not clearly explain the why of each type of bias	Mentioned very little potential bias and/or explanations weak for one or more articles
Results	For each article: Clearly described results using several well-developed sentences	Needed more clear and detailed descriptions of results for one of the articles	Needed more clear and detailed descriptions of results for two or all three articles
Clinical and Practical Significance	In detail described clinical and/or practical significance of each study; used information learned in course to back up statements; one well-developed paragraph for each study; answers how effective was the treatment and how much change does treatment cause AND/OR subjects representative of PICO question and feasibility of study	Described clinical or practical significance for each article but needed more detail or did not clearly back up statements	Explanations too brief and/or not clear for one or more of the articles
Conclusion	Concluded report by combining the information gleaned from critically analyzing all articles; shared opinion on how	Did not clearly combine information summarized from all of the articles OR did not clearly state how well the evidence answers	Did not clearly combine information summarized from all the articles AND/OR did not clearly state how well the evidence answers the clinical question AND/OR did not

	well the evidence answers the clinical question; discussed if this information will change how you practice dental hygiene	the clinical question OR did not discuss how information will change how you practice dental hygiene	discuss how information will change how you practice dental hygiene. OR did not “summarize the conclusions” and instead discussed conclusions separately for each article.
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**Raw Data – PSLO 2 Assessment Rubric:**

Performance Criteria	Proficient	Competent	Novice	Mean	Mode	Stdev
Writing Mechanics	11	0	0	3	3	0
Clinical question and PICO	11	0	0	3	3	0
Articles and Peer Review	11	0	0	3	3	0
Statistics	11	0	0	3	3	0
Validity and Reliability	10	0	1	2.727	3	0.862
Potential Bias	10	0	1	2.727	3	0.862
Results	11	0	0	3	3	0
Clinical and Practical Significance	10	0	1	2.727	3	0.862
Conclusion	11	0	0	3	3	0



**Essential Student Learning Outcome Rubric – Inquiry & Analysis**

**ESLO 2 Inquiry & Analysis:**

Oregon Tech students will engage in a process of inquiry and analysis.

**Definition**

Inquiry and analysis consists of posing meaningful questions about situations and systems, gathering and evaluating relevant evidence, and articulating how that evidence justifies decisions and contributes to students’ understanding of how the world works.

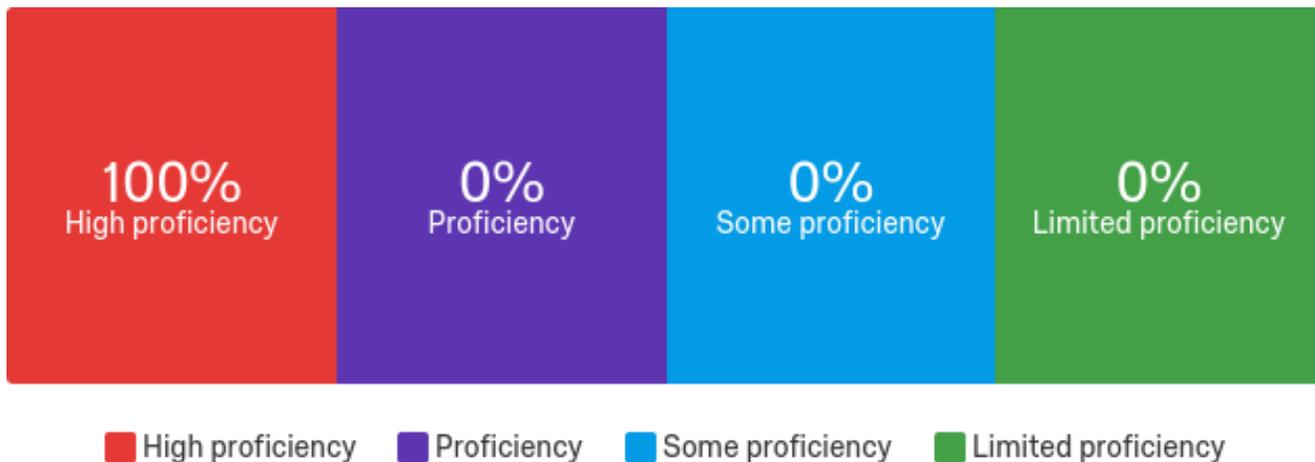
Performance Criteria	High Proficiency (4) The work meets listed requirements for this criterion; little to no development needed.	Proficiency (3) The work meets most requirements; minor development would improve the work.	Some Proficiency (2) The work needs moderate development in multiple requirements.	Limited Proficiency (1) The work does not meet this criterion: it needs substantial development in most requirements.
<b>Identify</b>	Identifies a creative, focused, and manageable topic that addresses potentially significant yet previously less-explored aspects of the subject.	Identifies a focused and manageable topic that appropriately addresses relevant aspects of the subject.	Identifies a topic that, while manageable, is too narrowly focused and leaves out relevant aspects of the subject.	Identifies a topic that is too general and wide-ranging to be manageable.
<b>Investigate</b>	Clearly states, comprehensively describes, and synthesizes in-depth information from relevant high-quality sources representing various approaches and points of view.	States, comprehensively describes, and presents in-depth information from relevant high-quality sources representing various approaches and points of view.	Presents information from relevant sources representing a limited set of approaches or points of view, but descriptions leave some terms undefined or ambiguities unexplored.	Presents information from irrelevant sources representing a limited set of approaches or points of view, or states information without clarification or description.
<b>Support</b>	All elements of the methodology or theoretical framework are skillfully developed. (Appropriate methodology or theoretical frameworks may be synthesized from across disciplines.)	Critical elements of the methodology of theoretical framework are appropriately developed. However, more subtle elements are ignored.	Critical elements of the methodology of theoretical framework are missing, incorrectly developed, or unfocused.	Inquiry design demonstrates a misunderstanding of the methodology or theoretical framework.
<b>Evaluate</b>	Organizes and synthesizes evidence to reveal insightful patterns, differences, or similarities related to subject focus.	Organizes evidence to reveal important patterns, differences, or similarities related to subject focus.	Organizes evidence, but the organization is not effective in revealing important patterns, differences, or similarities.	Lists evidence, the evidence presented is not organized or it is unrelated to the subject focus.
<b>Conclude</b>	States an eloquently supported conclusion that is a logical extrapolation of the inquiry, reflecting the student's informed evaluation and ability to place substantial evidence and perspectives in priority order.	States a conclusion focused solely on the inquiry findings, arising specifically from and responding specifically to the inquiry findings.	States a general conclusion beyond the scope of the inquiry, the support for which is inadequate, or information was chosen to fit the conclusion.	States an ambiguous, illogical, or fallacious conclusion that is inconsistently tied to the inquiry findings.

**Raw Data Inquiry and Analysis ESLO rubric:**

Criteria:	High Proficiency	Proficiency	Some Proficiency	Limited Proficiency	Mean	Mode	Stdev
Identify	11	0	0	0	4	4	0
Investigate	11	0	0	0	4	4	0
Support	10	0	1	0	3.818	4	0.575
Evaluate	10	0	1	0	3.818	4	0.575
Conclude	10	1	0	0	3.909	4	0.287

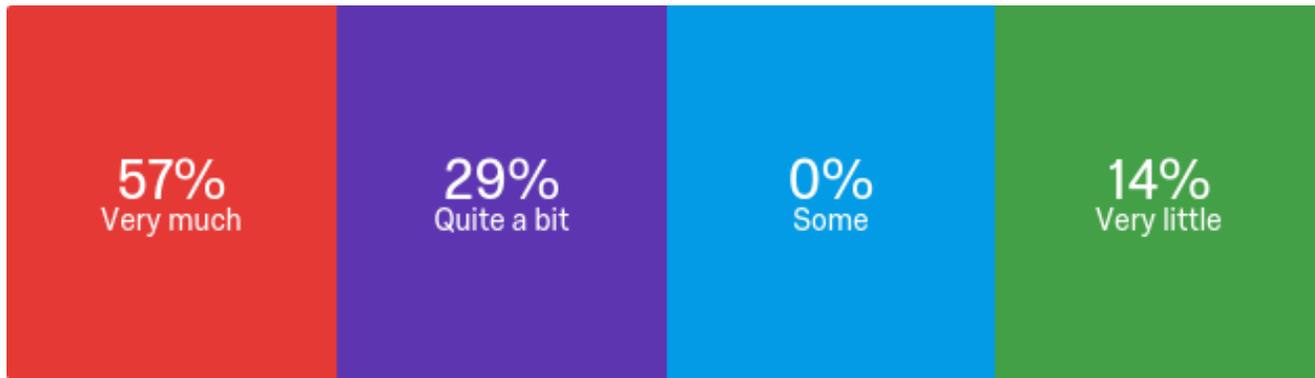
**Exhibit F – BDHO Exit Survey**

**Q ESLO 1 - Oregon Tech Essential Student Learning Outcomes Please rate your proficiency in the following areas.**



#	Question	High proficiency	Proficiency	Some proficiency	Limited proficiency	Total
1	ESLO 1a. Communication: Writing effectively	100.00%	7	0.00%	0	7
2	ESLO 1b. Communication: Speaking effectively	71.43%	5	28.57%	2	7
3	ESLO 2. Inquiry & Analysis: Thinking critically and analytically	57.14%	4	42.86%	3	7
4	ESLO 3. Ethical Reasoning: Making ethical judgements	85.71%	6	14.29%	1	7
5	ESLO 4. Teamwork: Work effectively with groups and teams	85.71%	6	14.29%	1	7
6	ESLO 5. Quantitative Literacy: Using quantitative/numerical information to solve problems, evaluate claims, and support decisions	28.57%	2	71.43%	5	7
7	ESLO 6. Diverse Perspectives: Understanding of diverse perspectives to improve interactions with others	57.14%	4	42.86%	3	7

**Q ESLO 2 - Oregon Tech Essential Student Learning Outcomes** How much has your experience at Oregon Tech contributed to your knowledge, skills, and personal development in these areas?



■ Very much   
 ■ Quite a bit   
 ■ Some   
 ■ Very little

#	Question	Very much	Quite a bit	Some	Very little	Total
1	ESLO 1a. Communication: Writing effectively	57.14%	28.57%	0.00%	14.29%	7
2	ESLO 1b. Communication: Speaking effectively	28.57%	42.86%	14.29%	14.29%	7
3	ESLO 2. Inquiry & Analysis: Thinking critically and analytically	71.43%	28.57%	0.00%	0.00%	7
4	ESLO 3. Ethical Reasoning: Making ethical judgements	28.57%	57.14%	14.29%	0.00%	7
5	ESLO 4. Teamwork: Work effectively with groups and teams	42.86%	42.86%	0.00%	14.29%	7
6	ESLO 5. Quantitative Literacy: Using quantitative/numerical information to solve problems, evaluate claims, and support decisions	42.86%	28.57%	28.57%	0.00%	7
7	ESLO 6. Diverse Perspectives: Understanding of diverse perspectives to improve interactions with others	28.57%	42.86%	28.57%	0.00%	7

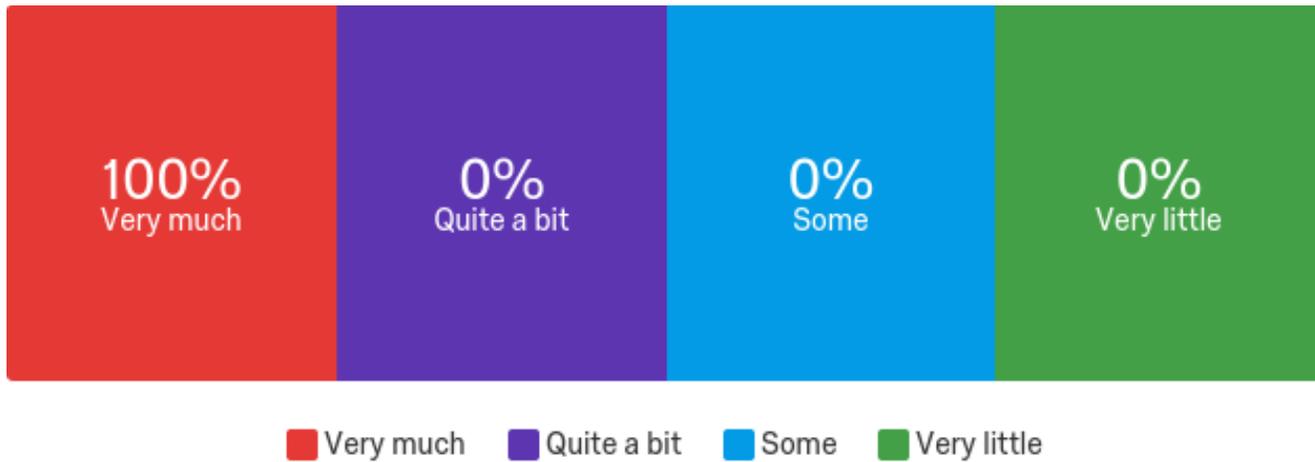
**Q BDHO 1 - Program Student Learning Outcomes for Dental Hygiene B.S. Degree Completion**  
 Please rate your proficiency in the following areas.



■ High proficiency   
 ■ Proficiency   
 ■ Some proficiency   
 ■ Limited proficiency

#	Question	High proficiency		Proficiency		Some proficiency		Limited proficiency		Total
1	1. Analyze the strengths and limitations of different research designs and their impact on the dental hygiene profession.	85.71%	6	14.29%	1	0.00%	0	0.00%	0	7
2	2. Use evidence-based decision making to evaluate and incorporate emerging treatment modalities into dental hygiene practice.	85.71%	6	14.29%	1	0.00%	0	0.00%	0	7
3	3. Analyze your dental hygiene department to identify problems and areas where there is needed improvement; clarify the problem; and propose viable solutions.	85.71%	6	14.29%	1	0.00%	0	0.00%	0	7
4	4. Identify current and emerging issues in the profession of dental hygiene.	85.71%	6	14.29%	1	0.00%	0	0.00%	0	7
5	5. Assess the oral health care needs of a community and develop a project to meet those needs	57.14%	4	42.86%	3	0.00%	0	0.00%	0	7
6	6. Design instruction that includes teaching strategies and assessments to meet a variety of learning style needs.	71.43%	5	28.57%	2	0.00%	0	0.00%	0	7

**Q BDHO 2 - Program Student Learning Outcomes for Dental Hygiene B.S. Degree Completion**  
**How much has your experience at Oregon Tech contributed to your knowledge, skills, and personal development in these areas?**



#	Question	Very much	Quite a bit	Some	Very little	Total
1	1. Analyze the strengths and limitations of different research designs and their impact on the dental hygiene profession.	100.00% 7	0.00% 0	0.00% 0	0.00% 0	7
2	2. Use evidence-based decision making to evaluate and incorporate emerging treatment modalities into dental hygiene practice.	85.71% 6	0.00% 0	14.29% 1	0.00% 0	7
3	3. Analyze your dental hygiene department to identify problems and areas where there is needed improvement; clarify the problem; and propose viable solutions.	85.71% 6	14.29% 1	0.00% 0	0.00% 0	7
4	4. Identify current and emerging issues in the profession of dental hygiene.	85.71% 6	14.29% 1	0.00% 0	0.00% 0	7
5	5. Assess the oral health care needs of a community and develop a project to meet those needs	85.71% 6	14.29% 1	0.00% 0	0.00% 0	7
6	6. Design instruction that includes teaching strategies and assessments to meet a variety of learning style needs.	100.00% 7	0.00% 0	0.00% 0	0.00% 0	7