



Appendix H

1/28/20

SENATE COMMITTEE ON CURRICULAR AFFAIRS

General Education Assessment 2015 – 2019

(Informational)

Introduction

In November of 2015, The Penn State Faculty Senate and the Office of the Provost charged a Special Joint Committee for General Education Assessment (the Committee) to implement assessment of General Education outcomes, develop a regular and ongoing assessment plan, and serve as a liaison between the University Standing Committees on Curricular Affairs and General Education, and the Office of Planning, Assessment, and Institutional Research. The committee was converted to a Standing Committee in April 2016.

Since 2016, the Committee has developed a General Education Assessment Plan and a timeline for assessment activities. The committee has created several datasets, administered student surveys and developed a process for collecting direct evidence of student learning that reflects the revised General Education learning objectives and foundational/domain criteria.

Collecting evidence of student performance in General Education courses will eventually impact all faculty members who teach General Education courses because the plan calls for assessment of all revised General Education learning objectives and foundational/domain criteria. For that reason, the information in this report is of particular importance, because it provides background, as well as expectations, that faculty members who teach General Education courses need to know. The first section following the Executive Summary, “Calling all Faculty – Essential Contributors to General Education Assessment” outlines those specific expectations based on the current assessment of integrative thinking.

Information

The following report outlines activities undertaken by the Standing Joint Committee on General Education Assessment from 2015 to 2019, prepared by the Office of Planning, Assessment, and Institutional Research.

General Education Assessment 2015 – 2019

November 8, 2019

Prepared by the Office of Planning, Assessment, and Institutional Research

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Executive Summary

The Standing Joint Committee on General Education Assessment (the Committee) has conducted multiple assessment activities since its formation in 2015. The purpose of this report is to apprise faculty of those activities – especially those involving the direct assessment of student learning in General Education courses because all faculty teaching those courses will eventually be called upon to contribute to the assessment. Thus, the first section of the report describes what faculty can expect when one of their courses is included in efforts to assess General Education learning objectives or foundational/domain criteria. The remainder of the report docu-

ments the recent history of General Education assessment, including current plans and summaries of completed assessment activities.

Assessment of General Education is directed by the Committee and conducted by Office of Planning, Assessment, and Institutional Research (OPAIR) staff in collaboration with the Office for General Education. The Committee was charged in 2016 to plan and implement assessment of General Education. It is co-chaired by representatives from OPAIR and the University Faculty Senate's Standing Committee on Curricular Affairs and includes representatives of the Office for Undergraduate Education, the Office for General Education, and six University Senators, among others.

The assessment plan developed by the Committee is framed around three major goals, listed below, and includes objectives and measures appropriate for assessing them. The plan is accompanied by a timeline and cycle of assessment activities.

1. Penn State students will develop critical foundational skills and breadth of knowledge across the domains.
2. Penn State students will experience enhanced personal and professional growth.
3. Penn State students will have opportunities for integrative learning.

Based on the Committee's scope and duties, as well as members' interests, OPAIR staff have developed specific datasets to document patterns of course offerings and student enrollment, student grades by major and location, and level of prescriptiveness in General Education requirements by academic program. OPAIR staff have also conducted assessment of General Education learning objectives by collecting evidence of student performance in General Education courses, with special emphasis on integrative thinking. A summary of the results of a spring 2019 student survey is also included in the report.

These products, assessment activities, and survey results will serve as a baseline against which to compare aspects of General Education under the previous requirements and the revisions that went into effect in 2018. They further describe a range of opportunities in which to collect evidence that can be used to improve student learning and advance a systematic approach to assessing General Education at Penn State.

We encourage those seeking additional information to contact the Office of Planning, Assessment, and Institutional Research with questions at loa@psu.edu or 814-863-8721.

Calling all Faculty – Essential Contributors to General Education Assessment

In 2015 the Faculty Senate approved the development and implementation of a plan to assess the revised General Education requirements, including the learning objectives and foundation/domain criteria, to ensure that students are meeting Penn State's expectations. As a faculty member teaching General Education courses, you have a vital role to play in the assessment.

What follows is an example of what you can expect when one of the General Education learning objectives or foundation/domain criteria addressed by your course is being assessed. The process described below was developed to assess Integrative Thinking in fall 2019 and may be adjusted in the future to address other objectives or foundation/domain criteria.

The first step in the process was to identify faculty assigned to teach courses that were aligned with integrative thinking through the proposal process. An initial email was sent by OPAIR staff and the Assistant Dean for General Education to these faculty about 3 months prior to the beginning of the fall semester. This message introduced the process of assessing student learning in General Education, explained its importance, provided instructions in multiple formats, and outlined a timeline.

OPAIR staff sent a second email two weeks prior to the start of the semester. This email repeated much of the information from the first one because many faculty members were assigned to teach the courses after the first message was sent and therefore did not receive it. In addition to updated information about what faculty would be expected to contribute, this message also included a rubric designed to score student performance on an assignment aligned with integrative thinking, announcements about webinars faculty could join to learn more about the assessment process and expectations, and a due date. Around this time the Vice Provost of Planning and Assessment and the Vice President and Dean for General Education sent an email to faculty encouraging them to participate in the assessment.

After the semester began, faculty received an additional email that included a link to an online form where they would enter their assessment evidence. The form requested the following information.

- Course learning objectives (from an uploaded syllabus)
- Course description (from an uploaded syllabus)
- Description and assignment instructions from one major assignment that addresses the learning objective
- Student performance on that assignment, ideally using a rubric designed by faculty in collaboration with OPAIR staff

Following the end of late drop, OPAIR staff will send a link to a student survey to the faculty and request that they forward it to their students and encourage them to complete it because their perspectives are critical for General Education assessment.

The multiple emails in this process resulted from the fact that we were developing the process and materials as we went along. The next cycle of General Education assessment will likely include fewer email messages and may or may not include a student survey, depending on the objective being assessed. In addition, the rubric may be replaced by another tool for scoring student performance.

Faculty can submit their information any time during the semester. OPAIR staff will analyze what is collected, report findings to the Committee, and provide an aggregated summary to the faculty who submitted information.

Finally, it is critical to state explicitly: information collected in any General Education assessment approach will not be used to assess or evaluate faculty performance. All findings from General Education assessment will be reported in aggregate form with identifiable information from either faculty or students removed. Furthermore, the process for assessing General Education is separate from the process for assessing program-level outcomes.

Additional detailed information about the fall 2019 assessment of integrative thinking process on which this exemplar process is based begins on page 15. The fall 2019 instructions and rubric are available in Box.

Background

In 2013, the University Faculty Senate and the Provost initiated a process to review and revise the University's General Education curriculum and assessment. A General Education Task Force that was convened to accomplish this completed their work in April 2015, and their recommendations were approved by the Faculty Senate.

Like the previous General Education curriculum, the revised curriculum requires baccalaureate degree students to complete 45 credits of courses from a distribution of courses in Writing (GWS), Quantification (GQ), Arts (GA), Humanities (GH), Health and Wellness (GHW), and Natural Sciences (GN). Associate degree students complete a similar set of course distributions for a total of 18 credits. New requirements also include enrollment in Inter-Domain courses specifically designed to address integrative thinking, and achievement of a C or better in Writing/Speaking and Quantification courses. Under the new curriculum each of the pre-existing General Education courses are being "re-certified" by the Faculty Senate Curricular Affairs Committee to show that they address the new General Education learning objectives and foundational/domain criteria.

During the same year that the revised General Education curriculum was approved, the Middle States Commission on Higher Education (MSCHE) conducted their periodic review of Penn State. In June 2015 the Commission re-affirmed Penn State's accreditation status. Their statement urged Penn State to document "further implementation of the assessment of general education outcomes within the institution's overall plan for assessing student learning, and evidence that such assessment results are used for curricular improvement."

Following Faculty Senate approval of the recommendations, the Office of the Provost and the University Faculty Senate initiated preliminary work to develop a process to assess General Education by charging a Special Joint Committee for General Education Assessment (referred to as "the Committee" throughout this document). The Committee developed a proposal for assessing General Education which was approved by the Faculty Senate in March 2016. The Committee, which guides the General Education assessment process, was converted to a standing committee in April 2016.

The previous information is adapted from the April 1, 2017 monitoring report submitted to MSCHE (pp. 25 – 29).

Standing Joint Committee for General Education Assessment

Since its inception, the Committee has provided guidance and direction for a range of assessment activities that have been conducted, primarily, by Office of Planning, Assessment, and Institutional Research (OPAIR) staff. Below is a summary of the charge, scope, membership, and duties of the Committee.

Charge

The Committee was charged to:

- Further implement the assessment of general education outcomes within the institution's overall plan for assessing student learning, and evidence that such assessment results are used for curricular improvement.
- Develop a regular and ongoing assessment plan for (current) General Education, following the principles described in the April 28, 2015, University Faculty Senate's Approved Legislative Report entitled, "Revision to General Education Curriculum".
- Consult and maintain liaison with the University Faculty Senate Standing Committees on Curricular Affairs and Undergraduate Education (currently Committee on Education).
- Consult and maintain liaison with the Office of Planning and Assessment (currently the Office of Planning, Assessment, and Institutional Research or OPAIR).

The Committee is governed by Standing Rules, Article II, Section 4. These rules include language outlining the committee's scope, membership, and duties.

Scope

The Scope of the Committee includes development of datasets to inform general education assessment.

According to the Standing Rules, such datasets should include, but not be limited to:

1. A General Education Curricular Inventory that shows patterns of course offerings, student enrollment, and student grades by major and location.
2. General Education curriculum mapping that shows the relationship between General Education and undergraduate majors.
3. General Education course objective mapping that shows the relationship to General Education learning objectives.
4. The new standing joint committee should collect and use data in an ongoing way to examine student outcomes, such as:
 1. student success (e.g., time-to-degree, graduation rate, and other institutional data) and
 2. student learning (e.g., coursework, engaged scholarship projects, and other factors that provide evidence of learning).

The data should also be used to inform curricular improvement, including but not limited to:

- decisions about the General Education curriculum, including questions about the efficacy of pathways to support integrative thinking;
- effective assessment practices and processes, especially those that can be shared across disciplines; and
- decisions about availability of General Education curricular components across the University, including gaps and trends. The goal should be to develop an analytic assessment plan, supported by data that informs curricular improvement and evolves over time.

Membership and Selection

The Faculty Senate, Office of Undergraduate Education, and the Office of Planning, Assessment, and Institutional Research jointly appoint the Committee. Membership of the Committee is outlined in the rules as follows, along with the names of current members:

- the associate vice provost for learning outcomes assessment (co-chair)* – Suzanne Weinstein
- the chair of the Curricular Affairs Committee (co-chair) – Brandi Robinson
- the associate vice president and associate dean for Undergraduate Education – Jeff Adams
- the director and assistant dean of the Office for General Education – Maggie Slattery
- a member of the Graduate council – vacant
- an associate dean from Penn State Libraries – Rebecca Miller
- a student government representative – Chelsey Wood
- six University Faculty Senators – Asad Azemi, Roger Egolf, Joyce Furfaro, Richard Robinett, Ira Saltz, and Keith Shapiro

*As of January 1, 2020, this role will be filled by the assistant vice provost for planning and assessment (Daniel Newhart).

Duties

The rules also outline duties, most of which are included in the scope. In addition to those activities, the Committee is expected to cooperate with the University Committee on Assessment of Learning (UCAL) and is responsible for developing an analytic assessment plan, which evolves over time and informs curricular improvement. The next section outlines the current plan.

General Education Assessment Plan and Timeline

One of the initial activities undertaken by the Committee was to develop a basic General Education Assessment Plan (see Table 1). This plan has evolved since 2016 and reflects the current priorities and understanding of General Education at Penn State. The plan is a living document which may change over time to reflect the interests and priorities of future stakeholders and be adjusted as we learn more about students' General Education experiences.

Goals

The General Education Assessment Plan is framed around three major goals of the General Education Program at Penn State:

1. Penn State students will develop critical foundational skills and breadth of knowledge across the domains.
2. Penn State students will experience enhanced personal and professional growth.
3. Penn State students will have opportunities for integrative learning.

Table 1 displays sets of activities and objectives that are nested within each of the major General Education assessment goals. The table also indicates a range of specific assessment measures that the Committee has identified as appropriate approaches for collecting evidence that each objective has been achieved.

Table 1: General Education Assessment Plan

GOALS	ACTIVITIES	OBJECTIVES	
GOAL 1: Penn State students will develop critical foundational skills and breadth of knowledge across the domains.	General education course offerings	Students will meet performance expectations for General Education key and domain learning objectives.	Student performance on in-course signature assessments that align with general education objectives.
GOAL 1:	General education course offerings	Students will have sufficient opportunities to achieve General Education learning objectives.	Curriculum map of General Education courses vs. General Education domain and key learning objectives.
GOAL 1:	General education course offerings	Students will have sufficient opportunities to enroll in General Education courses when they want to, and in the appropriate sequence.	Student survey; Enrollment dataset
GOAL 1:	General education course offerings	Requiring a C or above in GWS and GQ courses will improve student success in subsequent courses in their programs of study.	Student performance in select major courses for which GWS or GQ courses are prerequisites.

GOAL 1:	General education course offerings	Students will report satisfaction with the breadth of their General Education courses and the contribution of General Education courses to their educational experience at Penn State, their careers, and their everyday lives.	Student survey/alumni survey
GOAL 2: Penn State students will experience enhanced personal and professional growth.	General education course offerings	Students will report that General Education has a substantial impact on success in their majors.	Student survey/alumni survey
GOAL 2:	General education course offerings	Students will report that General Education has a substantial impact on their thinking, perspectives, interests and/or career goals.	Student survey/alumni survey
GOAL 3: Penn State students will have opportunities for integrative learning.	General Education integrated studies course seed grants	Faculty will create general education courses that emphasize knowledge integration and transfer	Inter-domain and Linked course activities and assignments
GOAL 3:	General Education Inter-domain and Linked course offerings.	Students will have sufficient opportunities to enroll in Inter-Domain and Linked General Education courses.	General Education course enrollment dataset; Student survey
GOAL 3:	General Education Inter-domain and Linked course offerings.	Students will meet the integrative thinking objective in both Inter-domain and Linked courses.	Student performance on in-course signature assessments that align with the integrative thinking General Education objective.

Datasets, Measures and Other Products

The General Education Assessment Plan outlines a range of specific datasets, measures and products that are listed below. Since 2016, substantial work has been undertaken to collect the evidence requested in the charge or by the Committee, prescribed by the assessment plan, or necessary for assessment activities. Later sections provide additional details about those items, which are marked with an asterisk.

Datasets

- Patterns of course offerings and student enrollment*
- Student grades by major and location*
- Prescriptiveness of General Education requirements by academic program*
- Student performance in select major courses for which GWS or GQ courses are prerequisites

Curriculum/Course Maps

- Curriculum mapping that shows the relationship between General Education and undergraduate majors*
- Course objective mapping that shows the relationship of courses to General Education learning objectives

Assessment of Courses and Student Performance

- Analysis of Inter-Domain and Linked course activities and assignments*
- Student performance on signature assessments aligned with the integrative thinking General Education objective.*
- Student performance in General Education courses*

Surveys

- Student survey*
- Alumni survey

* items have either been addressed, or have been advanced substantially through coordination, data collection, and analysis

General Education Assessment Timelines

Timelines and cycles for the examination of individual components of the plan over a 5-year period are provided below.

Table 2: General Education Assessment Timeline

The following table outlines the cycles for several major components of the overarching plan:

1 ST ASSESSMENT	ASSESSMENT	
2018	Update General Education course enrollment dataset*	2 years

2018	General Education curriculum mapping that shows relationship between General Education and Undergraduate majors	4 years
2019	Student survey	4 years
2018/19	Direct assessment of student performance on General Education learning objectives and foundation/domain criteria	Annually
2020	Alumni survey	4 years
2020	General Education course objective mapping that shows the relationship to General Education learning objectives	4 years
2021	Cross-cutting assessment completed at the point of graduation	4 years

*Data sources for these datasets are from the 2016/17 academic year.

Learning Objectives and Foundation/Domain Criteria Assessment Timeline

Penn State's program of General Education is designed to support student achievement related to seven Learning Objectives, two Foundation Skills, and five Knowledge Domains. The following table outlines the current schedule for assessing each component.

Table 3: Student Performance Assessment Timeline

ACADEMIC YEAR	LEARNING OBJECTIVES ASSESSED	-
2018-2019 (pilot)	Foundation/Knowledge Domain	None
2018-2019 (pilot)	Learning Objective	Integrative Thinking
2019-2020	Foundation/Knowledge Domain	GA and GN
2019-2020	Learning Objectives	Creative Thinking, Critical and Analytical Thinking
2020-2021	Foundation/Knowledge Domain	GWS
2020-2021	Learning Objective	Communication
2021-2022	Foundation/Knowledge Domain	GHW and GH
2021-2022	Learning Objective	Global Learning; Social Responsibility and Ethical Reasoning

2022-2023	Foundation/Knowledge Domain	GS and GQ
2022-2023	Learning Objective	Key Literacies
2023-2024	Foundation/Knowledge Domain	None
2023-2024	Learning Objective	Integrative thinking

General Education Datasets

OPAIR staff have developed several datasets for the Committee to reference in its oversight of General Education assessment. These datasets contain the following information:

- patterns of course offerings and student enrollment,
- student grades by major and location, and
- curriculum mapping that shows the relationship between General Education and undergraduate majors

Student Enrollment by General Education Domain

OPAIR staff created a dataset that provides information about 2016-17 enrollment in General Education courses by College (University Park Colleges, Campus Colleges, and University College). This dataset also includes the number of students who earned specific grades in each course in each College. The dataset could be used, for example, to determine the number of students who received an A in a specific General Education course at a specific college. This dataset is intended to provide baseline information that may be used in the future for longitudinal analysis and will be updated every two years.

The dataset was used to determine the General Education courses that comprise 70% of credit hours in each domain (see Table 4). This resource shows the courses that students most commonly enroll in and helps in designing assessment activities because it indicates courses where evidence about students learning in the domain criteria is easily accessible. Furthermore, it can be compared to the same dataset in future years. One caveat is that in some domains (e.g. GQ and GN), the courses on this list are most likely included because they are required by the major rather than because students freely chose them.

Table 4. General Education Courses that comprise 70% of enrollment in each domain (2016/2017)

GQ	GA	GH	GH	GN	GS		
STAT200	COMM150	HIST20	AFR191	CHEM110	ECON102	NUTR251	ENGL15
MATH140	PHOTO100	HIST21	HIST143	CHEM111	PSYCH100	NUTR100	CAS100A
MATH21	MUSIC7	RLST1	AFR192	ASTRO1	ECON104	KINES61	ENGL202D

MATH141	ART20	PHIL103	PHIL103W	PHYS211	SOC1	KINES77	ENGL202C
MATH110	MUSIC4	HIST11	SPAN131	CHEM112	IST110	BBH101	CAS100B
MATH22	THEA100	HIST144	CAS201	BIOL141	HDFS129	BBH119	-
MATH220	ENGL50	CAMS45	HIST181	BIOL110	SOC119	BBH143	-
MATH26	INART115	WMNST106	COMM168	PHYS212	COMM100	KINES88	-
CMPSC121	ARTH100	COMM110	SC297	BISC3	ECON302	KINES68	-
-	ARTH112	PHIL1	RLST101	EGEE101	PSYCH212	BBH146	-
-	ARTH111	HIST1	PHIL105	GEOSC10	ECON304	KINES81	-
-	MUSIC5	CMLIT108	HIST130	CHEM113	PLSC1	KINES82	-
-	MUSIC109	PHIL119	CAMS33	BISC4	SRA111	KINES17	-
-	MUSIC9	HIST10	PHIL2	BIOL142	HDFS229	HPA57	-
-	INART116	CAMS25	SPAN130	BIOL129	CRIMJ100	KINES72	-
-	ART1	PHIL14	HIST175	CHEM101	PSYCH221	KINES84	-
-	ART50	HIST121	ENGL184	PHYS250	LER100	FDSC105	-
-	INART5	CI280	PHIL7	PHYS214	AFR110	-	-
-	THEA105	AMST105	RLST104	EGEE102	PLSC14	-	-
-	INART125	AMST100	PHIL102	MICRB106	HDFS239	-	-
-	MUSIC8	HIST150	GEOG122	-	SOC5	-	-
-	INART126	HIST2	PHIL132	-	WMNST100	-	-
-	ART10	CMLIT10	HIST173	-	SOC12	-	-
-	LARCH60	CMLIT153	CMLIT143	-	PSYCH243	-	-
-	THEA102	CMLIT191	AFAM110	-	CRIM100	-	-
-	ARCH100	ASIA100	APLNG200	-	SOC30	-	-

-	-	PHIL10	AG160	-	-	-	-
-	-	AFR150	CMLIT120	-	-	-	-
-	-	ENGL105	CAS175	-	-	-	-
-	-	PHIL3	ENGL136	-	-	-	-
-	-	HIST12	HIST100	-	-	-	-
-	-	RUS100	-	-	-	-	-

Level of Prescriptiveness in General Education Courses by Academic Program

Academic programs at Penn State employ different levels of prescriptiveness within their major curriculum, which impacts students' ability to choose General Education courses. Some programs dictate a majority of the General Education courses (e.g. Nursing), whereas other programs allow more choice (e.g. Liberal Arts). Because differences in prescriptiveness may impact other aspects of students' General Education experience, OPAIR staff used the information in the Undergraduate Bulletin to create a curriculum map that shows how each undergraduate major aligns with its required General Education courses. This matrix was used to determine the level of prescriptiveness of General Education courses by academic program, and can be leveraged to explore, for example, whether student satisfaction with, or perceptions of, General Education are related to the number of General Education courses students are free to choose.

Course and Student Performance Assessment

Initial Student Performance Data Collection Efforts

During spring 2016, the Committee developed and piloted a course form, called a memo, to gather preliminary information on:

- alignment between current General Education courses with the revised General Education Key Learning Objectives (e.g. effective communication, critical and analytical thinking),
- what pedagogies are used to support student development,
- and what assessment methods are used to measure achievement of course objectives.

This pilot effort was designed to collect evidence of student learning in General Education courses as well as prepare faculty for the re-certification process. The course memos gathered information from a sample of 60 courses across all domains and offered at Penn State University Park and Penn State Scranton. The review revealed that, when unrestrained in the number of Learning Objectives they should indicate, many faculty members checked nearly all as being addressed in their courses. As a result of this review, the Committee recommended that General Education course guidelines clarify the importance of emphasizing a smaller number of learning objectives through intensive course activities and assessments.

In fall 2016, the Committee developed a second pilot course memo to further support faculty preparation for course recertification. The goal was to gather initial course assessments that align with the revised General Education Learning Objectives. The revised pilot memo was administered to faculty teaching Humanities (GH) and Quantitative Reasoning (GQ) courses and asked faculty to provide the following information:

- alignment of course learning objectives with General Education learning objectives (choose at least 2 and no more than 4);
- alignment of course learning objectives with Foundation or Knowledge Domain criteria (choose at least 3);
- direct assessment evidence as to how the course assesses at least one General Education learning objective and one Foundation or Knowledge Domain criterion;
- at least two course pedagogies and activities used to develop student abilities toward achievement of the General Education learning objectives described above.

Faculty were also asked to share performance expectations for each assessment described, whether students met performance expectations, and what actions were planned to improve the course. An analysis of fall 2016 course memos highlighted the wide range of innovative course activities, including pedagogies and assignments used by faculty to develop student abilities. The Committee reiterated the importance of an online information repository for faculty to gain ideas for course design and assessment. Analysis of the course memos also revealed that many faculty are already using course improvement practices to “close the loop.” The data revealed that faculty are setting performance expectations for each learning assessment, comparing assessment findings with expectations, and making course changes as a result. Finally, the Committee also observed that some faculty members were unclear about how to develop strong, measurable course learning objectives, assessments or performance expectations. The Committee recommended offering faculty development workshops to help faculty understand and utilize knowledge of course design and assessment methods.

The 2016 pilot efforts have informed subsequent approaches to assessing General Education objectives, in particular with respect to designing manageable large-scale data collection procedures, fostering buy-in among faculty and administrators in a highly decentralized curricular context, and streamlining and managing the time and effort necessary for participation in our efforts.

The previous information is adapted from the April 1, 2017 monitoring report submitted to MSCHE (pp. 25 – 29).

Integrative Thinking Assessment

During fall 2018, OPAIR staff, with guidance from the Committee, developed and piloted an approach to assessing integrative thinking. This pilot also served to develop procedures with potential applicability for assessing achievement of the other General Education objectives and domain criteria.

These efforts began with lessons learned from the pilot assessments conducted in 2016. Specifically, the OPAIR team worked to develop a streamlined template that could be distributed widely, was simple and intuitive, but that still collected necessary evidence.

Fall 2018 Integrative Thinking Assessment

The Committee began by identifying information necessary to assess the extent to which a given course addressed integrative thinking, as well as how well students performed on an assignment that evaluated integrative thinking. Items requested of instructors included a course description, course learning objectives, description of an assignment that evaluated integrative thinking, and aggregated evidence of student performance on that assignment. OPAIR staff developed an online form using Qualtrics through which instructors could submit this information.

In mid-September 2018, OPAIR staff emailed academic leadership with lists of instructors (pulled from institutional data) at their college or campus who were slated to teach Inter-Domain courses designed specifically to address integrative thinking and the new General Education requirement that students enroll in an Inter-Domain or Linked course. These emails asked academic leaders to identify instructors who should be exempt from participation (e.g. graduate students). A week later, leadership in OPAIR and the Office for General Education jointly emailed the remaining instructors to describe the need to assess General Education and encourage them to participate in the assessment. Following that email, OPAIR staff sent instructors a link to the Qualtrics form, completion instructions, a sample completed form, and encouragement to contact OPAIR with questions or issues.

In December 2018 and January 2019, OPAIR staff analyzed the resulting data by reviewing the following:

- the learning objectives,
- the extent to which at least one learning objective and the course description referred explicitly to integrative thinking,
- the alignment between the objectives and the assignments – in particular, the assignment related to integrative thinking,
- and the degree to which students met the instructors' expectations on the integrative thinking assignment.

The fall 2018 pilot integrative thinking assessment effort did not foster high levels of engagement from instructors (47/141 = 33% response rate), nor information that could be used to compare student performance across courses, but it did provide insight about how to improve the process. In addition, instructors who had participated provided feedback that helped OPAIR staff better understand their experiences and develop additional strategies to enhance the process.

The pilot experience and instructor feedback resulted in several revisions to the process. Key among them were:

- developing a more intentional and timely campaign to notify and educate participants,
- engaging leadership at several levels to encourage buy-in;
- creating guiding materials that describe what instructors would be asked to provide, as well as how the information would be evaluated, *prior to* the semester in order to provide instructors time to make

- changes to courses or syllabi, if they chose to do so;
- reducing the amount of information requested;
- standardizing the student performance data; and
- collecting student perceptions of their exposure to integrative thinking.

These general lessons informed the revised fall 2019 integrative thinking assessment procedure.

Fall 2019 Integrative Thinking Assessment

Beginning in May 2019, OPAIR staff used institutional data to develop a list of instructors slated to teach integrative thinking courses in fall 2019. The list included all instructors teaching courses that were explicitly aligned with the integrative thinking objective based on their re-certification, rather than only those teaching Inter-Domain courses.

OPAIR staff provided the instructor lists to the relevant academic administrators but did not suggest removing any of the instructors on the list because anyone teaching a General Education course is expected to address the objectives selected when the course was re-certified. These instructors were then notified by OPAIR staff about their role in the upcoming assessment. This initial notification email included a link to a short video explaining the purpose of General Education assessment, information they would be asked to provide, a request to administer a survey to students, and the importance of their role in the assessment. OPAIR staff promised to contact them again with additional information prior to the fall semester.

Because the data collected in fall 2018 did not enable aggregation of student performance across courses, OPAIR staff worked closely with the General Education Scholars and instructors teaching courses aligned with integrative thinking to develop a rubric theoretically suitable for any integrative thinking assignment.

In early August 2019, OPAIR emailed academic leaders to remind them of the fall assessment and request that they encourage their instructors to participate. Following that, the Vice Provost for Planning and Assessment and the Vice President and Dean for Undergraduate Education sent an email to the instructors encouraging their participation. About a week later, OPAIR staff emailed instructors a revised instructional document which included the recently-designed rubric, as well as an invitation to one of two webinars developed to provide an explanation of the instructions and allow attendees an opportunity to ask questions. A follow-up email provided an updated instructional video. The instructions included reference to a student survey on integrative thinking, which would be administered following late-drop.

In mid-October, the Integrative Thinking Qualtrics form, along with the instructional document and rubric, was sent out to all 413 instructors on the list. In addition, a Box folder was created to store the materials. Instructors have until January 10, 2020 to submit their information. OPAIR staff will analyze the data and share it, in aggregate form without attribution, with the Committee and the instructors who participated in late spring 2020.

Assessment Surveys

2017 Student Surveys

In spring 2017, OPAIR, with advisement from the Committee, conducted two exploratory student surveys. One targeted upper-level and graduating students and focused primarily on their retrospective perceptions of a range of General Education experiences. The other used institutional data to survey groups of students, each which had been identified as having completed requirements related to one of the General Education domains. Due to challenges in how these surveys were administered and analyzed, data and findings were not fully analyzed or reported, but the experience served as a basis for the 2019 student survey.

2019 Student Survey

The following section outlines the development, administration and key findings from a student survey focusing on students' perceptions of their General Education experiences.

Survey Development

Building on lessons learned during the development and administration of the 2017 General Education student surveys, OPAIR staff worked with the Committee to design and administer a survey that would focus on the objectives outlined in the overall General Education Assessment Plan that could be addressed with a survey of students.

The survey questions were designed to address the following objectives:

1. Students will have sufficient opportunities to enroll in General Education courses when they want to, and in the appropriate sequence.
2. Students will report satisfaction with the breadth of General Education courses and the contribution of those courses to their educational experiences, careers, and everyday lives.
3. Students will report that General Education has a substantial impact on success in their majors.
4. Students will report that General Education has a substantial impact on their thinking, perspectives, interests and/or career goals.

OPAIR staff piloted finalized questions with a group of students employed as part of Penn State's New Student Orientation. Student perspectives and ideas were incorporated into the survey instrument.

The final instrument consisted of 10 Likert-type questions that prompted students to rate 36 aspects of their General Education experiences along several scales. The survey also included three open-ended questions asking students to share their perception of the purpose of General Education, explain the impact of General Education on their educational experiences, and provide suggestions about how to improve General Education.

Survey Administration

To administer the survey, OPAIR staff used institutional data to develop a sample of students who had completed at least seven semesters of coursework (excluding transfer students). This strategy enabled investigation of students who had (presumably) finished or nearly finished their General Education requirements. Furthermore, because these students enrolled prior to the 2018 change in General Education requirements, student responses can be compared with those of students who started in 2018 or later in a subsequent survey. The sample was drawn from all Penn State campuses that serve undergraduate students and was designed to be representative by campus location if the survey received a 10% or greater response rate.

The survey was managed online using the Qualtrics platform. It was open for just over three weeks and reminder emails were sent every 3-4 days. Participants were offered a chance to win one of 30 \$15 amazon.com gift cards, funded by the Office for General Education, as an incentive for completing the survey.

Select Findings

The survey garnered a final response rate of 16.6% and included responses from students at all locations and virtually every academic major. Roughly 60% of the respondents identified as female, and 40% as male. Respondents were White (73%), Hispanic/Latino (7%), Asian (7%), Black/African American (4%), International (4%), Two or more races (3%), and Unknown (2%).

A large majority of respondents expressed satisfaction with the flexibility of General Education requirements, the selection of courses available, and their ability to enroll in General Education courses (see Figure 1). Over 60% of respondents indicated that at least one General Education course addressed the broad goals of General Education, such as helping them understand complex ideas and events in new ways or helping them prepare for their chosen career paths and everyday life (see Figure 2). Sixty percent or more of the respondents somewhat or strongly agreed that General Education classes expanded their perspectives and were a worthwhile part of their education (see Figure 3). About 50% of respondents somewhat or strongly agreed that General Education courses complemented their field of study or enriched their understanding of topics related to their majors (see Figure 4). Finally, over 78% of respondents indicated that how a course fits into their schedule, finishing the General Education requirements, and their interest in the topic are moderately or very important factors in choosing a General Education class (see Figure 5).

Opportunities to enroll in General Education courses

Flexibility in how I could meet my Gen Ed requirements

77% Somewhat Satisfied/Satisfied

23% Dissatisfied/Somewhat Dissatisfied

The selection of Gen Ed classes available

73% Somewhat Satisfied/Satisfied

27% Dissatisfied/Somewhat Dissatisfied

Ability to enroll in Gen Ed classes during the semester(s) wanted

80% Somewhat Satisfied/Satisfied

20% Dissatisfied/Somewhat Dissatisfied

Ability to enroll in Gen Ed classes early on in my academic career

85% Somewhat Satisfied/Satisfied

15% Dissatisfied/Somewhat Dissatisfied

Ability to enroll in Gen Ed classes that fit my schedule

82% Somewhat Satisfied/Satisfied

18% Dissatisfied/Somewhat Dissatisfied

Ability to enroll in Gen Ed classes outside of my major

83% Somewhat Satisfied/Satisfied

17% Dissatisfied/Somewhat Dissatisfied

Ability to enroll in Gen Ed classes recommended/required by my major

86% Somewhat Satisfied/Satisfied

14% Dissatisfied/Somewhat Dissatisfied

General Education's Contributions to Students' Education, Careers and Lives

Helped prepare you for your chosen career path

46% – 1-3 Classes

31% – None

17% – 4-6 Classes

6% – 7 or More Classes

Helped prepare you for everyday life

48% – 1-3 Classes

31% – None

15% – 4-6 Classes

6% – 7 or More Classes

Helped you understand yourself better

48% – 1-3 Classes

29% – None

17% – 4-6 Classes

6% – 7 or More Classes

Helped you grow in non-academic ways

- 50% – 1-3 Classes
- 22% – 4-6 Classes
- 21% – None
- 7% – 7 or More Classes

Stimulated you intellectually

- 51% – 1-3 Classes
- 26% – 4-6 Classes
- 12% – None
- 11% – 7 or More Classes

Helped you understand complex ideas and events in new ways

- 53% – 1-3 Classes
- 23% – 4-6 Classes
- 18% – None
- 7% – 7 or More Classes

Broadened your understanding of national and world events

- 54% – 1-3 Classes
- 16% – None
- 24% – 4-6 Classes
- 6% – 7 or More Classes

Introduced you to topics you have since pursued in extra-curricular experiences, internships, or other out-of-class activities

- 49% – 1-3 Classes
- 36% – None
- 12% – 4-6 Classes
- 3% – 7 or More Classes

Helped you develop new knowledge or skills you will use again

- 59% – 1-3 Classes
- 23% – 4-6 Classes
- 12% – None
- 6% – 7 or More Classes

General Education's Contributions to Students' Education, Careers and Lives

Were as important as classes in my major

- 69% Strongly disagree/Somewhat disagree

31% Somewhat agree/Strongly agree

Expanded my perspective on a range of topics

72% Somewhat agree/Strongly agree

28% Strongly disagree/Somewhat disagree

Are among my most valuable educational experiences

63% Strongly disagree/Somewhat disagree

37% Somewhat agree/Strongly agree

Were a worthwhile part of my PSU education

60% Somewhat agree/Strongly agree

40% Strongly disagree/Somewhat disagree

General Education's Contributions to the Major

Motivated me to learn about topics outside my major

64% Somewhat agree/Strongly agree

36% Strongly disagree/Somewhat disagree

Primarily addressed topics outside of my major

83% Somewhat agree/Strongly agree

17% Strongly disagree/Somewhat disagree

Complemented my major field of study

50% Somewhat agree/Strongly agree

50% Strongly disagree/Somewhat disagree

Enriched my understanding of topics related to my major

51% Strongly disagree/Somewhat disagree

49% Somewhat agree/Strongly agree

Factors Influencing Choice of General Education Classes

Just to finish requirements

53% Very Important

30% Moderately Important

14% Slightly important

3% Not at all important

Rating tools/social media

32% Very Important
28% Moderately Important
23% Slightly important
17% Not at all important

Who is teaching the class

38% Very Important
33% Moderately Important
21% Slightly important
9% Not at all important

Recommendation from professors

35% Moderately Important
32% Slightly important
19% Very Important
14% Not at all important

Recommendation from advisers

38% Moderately Important
30% Slightly important
17% Very Important
14% Not at all important

Recommendation from friends

33% Moderately Important
29% Slightly important
24% Very Important
15% Not at all important

Relevance to my intended career path

30% Moderately Important
26% Very Important
26% Slightly important
18% Not at all important

My interest in the topic

41% Very Important
38% Moderately Important
16% Slightly important
5% Not at all important

How they fit my schedule

60% Very Important

25% Moderately Important

10% Slightly important

5% Not at all important

Student Perspectives on the Purpose and Impact of General Education and Suggestions for Improvement

Through open-ended questions, students shared their perceptions of the purpose of General Education, the impact of General Education, and their ideas for improving General Education by responding to open-ended questions. Their responses were coded for emergent categories and themes. While the questions were distinct, there were common themes across the responses. For example, responses to all questions included comments related to the connection between General Education and a students' major.

The most comment themes related to the purpose of General Education included broadening educational experience, learning outside the major, and developing a well-rounded person or education. Respondents most frequently indicated that General Education had little or no impact. However, students also asserted that General Education provided knowledge and skills, among other benefits. The most common suggestions for improving General Education included increasing course availability, including variety and online offerings, and changing the requirements by modifying, reducing or removing them.

Summary

Survey responses revealed that students were generally satisfied with the flexibility of their General Education requirements and the selection of classes available. In addition, most students were satisfied with their ability to enroll in classes under a variety of circumstances. These results suggest that Penn State is doing a good job ensuring that a sufficient number of General Education courses are offered but has room to improve.

Most students indicated that at least one class addressed the broad goals of General Education, such as helping them prepare for their careers, stimulating them intellectually or broadening their understanding of national and world events. Though the percentages who claimed that at least one class addressed these goals are high (over 70%), one 3-credit course represents only 7% of the General Education requirements. Less than 40% of respondents claimed that at least four classes (26% of the requirements), addressed these broad goals of General Education. Penn State students may benefit if more General Education courses explicitly addressed one or more of the overarching goals.

Over half of the students agreed that General Education courses expanded their perspective and were a worthwhile part of their education. Slightly over one-third agreed that General Education courses were as important as their major classes or among their most valuable educational experiences. Although these might seem like

low percentages, they are positive given that most students come to Penn State to earn a degree in a specific discipline.

The connection between General Education and respondent's majors was confirmed by about 50% of students, who agreed that General Education courses complemented or enriched their majors or complimented their major field of study. A higher percentage (83%) agreed that General Education courses primarily address topics outside their majors. Given that General Education seeks to support the majors while also providing a "well-rounded" education, these findings are satisfying.

When responding to questions about the factors that influence their choice of General Education courses, the largest percentage of respondents consider superficial factors, such as how General Education courses would fit into their schedule and whether the course would help them to finish their requirements, as important. However, almost as many respondents regard interest in the topic as an important factor in choosing their General Education courses, suggesting that they are using General Education for exploration, which is consistent with the goals of the requirements.

The current survey results suggest that the General Education requirements are serving students well, though some improvements may prove beneficial. These results also provide a valuable baseline with which to compare students who enrolled after 2018 and must adhere to the revised requirements. The survey results are available on the General Education page of the OPAIR website.

General Education Assessment Next Steps

The past three years have set the groundwork for further General Education assessment activities. Baseline datasets and student perspectives of General Education will allow for comparisons between the previous General Education requirements and those that became effective in summer 2018. Investigations of student performance related to General Education have provided a model for future assessment of General Education objectives and foundations/ domains, that has the potential to lead to improvement of student learning in General Education.

In early 2020, the integrative thinking data will be analyzed and reported by OPAIR staff. The Committee will turn its attention to assessment of student performance related to additional General Education objectives and foundation/domain criteria, and to additional assessment activities outlined in the timeline.

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