

Abstract

General education is an essential feature of American universities and colleges. While many educators value general education, many students do not. Students view general education requirements as interfering with their major requirements, perpetuating a negative sentiment about a disconnect between general education and academic degree programs. We aim to investigate the validity of this story using empirical data collected from robust assessment practice. We examined the extensive assessment records at a liberal arts university to evaluate overlap between the learning outcomes of the general education program and academic degree programs. Findings suggest that the outcomes-oriented general education program was well integrated — nearly half of the academic degree learning outcomes were linked to a general education outcome. Further research should explore if the sentiment of disconnect stems from a lack of implementation fidelity and how findings regarding general education interrelatedness can contribute to the larger conversations and concerns surrounding higher education.



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Investigation Of The Alignment Of General Education And Academic Degree Program Learning Outcomes

General education became a mainstay in American institutions of higher education in the early 20th century (Crooks, 1979; O'Banion, 2016). Since then, general education has endured waves of reforms, criticisms, and periods of popularity as well as times of disillusionment and fragmentation. Nonetheless, postsecondary institutions continue to feature general education programs and some continue to experiment with emerging ideas and revisions (O'Banion, 2016).

Defining General Education

General education falls under the larger ideal of a liberal education, “a philosophy of education that empowers individuals, liberates the mind from ignorance, and cultivates social responsibility” as defined by the American Association of Colleges and Universities (AAC&U, 2002). As such, general education has been said to serve multiple purposes, from imparting students with broader knowledge for life (Bastedo, 2002) to developing transdisciplinary skills and values that foster success in academic pursuits and beyond (Glynn et al., 2005; Scott, 2014). General education programs strive to empower students to consider diverse cultures, lifestyles, and backgrounds from well-reasoned and informed perspectives (Glynn et al., 2005). Moreover, these programs aim to educate students on how to grow into responsible, caring members of society (Benander et al., 2000; Melville et al., 2013). AAC&U synthesized the broad goals of a liberal education into a practical definition of general education as the “part of a liberal education curriculum shared by all students. It

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The disconnect between educator and student perspectives highlights the need for reform and innovation in general education programs to better serve the needs and expectations of all stakeholders.

provides broad exposure to multiple disciplines and forms the basis for developing important intellectual and civic capacities” (AAC&U, 2002).

To meet their broad goals, universities and colleges can design general education programs in various ways, such as following a more traditional distribution requirement model, adopting a learning outcomes model, or using a hybrid approach. Currently, most general education programs follow the traditional model characterized by requiring students to complete introductory level courses across a range of disciplines from a list of pre-selected options (Bourke et al., 2009). Gump (2007) identified eleven characteristics shared by courses that fit the requirements of general education programs across universities. Several of these characteristics reinforce the introductory nature of general education courses as many are also the initial courses of a major in a discipline. Specifically, these courses are aimed at nonspecialized audiences, assume no background knowledge or skills in the subject area, and thus carry no prerequisites. Moreover, these courses, typically of large class size, emphasize breadth instead of depth and are designed to help students acquire a knowledge base through lectures or practice exercises. Unless integrated in a common core curriculum, such courses carry no inherent expectations for connections with material covered in other courses and tend to stand alone, with learning outcomes that are linked only or primarily to activities carried out as part of the course requirements. Consequently, students can complete these courses at any point in their academic careers, resulting in students considering these courses to be distractions from their interests or academic majors (Gump, 2007).

The traditional model has also been described as a “cafeteria” model and criticized as “a smorgasbord of courses loosely connected to core disciplines from which students must make choices of two or three helpings from a buffet of sometimes a hundred or more offerings” (O’Banion, 2016, p. 332). An alternative, among many suggested general education reform proposals, is adopting a learning outcomes model in which general education programs consist of courses aligned to common program-level learning outcomes. A key feature of this model is the intentional alignment of general education, institutional, and academic program learning outcomes to form a well-integrated liberal education experience (Galle & Galle, 2010). However, an outcomes-based curricular design and distribution model for general education are not mutually exclusive. That is, higher education institutions, particularly larger universities, may design academic program curriculum based on outcomes but rely on a distribution model for their general education program. Regardless of program design, by the time students graduate, they must have satisfied general education requirements by completing courses in writing, mathematics, foreign languages, social science, natural science, and the humanities in addition to their major-related coursework (Stevens, 2001). Although students receive a variety of experiences, educator and student perspectives on the state of general education have not been overwhelmingly positive.

Educator and Student Perspectives

General education programs have been critiqued for being too heavily “supply side” oriented, as in, focused on what the educators consider valuable, rather than attending to the concerns, attitudes, and opinions of the “demand side” or students (Johnston et al, 1991). Many educators value having a general education program (Paulson, 2012) and have a sense of ownership or responsibility for designing and delivering a general education (Beld & Booth, 2010). However, many faculty are also not convinced that the traditional model is effective in achieving general education goals (Paulson, 2012). Mintz (2020) criticizes this dominant form of general education programs for being juvenile and not challenging students as a college program should, thereby influencing student opinion of general education programs as being obsolete.

Indeed, few students find favor in the current state of general education programs and tend to value general education outcomes less than other college experiences (Humphreys & Davenport, 2005). A common theme throughout studies is that students primarily attend university for vocational purposes, meanwhile general education programs are not specifically designed toward a vocation (Abowitz, 2006; Burns, 2020; Astin et al., 1989; Boyer, 1987; Krukowski, 1985; Moffatt, 1989). Some educators are concerned about the increased focus on vocationally oriented education as more higher education institutions are losing a

traditional classification of liberal arts criteria; arguing that “American higher education will be diminished if the number of liberal arts colleges continues to decline” (Baker et al., 2012). Others advocate for the integration of vocational education into higher education, suggesting that general education programming can be complementary to vocationally oriented studies (Abowitz, 2006; Burns, 2020). However, students experience a tension between major requirements and general education requirements — viewing general education requirements as detracting from their major (Humphreys & Davenport, 2005).

Students feel that their general education program was completely disconnected from their major program, which students tend to view as more related to their vocational goals (Humphreys & Davenport, 2005). They report that general education courses taught them nothing that they had not already learned in high school (Peruski, 2005). As a result, more students are opting to take courses to meet general education requirements in the summer or at a community college to save time and money (Thompson et al., 2015). Increasingly, others are completing general education requirements as quickly and cost-efficiently as possible through Advanced Placement (AP) and dual-credit courses available during their secondary education (Felder, 2018). Essentially, students view general education requirements as a waste of time, money, and energy that interferes with their major- or career-oriented goals; students would not take general education courses if they were not required (Humphreys & Davenport, 2005; Mintz, 2020; Peruski, 2005; Thompson et al., 2015). A recent report on graduates between 2007 and 2018 prepared for the State Council of Higher Education for Virginia, found that, at least a quarter of two- and four-year undergraduate students across Virginia were “not at all appreciative” or only “slightly appreciative” of their general education experience, primarily citing four reasons — corroborating what has been commonly found in the literature: (1) not receiving meaningful value, knowledge, or skills from general education courses; (2) not being relevant to vocational goals nor useful for their career; (3) taking time away or detracting from major, concentration, or field of study; and (4) not being worth the cost or time (Survey and Evaluation Research Laboratory, 2021). However, students holding these perspectives may not be well informed.

The same students that hold negative views of general education and prefer general education courses that align with their major are also fairly unfamiliar with the purposes and requirements of their general education program (Thompson et al., 2015). Only a small portion of students report ever receiving a clear explanation of the purpose of general education from an instructor or an advisor (Thompson et al., 2015). Students report simply selecting general education courses that fit their schedule in a preferable manner (Peruski, 2005). Fortunately, faculty are picking up on student perceptions of a disconnect between academic programs and general education programming. Accordingly, most faculty seek to foster the integration of general education programming with departmental majors and make this connection more evident for students (Paulson, 2012).

While the rhetoric about a disconnect between general education and academic programs has become pervasive, there is a lack of formal inquiries into its basis. Perhaps students are operating under a misconception that general education requirements are just a checklist to get through with no connection to their major. Some researchers have looked at student outcome results regarding their perception of the relevance of their general education coursework (Walters, 2018), and other studies have examined student performance on learning outcomes with measures of interest, such as student engagement (Carini et al., 2006). In a different approach, as Johnston et al. (1991) proposed for research, in this study we examine the learning outcomes of the general education program at a liberal arts university and cross-examine them with the learning outcomes and related assessment data of all undergraduate programs. Our methodology is more aligned to the research conducted by Thomas et al. (2019) where researchers used qualitative coding. However, whereas Thomas et al. (2019) created inductive codes from student open-ended response, we treated the general education learning outcomes as our predetermined set of codes and holistically evaluated each academic learning outcome to determine if it matched the criteria to fit a general education outcome. Evaluating qualitative data according to a priori codes is a common methodology in qualitative research called deductive coding (Saldana, 2021).

It is increasingly common for students to view general education requirements as a waste of time, money, and energy that interferes with their major-or career-oriented goals.

Assessment data is more than just scores from tests—it includes all information and rationale employed in the assessment process.

Although assessment data commonly refers to scores from cognitive and noncognitive instruments, we define assessment data to include information at all stages of the assessment cycle. This includes the stated learning outcomes, their links to planned programming and the assessment instruments, as well as implementation fidelity data. In this sense, assessment data consists of all the information and rationale employed in the assessment process, not just assessment results, because assessment professionals and program stakeholders rely on this information to contextualize result interpretation and better inform their assessment related decision-making (Smith et al., 2017; 2019).

Recognizing that information at all stages of the assessment process is data addresses a major problem in educational assessment. Namely, widespread outcomes assessment is being conducted on campuses — often only to document student learning for accreditation — without using the assessment results to make a meaningful change to program outcomes (Banta & Blaich, 2011). Researchers and practitioners have responded to this gap in the assessment literature by providing models for using assessment data to evidence improvement in student learning at the program level (Fulcher, Good, et al., 2014; Fulcher, Smith, et al., 2017). Our work also addresses the gap in use of assessment results by demonstrating how rigorous assessment practice can be leveraged into research to answer relevant questions and form more accurate, empirical claims. Specifically, in this study we innovatively address the perceptions of a general education program using extensive assessment data that was already available at our institution.

The purpose of our study is to address one of the key cited reasons for disgruntlement with contemporary general education programs: the claim that they are disconnected and unrelated to students' major(s). To do this, we investigate assessment data to evaluate the degree to which general education and academic program learning outcomes are related. Using standardized program assessment records, we aim to collect evidence of whether there exists a connection between general education and academic programs.

Methods

We investigated a general education program at a large, mid-Atlantic, public university – hereafter referred to as the University. The University's general education program is not a traditional distribution requirement model. Rather, the University has invested significant resources in building a learning outcomes backbone to support the general education program. General education courses are built around domains with common learning outcomes where the curriculum is flexible, but the students are expected to attain the common learning outcomes. Specifically, the general education curriculum is built to align with five sets of related domains totaling 61 student learning outcomes. Although each course in the general education program is aligned to common domain outcomes, these courses are offered in multiple departments. For example, common critical thinking outcomes are found on the syllabi of history, business, and philosophy department courses, among others. Even within courses of the same title, students will have unique experiences as faculty are given flexibility to design the courses themselves, as long as they align with the general education outcomes. This structure provides students with multiple opportunities to achieve the same outcomes. Consequently, students are able to curate their education to their own interest or find new interests, which is favorable, as general education courses typically comprise one-third of students' total coursework. While many general education programs follow a traditional distribution requirement model, the current study investigates the degree of outcome interrelatedness in the local general education program based on a learning outcomes model. We do not pose a hypothesis comparing the models because data was not collected on both types of general education programs.

Our investigation focused on the alignment between the general education outcomes and the learning outcomes of the University's academic programs. Due to the University's investment in an outcomes assessment framework and to meet accreditation requirements, all programs submit similarly structured yearly program-level assessment reports to the assessment center on campus. These organized assessment reports encompass each academic program's assessment data: (1) a specification of student learning outcomes, (2) outcome alignment to curricular design, (3) the instruments used for assessment, (4) documenting

assessment methodology, (5) an analysis of results, and (6) how the program uses empirical results for program-related decisions to improve student learning. Each of these components are developed by faculty to benefit student learning. For the general education program, outcomes must go through a rigorous development and approval process by faculty representing multiple disciplines with stakes in the program. Assessment instruments are selected, modified, and/or developed by combining the expertise of general education faculty and assessment professionals at the University. Program outcomes, assessment instruments, and mapped programming are developed and reviewed by faculty within each academic program with consultation, if requested, from professionals in the on-campus assessment center. Assessment coordinators explicitly describe and show evidence of these processes in the annual assessment reports. With the goal of improving assessment practice, the assessment reports from undergraduate and graduate programs are reviewed by trained assessment professionals and faculty during a summer lockdown session.

To investigate the alignment of program-level outcomes with general education learning outcomes, two members of the research team independently reviewed all assessment reports, identifying program-level outcomes of academic programs (hereafter referred to as program outcomes) that matched general education learning outcomes. Evaluators treated the general education outcomes as predetermined coding categories using a deductive coding methodology. Then evaluators judged whether the general education outcomes overlapped or scaffolded up to the program outcomes in terms of content knowledge, skills, or abilities. Although this may seem straight forward, the specificity or generality of learning outcomes caused ambiguity. Consequently, evaluators investigated the assessment instruments used to assess each program outcome in addition to the mapped curriculum. Researchers referenced descriptive information about the instruments provided in the annual assessment reports, specifically the rationale linking instruments to learning outcomes, which helped develop a deeper understanding of the operationalization of the outcomes for each evaluator to independently determine alignment.

Through an adjudication process across the two independent evaluators, we identified two sets of learning outcomes: (a) those in which there was agreement in alignment and (b) those in which there was disagreement in alignment. Agreement meant that both researchers coded the program outcome with the same general education outcome, having agreed that the program outcomes and general education outcomes were similar in terms of skills or content. Disagreement meant that only one evaluator provided a general education outcome code for a program outcome. Even with agreement, evaluators still compared rationales for alignment or lack of alignment. It became evident that in nearly all instances where evaluators agreed, it was because the learning outcome text, along with instrument and content coverage, provided sufficient detail for judgment. For cases in which evaluators disagreed, they relied on subjective judgements as to whether there was alignment because of limited information in the assessment reports. After discussion, if disagreement persisted, a third researcher independently evaluated to adjudicate. Fortunately, this situation was quite rare. Interrater reliability was bolstered by the adjudication process between the two independent evaluators and the input of the third researcher for special cases of disagreement such that all outcome alignment was based on the judgement of at least two evaluators.

To elucidate the judgement of the evaluators, we provide two examples: first, an example where alignment between outcomes was evident by evaluating the outcome statements alone; second, an example where alignment was determined after examining supplemental information in the assessment reports to determine the appropriate general education outcome code. As evaluators read program outcomes, they considered the content and skills students would need to know, think, or do to fulfill outcome requirements. Then evaluators holistically evaluated whether the content and/or skill(s) of the program outcome overlapped with the content and/or skill(s) specified by any of the general education outcomes, the a priori coding categories. For example, a Computer Science outcome states that students will be able to “express themselves clearly on technical matters both orally and in writing; communicate effectively with individuals who have a technical background and with individuals who do not.” Evaluators would match this outcome to a general education outcome from the Human Communication domain: “construct messages consistent with

Assessment reports provide evidence-based insights for improving student learning.

the diversity of communication purpose, audience, context, and ethics” because alignment between skills is clear from the outcome text; specifically, both outcomes delineate elements of rhetorical awareness as a key skill for effective communication. In most cases, evaluators agreed between outcome alignment following this independent reasoning process.

In other cases, the degree of alignment was not evident from the outcome text alone. For example, the Dietetics program features a learning outcome stating that “upon completion of the program, graduates are able to apply critical thinking skills.” While critical thinking skills should align to the critical thinking general education domain, evaluators were not able to determine which code is appropriate without examining additional assessment data, such as how the Dietetics program assesses critical thinking skills. Referring to their annual report, the evaluators found that the Dietetics program used a course embedded assessment as part of a capstone project where students were required to find, analyze, and use information as the basis for evidence-informed practices. Specifically, the critical thinking skills outcome was evaluated on students’ ability to apply research to practice with coherent and valid rationale and evidence. To that end, evaluators determined that students must be able to evaluate research *claims and sources* for *relevance* to their practice, as well as *credibility* and *accuracy* for their practice recommendations, which aligns to the general education outcome code from the Critical Thinking domain: “evaluate claims and sources for clarity, credibility, reliability, accuracy and relevance.” These examples illustrate the two-step judgement strategy the evaluators used. First, evaluators holistically evaluated whether students would engage in overlapping or scaffolded skills to accomplish outcome statements as written. If the outcomes did not provide sufficient information to determine the degree of alignment, then evaluators referred to data in annual assessment reports to supplement their judgement. Results based on this evaluation strategy are presented next.

Results show that writing and presentation skills are common targets of program outcomes, and Human Communication, Writing, Quantitative Reasoning, and Information Literacy are the most linked general education domains.

Results

In the review year, the 2018-2019 academic year, 51 undergraduate academic degree programs with 633 learning outcomes submitted assessment reports. It is the case that in some years, academic programs are given exemptions to have more time to focus on long-term assessment projects, such as learning improvement. Each program, on average, had 12 learning outcomes with a standard deviation of 11. No academic degree program had less than one learning outcome and the maximum was one program with 64 learning outcomes. Within the submitted reports, 293 (46%) program-level outcomes were found to be related to general education learning outcomes.

The number of academic programs with linked outcomes to general education outcomes are shown in Table 1. The Human Communication (30) and Writing (22) general education domains linked to the greatest number of academic programs, while Wellness (2) linked to the least. Program outcomes targeting writing and presentation skills accounted for most of these mappings. Even for general education domains with few links to academic programs, within the linked programs there was still a considerable amount of alignment between outcomes. For example, the American Experience as well as the Visual and Performing Arts domains each only linked to four academic programs, but American Experience was aligned with 20 program outcomes and the Visual and Performing Arts domain was aligned with 12 program outcomes.

The four general education domains with the highest number of academic programs linked were Human Communication, Writing, Quantitative Reasoning, and Information Literacy. The Human Communication domain was comprised of four learning outcomes; each aligned with multiple program outcomes. Figure 1 displays the thirty academic degree programs with outcomes that mapped to the four Human Communication outcomes. These programs were quite variable in their disciplines. For example, Hospitality and Tourism Management had six (out of 18) outcomes aligned with Human Communication, while Integrated Science and Technology had four (out of 64) of their program outcomes aligned to the Human Communication domain. The “message construction” outcome accounted for the most links.

Table 1
Distribution of academic degree programs with linked outcomes by general education domain

General Education Domain	Number of Academic Programs with Linked Outcomes (% out of all 51 potential programs)	Number of Linked Outcomes across Academic Programs
American Experience	4 (7.8)	20
Critical Thinking	9 (17.6)	14
Global Experience	9 (17.6)	22
Human Communication	30 (58.8)	57
Human Questions and Context	7 (13.7)	10
Information Literacy	16 (31.4)	26
Lab Experience	3 (5.9)	3
Literature	2 (3.9)	4
Natural Principles	6 (11.8)	15
Physical Principles	9 (17.6)	17
Quantitative Reasoning	20 (39.2)	40
Sociocultural Domain	7 (13.7)	8
Visual and Performing Arts	4 (7.8)	12
Wellness	2 (3.9)	3
Writing	22 (43.1)	42
Total	150	293

Courses in the general education Writing domain were developed for students to achieve five learning outcomes. Figure 2 displays the twenty-two academic degree programs with outcomes that mapped to the five Writing outcomes. Although twenty-two academic programs had aligned outcomes, the “writing in multiple environments” general education outcome was not linked to any program outcomes. Unsurprisingly, the English program had seven (out of nine) outcomes linked to Writing and the Writing, Rhetoric and Technical Communication program had six (out of six) of their program outcomes linked to this domain. The “rhetorical awareness” and “writing process” general education outcomes accounted for the most links.

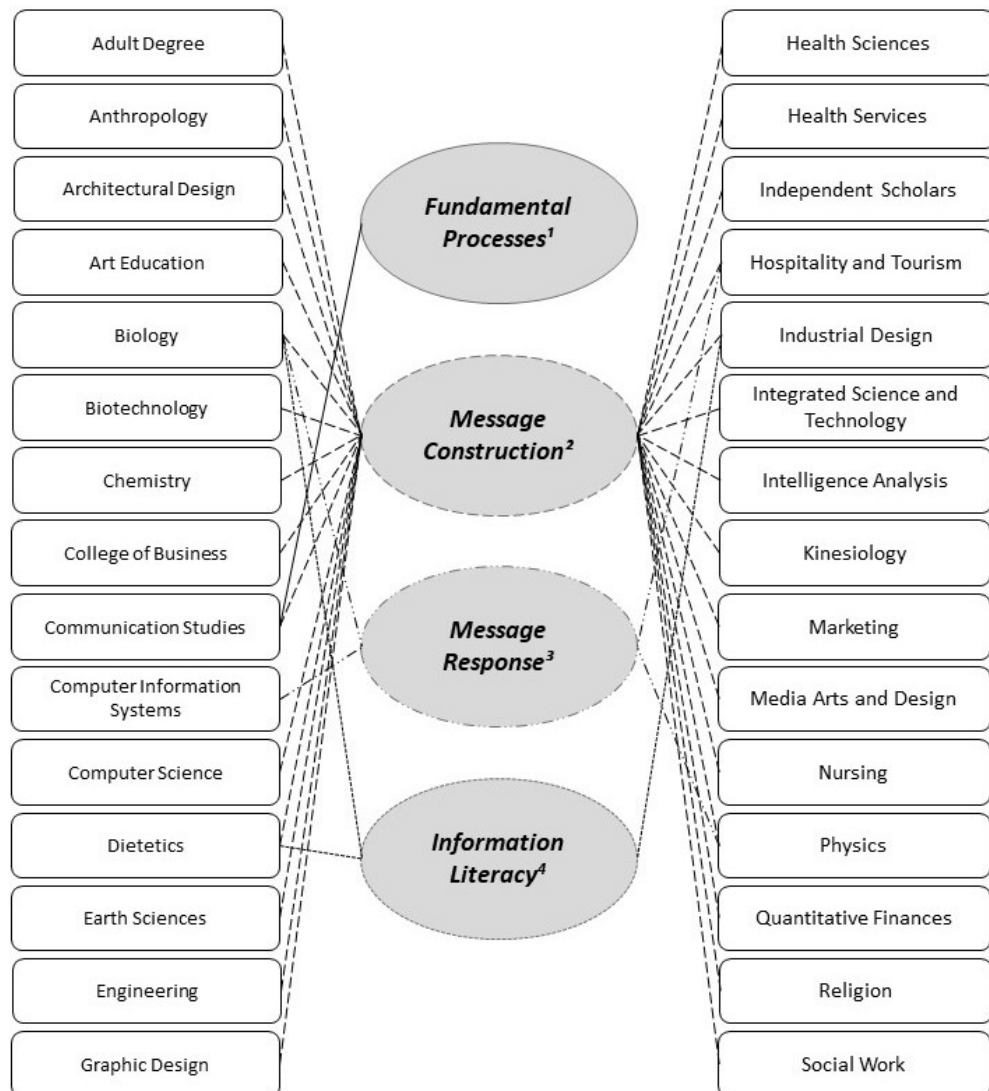
The Quantitative Reasoning general education domain consisted of three learning outcomes, each aligned with numerous program outcomes. Figure 3 displays the twenty academic programs with outcomes that mapped to the three Quantitative Reasoning outcomes. The Integrated Science and Technology program had five (out of 64) outcomes linked to Quantitative Reasoning whereas several academic programs had three of their program outcomes aligned, including Anthropology (out of 24), Biology (out of 23), Engineering (out of 40), International Affairs (out of 15), and Political Science (out of 17). The “methods of inquiry” general education outcome accounted for the most links.

Programming in the Information Literacy general education domain was designed to cover six learning outcomes. Figure 4 displays the sixteen academic degree programs with outcomes mapped to the six information literacy outcomes. Each learning outcome in the Information Literacy domain was linked to at least one of sixteen academic programs. Both the Engineering (out of 40) and the Media Arts and Designs (out of 12) programs had three outcomes linked to Information Literacy. The “persistence” and “information quality” general education outcomes accounted for the most links to program outcomes.

Writing, Quantitative Reasoning, and Information Literacy general education domains show strong alignment with program outcomes across academic degree programs.

Figure 1

Academic programs (in rectangles) with outcomes mapped to the Human Communication domain outcomes (in ovals)



¹ Explain the fundamental processes that significantly influence communication.

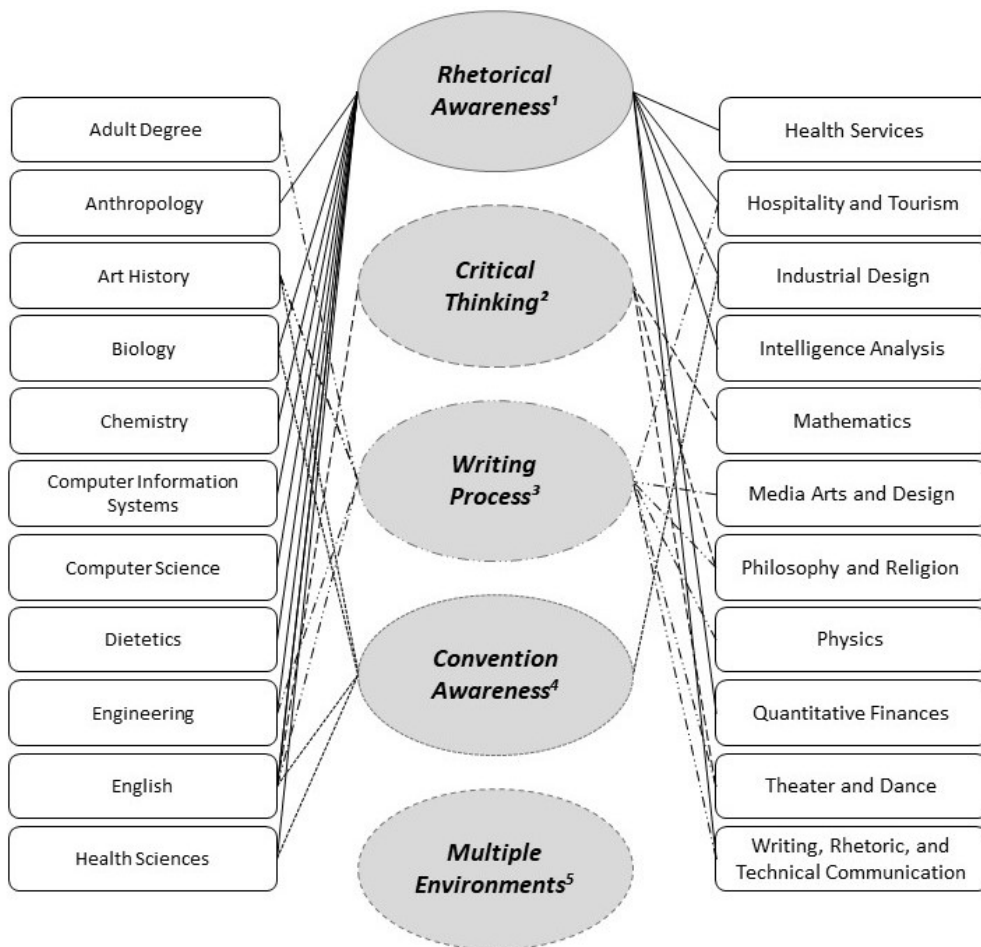
² Construct messages consistent with the diversity of communication purpose, audience, context, and ethics.

³ Respond to messages consistent with the diversity of communication purpose, audience, context, and ethics.

⁴ Utilize information literacy skills expected of ethical communicators.

Figure 2

Academic programs (in rectangles) with outcomes mapped to the Writing domain outcomes (in ovals)



¹ Demonstrate an awareness of rhetorical knowledge, which may include the ability to analyze and act on understandings of audiences, purposes and contexts in creating and comprehending texts.

² Employ critical thinking, which includes the ability through reading, research and writing, to analyze a situation or text and make thoughtful decisions based on that analysis.

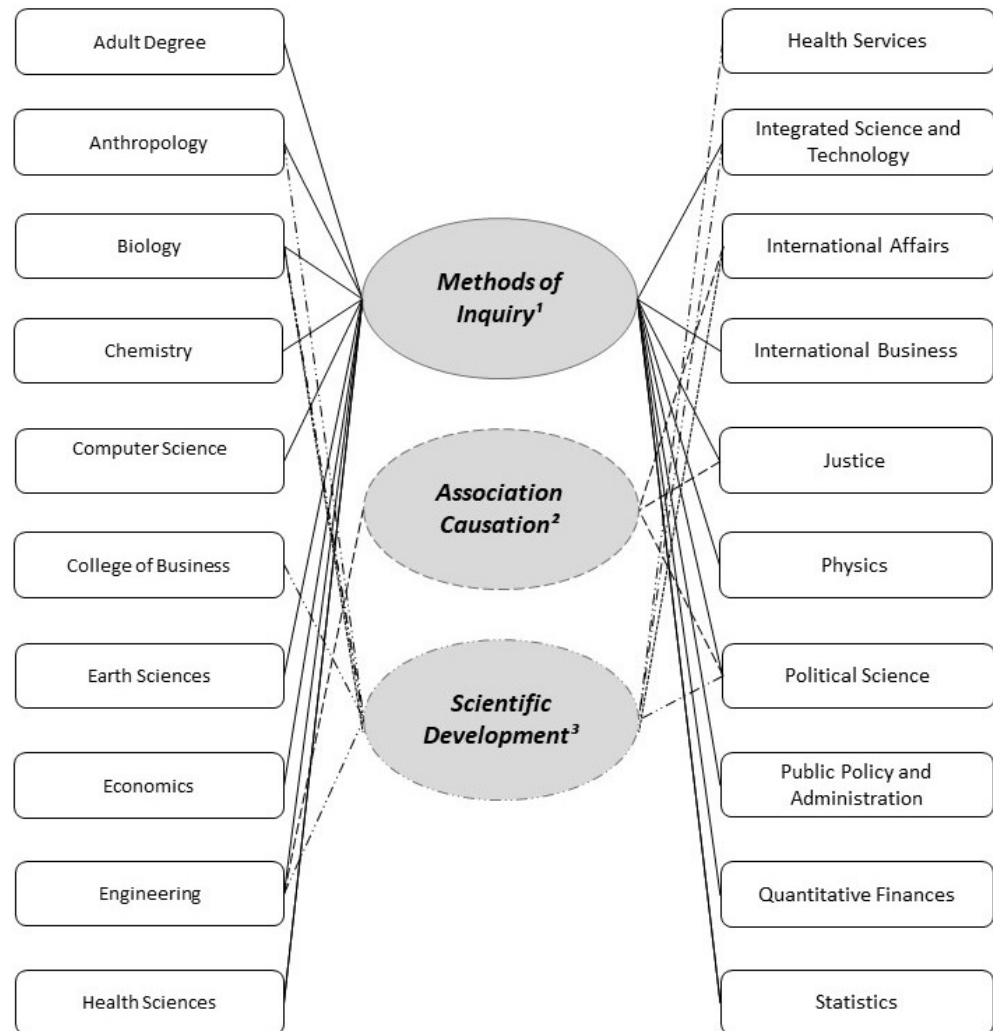
³ Employ writing processes.

⁴ Demonstrate an awareness of conventions, the formal and informal guidelines that define what is considered to be correct and appropriate in a variety of texts.

⁵ Compose in multiple environments using traditional and digital communication tools.

Figure 3

Academic degree programs (in rectangles) with outcomes mapped to the Quantitative Reasoning domain outcomes (in ovals)



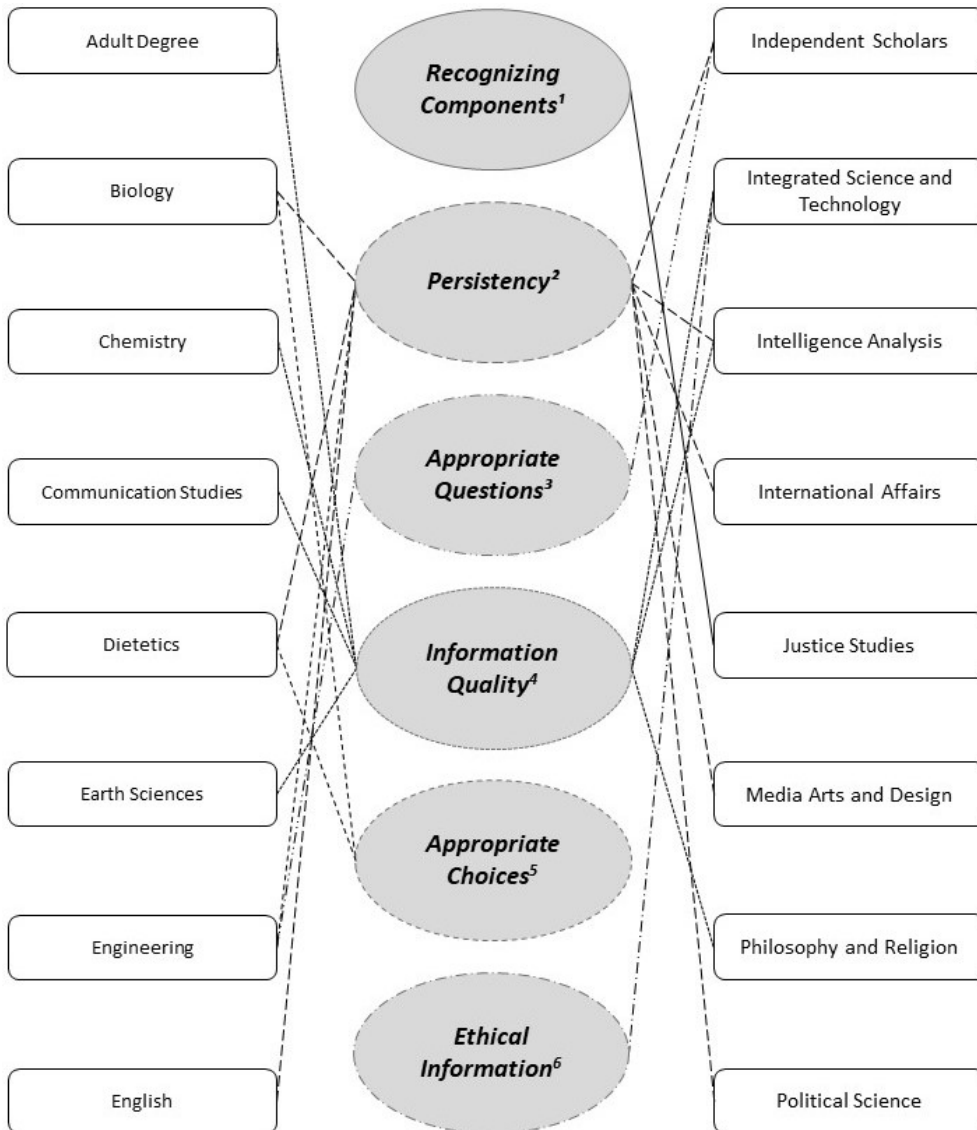
¹ Describe the methods of inquiry that lead to mathematical truth and scientific knowledge and be able to distinguish science from pseudoscience.

² Discriminate between association and causation, and identify the types of evidence used to establish causation.

³ Evaluate the credibility, use and misuse of scientific and mathematical information in scientific developments and public-policy issues.

Figure 4

Academic degree programs (in rectangles) with outcomes mapped to the Information Literacy domain outcomes (in ovals)



¹ Recognize the components of scholarly work and that scholarship can take many forms.

² Demonstrate persistence and employ multiple strategies in research and discovery processes.

³ Identify gaps in their own knowledge and formulate appropriate questions for investigations in academic settings.

⁴ Evaluate the quality of information and acknowledge expertise.

⁵ Use information effectively in their own work and make contextually appropriate choices for sharing their scholarship.

⁶ Use information ethically and legally.

The remaining general education domains had fewer outcomes aligned to academic program outcomes. Table 2 presents academic program information for the remaining general education domains that had at least 10 links. The number of outcomes a general education domain had did not relate to the number of links aligned to academic program outcomes, $r(13) = .15, p = .59$. However, academic programs with many outcomes were linked with more general education outcomes than programs with fewer outcomes, $r(49) = .61, p < .01$. Moreover, the academic programs with the most linked outcomes varied by general education domain.

Our findings provide evidence that general education programs have connections to academic degree programs...the knowledge, skill, and abilities taught in the general education program align to the knowledge, skill, and abilities students develop in their academic programs.

Table 2

Academic program information for the general education domains that had at least 10 links

General Education Domain (number of learning outcomes)	Total Links	Academic programs with most linked outcomes	Number of Linked Outcomes within Academic Program (Number of total outcomes)	General Education Outcome(s) accounting for the most links
Global Experience (5)	22	International Affairs	6 (15)	Global Systems
		Political Science	4 (17)	
American Experience (6)	20	Political Science	9 (17)	Democratic Institutions
		Public Policy and Administration	8 (21)	
Physical Principles (2)	17	Biology	5 (23)	Formulate Hypothesis
		Engineering	3 (40)	
		Physics	3 (14)	
Natural Principles (2)	15	Biology	6 (23)	Numerical Methods
		Physics	3 (14)	Theories Models
Critical Thinking (4)	14	Biology	3 (23)	Argument Evaluation
		Dietetics	3 (9)	Argument Components
Visual and Performing Arts (6)	12	Art History	4 (6)	Disciplinary Literacy
		Theater and Dance	4 (28)	Art and Works
		Studio Art	3 (5)	
Human Questions and Context (5)	10	Philosophy and Religion	3 (8)	Appropriate Concepts
		Integrated Science and Technology	2 (64)	Understanding Context

Discussion

General education programs are a staple of higher education institutions in America (Crooks, 1979; O'Banion, 2016). However, these general education programs have come under considerable criticism from students and some educators. Many students question the utility of these programs and consider them an interference to their academic degree pursuit or a drain of time and resources (Humphreys & Davenport, 2005; Mintz, 2020; Peruski, 2005; Survey and Evaluation Research Laboratory, 2021; Thompson et al., 2015). Many educators tend to see the value in a core liberal education experience for all students and become invested in providing a general education program — some recognize that there is room for improvement; others see a disconnect between academic degree programs and their local general education program (Beld & Booth, 2010; Paulson, 2012). Yet many of these sentiments are based on anecdotal evidence and self-reports. The present investigation of program-level student learning outcomes provides empirical clarity to this dilemma.

Our findings provide evidence that general education programs have connections to academic degree programs. Nearly every learning outcome of the general education program at the University aligned with at least one learning outcome of an academic degree program,

many of which had several linked learning outcomes. There also existed general education outcomes in which we were unable to conclude direct alignment, but that were still likely related to program outcomes. For example, consider the general education Writing outcome “writing in multiple environments.” Although we found zero links with academic program learning outcomes, achievement of this outcome by students is likely necessary for success in multiple academic programs, each requiring writing in their own unique environment.

Overall, results showed considerable overlap between general education and academic program learning outcomes, suggesting that the knowledge, skill, and abilities taught in the general education program align to the knowledge, skill, and abilities students develop in their academic programs. General education programs aim to set students up for success in a variety of academic degree programs (Glynn et al., 2005; Scott, 2014). Our results show that the academic outcomes linked tended to vary by general education domain. In other words, the domains of the general education program aligned differently to a variety of academic degree programs. For instance, the academic outcomes linked to the Global Experience domain were from different degree programs than the outcomes linked to the Physical Principles domain or the Visual and Performing Arts domain. Nonetheless, the learning outcomes of four general education domains each linked to at least a third of the academic programs. These domains focus on the higher order skills students need to be successful in most, if not all, academic degree programs: Human Communication, Writing, Quantitative Reasoning, and Information Literacy. In these outcomes, we can see a scaffolding of skills from general education into students’ major, reflecting important learning steps that all students are intended to experience and develop from. Skills targeted in these learning outcomes are critical to multiple disciplines across higher education. These findings oppose the reported perception students have that general education programs are unrelated to academic degree programs and interfere with major requirements (Humphreys & Davenport, 2005). However, our results do not provide evidence for inferences about students’ actual experience in the learning environments that may lead to a perception of disconnect nor do our results address the feeling of redundancy, specifically that students report having learned general education outcomes in high school (Peruski, 2005). Thus, a well-integrated and well-planned general education program may still not alleviate the negative sentiments associated with the sense of redundancy.

In addition to results on assessment instruments, assessment data consists of the stated learning outcomes, mapped curriculum, instruments used, and implementation fidelity, the last of which was not considered in this study. Implementation fidelity refers to the extent to which learning experiences were delivered as designed (Gerstner & Finney, 2013; Smith et al., 2017; 2019). In other words, implementation fidelity data would allow us to consider the student experience in the classroom. Although we evidence that the academic degree programs and general education program may be well integrated by design, students’ perceptions are informed by their lived experiences, and are a reflection of whether the related programming is implemented as planned. No matter how much alignment we see on paper, a lack of adherence to the programming as designed will influence the sentiment of disconnect experienced by students. In the present study we investigated the planned programming rather than the programming students actually received, due to limited available implementation fidelity data; thus, we were not able to assess how well the intended curriculum was adhered to.

Misconceptions about the interrelatedness of academic programs and general education may also be confounded by a messaging problem. Paulson (2012) suggests that educators are attempting to make the connection between general education and academic programs more evident; however, they lack the empirical data demonstrating this connection. By examining outcomes-based assessment records, we were equipped with the necessary documentation to provide evidence of a connection, which can be used to strengthen the messaging efforts of educators. Having a rigorous and thorough assessment practice in an outcomes-based framework adopted throughout the University was integral for producing this evidence.

In addition to directly and clearly educating incoming students on the purposes and requirements of their general education program, as well as the philosophy behind a well-round liberal education, educators should consider how their assessment practice can strengthen this messaging effort by providing empirical evidence of the connection between general education and academic programs. Clarifying the misconceptions early on can prevent students from

Our results show that the academic outcomes linked tended to vary by general education domain. In other words, the domains of the general education program aligned differently to a variety of academic degree programs.

developing them throughout their educational career and letting this misconception take root. Moreover, faculty may consider integrating general education programming into academic program curriculum, explicitly linking the skills students are using in the academic degree program to the skills the general education program develops; thus, making this connection more evident for students. wFinally, while the study presented a story from the general education perspective, it may be worthwhile to see how an academic degree program maps to the existing general education programming to provide suggestions and recommendations on how to fill gaps in the general education program or how to reframe general education content to better fit and better scaffold toward academic degree programs.

Conclusion

By leveraging valuable assessment data, our study has taken a significant empirical step toward clarifying the connection between a general education and academic programs. Moreover, assessment data can be used to specifically form partnerships across general education academic program stakeholders, including instructors, advisors, department chairs, and admissions staff. As seen in the learning improvement literature, collaboration within and across disciplines is a key component for making meaningful change in higher education institutions (Fulcher, Good, et al., 2014; Fulcher, Smith, et al., 2017). Using assessment data to show the connection between program outcomes can warrant the basis for faculty partnerships and foster collaboration.

The effort to explicate the connection between general education and academic degree program learning outcomes can be addressed by higher education professionals at various levels and in various roles across higher education. Stakeholders can reference our results to strengthen their messaging regarding the alignment of general education with academic degree programs to represent higher education as an integrated learning experience, rather than separate tracks.

Assessment professionals can use our methodology and results to describe and visualize the alignment among academic program outcomes and general education outcomes. Furthermore, the outcome mapping could be useful for pulling together outcome-based accreditation reports. The outcome mapping can be used to organize reports by outcome alignment or through inclusion of information and visuals that demonstrate outcome integration across programs. Instructors will also benefit from using our methodology and findings to determine alignment between their academic program or course outcomes and general education outcomes, which can inform how they plan and execute learning activities to foster a more integrated education for students.

Collaboration across positions to facilitate educational connectedness is an important pursuit to reduce the perceived tension between students' career-oriented goals and general education roles (Humphreys & Davenport, 2005; Survey and Evaluation Research Laboratory, 2021; Thompson et al., 2015). Student critique of general education experience builds toward a greater discontent with contemporary conditions of higher education, particularly the devaluation of a liberal arts education (Gerber, 2012; Siegel, 2013), the rising cost of a post-secondary education (Hill & Pisacreta, 2019; Schneider & Seligman, 2018), and the challenges of securing a comparable position in the workforce (NCES, 2021; Richard et al., 2013). Irrespective of the accuracy or extent to which these arguments are well founded, and the efforts made for counter-persuasion (AAC&U, 2002; Abel & Deitz, 2014), the negative narratives building against higher education are mounting. It is our hope that continuing the research on the interrelatedness of general education with academic programming at large, drawing on the strength provided through rigorous and extensive assessment practice, will help bring a positive focus that can aid in turning the tide of the conversation around higher education.

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