EVIDENCE REVIEW FOR THE USAID HIGHER EDUCATION LEARNING AGENDA

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AIMS AND RATIONALE OF THE REVIEW

Higher Education is a priority area of the 2018 USAID Education Policy. As an Agency-wide initiative, the Higher Education Learning Agenda comprises a collection of prioritized learning questions developed by higher education stakeholders across USAID technical sectors, led by USAID's Office of Education.

This review is an assessment of the evidence available for the ten Higher Education Learning Agenda questions selected by USAID's Data and Evidence for Education Programming (DEEP) mechanism, USAID, implementing partners, and other key stakeholders during a consultative question development process that began in 2019 and culminated in 2020. The aim of this review is to determine the most appropriate next steps based on analysis of the available evidence for each question.

METHODS USED IN THE REVIEW

This review takes a *mapping review* approach to assessing the research literature available on the ten questions in the learning agenda (Table 1). The aim of a mapping review is to "map out and categorize existing literature from which to commission further reviews and/or primary research by identifying gaps in research literature" (Grant and Booth, p. 94). Based on the characteristics of the literature, the learning questions are then ranked by the size of their evidence gaps.

The review was conducted by a team consisting of two persons from DEEP and two USAID Office of Education interns (masters students). The team followed a protocol developed at the beginning of the exercise to guide the literature search and analysis (see Annex 1).

Table 1: Higher Education Learning Agenda Questions

NO.	QUESTION	SHORTHAND FORM*
1	How can Higher Education (HE) systems and institutions become more strategic in planning, implementing and monitoring core activities (e.g., enrollment, academic programs, research, and outreach)?	Strategy
2	How can financing of HE systems and institutions become more sustainable?	Finance
3	How can the viability and effectiveness of online and other forms of distance education be improved?	E-learning
4	How can skills or competencies (e.g., technical and soft skills) for employability best be identified, analyzed, and incorporated into curricula, teaching, and learning?	Employability
5	How can the practice and culture of teaching become more learner-centered?	Learning
6	How can HE systems and Higher Education Institutions (HEIs) play a more active role in developing and strengthening of national and regional innovation ecosystems?	Innovation
7	How can HEIs collaborate more effectively with the private sector to enhance the relevance and quality of teaching and learning, and research and innovation?	Private sector
8	How can USAID best partner with HEIs to make use of local knowledge and expertise?	HEI expertise

NO.	QUESTION	SHORTHAND FORM*
9	How can HE access, retention, and completion rates be improved for underrepresented populations (e.g., women, indigenous and marginalized populations, and people with disabilities)?	Underrepresented
10	What institutional and behavioral changes are needed to improve gender awareness and gender equity?	Gender

*The purpose of the shorthand form is to facilitate discussion of the gap results below without repeating the question in full form.

SELECTION CRITERIA

To determine which literature to include in the mapping review, the team employed the selection criteria described below.

Types of analysis. What types of analysis produce evidence? Insight on this question is provided by a report prepared in 2017 by the U.S. Commission on Evidence-Based Policymaking prior to the passage of the Foundations for Evidence-Based Policymaking Act (P.L. 115-435):

"Evidence" can be defined broadly as information that aids the generation of a conclusion. Throughout this report, the Commission uses the term in a more specific way—this report uses the shorthand "evidence" to refer to information produced by "statistical activities" with a "statistical purpose" that is potentially useful when evaluating government programs and policies (Abraham2017, p. 8).

The statistical methods mentioned in the Commission report include descriptive statistics, performance metrics, implementation studies, process studies, and impact evaluation, though these are broad categories that encompass many analytical methods.

Broadly consistent with the Commission recommendations, the methods of analysis used in the literature gathered by the DEEP team fit within the following categories:

- Randomized controlled trial
- Quantitative quasi-experiment
- Quantitative-nonexperimental (e.g., means, standard deviations, correlation)
- Qualitative (e.g., textual analysis, grounded theory, narrative models, historical models)
- Case study
- Mixed methods (both quantitative and qualitative analyses)
- Participatory research
- Program/project evaluation

Three types of literature reviews were also gathered: narrative reviews, systematic reviews, and meta-analyses. Reviews of literature are a valuable indicator of the "state of the science" behind a particular issue (for more details, see section below on "Maturity of the body of evidence"). Literature reviews often include studies from more than one geographical region. For this exercise, a literature review was considered to address a particular USAID geographical region if at least one paper from that region was included in the review. The gap assessment focused on both the number of reviews by question and the number of reviews by region.

A final type of analysis that was gathered is non-empirical studies. Early in the mapping review exercise, the DEEP team discovered large differences across the ten learning questions in the proportion of

studies that are empirical (using data-based analysis to draw conclusions) compared to studies that are non-empirical (relying solely on exposition and logic to draw conclusions). Non-empirical studies do not use statistical information and therefore do not meet the standard of evidence recommended in the Commission report, though they are often useful for understanding background and context regarding an issue under study. The DEEP team made the decision to gather primarily empirical literature but, for questions for which the empirical literature is scant, non-empirical studies were also gathered because they often provide insights useful to researchers who are attempting to fill an evidence gap.

Phenomena under study. The mapping review focuses on policies, procedures, processes, projects, programs, and activities designed either (1) to improve higher education outcomes or (2) to improve non-education sector outcomes in which higher education plays a role. The reviewers attempted to select literature that presented and analyzed solutions to identified problems rather than literature limited to discussion of problems.

Populations. Populations studied in the selected papers include higher education administrators, faculty members, and staff members of higher education institutions; higher education students; higher education alumni; employers who hire graduates; and business and community members. Sub-populations studied in the literature include women, persons with disabilities, and members of indigenous and ethnic groups.

Types of organizations. The organizations featured in the literature are higher education system actors (e.g., national higher education governing and regulatory agencies and national education ministries) and HEIs in the countries where USAID works. Wherever possible, literature by host country researchers was selected. Studies by researchers from higher education systems and institutions in high-income countries were included when the phenomena and populations studied were located in host countries. In such cases, papers are often written by co-authors from organizations in both the host and sponsoring countries.

Regions and countries. The mapping review focuses on evidence relevant to low-and middle-income countries and island groups in the five geographical regions (see https://www.usaid.gov/where-we-work) where USAID works:

- Africa (37 countries)
- Asia (21 countries or island groups)
- Europe and Eurasia (E&E) – (14 countries)
- Latin America and Caribbean (LAC) – (18 countries or island groups)
- Middle East and North Africa (MENA) – (10 countries)

Types of literature. The review focuses on published articles and book chapters, as well as gray literature. The gray literature selected is primarily USAID documents and reports, though relevant studies from other foreign aid donors and international organizations are also included.

Publication date. The learning questions address rapidly evolving issues. Therefore, only literature published in the past two decades (2000 to present) was selected.

Language. Given the intended audience for the evidence, the review is limited to studies published in English.

SEARCH STRATEGY

The following databases and sources were searched for relevant literature:

- Web of Science
- Scopus
- Google Scholar
- Education Resources Information Center (ERIC)
- USAID Development Experience Clearinghouse (DEC)

The protocol developed at the beginning of the mapping review presented a search strategy (see Annex 1). Primary and secondary search terms were identified for each of the ten learning questions and technical terms and concepts referenced in the search terms were defined.

Information extracted. For each document, the reviewers extracted bibliographic information (authors, title, publication, date, abstract, and DOI or URL). In addition, information was extracted on the intervention(s) studied, the geographical region of the phenomena and populations studied, the type of evidence, and other items.

Organizing the literature. Bibliographical information was organized in an electronic reference manager, Mendeley. For teams of reviewers, a major advantage of Mendeley is that the assembled literature can be shared online among the reviewers, each of whom can add documents and annotations to the database. Based on the search criteria described above, literature was identified by members of the review team and, wherever possible, electronic copies were imported into Mendeley to facilitate electronic and manual assessment. Gathering electronic copies, which could then easily be read, was especially important for extracting information on geographic region and interventions.

EVIDENCE GAP RANKING CRITERIA

The DEEP team ranked the learning questions by evidence gap based on two criteria: the volume and maturity of the body of evidence. The volume of the body of evidence was measured by the number of published empirical studies, while the maturity of the body of evidence was measured by the number of published literature reviews on the topic.

Volume of the body of evidence. The rationale for ranking by the number of empirical studies is that, for a particular question, the number of tests and analyses conducted by researchers grows with the number of available studies. Furthermore, the quality of the evidence typically grows with the number of studies as researchers compete in the refinement of data and methods to address the issue under study.

Maturity of the body of evidence. The rationale for ranking by the number of literature reviews is that, by summarizing and comparing a large number of studies on a particular topic, they present evidence in a form that can be accessed easily and efficiently by readers. Reviews are an indication of the organization and maturity of the body of evidence available to address a particular learning question. Published reviews, by comparing and contrasting existing studies, sharpen the focus of researchers on key aspects of the issue, spurring innovation among researchers in the pursuit of better data and improved analytical methods to enable them to reach more definite conclusions. It is reasonable,

therefore, to make the assumption that, for any particular learning question, the larger the number of published literature reviews, the smaller the evidence gap.

SEARCH RESULTS

A total of 219 published studies addressing the ten learning questions met the search criteria and were retained for the mapping review. Table 2 shows the number of studies by question and by type of analysis. Some of the selected studies address more than one learning question; therefore, the total number of studies-by-question (285) reported in this table exceeds the total number of papers (219). The number of studies relevant to each question ranges from 19 to 40.

Empirical papers were found for all ten learning questions (see Table 2, row labeled "Subtotal of empirical papers"). The number of empirical studies per question ranges from 11 to 27.

Systematic or narrative reviews were found on all but one of the ten learning agenda questions. The number of systematic and narrative reviews, when summed, ranges from zero to seven (see Table 2, row labeled "Subtotal of systematic and narrative reviews"). No reviews were found for higher education finance in developing countries, addressed by question 2. Only a single review was found for question 6 (innovation ecosystems) and question 8 (HEI expertise) each. Multiple reviews were found for the remaining questions. The largest number of reviews was found for question 4 (employability).

Table 2: Number of Studies by Question and Type of Analysis

QUESTION NUMBER	1	2	3	4	5	6	7	8	9	10	TOTAL
Systematic review of literature	3	0	5	5	0	0	4	1	2	1	21
Narrative review of literature	1	0	0	2	2	1	0	0	1	2	9
Meta-analysis	0	0	1	1	1	0	0	0	0	0	3
Randomized controlled trial	0	0	2	2	1	0	0	0	1	0	6
Quantitative quasi-experiment	0	2	6	0	2	0	3	0	4	1	18
Quantitative-other	3	0	3	1	2	2	2	0	1	1	15
Qualitative	5	3	3	1	3	2	3	3	8	5	36
Mixed methods	1	3	5	1	2	2	1	0	2	5	22
Case study	7	2	2	3	3	3	5	3	0	1	29
Participatory research	0	0	0	0	1	0	0	3	0	0	4
Program/project evaluation	3	4	0	5	2	3	5	1	2	3	28
Narrative or conceptual analysis	17	12	10	7	4	6	7	14	8	9	94
Total	40	26	37	28	23	19	30	25	29	28	285*
Subtotal of empirical papers	23	14	27	21	19	13	23	11	21	19	191
Subtotal of systematic and narrative reviews	**4**	**0**	**5**	**7**	**2**	**1**	**4**	**1**	**3**	**3**	**30**

The number of studies by question (285) exceeds the total number of studies (219), reported in the text, because some studies are relevant to more than one question.

EVIDENCE GAP IDENTIFICATION

There is a high degree of similarity in the ranking of the questions by the number of empirical studies and by the number of narrative and systematic reviews (Table 3). A comparison of the two rankings reveals that the questions in the top category are identical. Questions 2 (finance), 6 (innovation), and 8 (local knowledge) are in the top three positions in both tables, though the order differs between the rankings.

The middle category in both rankings also has identical questions though, again, the order differs between the two tables. Questions 5 (learning), 9 (underrepresented), and 10 (gender) are in this category. Since the questions in the first two categories are identical, those in the third (and last) category are necessarily identical. The bottom category includes questions 1 (strategy), 7 (private sector), 3 (e-learning), and 4 (employability).

Based on the logic presented earlier in this report for the selection of ranking criteria, the results of Table 3 can be interpreted as a ranking by evidence gap. The gap is largest for the top category of questions, followed by the middle and bottom categories.

Table 3: Comparison of Evidence Gap Ranking Methods*

	RANKING BY NUMBER OF EMPIRICAL STUDIES		RANKING BY NUMBER OF NARRATIVE AND SYSTEMATIC REVIEWS	
	LEARNING QUESTION	STUDIES	LEARNING QUESTION	REVIEWS
Top Category	8 – HEI expertise	11	2 – Finance	0
	6 – Innovation	13	6 – Innovation	1
	2 – Finance	14	8 – HEI expertise	1
Middle Category	5 – Learning	19	5 – Learning	2
	10 – Gender	19	9 – Underrepresented	3
	9 – Underrepresented	21	10 – Gender	3
Bottom Category	4 – Employability	21	1 – Strategy	4
	1 – Strategy	23	7 – Private sector	4
	7 – Private sector	23	3 – E-learning	5
	3 – E-learning	27	4 – Employability	7

This table ranks learning questions by the extent of the gap in evidence. Therefore, the top category is the group of questions with the least evidence and the bottom category is the group with the most evidence.

The evidence gaps, however, differ by region. The USAID region with the least number of empirical studies is Eastern Europe and Eurasia (E&E), where the mapping review identified a total of 23 studies (Table 4). The region with the second least number of empirical studies is Latin America and Caribbean (LAC), where 33 studies were found. The third lowest region is the Middle East and North Africa, for which 36 empirical studies were found. Africa has the largest number of empirical studies.

Table 4: Number of Empirical Studies by Question and USAID Region*

REGION	QUESTION NUMBER										
	1	2	3	4	5	6	7	8	9	10	TOTAL
Africa	10	5	10	10	5	4	6	7	10	8	75
Asia	7	6	8	10	9	2	9	2	3	5	61
E&E	2	0	5	4	2	1	2	1	4	2	23
LAC	3	2	3	4	0	3	6	3	6	3	33
MENA	7	1	4	6	3	3	5	1	4	2	36
Total	29	14	30	34	19	13	28	14	27	20	

The total number of empirical studies-by-region in this table is different from the number of empirical papers reported in Table 2 because some studies pertain to more than one region.

Regions with evidence gaps are shaded grey in Table 4. Across the individual questions, the number of studies by region ranges from zero to 10. If we define a regional evidence gap by some maximum number of studies per region, we can then observe a pattern in the table. The shaded cells in Table 4 show the pattern when the evidence gap is defined as no more than three studies, which is 30 percent of the maximum number of regional studies found for any of the questions. Three is an arbitrary choice but the pattern would not change much if the cut-off were set at other numbers close to three (e.g., two or four).

The ranking of questions by regional evidence gaps is summarized in Table 5. The two questions with the largest regional evidence gaps are questions 6 (innovation) and 8 (HEI expertise). This is consistent with the ranking in Table 3, where the gaps are based on the total number of studies for all regions combined. Question 2 (finance) is high in the evidence gap ranking in both tables—in the top third in Table 3 and in the top two-fifths in Table 5. Questions 5 (learning) and 10 (gender) are in the middle category in Table 3 and just above the middle in Table 5. Thus, when the questions are ranked by the size of the evidence gap, five questions (2, 5, 6, 8, 10) appear at the top of the list whether or not the region is taken into account.

Table 5: Question-by-Region Ranking of Evidence Gaps

QUESTION NUMBER	NUMBER OF REGIONS WITH EVIDENCE GAPS
6, 8	4
2, 5, 10	3
1	2
3, 7, 9	1
4	0

EVIDENCE CYCLE

Now that the questions have been ranked by evidence gap, the "knowledge cycle" framework is useful for planning for the next steps in the Higher Education Learning Agenda (Ribière and Román 2008; Becerra-Fernandez and Sabherwal 2004).[1] The first step in the cycle is **evidence generation**, in which evidence is generated by researchers, program managers, or other sources. The second step is **evidence capture,** in which evidence is aggregated, synthesized, distilled, or packaged for sharing with evidence users (LEARN 2017). The third step is **evidence dissemination**, in which evidence is distributed. The fourth and final step is **evidence application**, in which evidence is used in policymaking and decision-making. The next section presents recommendations for the first three steps in the evidence cycle.

RECOMMENDATIONS

The mapping review revealed large differences in the available evidence across the ten learning agenda questions. This section provides recommendations on the way forward for addressing the evidence gaps.

PRIORITIZE ACTION BASED ON THE NATURE OF THE EVIDENCE GAP

The gap analysis placed the questions into three categories according to the volume and maturity of the evidence. Those categories provide an empirical basis for developing an implementation strategy informed by the evidence cycle described in the preceding section.

Table 6: Evidence Gaps in Learning Agenda Questions Arranged by Action Categories

ACTION	QUESTION
Evidence Generation	2 – Finance: How can financing of HE systems and institutions become more sustainable?
	6 – Innovation ecosystems: How can HE systems and HEIs play a more active role in development and strengthening of national and regional innovation ecosystems?
	8 – HEI expertise: How can USAID best partner with HEIs to make use of local knowledge and expertise?
Evidence Capture	5 – Learning: How can the practicing culture of teaching become more learner-centered?
	9 – Underrepresented: How can HE access, retention, and completion rates be improved for underrepresented populations (e.g., women, indigenous and marginalized populations, and people with disabilities)?
	10 – Gender: What institutional and behavioral changes are needed to improve gender awareness and gender equity?
Evidence Dissemination	1 – Strategy: How can HE systems and institutions become more strategic in planning, implementing, and monitoring core activities (e.g., enrollment, academic programs, research, and outreach)?

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[1] The authors cited above use the term "knowledge cycle" but here the term "evidence cycle" is used because "evidence" is used by USAID in learning agenda development and implementation. This substitution seems reasonable since evidence is a primary form of knowledge.

ACTION	QUESTION
	7 – Private sector: How can HEIs collaborate more effectively with the private sector to enhance the relevance and quality of teaching and learning, and research and innovation?
	3 – E-learning: How can the viability and effectiveness of online and other forms of distance education be improved?
	4 – Employability: How can skills or competencies (e.g., technical and soft skills) for employability best be identified, analyzed, and incorporated into curricula, teaching, and learning?

Category 1: Evidence Generation. Minimal evidence exists for questions in the top category, consisting of questions 2 (finance), 6 (innovation), and 8 (HEI expertise). These questions require generation of new evidence. No published comprehensive reviews were found for question 2 (finance), and only one review was found for questions 6 (innovation) and 8 (HEI expertise). Most of the available evidence does not control for the influence of factors besides the interventions on which the studies focus. The gaps in evidence for these questions can be addressed through primary research, piloting of innovations, case studies, and evaluations.

Category 2: Evidence Capture. Evidence exists for questions in the middle category, consisting of questions 5 (learning), 9 (underrepresented), and 10 (gender), but it is dispersed and requires curation to transform it into usable information. A minimum of two narrative or systematic reviews is available for each of these questions. However, the reviews summarize a large number of studies and do not provide details specific to the regions in which USAID operates. Examination of the individual studies identified in the literature reviews is needed to synthesize and distill findings that are relevant to particular USAID regions. The evidence gaps for these questions can also be addressed through more focused literature reviews and primary research designed to address particular sub-questions that are relevant to USAID.

Category 3: Evidence Dissemination. Evidence exists in a usable form for questions in the bottom category, consisting of questions 1 (strategy), 7 (private-sector), 3 (e-learning), and 4 (employability), but it is relatively unknown and requires targeted dissemination and socialization. For these questions, the task is to disseminate the available evidence through briefs, summaries, infographics, and outreach and engagement. For these questions, from four to seven literature reviews were found, and summaries of the evidence can be extracted from them for dissemination.

INCUBATE EVIDENCE USAGE IN THE EARLY STAGES OF IMPLEMENTATION

Increasing the use of evidence will be not easy, and successful implementation will require a great deal of nurture and "pump-priming." Even for the learning questions in the "evidence dissemination" category, for which there are multiple reviews that summarize the literature, it will not be easy to extract information that will meet the evidence needs of users. The learning questions all deal with complex issues for which context (e.g., country, national educational policies, type of institution, academic discipline, size of class) is likely to influence outcomes. Because of their complex nature, many higher education issues are studied using qualitative methods, for which the findings are difficult to summarize because evidence cannot be reduced to a "number."

It is recommended that "evidence champions," persons who are eager to make use of evidence in programming, be identified in missions, at headquarters, and among implementing partners. An advisory group that meets regularly using remote technology should be formed and supported by the Office of Education. Goals of the group should be to share how members are using evidence, to explore additional ways evidence can be used, and to identify additional data that should be gathered. Communication products, such as blog posts, podcasts, briefs, and webinars should be developed by the group to promote the use of evidence-based programming.

CONDUCT TAILORED SYSTEMATIC REVIEWS

The mapping review has laid a solid foundation for conducting more targeted and in-depth reviews of the evidence. The systematic reviews identified in the mapping review exercise are broad and address the learning questions less precisely than reviews that would be based on more refined evidence domains and search criteria. It is therefore recommended that systematic reviews tailored to the regions in which USAID operates and the interventions that it implements be undertaken for the learning questions, particularly those in the "evidence capture" category.

Refine evidence domains. A list of interventions analyzed in the literature is included in the annex to this document. This list of evidence domains is preliminary and incomplete and should be refined through stakeholder consultation. Information on the knowledge needs of the intended users of the learning agenda is vital for further curation of evidence. The stakeholder groups consulted during the earlier phases of development of the learning agenda should now be consulted to find out which policies and interventions to prioritize in the systematic reviews.

Define selection and exclusion criteria. A refined list of evidence domains will be useful in developing improved selection and exclusion criteria for the systematic reviews. It is recommended that a protocol based on the Preferred Reporting Items for Systematic Reviews and Meta-Analyses (PRISMA) be developed. PRISMA is "an evidence-based minimum set of items for reporting in systematic reviews and meta-analyses"[2] and is now used widely by researchers conducting systematic reviews. The search strings for systematic reviews are typically long. They are documented and applied methodically to reduce the possibility of researcher bias, to enhance the replicability of the search, and to give users confidence in the search results. USAID-tailored systematic reviews will provide a strong evidence base for the agency's higher education programming and will contribute toward the evolving body of best practices adopted within the agency.

Use software designed for reviews. It is recommended that USAID staff or implementing partners conducting systematic reviews use software designed to develop and document search strategies, scrutinize large bodies of literature, organize the literature, extract specific information, and develop quantitative and qualitative characterizations of the literature. One widely used software package designed for systematic reviews is Distiller. An example of search criteria developed for Distiller in a review of literature on higher education access in developing countries can be found in Clifford et al. (2013 pp. 99-103).

Include other languages. Language is an enormous barrier in access to evidence. Given that USAID carries out activities in regions and countries where English is not the dominant language, consideration

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[2] http://www.prisma-statement.org/

should be given to expanding the search to other languages so that evidence published in those languages can be included in the Higher Education Learning Agenda. Prime candidates would be Spanish, Arabic, and French because of their widespread use in countries where USAID works.

SPUR ADDITIONAL RESEARCH

Particularly for learning questions in the "evidence generation" category, it is recommended that USAID endeavor to stimulate additional research. This could be done by making this evidence review available to senior researchers and graduate students in both the host countries and the United States, and they should be encouraged to undertake empirical research on these questions.

Members of the learning agenda advisory group, recommended above, could meet remotely with researchers from around the world to discuss how the group members are using evidence, problems that arise in its usage, and which aspects of the learning questions are most important in higher education programming. Evidence champions in the missions could also meet with researchers, including graduate students, in the host countries and the United States. This will improve the focus of the research that is conducted in the future and will strengthen the collaboration between the missions and higher education institutions.

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ANNEXES

ANNEX 1 - PROTOCOL FOR THE HIGHER EDUCATION LEARNING AGENDA EVIDENCE REVIEW

BACKGROUND AND PURPOSE

According to the Foundations for Evidence-Based Policymaking Act of 2018 (H.R.4174), federal agencies of the United States government are required to create "a systematic plan for identifying and addressing policy questions relevant to the programs, policies, and regulations of the agency." In response to this legislation, the Office of Management and Budget has mandated federal agencies to prepare a learning agenda consisting of three elements: (1) learning questions for which the answers might improve policies and programs, (2) activities intended to advance knowledge on issues identified in the questions (e.g., surveys, interviews, analyses, experiential learning summits), and (3) products intended to inform decision-making (e.g., reports, infographics, webpages, brochures, trainings).

Within USAID, learning agendas have been or will be developed by various offices and bureaus within the agency. The Office of Education identified seven principles to be adopted in the development of learning agendas for education: (1) understand how context influences results, (2) understand why and how programs work or fail to work, (3) understand system uptake over time, (4) document results for different populations, (5) ensure specific, sustainable, measurable, achievable, relevant, and time-bound recommendations, (6) develop and monitor action plans to implement recommendations, (7) track cost to inform design, efficiency, cost effectiveness, and sustainability, (8) focus on sustainability, and (8) ensure local ownership.

For higher education, the Office of Education engaged MSI to create a learning agenda through the Data and Evidence for Education Programs (DEEP) activity. Through a highly collaborative process involving stakeholders both within and outside USAID, candidate themes, sub themes and questions on higher education were identified by DEEP. Based on multiple criteria, a long list of potential learning questions was reduced to a final short list of ten questions. This review will assemble evidence that addresses the ten Higher Education Learning Agenda questions. The output of the evidence review activity will be an **evidence map** that identifies and provides links to relevant literature on the learning questions.

AUDIENCE

The evidence review is intended for use by personnel of USAID and its implementing partners in decision-making during design, implementation, and monitoring phases of the agency's higher education programs and projects.

OBJECTIVES

This evidence review focuses on the following ten higher education learning questions:

1. How can HE systems and institutions become more strategic in planning, implementing and monitoring core activities (e.g., enrollment, academic programs, research, and outreach)?
2. How can financing of HE systems and institutions become more sustainable?

3. How can the viability and effectiveness of online and other forms of distance education be improved?
4. How can skills or competencies (e.g., technical and soft skills) for employability best be identified, analyzed, and incorporated into curricula, teaching, and learning?
5. How can the practice and culture of teaching become more learner-centered?
6. How can HE systems and HEIs play a more active role in development and strengthening of national and regional innovation ecosystems?
7. How can HEIs collaborate more effectively with the private sector to enhance the relevance and quality of teaching and learning, and research and innovation?
8. How can USAID best partner with HEIs to make use of local knowledge and expertise?
9. How can HE access, retention, and completion rates be improved for underrepresented populations (e.g., women, indigenous and marginalized populations, and people with disabilities)?
10. What institutional and behavioral changes are needed to improve gender awareness and gender equity?

METHODS

SELECTION CRITERIA

Type of intervention. The evidence review will focus on policies, procedures, processes, projects, programs, and activities designed either (1) to improve higher education outcomes, or (2) to improve non-education sector outcomes in which higher education plays a role. In general, the literature assembled in the review will focus on analysis of interventions and not merely analysis of problems (though a paper on interventions is likely to also analyze the problem(s) that the interventions address).

Type of outcome. Evidence will be presented on outcomes generated by higher education systems and higher education institutions. The review will target outcomes related to higher education enrollment, retention, and completion rates, especially for underrepresented populations; alignment of higher education curricula with the skill requirements for employability; learner-centered education; use of online and distance learning in higher education; goal-setting, strategic planning, and effective management of higher education institutions and programs; HEIs as technological, organizational and social innovators; HEIs as organizers and implementers of social and economic development activities; gender equity in higher education; and fiscal sustainability of higher education systems and institutions.

Regions and countries. The evidence review will focus on evidence relevant to regions and countries where USAID sponsors programs and activities (see https://www.usaid.gov/where-we-work). The major world regions where USAID works (LAC, Asia, Africa, MENA, & E&E) will all be featured, though not all countries where USAID works will be featured explicitly. The reviewers will begin the search for literature on each learning question by scanning for studies carried out on or in low- and middle-income countries. If an insufficient number of such studies is available on the particular topics, the reviewers will then scan for studies from high-income countries.

Types of organizations. The organizations covered by the review will be higher education systems (e.g., national higher education governing and regulatory agencies, and national education ministries) and higher education institutions primarily in the host countries where USAID works. In some cases, higher education systems and institutions in the United States or other high-income countries may be featured when they are involved in transnational higher education partnerships with institutions in developing countries. A second case where studies from high-income countries may be featured is when, on particular topics, few studies have been done in developing countries.

Populations. The populations covered in the review will include higher education administrators, professors and staff members of higher education institutions, higher education students, higher education alumni, employers who hire graduates, and business and community members for which HEIs conduct outreach activities. Subpopulations that are particularly relevant are women, persons with physical and learning disabilities, and members of indigenous groups and ethnic groups subject to discrimination.

Types of studies. Given that the purpose of the evidence review is to make useful literature readily available to USAID and its implementing partners, the review will place no restrictions on types of studies. It will include systematic literature reviews and empirical studies using either quantitative or qualitative methods. Some of the included studies may make use of randomized controlled trials, while others may make use of statistical methods in which control is achieved through the inclusion of relevant explanatory variables. Other literature will use qualitative methods such as case studies, textual analysis, grounded theory, narrative models, or historical models. The review will also include program or project evaluations and reports.

Type of literature. The review will focus on literature in published articles and books, as well as gray literature. An effort will be made to exclude literature published in predatory journals appearing in an updated version of Beale's list of predatory journals at https://beallslist.net/standalone-journals/#update. The gray literature will be primarily USAID documents and reports, though relevant literature from other foreign aid donors and international organizations will also be utilized. As of the beginning of the review, the aim is that approximately two-thirds of the literature will be published and one-third will be gray literature, though these proportions may change as the review progresses and will vary from question to question.

Publication date. The ten learning questions address rapidly evolving issues. Therefore, literature written or published in the past two decades (2000 to present) will be searched first. Date alone, however, will not be an exclusion criterion, and where insufficient recent, high-quality evidence is found, the search will be broadened to include earlier periods.

Language. Given the intended audience for the evidence, the review will be limited to studies and reports in English.

SEARCH STRATEGY

The following databases and sources will be searched for relevant literature:

- Education Resources Information Center (ERIC)
- Development Experience Clearinghouse (DEC) - https://dec.usaid.gov/dec/
- Web of Science
- Scopus
- Education Links (https://www.edu-links.org/)
- Google Scholar

The DEC is a vast collection of USAID documents and reports from the last 50 years. An unpublished document with tips on searching the DEC database, an unpublished HE Reports and Evaluation Spreadsheet, and an unpublished Annotated Bibliography for Scholarship Programming are available from Samantha Alvis, Team Lead (Acting) for Higher Education and Youth Workforce Development in USAID.

Primary search terms for each learning question are shown in the center column of the table below. The right-hand column presents relevant types of inventions, which can be used as search terms. To focus on the relevant segment of the educational spectrum, all (or at least most) searches should contain the following restrictor string: "higher education" OR university OR universities. To find literature relevant to world regions targeted by USAID, geographical keywords such as Africa, Asia, Latin America, or Global South can be used in addition to the primary and secondary search terms listed below. As the search proceeds, other terms will be found and used by the reviewers.

Search Terms

NO.	LEARNING QUESTIONS	PRIMARY SEARCH TERMS ALWAYS: 'higher education' or university or universities or post-secondary or TVET (in addition to the terms below). OTHER RESTRICTORS: Africa, Middle East and North Africa, Asia, Latin America And Caribbean, Europe and Eurasia.	SECONDARY SEARCH TERMS (Interventions related to the learning question)
1	**Online and distance education**: How can the viability and effectiveness of online and distance education be improved?	Distance education, distance learning, online education, open education, open learning, blended learning, hybrid education, virtual university, educational technology, massive open online courses (MOOCs)	National ICT policy, institutional distance and online policy, ICT infrastructure, curricular and pedagogical change, instructor training, digital instruction support service
2	**Underrepresented populations**: How can HE access, retention, and completion rates for women, indigenous and marginalized populations, and people with disabilities be improved?	Access, retention rate, completion rate, female enrollment, disadvantaged, minority, disabled, disabilities, students with disabilities, inclusive environment, inclusive education	National enrollment mandate, affirmative action, targeted recruit, services for disadvantaged students, scholarship, universal design for learning
3	**Private sector**: How can HEIs collaborate most effectively in partnership with the private sector to enhance the relevance and quality of teaching and learning, and research and innovation?	University-firm partnership, university-firm collaboration, industry collaboration (+TVET), private sector, business, industry	Industry-university dialogue, business internship, industrial exposure, business incubator, industrial training, collaborative research, research park, university-firm partnership, university-firm collaboration, industry collaboration (+TVET)
4	**Skills and knowledge for employability**: How can competencies for employability best be identified, analyzed, and incorporated into curricula, teaching, and learning?	Employability, competencies, competency-based education	Curricular reform, tracer study, labor market observatory, occupational analysis
5	**Strategic management**: How can HE systems and institutions become more strategic in planning, implementing, and monitoring	Strategic management, core capabilities, organizational change, change management, leadership effectiveness	Strategic planning, change management, leadership training

NO.	LEARNING QUESTIONS	PRIMARY SEARCH TERMS ALWAYS: 'higher education' or university or universities or post-secondary or TVET (in addition to the terms below). OTHER RESTRICTORS: Africa, Middle East and North Africa, Asia, Latin America And Caribbean, Europe and Eurasia.	SECONDARY SEARCH TERMS (Interventions related to the learning question)
	core activities (e.g., enrollment, academic programs, research, and outreach?)		
6	**Local knowledge and expertise**: How can USAID best partner with HEIs to make use of local knowledge and expertise?	Local knowledge, contextual knowledge, cultural awareness, community-based research	Collaborative research, participatory action research, community development, marketing of faculty expertise, policy analysis, specialized research center
7	**Learner-centered education:** How can the practice and culture of teaching become more learner-centered?	Learner centered, student centered, student engagement, learning processes, learning theories, instructional innovation	Student-centered learning model, curriculum reform, new teaching methods, experiential learning, faculty training, classroom infrastructure, support services
8	**Gender equity:** What institutional changes are needed to facilitate targeted behavioral changes among administrators, faculty, and students to improve gender awareness and gender equity?	Gender awareness, gender equity, gender bias	Recruitment policy, gender mainstreaming, workshops, campus safety, sexual harassment policy, student services for females (academic remediation, academic advising, student counseling, mentoring, career counseling)
9	**Innovation ecosystems**: How can HE systems and HEIs play a more active role in the development and strengthening of national and regional innovation ecosystems?	Innovation ecosystem, innovation system, knowledge creation, knowledge economy, industry cluster, entrepreneurship	National technology policy, business incubator, specialized laboratory, patent
10	**Financial sustainability**: How can the financing of HE systems and institutions become more sustainable?	Higher education funding, higher education finance, resource mobilization, revenue generation, financial sustainability	Enrollment expansion, tuition revenue, government subvention, internal revenue generation, philanthropy, alumni relations, diaspora relations, intellectual property revenue, capital campaign, foreign investment

If insufficient literature is found on particular topics, relevant literature will be identified by scanning lists of references at the end of collected documents.

DATA COLLECTION

DEFINITION OF TERMS

Online and distance education: Educational programs and materials disseminated via information and communication technology (ICT). Online education uses both synchronous and asynchronous technologies, which may be used either exclusively or in a hybrid mode that combines it with in-person methods of teaching and learning. Distance education uses synchronous and asynchronous technologies exclusively.

Underrepresented populations: Groups that experience discrimination or exclusion arising from unequal power relationships of an economic, political, social or cultural nature. Underrepresented groups that are especially relevant for the evidence review include women, persons with physical or learning disabilities, and members of ethnic groups (often, but not always, indigenous groups) subject to historic discrimination.

Private sector: The part of the economy not under direct control of the government. The segment of the private sector most relevant for the evidence review consists of businesses, farms, and non-profit organizations (e.g., community, business, development-focused, religious).

Employability: The combination of factors that help individuals to become employed or self-employed, to remain employed or self-employed, and to make progress in terms of capabilities and income.

Strategic management: Setting objectives, analyzing the environment external to the university, analyzing the internal organization, evaluating and deciding upon specific strategies, ensuring that the strategies are implemented, monitoring implementation, and adapting and improving the strategies based on outcomes.

Local knowledge: Knowledge developed by people in a community, country, or region over time. It is based on experience; adapted to the local culture and environment; and embedded in community practices, institutions, and relationships. It includes *common knowledge* held by most people in a community or country; *shared knowledge* held by many but not all members of a community or country; and *specialized knowledge* held by a small number of persons possessing scarce skills or experiences.

Learner-centered education: In contrast to teacher-centered education, learner-centered education (also known as student-centered education) shifts more of the responsibility and control of the learning process to the student. It encourages students to be curious about what, why, and how they are learning, encourages collaborative learning, and includes instruction on explicit skills.

Gender equity: Every person, regardless of gender, has the same quality and quantity of opportunities, support, and treatment as those accorded to other persons in similar circumstances so that they, too, can fulfill their aspirations, no matter how similar or different their values and priorities might be from persons whose gender is different than theirs.

Innovation ecosystem: The actors and institutions that develop knowledge leading to technological or organizational innovations and that nurture innovations to the point where they are made available to users.

Financial sustainability: The ability to mobilize financial resources and react to unexpected threats while maintaining general operations of the institution over time.

ORGANIZING THE LITERATURE

References, abstracts, and electronic copies of the reviewed literature will be organized in the reference manager, Mendeley. A major advantage of this software is that the assembled literature can be shared online among the reviewers. Within the created library (an electronic folder in Mendeley), sub-folders will be created for storing the literature on each of the ten questions. The review team members will search for literature and import relevant publications into the appropriate subfolder in the Mendeley library, indicating the name of the reviewer in the Notes tab.

INFORMATION TO BE EXTRACTED

For each document, the reviewers will extract the complete citation (e.g. authors, title, publication, date) an electronic copy of the document (if available), and a Digital Object Identifier (DOI). This information is typically harvested automatically when documents are imported electronically into Mendeley. If a DOI is not available, which is likely to be the case for gray literature, an ordinary URL will be provided.

In addition, in the Notes tab in Mendeley for each imported document, the reviewers will enter their name, a statement describing what the reviewer believes the document would offer to program managers, strengths and drawbacks of the document, problem(s)/issue(s) addressed, and intervention(s) (if any) studied. This information will be stored in the Mendeley library in the subfolder for the learning question for which it is relevant.

Sample Notes Tab Entry for an Imported Document in Mendeley

Reviewer: DK
What does it offer program managers? An overview of a wide range of curricular and pedagogical issues in online and distance education.
Strengths: Reviews a fairly large number (47) of published studies.
Drawbacks: Does not focus on developing countries (though much of the content seems relevant to developing countries).
Problem(s)/issue(s) addressed: content of online courses, teaching methods for online instruction, instructor preparedness for online instruction
Intervention(s): curriculum development, instructor training

REVISION OF SEARCH TERMS

Reviewers will make written note of the most productive search terms for each learning question and will suggest additions or deletions in the search term table, which will be revised periodically during the search process. Alternative (and often better) search terms can typically be found by inspecting the published list of keywords at the beginning of documents relevant to each question.

ANNEX 2 – LIST OF POLICIES AND INTERVENTIONS

QUESTION 1 (STRATEGY)

- strategic management in higher education administration
- strategies to improve TVET education in Africa
- strategies to improve HEI quality and relevance
- knowledge policies
- inclusive planning
- organizational culture climate surveys
- monitoring and feedback
- strategies for making universities entrepreneurial
- change management strategies
- strategies for making universities developmental
- triple helix model of collaboration (universities, government, industry)
- faculty development, teacher training
- teacher training
- strategic management
- faculty incentives
- building HE management and leadership capacity
- strategic planning
- alumni networks
- recruitment strategies
- leadership development
- institutional sustainability strategies for HEIs
- managing institutional change
- stimulating development-relevant innovations in HEIs
- ways to improve teaching, research, and quality management in HEIs
- teacher training
- career centers
- industry partnerships
- curriculum reform
- integration of strategy and quality
- higher education marketing strategies
- institutional decentralization
- participatory management
- building learning-organization culture
- public-private partnerships
- strategies for making universities agents of development

QUESTION 2 (FINANCE)

- improving budgetary systems
- budget planning
- cost control

- massification
- increasing revenue
- non-governmental revenue generation
- financial accountability measures
- financial sustainability measures
- financial sustainability forecasting
- legal and regulatory framework affecting finances
- gender sensitive budgets
- scholarships for women
- cost-sharing through student tuition and fees
- student finance programs
- student loans
- three models of HE finance
- diaspora bonds
- social impact bonds
- debt swaps
- debt conversion development bonds

QUESTION 3 (E-LEARNING)

- mobile learning
- blended learning
- distance education
- synchronous online learning
- flipped classroom
- collaborative online learning
- massive open online courses (MOOCs)
- open education resources (OER)
- instructional design for e-learning
- learning platforms for refugees
- online laboratory science training
- online support services
- staff capacity building for distance education
- open education courseware
- instructor training for e-learning
- online learning for students with disabilities
- open online university for women's access to higher education
- faculty roles in design and implementation of online learning
- virtual reality

QUESTION 4 (EMPLOYABILITY)

- employability skills
- skills development
- competency-based training
- technical/vocational education

- national educational and training policy reforms
- virtual and in-person career centers
- soft skills curriculum
- entrepreneurship curriculum
- curriculum reform
- tracer studies of graduates
- job search training
- experiential learning
- TVET apprenticeships, internships, and courses to meet industry demand for particular skills
- TVET work-based learning, community-based learning, apprenticeship training
- university-industry collaboration
- quality assurance
- outcomes monitoring
- teacher training
- training of trainers
- training for youth
- career centers
- HEI-industry partnerships
- business plan training and coaching
- training facilities and equipment
- student scholarships

QUESTION 5 (TEACHING)

- student-centered learning
- student-centered learning pedagogy
- learner-centered education
- learner-centered educational reforms
- faculty development
- teaching training
- instructional development for higher education
- active learning
- active learning pedagogy
- active learning strategies for large classrooms
- curriculum design
- curriculum reform
- quality assurance for teaching and learning
- assessment methods for learner-centered pedagogy
- strategies to improve student engagement

QUESTION 6 (INNOVATION)

- programs and policies that promote innovation in universities
- programs and policies to make universities entrepreneurial
- policies and programs to promote technology transfer
- USAID HESN labs

- knowledge policies
- developmental university
- entrepreneurship training
- technology commercialization
- infrastructure/infostructure (physical and digital infrastructure)
- intellectual capital
- innovation incentives
- institutions for promoting innovation
- public-private partnerships
- local innovation ecosystems
- community engagement
- community-based innovation platforms
- linkage between national research institutions and universities
- network of entrepreneurship proponents
- public-private partnerships
- partnerships between industry and HEIs
- industrial clusters

QUESTION 7 (PRIVATE SECTOR)

- university-business collaboration
- university-industry collaboration
- public-private partnerships
- entrepreneurship
- technology commercialization
- skills training
- competency-based training
- policies and programs to promote innovation and technology transfer
- career centers
- industrial clusters
- applied research training
- internships
- workplace-based training for TVET teachers
- TVET courses to meet industry demand for particular skills
- TVET apprenticeships and internships

QUESTION 8 (HEI EXPERTISE)

- knowledge policies
- aligning plans of training and research organizations with national training goals and policies
- developmental university
- indigenous knowledge in teaching and research
- local knowledge systems
- local knowledge creation and curation
- community-based innovation platforms
- participatory action research by university researchers and local communities

- development-relevant innovations by universities
- sustainable development
- climate change adaptation
- industry clusters
- experiential learning
- community engagement

QUESTION 9 (UNDERREPRESENTED)

- measures to increase higher education access for youth and women
- policies to reduce disparities based on gender, location, minority status, or low income
- test preparation training for school students from low- and middle-income households
- pre-collegiate exposure to career pathways in STEM
- curricula to accommodate various learning styles
- services for first generation and indigenous students
- affirmative action
- scholarships
- support and career centers
- student loans
- scholarships
- policies for student finance
- learning platforms for refugees
- disability policies and supports
- disability practitioners
- bridging programs for displaced youth, refugees, and internally displaced persons
- accessibility for students with disabilities
- quota policies
- inclusive education policy
- disability mainstreaming
- accessible infrastructure
- exposing girls to TVET-related subjects in secondary school
- reservation of public service jobs for women
- accommodation in online learning for students with disabilities
- student retention policies and programs
- sexual harassment policies

QUESTION 10 (GENDER)

- gender equity policies
- affirmative action
- gender mainstreaming
- nondiscriminatory education policies
- measures to increase higher education access for youth and women
- programs to increase female enrollment
- female retention policies and programs
- sexual harassment policy and enforcement

- engaging students as partners
- student engagement
- mentorship for female students
- career placements for women
- scholarships for women
- incorporation of gender into curriculum
- research agendas focused on women
- development of student services
- gender sensitivity training
- gender sensitive budget
- open online university for women's access to higher education
- formal and informal networks to support women in higher education leadership
- gender mainstreaming
- intersectional analysis
- exposing girls to TVET-related subjects in secondary school
- budgetary support for gender policy implementation
- reservation of public service jobs for women
- confidence building activities
- professional networks
- mentoring
- scholarships for women
- training for female faculty
- scholarships for further study by female faculty