BUILDING UNIVERSITY-INDUSTRY LEARNING AND DEVELOPMENT THROUGH INNOVATION AND TECHNOLOGY ACTIVITY IN VIETNAM | ARIZONA STATE UNIVERSITY, 2023

GUIDANCE NOTE

MEASURING LEARNING OUTCOMES IN USAID HIGHER EDUCATION PROGRAMMING

CONTENTS

LIST OF EXHIBITS

ACKNOWLEDGMENTS

BRIEF DESCRIPTION

This guidance note supports USAID higher education programming to measure learning outcomes. Framed by the 2018 USAID Education Policy[i] and the USAID Higher Education Program Framework,[ii] it clarifies the value and nature of Higher Education Learning Outcomes (HELOs), presents a decision strategy for identifying measurement solutions, describes the broad workflows for HELO measurement, and considers five common use cases.

ACRONYMS AND ABBREVIATIONS

CA	Chartered Accountant
CPA	Certified Public Accountant
DEEP	Data and Evidence in Education Program
ETER	European Tertiary Education Register
FE	Fundamentals of Engineering Exam
GPA	Grade point average
HE	Higher education
HEI	Higher education institution
HELO	Higher education learning outcome
HESSA	Higher Education System Strengthening Activity
IP	Implementing partner
NILOA	National Institutes for Learning Outcomes and Assessment
USAID	United States Agency for International Development

INTRODUCTION

OVERVIEW

The USAID Higher Education Program Framework articulates that higher education "is a central actor in driving and sustaining local development. Higher education has the potential to advance development because of its broad reach across sectors, communities, and intersecting systems."[iii]

> ### HIGHER EDUCATION (HE)
>
> According to the 2018 USAID Education Policy, "the OECD [Organization for Economic Cooperation and Development] and the World Bank have adopted 'tertiary education' to emphasize the inclusion of a range of both university and non-university institutions (teacher training colleges, community colleges, technical institutes, polytechnics, distance learning programs, and academically linked research centers) within a diversified postsecondary education system. Higher education does not include youth workforce development activities at the pre-tertiary level."

The 2018 USAID Education Policy emphasizes that producing high-quality graduate outcomes is of fundamental importance to higher education.[iv] The policy specifically highlights the importance of concentrating investments on measurably and sustainably improving education and learning outcomes across the education continuum.

While the USAID Center for Education has dedicated significant resources to developing and perfecting measurement approaches, tools, indicators, and guidance to assess learning outcomes in basic education, it has yet to develop such resources or to recommend any standard indicators for learning outcomes at the higher education level. There is an overlap between measuring basic and higher education learning outcomes; however, at the higher education level, the specifics of disciplinary knowledge become increasingly complex, nuanced, and contested; change with technology and context; and often require more complicated academic work. Measurement practices can also change and become more complicated in post-secondary settings.

It is difficult to assume a single approach to measuring higher education learning outcomes (HELOs), because higher education qualifications, institutions, and disciplines are diverse; knowledge bases, skills, and competencies differ by fields of study; and types of institutions or degree levels may not be comparable. Nonetheless, an array of relevant tools and resources can be adapted to different contexts and activities. To this end, rather than prescribing a standardized approach, this guidance note illustrates issues stakeholders should consider when selecting from available assessment techniques, tools, measures, instruments, or metrics (hereafter "solutions"). While much of what is discussed may be transferable to non-university institutions and graduate-level (master and doctoral) programs, this guidance note mainly focuses on HELOs for undergraduate-level education (typically bachelor's) students.

> ### HIGHER EDUCATION INSTITUTION (HEI)
>
> The 2018 USAID Education Policy defines an HEI as "an organization that provides educational opportunities that build on secondary education, providing learning activities in specialized fields. It aims at learning at a high level of complexity and specialization. Higher/tertiary education includes what is commonly understood as academic education but also includes advanced vocational or professional education. This may include public or private universities, colleges, community colleges, academically affiliated research institutes, and training institutes, including teacher training institutes."

RATIONALE

Global efforts to determine which skills and abilities are relevant across diverse cultures, languages, fields of study, and types of higher education institutions (HEIs) seek to understand what students know and can do at the end of their programs of study, and the extent to which their proficiencies improved during higher education. This type of information can be useful for designing effective programs and identifying which institutional-level investments may lead to improved outcomes.

In line with these global efforts and in support of the USAID Education Policy, the Center for Education aims for higher education programming to support improvements in student learning outcomes as a result of support to HEIs. Measuring HELOs undergirds this objective.

The following sections define higher education learning outcomes and articulate a four-phase process to decide which learning outcomes to target and potential solutions. Annex A gives life to these ideas by unpacking five common scenarios. Annex B distills key considerations into a HELO Planning tool.

WHAT IS A HELO?

DEFINITION

Higher education learning outcomes (HELOs) are learning outcomes that result from learners engaging with specific or general opportunities related to knowledge, skills, or attitudes. Unlike USAID's current higher education indicators, HELO indicators do not have direct, observable links to HELOs. Instead, HELO indicators are unobservable constructs that require assessments to measure. For example, a current higher education indicator could measure an observable output like the number of learners reached by USG-assisted higher education interventions (ES.2-55). On the other hand, a HELO indicator could measure something unobservable that needs to be assessed, such as the number of learners with improved critical thinking skills.

FOCUSES AND TYPES

HELOs differ by their **substantive focus** and their **competence type**. The **focus** of the HELOs is either (a) generic or transdisciplinary, or (b) disciplinary, field-, or context-specific. There are three overarching types of **competence**:

- **Cognitive knowledge** refers to the generic or discipline-specific knowledge that a student gains through a higher education activity, such as mathematics knowledge, thermodynamics theory, or writing techniques.
- **Skills, performances, and behaviors** refer to students' applied behaviors or activities, such as conducting a chemistry experiment in a laboratory, giving a presentation, or performing a sport. They include soft skills, which are a "broad set of skills, behaviors, and personal qualities that enable people to effectively navigate their environment, relate well with others, perform well, and achieve their goals."[v] In relation to HELOs, soft skills include higher-order thinking skills, social skills, communication, self-control, and positive self-concept.
- **Perspectives and attitudes** include social or cultural awareness, political perspectives, or insights into lifelong learning or education.

Annex A provides example scenarios with HELO competencies that stakeholders commonly target. These five scenarios fit into the three competency types described above and are

useful resources for understanding the process of identifying needed HELO information and selecting solutions to measure HELOs.

EXAMPLES

This guidance note does not address many broad outcomes, such as educational outcomes, or indicators outside the scope of HELOs (Exhibit 1). Nonetheless, it is helpful to distinguish HELOs from other educational outcomes of concern to stakeholders.

Exhibit 1: What are HELOs?[vi]

HELOS ARE . . .	HELOS ARE NOT . . .
- Specific curriculum knowledge, i.e., biology content knowledge. - Laboratory or fieldwork skills, i.e., biology lab skills. - Critical thinking skills, i.e., critically thinking about biology. - Broad forms of personal development such as soft skills and social and emotional skills, i.e., taking diverse perspectives as a citizen. - Generic knowledge and skills, i.e., writing and time management.	- Common economic and employment indicators, i.e., employment rate and status of graduates, economic returns, research, and development expenditure data. - Common administrative data, i.e., enrollment data, educator characteristics, finance data, institutional reputation, or research rankings. - Common HEI information, i.e., curriculum attributes, institutional policy goals, strategic aspirations, institutional resources, institutional infrastructure, and classroom space. - Common HEI indicators, i.e., research rankings, reputation rankings, financials. - Teaching information, such as student-centered pedagogy or teacher training outcomes.

NOTE ON EMPLOYMENT, ECONOMIC INDICATORS, AND GPA

Programs use economic indicators, **employment rates, and grade point average (GPA) data** as measures of learning, but these indicators **are not direct measures of learning.** They should be treated as useful additional information or supporting evidence of success in learning. Economic indicators such as employment rates and the percentage of graduates who find jobs are **proxy measures and cannot measure learning** because there are many external factors considered during the hiring process. GPA data measure student performance and assess a combination of learning and behavior. Economic outcome data and GPA data **are best used as supporting evidence** rather than a main source of learning outcome evidence. Educational outcomes that can be used to describe success in learning include graduation rates, further education (beyond the baccalaureate), awards, and HEI impact on policy, among other indicators.

DETERMINING IF HELOS SHOULD BE MEASURED

Given the diverse range of USAID higher education activities, a key factor in determining whether, what, and how HELOs should be measured will be the activity goals and intended results.

To determine *whether* HELOs should be measured, consider the overall target or intention of an activity. For example:

- Activities that intend to build students' competencies, develop students' skills, or improve student learning **should** measure HELOs.
- Activities that exclusively target outcome measures for faculty and administrators (not students) or aim to improve employment (not learning) **should not** measure HELOs.

Examples of specific activities that are or are not appropriate for HELO measurement can be found in Annex C.

SELECTING SOLUTIONS

STRATEGY TO DEFINE AND MEASURE HELOS

Educators, administrators, technicians, policymakers, vendors, students, implementing partners, and consultants bring diverse interests to shared contexts when determining which HELOs to measure and how to measure them. There is no single "right" choice but rather a range of scenarios or opportunities that may be helpful to a given situation. Although the decision-maker will be unique to the situation, USAID

Principles to keep in mind to **ensure HELO measurement efforts do not compete with institutional strengthening efforts or other local priorities** will be called out in coordinating text boxes throughout this guidance document.

Missions should work with implementing partners (IPs), policymakers, or HEI administrators, depending on the higher education activity design and purpose, and engage with stakeholders such as faculty, students, and technicians to work through the following strategy to define HELOs to target and measurement solutions to implement.

Exhibit 2 presents a decision strategy that integrates what research has affirmed as key steps in any work in this field.[vii] Four main considerations and guiding questions can help Missions and stakeholders decide which learning outcomes to target and which solutions seem feasible. These considerations are distilled into a HELO Planning Tool which is included in Annex B.

Exhibit 2: Decision strategy

Focus	Characteristics, Measurement Needs, and Approaches	Solutions	Implementation
What HELO information is sought? Why is the HELO information sought?	What practical and technical measurement needs seem likely to shape the work? What practical and technical measurement approaches are available?	What solutions seem most feasible?	What is required to test, refine, pilot, and implement the solution?

SET A FOCUS FOR HELO MEASUREMENT

What learning outcome information is sought and why?
The answer to this question may be found in the activity or program contexts and the theory of change. However, it is common for consultation or research to be required. Remember that measuring well-defined HELOs that are appropriate to the purpose and goals of the higher education activity will be more effective and useful than measuring multiple outcomes and producing data that are not closely aligned with the activity.

The map below (Exhibit 3) is a useful frame for clarifying which learning outcomes matter in a particular situation and what solutions could be deployed. It distinguishes HELOs in terms of **substantive focus and competence type.** Depending on the higher education activity, the learning outcomes of interest could fall under more than one substantive focus and/or more than one competence type. *Each scenario in Annex A identifies what HELO information is sought for each competency.*

> ### PRINCIPLE 1
>
> When setting a focus, work with the USAID Mission, local HEIs, and relevant stakeholders to **align HELO goals with local goals.**
>
> Since change takes time, **a focus on long-term outcomes is stronger than short-term measures** that do not equate to program success.

Exhibit 3: HELO information sought for each competence type and substantive focus

		WHAT COMPETENCE TYPE(S) WILL BE MEASURED?		
		Cognitive knowledge	**Skills and behaviors**	**Perspectives and attitudes**
WHAT IS THE SUBSTANTIVE FOCUS OF THE HELO TO BE MEASURED?	**General or transdisciplinary**	Generic knowledge that a student gains through a higher education activity, such as writing techniques.	Students' applied behaviors or activities, such as giving a presentation.	Students' social or cultural awareness, political perspectives, or insights into lifelong learning or education.
	Field- or context-specific	Discipline-specific knowledge that a student gains through a higher education activity, such as mathematics knowledge or thermodynamics theory.	Students' applied behaviors or activities, such as conducting a chemistry experiment in a laboratory, or performing a medical procedure.	Students' social or cultural awareness, political perspectives, or insights into lifelong learning or education as they relate to a field or discipline.

DETERMINE MEASUREMENT NEEDS AND APPROACHES

What are the data needs to measure the HELOs of interest? Identify the kind of data that will be useful, whether data are available or must be collected, and what resources are required to proceed. Exhibit 4 includes a few common data considerations.

> ### PRINCIPLE 2
>
> When considering practical and technical characteristics, **prioritize local efforts where possible,** including using local measures and resources.

Exhibit 4: Common data considerations

Availability of Data	Nature of Data	Generalizability of Data	Resources Needed for Data Collection
What is the availability of relevant information and solutions?	What type of data collection is involved? How will the information be gathered?	What is the scope and representativeness of the information?	What human resources and infrastructure are required?

Each scenario in Annex A outlines the availability, nature, and generalizability of relevant data and the resources needed for HELO measurement.

Learning outcomes measurement can be complex and difficult. Exhibit 5 summarizes frequent challenges and draws from research to suggest opportunities for maximizing resources when adapting an existing solution or designing a new one.[viii]

Exhibit 5: Maximizing resources to measure HELOs

DATA CONSIDERATIONS	MAXIMIZING RESOURCES WHEN CONSIDERING WHAT HELOS TO MEASURE AND HOW TO MEASURE THEM
Availability of relevant data on HELOs and solutions	• Look for existing data that could be used, such as those from student assessments, program accreditations, or licensing exams. • Identify general or discipline-/field-specific measurement solutions. • Draw on local expertise to develop bespoke resources. • Take full account of stakeholder and third-party interests relating to assessment products, experiences, data, or services. • Use one of the many assessment solutions that are available off the shelf or can be readily adapted by a wide range of experts who have a background in education, psychology, economics, or health.
Type of data collection	• Consider the most authentic and accurate means to collect data given the program contexts and student perspectives, including observation, testing, surveys, etc. • Ensure that people, systems, and protocols are coordinated to ensure relevant standards and outcomes. • Seek expert advice to ensure that data collection is technically and practically feasible.
Scope and representativeness of data	• Ensure that program goals clearly specify the scope of what the assessment results are meant to represent. • Think through how available data can be aggregated up or broken down to address evaluation needs. • Check whether data are required from all members of a population, or if a random or non-random sample will suffice.

DATA CONSIDERATIONS	MAXIMIZING RESOURCES WHEN CONSIDERING WHAT HELOS TO MEASURE AND HOW TO MEASURE THEM
Human resources and infrastructure required	• Re-skill/reorient people to work on measurement from existing management or academic roles. • Develop promotional materials which emphasize to stakeholders that student learning outcomes are among higher education's most cherished contributions. • Apply best practices from and approaches used in case studies which present evidence of successful change to help assure stakeholders that HELO information is feasible, prudent, and helpful. • Give ample allowance in the budget and schedule for costly data security, confidentiality, and storage constraints. • Collaborate with colleagues from different activities, IPs, HEIs, and other local partners to design or adapt and implement solutions. Collaboration can include close partnership, relying upon existing local resources, and/or capacity strengthening. • Give ample allowance in the budget for appropriate data storage (i.e., database use or development, management, and maintenance).

IDENTIFY FEASIBLE SOLUTIONS

What are feasible measurement options? Higher education research and practice have helped develop dozens of solutions, a few of which have been validated at scale and established as effective means for assessing certain HELOs. *Each scenario in Annex A presents several sample solutions.*

While there may be multiple solutions to provide the required HELO information, feasible solutions will be narrowed by various programmatic, resource, and contextual constraints, such as budget, time, human resources, institutional capacity, and access to source materials or data, among others. Missions and stakeholders should also consider the availability, relevance or adaptability, and generalizability of any potential measurement solution, as well as the resources required to implement it.

> PRINCIPLE 3
>
> **The stakes are high** and learning indicators are delicate instruments. Any approach to measuring HELOs **should not be tied to accreditation** due to concerns that a "less-than-perfect" performance could lead to a loss of accreditation or worse.

TEST, PILOT, REFINE, IMPLEMENT

How do you implement potential measurement solutions? As Exhibit 6 shows, once an initial set of potential solutions has been identified, stakeholder consultation is often necessary to help position, adapt, clarify, and test engagement with and perceived relevance of the options.

Exhibit 6: Typical HELO implementation workflow

Design solution options (the guidance note)	Stakeholder consultation to shortlist solutions	Build, adapt, and validate solutions	Prototype and pilot test solutions	Apply and scale solutions

Following consultation, work is required to build, adapt, calibrate, or refine existing assessment tools for use in local contexts and programming. Next, prototyping and pilot testing can involve qualitative validation through focus groups and interviews, small-scale implementation, or a full dry run. These further steps are the foundations on which broader program- or institution-wide application of measuring learning outcomes can proceed.

PRINCIPLE 4

A bottom-up approach with USAID implementers supporting local capacity to measure and use HELO measures can strengthen local efforts, ensure local goals are prioritized, and mitigate local concerns while improving relevance, uptake, and sustainability.

PRINCIPLE 5

Developing or implementing measurement solutions and interpreting and using HELO assessment scores may require technical assistance to Missions and partners. This is an **opportunity to partner with local HEIs and use local expertise to strengthen capacity at the local level**.

HELO assessment is an evolving field. Much has been done in recent decades to advance HELOs, yet the practices remain uneven, unclear, and challenging. This guidance note emphasizes that while a single, standardized approach to measuring higher education learning outcomes is not reasonable, tools can be considered as starting points for adaptation and contextualization, depending on the learning outcomes being measured.

PLANNING FOR HELOS: AN EXAMPLE

Exhibit 7 provides an example of how this process may play out in practice. It describes an imaginary USAID higher education activity, includes brief USAID Mission solicitation notes, and outlines the steps a potential implementing partner would take to propose a HELO solution in response to the solicitation.

Following this example, users can refer to Annex A to consider measurement solutions for an activity and context. Annex B provides a HELO Planning Tool to aid deliberations about the feasibility and value addition of pursuing a HELO measure.

Exhibit 7: Example USAID HELO solution

PROGRAM BACKGROUND:

USAID is considering launching a program to strengthen the higher education system in X country to address X's development priorities. Through this program, the USAID Mission and the IP will work with public universities, including their administration, faculty, and staff, to ensure student access to student-centered learning programs and support services. The program will support access to higher education for underserved communities and promote student-centered learning opportunities.

MISSION NEEDS INCLUDED IN SOLICITATION:	IP PROCESS TO INFORM APPLICATION/ IMPLEMENTATION:

• IP with experience working with public universities in X country.
• IP with experience designing and implementing student-centered learning and service programs.
• IP to propose appropriate activity intervention approaches.
• IP to propose appropriate learning outcomes and measurement solutions.
	1. Define what learning outcomes are related to the proposed activity.
	2. Identify the data and measurement needs, including:
	  a. Data type required to measure proposed learning outcomes.
	  b. Availability of data, collection requirements, and potential measurement solutions.
	  c. Human, time, and physical resources necessary for data collection and measurement.
	3. Identify feasible solutions:
	  a. Research potential HELO measurement solutions.
	  b. Select a solution based upon the previous steps.
	4. Propose approach:
	  a. Develop the technical proposal, which includes proposed HELO measurement solution and intended method for development and/or adaptation.

ANNEX A: COMMON SCENARIOS

Collecting information about or data on learning outcomes is not a simple, linear, or quick process.

This annex presents five competence types that donors, IPs, and HEI stakeholders commonly target when setting the focus for HELO measurement. Each scenario responds to the first three phases of the guidance document by (1) defining what HELO information is sought under the competence type (setting the focus); (2) outlining the availability, nature, and generalizability of the relevant data and the resources necessary to implement a HELO solution (determining data and measurement needs); and (3) presenting some existing solutions that could be adapted or implemented to collect information about the competence of interest (identifying potential solutions).

Keep the following in mind when referring to this annex:

- These scenarios are **illustrative not comprehensive.**
- Many of the illustrative solutions are used as examples for more than one scenario because **many solutions are designed to collect a wide range of HELO information**.
- These **solutions are not one-size-fits-all:** It may be possible to adapt solutions or mix-and-match solutions. It is also likely that none of the solutions is appropriate, and an IP will need to design a solution inspired by one or more of the solutions, or entirely from scratch.

GRADUATE COMPETENCIES

Graduate competencies are the multiple overarching outcomes achieved upon completion of a qualification. These competencies are what is purported to be achieved through a program of study, hence they cover all types of competence, including those which are general, transdisciplinary, or field-specific.	
Availability	Information on the achievement of graduate competence is among the most widespread in higher education and is available as institution or program graduate counts, or more detailed information on grades and performance. Aggregate statistical data are publicly available or provided to governments.
Nature	Graduate competence data are readily available because they are collected as part of everyday assessment processes. Most programs embrace a diverse array of assessment methods and markers, lending strength to the resulting data.
Generalizability	Data on graduate competencies can be aggregated and reported at a range of levels, from individual graduates to systems. The generalizability of the data can be uncertain, however, given the lack of within- or between-institution validation, making it hard to equate scores across programs, even within the same institution.
Resources	Access to system-level statistical collections is required, as is expertise in handling such data. In certain instances, it may be feasible to collect data from third-party resources including rankings, classifications, and registers.
Sample Solutions	**The National Institutes for Learning Outcomes and Assessment (NILOA) Degree Qualifications Profile (DQP)** is a learning-centered framework for what college graduates should know and be able to do to earn an associate's, bachelor's, or master's degree. The framework is a flexible document of qualitative learning outcomes that institutions may adapt to their needs. Country of Origin: United States Known Use or Adaptation in Additional Countries/World Regions: Unclear	**The Voluntary System of Accountability (VSA)** is a platform to visually present institutional data. It is a useful reference point for definitions of various higher education characteristics and learning outcomes. The platform draws data from a variety of existing sources in the United States. For institutions in other countries, the platform may be a model for compiling and presenting data, or it may be useful for identifying existing measures to adapt to the local context. Country of Origin: United States Known Use or Adaptation in Additional Countries/World Regions: Unclear

	The ETS Proficiency Profile is an assessment of core skills including reading, writing, critical thinking, and mathematics. Institutions may purchase the test to get a high-level view of student performance. Institutions can add questions and an essay component to the existing test to meet contextual needs. Country of Origin: United States Known Use or Adaptation in Additional Countries/World Regions: Unclear	**The Evidence of Student Learning component in the NILOA Transparency Framework** describes different types of evidence that can be collected to demonstrate student learning, such as using student sharing as evidence of attitudinal learning. Real examples are included for practitioners to explore and adapt. Country of Origin: United States Known Use or Adaptation in Additional Countries/World Regions: Unclear
	HEIghten offers a suite of assessments to choose from, including assessments of skills and behaviors such as quantitative literacy and critical thinking, to evaluate the application of learned techniques to address real-world problems. Country of Origin: Mexico Known Use or Adaptation in Additional Countries/World Regions: China, India, Russia, United States	**The National Student Performance Examination (ENADE[1])** is a series of performance assessments covering general education, cultural and social aspects of contemporary society, and discipline- and profession-specific subject areas used in Brazil. The exams are based on the National Curriculum. Similar exams may exist at the national level in other countries. Exams for 2004 through 2022 are available online in Portuguese for those interested in adapting the content to their needs. Country of Origin: Brazil Known Use or Adaptation in Additional Countries/World Regions: Unclear
	The European Tertiary Education Register (ETER) is a database that collates data on European HEIs' activities and quality. In addition to the database, the ETER Handbook includes details about the methodology, data collection and data quality processes, and indicator and variable definitions. An ETER final report and data quality report are also available. Countries of Origin: Switzerland, Austria, Norway, Italy Known Use or Adaptation in Additional Countries/World Regions: Europe (41+ countries)	**The U-Multirank (UMR)** collects a variety of data about and from HEIs to compare five dimensions of university activity, including teaching and learning, research, knowledge transfer, international orientation, and regional engagement. Various indicators, including those related to learning outcomes, are derived from responses to the Institutional Data Questionnaire, the Subject Questionnaire, the Student Questionnaire, and the Specifications of Subjects and Degrees. Countries of Origin: The Netherlands, Germany, Spain Known Use or Adaptation in Additional Countries/World Regions: Global (96+ countries)

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[1] ENADE is the abbreviation based on the Portuguese title of the assessment, Exame Nacional de Desempenho de Estudantes

PROFESSIONAL COMPETENCIES

Professional competencies are among the most comprehensive available in higher education, because they embrace a combination of graduate knowledge, skill, and attitude.	
Availability	Information may be difficult to access if it is considered confidential to professional associations and their members, though it may be feasible to negotiate third-party arrangements. If accreditation arrangements are well established, data are likely to be available for short-term analysis.
Nature	Professional capability assessments invariably involve proctored examinations and may be supplemented by independent/expert observation of skills and performance.
Generalizability	Data are commonly collected from all individuals in the defined population. The individual basis of the information means it can be aggregated and reported at a range of levels, from graduates to systems.
Resources	Established professional resources are typically in place to manage data collection, analysis, and reporting. Funding and expertise may be required to procure data and deliver customized analyses and reports.
Sample Solutions	**The National Institutes for Learning Outcomes and Assessment (NILOA) Degree Qualifications Profile (DQP)** is a learning-centered framework for what college graduates should know and be able to do to earn an associate's, bachelor's, or master's degree. The framework is a flexible document comprised of qualitative learning outcomes that institutions may adapt to their needs. Country of Origin: United States Known Use or Adaptation in Additional Countries/World Regions: Unclear	**The Voluntary System of Accountability (VSA)** is a platform to visually present institutional data. It is a useful reference point for definitions of various higher education characteristics and learning outcomes. The platform draws data from a variety of existing sources in the United States. For institutions in other countries, the platform may be a model for compiling and presenting data, or it may be useful for identifying existing measures to adapt to the local context. Country of Origin: United States Known Use or Adaptation in Additional Countries/World Regions: Unclear
	The ETS Proficiency Profile is an assessment of core skills including reading, writing, critical thinking, and mathematics. Institutions may purchase the test to get a high-level view of student performance. Institutions can add questions and an essay component to the existing test to meet contextual needs.	**Professional Competence Rubrics** identify the knowledge, skills, and dispositions necessary for effective practice in each profession. These rubrics lay out different competencies with descriptions for assessing outcomes based upon a scale of increasingly complex knowledge and skills that demonstrate learning. Practitioners may develop rubrics to describe intended learning outcomes and their affiliated skills and knowledge and may apply existing rubrics to develop assessment tools to measure complex learning outcomes, among other uses.

	Country of Origin: United States Known Use or Adaptation in Additional Countries/World Regions: Unclear	Country of Origin: N/A Known Use or Adaptation in Additional Countries/World Regions: N/A
	HEIghten offers a suite of assessments to choose from, including assessments of skills and behaviors such as quantitative literacy and critical thinking, to evaluate the application of learned techniques to address real-world problems. Country of Origin: Mexico Known Use or Adaptation in Additional Countries/World Regions: China, India, Russia, United States	**The Evidence of Student Learning component in the NILOA Transparency Framework** describes different types of evidence that can be collected to demonstrate student learning, including using student sharing as evidence of attitudinal learning. Real examples are included for practitioners to explore and adapt. Country of Origin: United States Known Use or Adaptation in Additional Countries/World Regions: Unclear
		The U.S. Medical Licensing Exam (USMLE) assesses medical science knowledge and the application of the skills required to be a licensed and practicing physician. Comparable exams in other countries include the Examination for Provisional Registration (EPR) in Malaysia, the National Equivalence Board (NEB) and National Licensing Examination (NLE) in Pakistan, and the Medical Council of India—Foreign Medical Graduates Examination (MCI-FMGE) in India. Similar exams exist for a variety of professions such as nursing, engineering, and accounting. Countries of Origin (of examples): United States, Malaysia, Pakistan, India Known Use or Adaptation in Additional Countries/World Regions: Unclear
	The Certified Public Accountant (CPA) or Chartered Accountant (CA) Exam assesses the minimum knowledge and skills required to qualify for a CPA/CA License. The CPA is a U.S.-based exam that is often recognized globally, while there are CA exams administered and recognized by organizations in multiple countries such as India, Scotland, and Canada. Countries of Origin (of examples): United States, India, Scotland, Canada Known Use or Adaptation in Additional Countries/World Regions: Unclear	The **Engineering Practice Examination (EPE)** is required to become a professionally licensed engineer in Pakistan. It is offered for all engineering disciplines to assess content knowledge and practical knowledge such as safety, ethics, and professional practices. Similar exams include the Fundamentals of Engineering (FE) exam for soon-to-be graduates in the United States, the Principles and Practice of Engineering (PE) Exam for recent graduates with approximately four years' work experience in the United States, and the Professional Practice Examination (PPE) in Canada. Other similar exams exist in various countries. Countries of Origin (of examples): Pakistan, United States, Canada Known Use or Adaptation in Additional Countries/World Regions: Unclear

GENERIC COMPETENCIES

	Generic competencies are assumed to be developed during study and transcend or cut across traditional disciplinary boundaries. Examples include knowledge and skills relating to numeracy, literacy, communication, reasoning, and management.	
Availability	Information on generic competencies is not widespread in higher education, despite their importance. Traditional liberal arts programs are the possible exception, but it is usually necessary to deploy situation-specific assessments.	
Nature	Data on generic competence are usually collected using specially developed secure tests of defined cognitive or performance competencies, or questionnaires of cognitive or non-cognitive competencies.	
Generalizability	Given the purposeful nature of such data collection, results are usually only generalizable to the extent enabled by population and sample specifications.	
Resources	Usually, advanced statistical and psychometric expertise is required to design sampling and analysis strategies, oversee data collection, and prepare individual- and group-level reports. Funds will also be needed to resource assessments, which are almost always proprietary.	
Sample Solutions	**The ETS Proficiency Profile** is an assessment of core skills including reading, writing, critical thinking, and mathematics. Institutions may purchase the test to get a high-level view of student performance. Institutions can add questions and an essay component to the existing test to meet contextual needs. Country of Origin: United States Known Use or Adaptation in Additional Countries/World Regions: Unclear	**HEIghten** offers a suite of assessments to choose from, including assessments of skills and behaviors such as quantitative literacy and critical thinking, to evaluate the application of learned techniques to address real-world problems. Country of Origin: Mexico Known Use or Adaptation in Additional Countries/World Regions: China, India, Russia, United States
	The National Survey of Student Engagement (NSSE) collects information about student learning and development. The survey results provide institutions with information about student behaviors and other generic learning outcomes, such as whether students connect learning across courses and apply learning to new situations. Country of Origin: United States (including Puerto Rico) Known Use or Adaptation in Additional Countries/World Regions: Canada	**The Collegiate Learning Assessment (CLA)** is a performance-based assessment about critical thinking and written communication. It was designed to measure students' development of higher-order skills, such as data literacy and logic, from the basis of an institution's value-add. Country of Origin: United States Known Use or Adaptation in Additional Countries/World Regions: Rwanda, England, Italy, Germany, Finland

FIELD-SPECIFIC COMPETENCIES

Field-specific competencies are acquired within the scope of specific areas of study or work. These are the specific competencies that educators teach students, and they can vary from those which are highly standardized and applied to those which are more idiosyncratic or abstract.	
Availability	The assessment of field-specific competencies ranges from daily practices, to large-scale discipline evaluations, to highly refined discipline tests. Many carefully validated solutions exist, though in the first instance it is worth investigating whether everyday assessment information has been compiled in ways that afford secondary analysis.
Nature	Disciplines have developed their own assessment cultures, leading to a plethora of data collection methods including observations, essays, exams, performances, and computer-based simulations.
Generalizability	Discipline-focused assessments can be comparable across institutions, and therefore helpful for program evaluations. Constraints hindering comparison include curriculum differences, student characteristics and abilities, and the validity of information.
Resources	Funds and specific expertise may be required to deliver proprietary assessments, or to analyze complex and often messy data harvested from institutional platforms.
Sample Solutions	**The National Student Performance Examination (ENADE)** performance assessments covering general education, cultural and social aspects of contemporary society, and discipline- and profession-specific subject areas used in Brazil. The exams are based on the National Curriculum. Similar exams may exist at the national level in other countries. Exams for 2004 through 2022 are available online in Portuguese for those interested in adapting the content to their needs. Country of Origin: Brazil Known Use or Adaptation in Additional Countries/World Regions: Unclear	**The International Performance Assessment of Learning (iPAL)** is a performance assessment framework for generic skills. Practitioners use the iPAL to develop both formative and summative assessments to measure students' ability to apply content knowledge and skills to real-life challenges. Country of Origin: Canada Known Use or Adaptation in Additional Countries/World Regions: China, Colombia, Finland, Germany, Switzerland, United States
	The ETS Proficiency Profile is an assessment of core skills including reading, writing, critical thinking, and mathematics. Institutions may purchase the test to get a high-level view of student performance. Institutions can add questions and an essay component to the existing test to meet contextual needs. Country of Origin: United States	**HEIghten** offers a suite of assessments to choose from, including assessments of skills and behaviors such as quantitative literacy and critical thinking, to evaluate the application of learned techniques to address real-world problems. Country of Origin: Mexico

Known Use or Adaptation in Additional Countries/World Regions: Unclear	Known Use or Adaptation in Additional Countries/World Regions: China, India, Russia, United States
ETS Major Field Tests assess critical knowledge and understanding for a variety of academic majors. The tests are designed to evaluate analytical and problem-solving skills in 15 disciplines. Institutions can add customized questions to the existing tests to meet contextual needs. Country of Origin: United States Known Use or Adaptation in Additional Countries/World Regions: Unclear	**The Australian Council for Education Research (ACER) Higher Education Assessments** include discipline-specific assessments of cognitive skills (e.g., chemistry, mathematics, international student admissions test, law admissions, teacher education, and many more). ACER also provides services to design, develop, and analyze discipline assessments or other learning outcome assessments based upon an institution's needs. Country of Origin: Australia Known Use or Adaptation in Additional Countries/World Regions: India, Indonesia, United Arab Emirates, United Kingdom
The Tuning Project describes generic and subject area-specific learning outcomes in terms of competences. The final reports for Tuning Latin America and Tuning Europe include competence frameworks that institutions can adapt based upon context. The Tuning process supports faculty and institutions in their efforts to define competencies, learning outcomes, and learning goals within disciplines. Country/Region of Origin: Europe, via the European Commission Known Use or Adaptation in Additional Countries/World Regions: Latin America/Caribbean	**Student Online Assessment Platforms (SOAPs)** are digital platforms that enable HEIs, professors, or higher education activity IPs to develop, store, implement, and score student assessments. Faculty or institutions may use existing assessments (e.g., GL Education), tailor assessments from items in existing assessments or item libraries (e.g., Examina+), or design new assessments (e.g., Pearson VUE). Items may be linked to specific competencies based on data collection and analysis needs. Country of Origin: N/A Known Use or Adaptation in Additional Countries/World Regions: N/A

PERSPECTIVES AND ATTITUDES

Most consider perspectives and attitudes to be important outcomes of higher education. Examples include social or cultural awareness, political perspectives, or insights into lifelong learning or education.	
Availability	Information on student perspectives and attitudes, sometimes referred to as "non-cognitive competencies," is widespread in higher education.
Nature	Data can be collected through observation or performance but is most commonly collected using questionnaires and other non-secure methods.
Generalizability	The relevance of information is prescribed by the extent of population coverage, the amount of data collected, and programmatic contexts.
Resources	Online platforms have made it very cost-effective to collect, analyze, and report such information. A range of open-source materials are available, reducing resource demands.
Sample Solutions	**Student Evaluations of Teaching** are program- or institution-specific student surveys to collect feedback about the perceived effectiveness of a program, class, or instructor. Practitioners design and implement these surveys to collect program-specific insight, and the questions focus heavily on understanding students' perspectives and attitudes. Student evaluations are often institution-specific, and many institutions have their own guidelines and resources to develop an evaluation. Country of Origin: N/A Known Use or Adaptation in Additional Countries/World Regions: N/A	**The Academic Success Inventory for College Students (ASICS)** uses self-reported data on ten academic and experiential factors to evaluate academic success. The instrument (validated in the United States) is designed to collect data on interpersonal factors, behaviors, and attitudes which may contribute to other learning outcomes. Country of Origin: United States Known Use or Adaptation in Additional Countries/World Regions: Unclear
	The ETS Proficiency Profile is an assessment of core skills including reading, writing, critical thinking, and mathematics. Institutions may purchase the test to get a high-level view of student performance. Institutions can add questions and an essay component to the existing test to meet contextual needs. Country of Origin: United States Known Use or Adaptation in Additional Countries/World Regions: Unclear	**HEIghten** offers a suite of assessments to choose from, including assessments of skills and behaviors such as quantitative literacy and critical thinking, to evaluate the application of learned techniques to address real-world problems. Country of Origin: Mexico Known Use or Adaptation in Additional Countries/World Regions: China, India, Russia, United States

The National Survey of Student Engagement (NSSE) collects information about student learning and development. The survey results provide institutions with information about student behaviors and other generic learning outcomes, such as whether students connect learning across courses and apply learning to new situations. Additional surveys cover academic advising, career and workforce preparation, civic engagement, transferable skills, online learning experiences, and writing experiences, among others. Country of Origin: United States (including Puerto Rico) Known Use or Adaptation in Additional Countries/World Regions: Canada	**The Eurostudent Project** is a student survey designed to collect data about student experiences in European HEIs. The project focuses on the social dimensions of higher education, such as student social and economic conditions. The survey includes questions about students' study behaviors, time use, and employment. Institutions may access the data, analyses, and questionnaires. Country of Origin: Germany Known Use or Adaptation in Additional Countries/World Regions: Europe (41+ countries)

ANNEX B: HELO PLANNING TOOL

The decision strategy shows that many different considerations need to fall into place for a HELO measurement to be feasible and add value to a USAID higher education activity. This tool can facilitate deliberations about what is in place, what could be leveraged, and what is needed to pursue HELO measurement. While the exact determination depends deeply on context, looking across a five-year horizon, the balance of responses to the following considerations should be "yes" in order to proceed. Facilitating and hindering factors can be written in the right-hand column.

CONSIDERATION		RESPONSE	NOTES
Is it feasible to define at least one of the following . . . ? (If "No" to all three, then seek advice or do more research on what HELO measurement may be feasible.)	. . . at least one cognitive knowledge and ability HELO to measure? and/or	Yes No	
	. . . at least one skill, performance, or behavior HELO to measure?	Yes No	
	. . . at least one perspective or attitude to measure?	Yes No	
Are data readily available or able to be collected? If "No," what will make it feasible to use existing data or collect new data?		Yes No	
Is it feasible to specify the kind of data required? If "No," consider why and determine what steps can be taken to specify data requirements.		Yes No	
Is the resulting information likely to be usefully generalizable to the USAID activity or the higher education institution? If "No," consider whether the focus for the identified HELO and type of data are appropriate to the activity and the HEI need(s) and adjust the HELO to be useful before proceeding.		Yes No	
Are adequate and appropriate resources available to implement HELO measurement at this time? If "No," what can be done to identify and access adequate and appropriate resources?		Yes No	
Does a proven solution exist which can be readily adapted to local circumstances? If "No," then a new solution SHOULD be developed to proceed with HELO.		Yes No	
Is it feasible to pilot, test, and refine the proposed solution? If "No," then proceeding with HELO measurement is best when the key parties involved understand that the measurement and results may be limited. The HELO measure may have limited relevance. It is important to be aware of and transparent about the limitations of implementing a HELO measurement solution.		Yes No	

ANNEX C: ACTIVITIES APPROPRIATE FOR HELO MEASUREMENT

USAID ACTIVITY	WHY IT MAY BE APPROPRIATE TO MEASURE HELOS	WHY IT MAY NOT BE APPROPRIATE TO MEASURE HELOS
Building University-Industry Learning and Development through Innovation and Technology Alliance (BUILD-IT), Vietnam The BUILD-IT public-private ecosystem is designed to produce graduates who can solve problems, engineer solutions, and create value for Vietnam's social and economic development. BUILD-IT leverages millions invested and the vast capabilities of the implementing partner—Arizona State University, America's largest and #1 ranked University for innovation—along with diverse government, industry, and academic partners linking technology and engineering higher education to the needs and capabilities of industry partners.	The activity intends to build students' professional and technical competencies in technology and engineering and to develop students' technical and soft skills.	
Accelerating Local Potential (ALP): Michigan State University–Malawi University of Science and Technology Innovation Scholars Program (MUST ISP) Malawi University of Science and Technology (MUST) and Lilongwe University of Agriculture and Natural Resources are partnering with Michigan State University to co-design and implement the Innovation Scholars Program at MUST. This new program will help build faculty capacity for innovative science, technology, engineering, and mathematics (STEM) research with a problem-solving orientation. The program will also strengthen the Malawi National Engineering Ecosystem Network to help connect all public universities in Malawi with the private sector and the Government of Malawi. The network will help develop a guidebook for future iterations of the program. The program will use workshops, experiential learning, and partnerships to promote science-driven solutions to development problems.		The activity targets outcome measures for faculty and administrators, not outcomes for undergraduate students.
Higher Education System Strengthening Activity (HESSA) in Pakistan Under the Improving Graduate Employability through Accessible, Quality Curriculum & Relevant Research and Entrepreneurship component of the	HESSA's goals include improving student learning of skills by providing challenge-based learning opportunities.	

USAID ACTIVITY	WHY IT MAY BE APPROPRIATE TO MEASURE HELOS	WHY IT MAY NOT BE APPROPRIATE TO MEASURE HELOS
activity, the HESSA partnership will help Pakistani institutions bolster education and research by modernizing the curriculum, breaking down barriers to educational success, reaching new and broader audiences, and building "power skills" for students. HESSA endeavors to increase access to and the quality and relevance of Pakistan's higher education programs, particularly for marginalized communities, through high-impact education practices to increase students' learning of employability skills.		

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[i] USAID, "USAID Education Policy" (Washington, D.C.: USAID, 2018).

[ii] USAID, "Higher Education Program Framework" (Washington, D.C.: USAID, 2021).

[iii] USAID, "Higher Education Program Framework.".

[iv] USAID, "USAID Education Policy."

[v] USAID, "USAID Education Policy."

[vi] H. Coates, ed., *Higher Education Learning Outcomes Assessment* (Frankfurt: Peter Lang, 2014).

[vii] H. Coates & S. Richardson, "An International Assessment of Bachelor's Degree Graduates' Learning Outcomes," *Higher Education Management and Policy* 23, no. 3 (2012): 51–69.