SPHEIR
Strategic Partnerships for Higher Education Innovation and Reform

Reflections on curriculum and pedagogical reforms by SPHEIR partnerships

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The Strategic Partnerships for Higher Education Innovation and Reform programme (SPHEIR) was a competitive grant scheme designed to help transform the quality, relevance, access and affordability of higher education in targeted low-income countries. Funded by the Foreign, Commonwealth & Development Office (FCDO) and managed by a consortium led by the British Council in association with PwC and Universities UK International, it was based on partnerships – formal collaboration among public and private organisations to address higher education challenges in ways, and at a scale, that a single organisation cannot. The portfolio of projects supported between 2017 and 2021 included eight partnerships; six focused on countries in Sub-Saharan Africa, one in Myanmar and, one on higher education for refugees in Jordan and Lebanon.

1. Introduction

Among the higher education reforms supported by SPHEIR, two complementary activities stand out – curriculum reform and pedagogical capacity building. The former refers to the process through which university staff develop new, or redesign existing credit-bearing courses/modules in any degree programme.[1] The latter refers to the process through which teaching staff develop new skills and practices aimed at maximising learning outcomes and inclusive educational experiences for students.

This paper explores how some SPHEIR projects pursued both types of reform, and the ways in which they have been linked or sequenced. In some cases, reforming curriculum content catalysed interest in new pedagogies; while in others, pedagogical training catalysed lecturers' interest in reforming curricula they teach. The paper looks at reforms across *five* SPHEIR partnerships where these involve one or more of the following:

- *Full degree programmes* – where the entire curriculum of undergraduate or graduate degree programmes is reformed
- *Individual courses/modules* – where only specific courses/modules within a degree programme are selected for reform
- *Post-graduate qualifications* – where curriculum for an entire certificate or diploma programme is developed, including accreditation of qualifications for pedagogy or quality assurance (QA) training.

Regardless of whether a project focuses on full degree programmes or individual courses, curriculum reform can involve significant updating of academic content, or the application of new teaching and learning strategies to existing content, or both.

The Assuring Quality Higher Education in Sierra Leone project (AQHEd-SL), and the Prepared for Practice (PfP) project in Somaliland expressly focus on reform of full degree programmes. As it happens, both also include development of post-graduate qualifications as defined above. Three

1. 'Programme' here refers to an entire degree programme, although in some countries the term 'course' refers to an entire degree programme. In some SPHEIR projects, the terms 'module' and 'course' are used interchangeably to refer to a semester-long unit of study.

other SPHEIR projects involve reform of individual courses/modules from selected degree programmes – Transforming Employability for Social Change in East Africa (TESCEA), the Partnership for Enhanced and Blended Learning (PEBL), and the Pedagogical Leadership in Africa (PedaL) project. The latter two also involve different forms of post-graduate qualifications.

Drawing on project documents, Sections 2 and 3 summarise the broad approaches to curriculum and pedagogical reform taken by the five projects, situating these within the overarching goals of each project. In all cases, reform activities are far more comprehensive than can be covered in this paper, and links are provided where more detailed information or project documents are available. There are a few references to adaptions in response to the impact of Covid-19 (Covid), but other publications in SPHEIR's knowledge bank cover the impact of Covid more comprehensively.[2]

Section 4 of the paper describes how five particular aspects of curriculum and pedagogical reform were reflected in each project:

- Employer and stakeholder engagement, including but not limited to individual employers, community organisations, alumni, students, sector bodies or organisations that prescribe occupational standards or provide technical accreditation
- Internal or external quality assurance to inform, review or approve courses, degree programmes, institutional or pedagogical practices
- Development of gender responsive curriculum and teaching
- Formal recognition of QA or pedagogical training or practice
- Attention to non-academic skills such as critical thinking, problem-solving, communications or other 21st century skills.[3]

Coverage of these aspects was not a requirement imposed by SPHEIR. All partnerships were free to determine the extent to which any of the above were incorporated into curriculum or pedagogical reforms undertaken. However, these features are now commonly associated with curriculum and pedagogical reform, so a look at the approaches taken across the five projects is informative.

SPHEIR prescribed no normative model of curriculum reform. Partnerships were free to utilise whatever model or conceptual framework each felt appropriate in the context of their objectives. That said, SPHEIR commissioned a review of curriculum reform activities in two projects as part of their respective midpoint reviews in early 2020. Box 1 illustrates how curriculum reform was understood in that process and, with variances, the idealised stages are visible in all five projects.

The remaining three SPHEIR projects are not covered in depth in this paper for any of several reasons. Curriculum content may not have been developed or delivered by academics in universities in the countries targeted by the project, or did not include full degree programmes, courses/modules, or post-graduate qualifications as defined earlier. These projects include the

2. The impact of Covid-19 (Covid) was felt by all SPHEIR projects, and all demonstrated resilience and adaptability while maintaining momentum of reforms in the face of health restrictions and institutional closures. Details specific to Covid's impact on all SPHEIR projects are covered in a separate paper available here.
3. The author confesses to some ambivalence towards this term, with its implication that these skills are unique to this century, and were somehow less valid or unrecognised prior to 2000.

Lending for Education in Africa Partnership (LEAP), the Partnership for Digital Learning and Increased Access (PADILEIA), and Transformation by Innovation in Distance Education (TIDE). However, in the context of their respective objectives, each provided noteworthy learning experiences for students, and/or professional development for teaching staff, and they are therefore briefly discussed in Section 5.[4]

Lastly, Section 6 provides some reflections on curriculum and pedagogical reforms offered primarily to inform thinking about future reform efforts from two perspectives: i) interest by partnerships in sustaining or leveraging their reforms, either as individual projects or through future collaboration; and, ii) design of future large-scale development assistance programmes for higher education that may involve transformation of curriculum or pedagogy.

Box 1 – Curriculum reform as a seven-stage cyclical process [5]

Ideal-typical process:

Stage 1: **Scoping study/Needs assessment,** i.e. definition of reform goals by all major stakeholders: students, alumni, teaching staff; university institutions, practice partners, academic partners, potential employers of graduates, industry, political stakeholders, etc.

Stage 2: **Baseline evaluation** of status quo ante including:

a) systematic, comparative schematics of all curricula (to be reviewed), including information on program architecture, curricular (modular) structure, course content and syllabi, CP-system and weighting, pedagogical approach and teaching methodology, assessment methods, teaching staff, evaluation schemes, gender and diversity considerations, communication technology and infrastructure, etc.

b) collection of equivalent information for peer programs and/or institutions including "best practice" and/or international standards (and accreditation standards)

c) collection and analysis of all available evaluation information by major stakeholders

Stage 3: **Curriculum reform proper;** i.e. adaption of all curricular elements (stage 2a) on the basis of reform goals (stage 1) and in the light of information on peer programs/Institutions (stage 2b) and evaluation information (stage 2c) by qualified experts under supervision from CR manager ensuring the link to stages 1, 2b and 2c.

Stage 4: **Stakeholder feedback** to draft revised curricula and subsequent revision process (to be repeated, if considered necessary by major stakeholders).

Stage 5: **Formal decision-making** on revised curricula (i.e. passing by the respective academic bodies) and accreditation processes.

Stage 6: **Implementation:** Staff training on revised curricula, "guided roll-out" of actual programs and Syllabi

Stage 7: **Quality control** of implementation along with all elements of the reform process (stage 2a) and including continuous evaluation. This should feed back into stage 1 as part of a continuous cycle.

4. The TIDE project was brought to an early closure following the escalating situation in Myanmar in early 2021.
5. Source – Paeradigms www.paeradigms.org

2. Curriculum and pedagogical reform – full degree programmes

As noted earlier, two SPHEIR projects involved reform of full degree programmes – the Assuring Quality Higher Education in Sierra Leone project, and the Prepared for Practice project in Somaliland. Both projects focus on a single country and share several noteworthy attributes. Both involve reform of multiple degree programmes – updating academic content *and* teaching practices in multiple universities. Each also uses post-graduate qualifications for capacity development of teaching and non-teaching staff. In addition, each set out to strengthen national higher education policy and regulatory oversight, although in quite different ways.

Coincidentally, both projects involve curriculum reform in health education. In Sierra Leone, two of the eight degree programmes covered by the project relate to health, whereas the Somaliland project is exclusively concerned with health education. A major distinction, however, is that while technology enhanced learning (TEL) was peripheral in the former, it is central to the latter.

These projects illustrate two alternatives available when approaching substantial curriculum reform in a single country – going for *depth* (PfP's focus on transforming a particular disciplinary/occupational area), or going for *breadth* (AQHEd-SL's transformation of all degree programmes and institutions). Neither approach is 'better', nor necessarily mutually exclusive.

Assuring Quality Higher Education in Sierra Leone (AQHEd-SL)

AQHEd-SL is probably the most ambitious and comprehensive project in SPHEIR in terms of its intended (and achieved) impact on a national higher education system. Its ultimate objective is that all universities in the country will provide high-quality 'outcome-based education' (OBE) – meaning degree programmes that focus on the knowledge/skills needs of graduates, involve greater student engagement with curriculum, and use student-centred approaches to teaching.

The project is led by the University of Sierra Leone, involving two constituent bodies, Fourah Bay College and the College of Medicine and Allied Health Sciences. Two other initial university partners were Njala University and the University of Makeni, although the partnership expanded to include four additional higher education institutions – Freetown Teachers College, Milton Margai College of Education and Technology, Eastern Polytechnic,[6] and Ernest Bai Koroma University of Science and Technology. From the outset, the Tertiary Education Commission (TEC) was also a key partner and demonstrated the value that a national regulatory body can add when reforms target an entire country.

Other national and international partners played key roles in both curriculum and pedagogical reforms, including the Sierra Leone Institute of Engineers, the 50/50 Group (a Sierra Leone NGO focused on gender issues), INASP (which also led the TESCEA project within SPHEIR), the University of Illinois Urbana-Champaign, and King's College London. The latter played multiple roles – it supported grant management, provided technical support to the reform of health programmes, and provided team members for key roles in programme management and in monitoring, evaluation and learning.

6. In July 2021, Eastern Polytechnic became Eastern Technical University of Sierra Leone under the University Act, 2021.

Several aspects of the project's design are central to understanding its approach to transforming curriculum, pedagogy and QA:

- Use of subject-focused "clusters" to guide the selection of specific degree programmes for reform during the project – the four clusters selected were STEM, Health, Agriculture and Management
- Within clusters, the choice of eight degree programmes (two per cluster) that would serve as 'exemplars' of what OBE looks like in terms of content, teaching and QA
- Distinction between "lead" (or "anchor") institutions (initial partner universities) and "waterfall" institutions, that later became full partners and to which curriculum, pedagogical, QA tools and practices were cascaded by anchor institutions.

To simplify attention to the project's curriculum and pedagogical reforms, Box 2 below is adapted from the project's recently completed external evaluation.[7] It identifies curriculum reform activities by cluster, the active partners involved, and the specific degree programmes covered.

Box 2 – AQHEd-SL curriculum reform overview

Key project activities	Active partners and degree programmes
Curriculum Review and Stakeholder Engagement in **STEM**	University of Sierra Leone (Fourah Bay College) – **BEng in Electrical & Electronic Engineering** Eastern Polytechnic – **BSc in Civil Engineering**
Curriculum Review and Stakeholder Engagement in **Health**	University of Sierra Leone (College of Medicine and Allied Health Sciences) – **BPharm** Ernest Bai Koroma University of Science and Technology – **BSc in Public Health**
Curriculum Review and Stakeholder Engagement in **Agriculture**	Njala University – **BSc in Agriculture (General)** Milton Margai College of Education and Technology **BSc in Agriculture (Education)**
Curriculum Review and Stakeholder Engagement in **Management**	University of Makeni – **BSc in Accounting & Finance** Freetown Teachers College – **Higher Teachers Certificate in Business Studies**

Outlined below are the outcomes of curriculum reform by cluster, illustrating the scale of reforms, status of roll-out (revised courses being delivered to students), and level of stakeholder engagement in each process.

Under STEM, Fourah Bay's BEng in Electrical & Electronic Engineering had 38 out of a total of 50 courses selected for revision, with the majority involving major revisions, and all approved and rolled out by 2021. The project's external evaluation makes an important observation about the STEM cluster, noting that, "*changes […] are not limited to an update of the content of individual modules. There were also new and innovative modules introduced (software engineering, computer modelling, power quality, electricity planning; an entirely new option for specialization was introduced (electronics/ICT option); and overall student choice was significantly increased by allowing more*

7. *Assuring Quality in Higher Education in Sierra Leone (AQHEd-SL): Summative Evaluation 2018-2021* (Final Report), Paeradigms, 31 October 2021.

flexibility to choose modules from different departments". Every module of the BEng in Civil Engineering at Eastern Polytechnic was revised and approved, and is now rolled out, with some being updated or replaced by completely new content. Stakeholder engagement in the STEM process included nineteen public and private sector organisations, most of which are employers of graduates, as well as NGOs, students and faculty members.

Under Health, the College of Medicine and Allied Health Sciences focused on revising a five-year BPharm degree with 41 out of 50 modules reviewed and approved by 2021, and roll-out commenced.[8] Many involved major revisions and some modules are completely new. Ernest Bai Koroma University of Science and Technology focused on a BSc in Public Health, from which 28 modules were reviewed and approved, with roll-out commencing in October 2021. An even larger number of stakeholders than in the STEM cluster were engaged in the Health cluster process.

In the Agriculture cluster, the two programmes reviewed were a BSc in Agriculture at both Njala University and Milton Margai College of Education and Technology, with the former a general programme and the latter having an education focus. All 46 modules of Njala's BSc were selected for review, with 38 approved and rolled out to date. The two programmes involve many identical modules (and share some lecturers), which enabled Milton Margai to focus on the 18 modules that differed from the programme at Njala. Roll-out of its courses started in October 2021. Both degrees involve refreshed and new courses, as well changes in assessment. Comparable numbers of stakeholders to STEM and Health were involved, although there was a higher proportion of NGOs and community organisations.

In the Management cluster, the University of Makeni reviewed all 50 modules in its BSc in Accounting and Finance programme, which are now approved with roll-out started. Freetown Teachers College opted in late 2020 to focus on a Higher Teachers Certificate in Business Studies. This added some complexities as the programme is technically a TVET award, rather than one accredited by the TEC, and needs to comply with some regional certification requirements. Timing meant that a smaller number of modules were revised (nine), although all were reviewed and approved by September 2021. Management cluster stakeholder engagement involved significant numbers of individuals and organisations – in fact, larger in number than the other clusters.

The comprehensiveness of AQHEd-SL's curriculum reforms was underpinned by three mutually reinforcing activities intended to help sustain the transformational impact of the project: i) development and use of comprehensive guidebooks, manuals and other resource materials; ii) pedagogical capacity building activities within and across clusters; and, iii) the development and use of new practices and tools for external and internal QA.

As curriculum reform and early pedagogical workshops commenced, the project started development of key supporting materials with a view to ensuring uniform and comprehensive reforms during and following the project. AQHEd-SL has produced four 'standardisation' documents:

i. Curriculum Review Manual Vol. 1 ("Overview of Curriculum Review Process and Templates")

8. Initially, a three-year pharmacy diploma programme was chosen by the project and work (including stakeholder engagement) commenced before this was halted and focus switched to the BPharm degree in late 2019. Despite the impact of this change in activities, progress was significant.

ii. Curriculum Review Manual Vol. 2 ("Analysis of Curriculum Mapping Data")

iii. Quality Assurance Manual

iv. Pedagogy Manual[9]

After initial production of drafts by writing teams, each document was reviewed by project team members, including the TEC, and shared with all partner institutions. The development of manuals was somewhat iterative, in that some cluster teams used early drafts during curriculum reform workshops, which helped further refine content for future use.

As earlier noted, AQHEd-SL involved the Tertiary Education Commission (TEC) as a key project partner from its inception. This had considerable positive impact on the role of *internal* QA (within each university), and on strengthening the TEC's *external* QA role in the higher education system more generally. The project developed QA templates, standards, etc. using participatory workshops. Endorsed by the TEC, these will guide future curriculum transformation and support the 'lateral spread' of reforms (a term coined in the external evaluation to mean expansion of new practices beyond areas targeted directly by the SPHEIR project). Also significant was the TEC's development and accreditation of a post-graduate diploma in QA, now offered at the University of Makeni.[10] Aside from professionalising QA and further institutionalising QA practices in higher education institutions, graduates of the diploma course played a role in curriculum reform, and helped embed QA practices in their respective institutions.

Pedagogical training played an ongoing role throughout the project. Aside from its immediate utility to teaching staff, it helped inform curriculum revision in all clusters, led to a robust sense of shared purpose across all partners, and created a group of champions for the systemic reforms in each institution. Core pedagogical content was provided by the University of Illinois Urbana-Champaign. Content focused on critical thinking was provided by INASP, drawing on experience that also contributed to the TESCEA project. Training focused on gender responsive teaching and learning was provided by the 50/50 Group, with input from INASP.

Pedagogical training underwent a transition over the course of the project. Initial workshops that were linked with curriculum reform work in clusters (or QA) evolved to emphasise training-of-trainers as a key instrument for localising training delivery and expertise (similar shifts took place in PEBL and TESCEA). Many workshops included participants from different clusters, further reinforcing a sense of shared enterprise. In the latter stages of the project, Covid prevented international partners from visiting. Consequently, localisation of pedagogy and critical thinking training was accelerated, supported by tools like pre-recorded videos, use of MoodleBox[11], and innovations like the use of "critical thinking task force officers". Additional materials are available that describe AQHEd-SL's delivery of non-academic online services like student support, and online capacity building for academic and non-academic staff, including Covid adaptations, QA training and approach to gender

9. "*SPHEIR Pedagogical Trainings 1.0 and 2.0 Manual for Workshops*", 2021 WL Hurley & C. Bo-Linn, University of Illinois. This manual was not envisioned at the beginning of the project, but emerged when it was recognised that formally documenting a growing body of training materials and instructor guidance would be useful in the long-term.
10. A one-year (two-semester programme) with a total of 15 credit hours. It is currently accredited by the University of Makeni.
11. A Moodle learning environment via Raspberry Pi, a small table-top device that provides Moodle content without internet, wifi or other infrastructure

equity. Other resources from the project team can be found here.

Several other features of AQHEd-SL enabled the project to have an impact on national higher education policy. These include early activities to form a 'Skills Development Network', to inform higher education policy, as well as use of more granular 'Sector Skills Councils' (stakeholder groups described above under each cluster), effectively mobilising stakeholder participation in the future of higher education.

The project also succeeded in establishing a High-Level Task Force on Higher Education, involving senior stakeholders from government ministries, departments and agencies, universities, businesses and other organisations. The task force itself became a key participant in another major reform led by the project team – the drafting of a National Qualification Framework for Tertiary Education in Sierra Leone (NQF), to address the problem of the lack of consistent standards in qualifications awarded by tertiary and higher education institutions in the country. The potential impact of the NQF on Sierra Leone is comparable to the impact of PfP's National Harmonised Curriculum for Medical Schools on Somaliland described below.

An independent summative evaluation of AQHEd-SL was published in late December 2021 and is available here.

Prepared for Practice (PfP) in Somaliland

Led by King's Global Health Partnerships at King's College London, the PfP partnership includes Amoud University, Edna Adan University and Teaching Hospital, and the University of Hargeisa in Somaliland, along with MedicineAfrica and the Tropical Health and Education Trust in the UK. PfP represents the most recent phase of a longer-term relationship among partners who have worked collaboratively to strengthen Somaliland's health system for over a decade prior to PfP commencing in 2016.[12] The project seeks to address a health workforce crisis and strengthen health education system reform by working at the *individual* level with students, at the *institutional* level with its three partner universities, and at the *national* level with the Ministry of Education and Science, and the Ministry of Health Development to support sustainable systemic change.

Like AQHEd-SL, PfP deals with a single country and involves significant curriculum and pedagogical reform of multiple degree programmes focused exclusively on health education. For clarity, curriculum and pedagogical inputs focused on a single full degree programme in undergraduate medicine (doctors), which influenced teaching in degree programmes at multiple universities. It supported undergraduate medicine programmes at two universities (training doctors at Amoud and Hargeisa) and undergraduate nursing and midwifery at one other university (Edna Adan) through online courses supplementing existing curricula and faculty development. No other SPHEIR project involves the same in-depth disciplinary/professional focus. A second unique feature of PfP is its extensive use of volunteer health professionals, primarily from the UK, to mentor, co-teach and provide technical support to Somaliland colleagues.

Because of its particular focus, PfP is as much, if not more, a health sector than a higher education

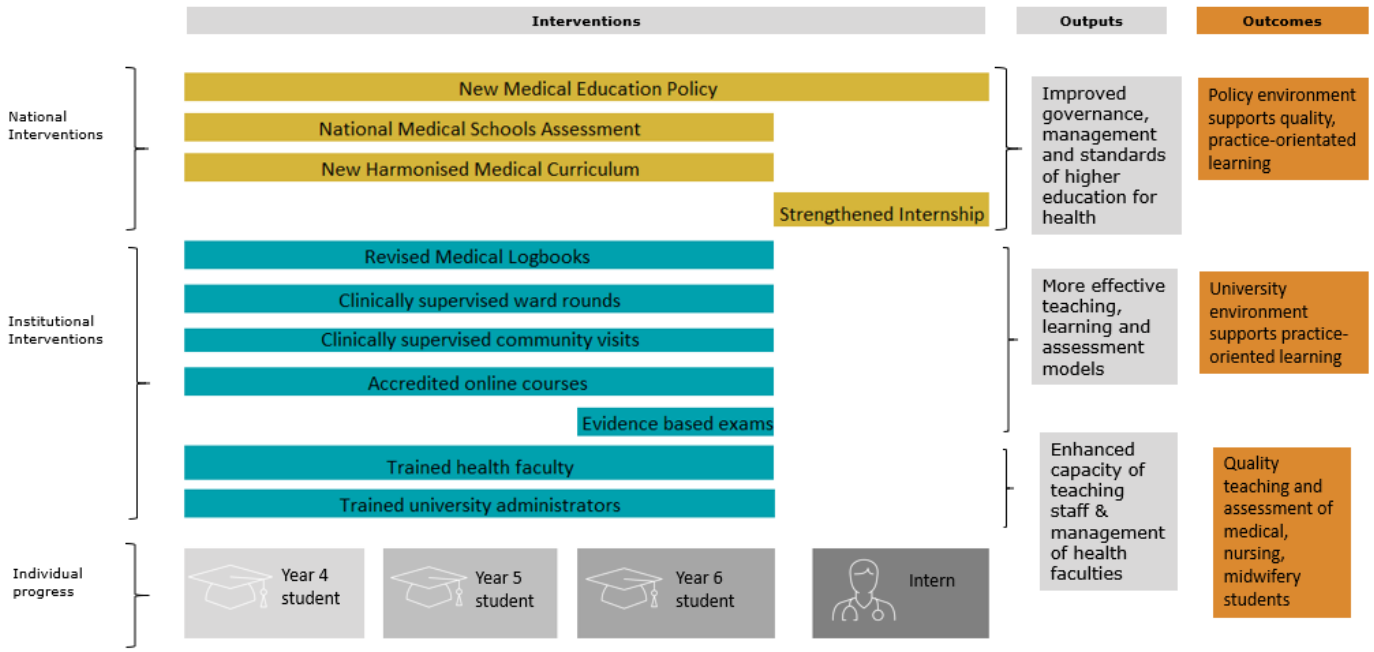
12. The only SPHEIR project with comparable history is PedaL, which built upon an existing collaboration among African universities that started in 2010.

sector reform initiative, meaning that its impact is targeted on strengthening Somaliland's health sector via improvements to medical education, rather than strengthening the functioning of its universities generally. It is worth understanding how the project characterised the challenges facing health education in Somaliland at the start of the project.

- Higher education faculties having limited administrative capacity, and not producing graduates who are prepared for clinical practice
- Teaching staff who are over-stretched, with limited pedagogical training and reliance on didactic teaching
- Use of non-standardised curriculum, examinations and differing standards of clinical competencies
- Students lacking opportunities to develop skills in clinical environments
- From a health systems perspective, limited regulation of medical schools and healthcare facilities, and a lack of coordination between government bodies responsible for health and higher education.

This paper looks specifically at PfP's curriculum and pedagogical activities in the context of this disciplinary/sectoral focus, and Box 3 below provides an overarching picture of how the combination of interventions used by PfP at the national and institutional levels was intended to effect change.

Box 3 – Prepared for Practice (PfP) theory of change



PfP's approach to strengthening existing curricula for medical, nursing and midwifery students at three of the country's leading health schools is centred around a blended approach – face-to-face delivery by Somaliland faculty, and online delivery (and co-delivery) by/with UK tutors. The process of 'course design' started with an assessment of needs and identification of subjects for online courses by

Somaliland partner universities, supported by development of learning objectives and teaching materials by UK tutors. A quality framework was used to guide the process, covering six aspects: course planning and design; professionalism and safeguarding; the interactive (online) environment; student supports; feedback and monitoring; and, sustainability. Learning objectives and teaching materials were reviewed and signed off by Somaliland faculty.

Through the design and delivery of online courses in subjects such as clinical reasoning and radiology, PfP delivers core components of the curriculum not currently delivered by universities. Online courses are delivered through MedicineAfrica, a digital educational platform that enables students in Somaliland to be taught part of their undergraduate courses by UK health workers. Small class sizes and live interactive tutorials maximise discussion and feedback – an approach shown to be effective in developing clinical competencies. Students also participate in hospital ward rounds and field trips to health facilities to gain practical experience in a clinical setting. All tutors receive training and induction on the platform and use of its features such as polls, whiteboards, breakout groups, and recorded sessions. PfP has published a blog describing its partnership model, and an article exploring the transferability of learning associated with the project's volunteer model.

Reflection and adaptation have been a feature of the project from inception. An example is the addition of new courses based on annual consultation with partners on priority subject areas, such as the addition of a course for fifth year medical students on neurology. Ideas for ongoing improvements are identified through facilitated sessions between volunteer course leads and faculty in Somaliland, to periodically review course learning objectives and content to ensure they are aligned with local teaching and are addressing the gaps identified by Somaliland partners.

To ensure that delivery of re-designed undergraduate programmes results in final year students who are suitably prepared to practise their respective professions, the project made a significant investment in supporting rigorous, evidence-based assessments. PfP supported the conduct of final year medical, nursing and midwifery examinations at its three partner universities annually, as well as at non-partner universities when requested by the Ministry of Health Development.

Utilising UK volunteers with expertise in teaching and assessment, the project facilitated improvements in Objective Structured Clinical Examinations (OSCEs), including development of marking criteria and pass rates. Prior to Covid, UK volunteers visited as external examiners, to observe conduct of examinations and provide recommendations on improvements in the process. Covid had an impact on the progression towards independent management of examinations by Somaliland university partners. PfP shifted to a remote model in which UK volunteers reviewed papers, OSCE 'stations', assessment criteria and minimum competence scores, and supported the analysis of student grades.[13]

A more fundamental change in health education will be realised by the project's role in preparation of the National Harmonised Curriculum for Medical Schools, developed in line with Somaliland's Medical Education Policy. The policy was a result of consensus meetings of health and higher education decision makers and leaders, also supported by PfP. Like Sierra Leone's NQF, the harmonised national curriculum is a considerable policy achievement that goes beyond shaping specific course curricula and will have an impact on teaching, admissions, assessment, faculty recruitment and

13. Use of short tasks (stations) as a way of testing the practical skills of students.

professional development, educational resources, technology, facilities, governance, etc.

The Harmonised Curriculum was designed according to the *'Basic Medical Education WFME Global Standards for Quality Improvement*, 2017', with its structure and headings corresponding with those in WFME standards. As the curriculum itself sets out, "*The educational strategy of the Harmonised Curriculum will enable medical students to acquire deep understanding of the fundamentals of medical practice, higher levels of thinking, transferable skills and the ability to apply these to clinical practice as well as to pursue a career that encompasses multiple roles (including health advocate, scholar and leader). They will learn to embed professional values and standards in all aspects of their work*."[14]

Underpinning both its work on targeted undergraduate programmes in partner universities, and the longer-term roll-out of the National Harmonised Curriculum, is the project's work in pedagogical and professional development of university staff through its suite of courses in Health Professions Education (HPE). HPE is a one-, two- or three-year course (Certificate, Diploma or Masters) that builds the capacity of faculty in designing and delivering quality education to health professionals through topics including pedagogy, student-centred teaching and evidence-based assessment.

Delivery of HPE is led by UK volunteers, with co-delivery of courses by Somaliland faculty part of a sustainability strategy to equip universities to deliver the courses when the project comes to an end. Covid, however, impeded the transition to co-delivery. Over 78 health faculty from across the three PfP partner universities have taken the HPE course, with 100% reporting improvements in their teaching practices, in addition to reporting improvements in their lesson preparation, and assessment and evaluation practices. The course has also been used by 18 administrators across the same universities, with the majority reporting positive professional development outcomes, such as better relationships with their team, staff and stakeholders, meeting deadlines and successful advocacy.

By way of an example of adaptation in professional development, the PfP and PADILEIA projects collaborated on an initiative called "Sharing Wisdom about Online Pedagogies", supported under a SPHEIR IPIE grant.[15] It was aimed at leveraging expertise on design and delivery of digital courses from staff in both projects through experiential learning. Covid meant that all workshops occurred online, covering mentoring practices, content development and delivery.

It is safe to say that among the five projects in this paper, PfP has probably taken the most systematic and granular approach to measuring outcomes using surveys, clinical questionnaires and interviews with a variety of participants and stakeholders. For example, graduate nurses, midwives and intern doctors are surveyed each year in order to ascertain their knowledge, practical abilities and feelings of 'preparedness'. A pre- and post- Diagnostic Thinking Inventory (DTI) survey is also conducted with final (sixth) year medical students. To triangulate findings, PfP reviews final examination results from all universities.

PfP's summative evaluation is yet to be published, although the draft report found "*that the project design was very relevant to the context intervention. As a twenty-year partnership, the project is based on a strong foundation of trust and incremental gains. Project objectives, methods and*

14. "*Somaliland National Harmonised Curriculum For Medical Schools*", 29 June 2020.
15. The *Inter-Partnership Impact Enhancement* (IPIE) grant was a unique feature of SPHEIR. Essentially, it was a competitive, grant-within-a-grant facility, to support two or more SPHEIR projects collaborating on activities that enhanced the impact of both projects. PedaL and PEBL also collaborated on training using a SPHEIR IPIE grant.

interventions are determined in collaboration with partners and in response to the needs of participants. As such, partners and beneficiaries voice their appreciation of the relevance of the project, as it addresses critical gaps in the Somaliland health system: specifically, the lack of qualified human resources, coherence and standardization".[16] Additional information on the impact of training Somaliland's health workforce is available here.

3. Curriculum reform – selected courses/modules

Three projects – Transforming Employability for Social Change in East Africa (TESCEA), the Partnership for Enhanced and Blended Learning (PEBL), and Pedagogical Leadership in Africa (PedaL) – focused their curriculum and pedagogical reforms on specifically selected modules/courses. Curriculum reform in these three projects primarily involved applying new teaching and learning strategies to existing courses, rather than significant updating of academic content.

Interestingly, TESCEA and PEBL started by identifying specific courses for re-design, which informed the selection of teaching staff for curriculum and pedagogical training; while PedaL started by identifying teaching staff for pedagogical training, who subsequently applied their training to reform their own curricula. Each project involves universities in multiple countries. Collectively the three projects have reached 117 universities across 10 countries in Sub-Saharan Africa.[17]

Transforming Employability for Social Change in East Africa (TESCEA)

Led by INASP, the TESCEA partnership involved four universities in Tanzania and Uganda – Mzumbe University, the University of Dodoma, Gulu University and Uganda Martyrs University, as well as the Association for Faculty Enrichment in Learning & Teaching (AFELT) and Ashoka East Africa.

TESCEA's overarching goal is to improve the quality and relevance of undergraduate education by reforming teaching and curriculum to enhance students' critical thinking and problem-solving skills. The project defines employability as "*not limited to employment but about a person having the mindset, potential, attributes, skills, purpose, ability and agility to define their path and create their own future*".

To establish the more granular skills associated with employability, project partners started by identifying what employers want to see in graduates. The process involved a review of regional and international literature related to graduate skills and employment, guided by a set of key research questions that considered definitions of critical thinking and problem-solving skills (i.e. what employers seek in graduates, the role universities are expected to play in development of these skills, and challenges existing in development of such skills).

After initial review of the literature, data was consolidated and sorted into four categories: skills/abilities; dispositions; teaching and learning strategies; and, assessment strategies. With support from external experts in the areas of critical thinking and entrepreneurship,[18] skills were clustered under umbrella terms, which led to three categories of clusters: i) critical thinking and solving ill-

16. "*Summative Evaluation of Prepared for Practice in Somaliland*", Philanthropy Advisors, 31 October 2021.
17. TESCEA reached four universities in two countries; PEBL 25 universities in four countries; and, PedaL 88 universities in ten countries. A few universities are involved in more than one of these projects.
18. Dr Rebecca Schendel, Prof. Diana Laurillard and Dr Rachel Wilde.

structured problems; ii) entrepreneurship and social entrepreneurship; and, iii) communication, teamwork and conflict management. These were further refined by partners to help identify the most relevant skills, taking into account the outcomes of local stakeholder consultations led by Joint Advisory Groups, established under the project by each university (see Table 1).

The framework that emerged from the above (and the process itself) is comprehensively described in a *graduate skills for employability matrix* – a tool which played a critical role in helping teaching staff to think about how to define course outcomes, and later helped in more detailed lesson planning.[19]

As noted, TESCEA chose to focus its curriculum and pedagogical reform work at the course level. Partner universities commenced by selecting specific degree programmes in each university. Within these degree programmes, specific courses were selected for re-design in each of the first three years of each programme in order to "scaffold" students' learning experience, deliberately picking courses that lend themselves to teaching for critical thinking. In this context, 'course redesign' means selective adaptation of course content and delivery, in ways that emphasise critical thinking as defined in the matrix.

Three rounds of course redesign were used, which enabled a considerable number of courses to be covered by each institution. To illustrate, Uganda Martyrs University redesigned 54 courses in four undergraduate programmes. The three other university partners also achieved impressive numbers – 39 courses redesigned in five programmes at Gulu University, 30 courses in three programmes at Mzumbe University, and 28 courses in three programmes at the University of Dodoma.

It is noteworthy that the above numbers do not include 14 courses that were redesigned *outside* the formal project, but guided by and utilising TESCEA tools and practices. The project team found that it could not "contain" project activities, such as limiting training to teaching staff in only the selected courses. The additional courses (also involving some additional degree programmes) are evidence that teaching staff are intrinsically motivated to enhance the learning experience of their students, and seized the opportunity presented by TESCEA to do so.

In order to stimulate academic staff to rethink their approach to teaching and learning, TESCEA started with a foundation workshop in "transformative learning". It proved valuable in creating interest and commitment to change at the commencement of the project, and established a shared understanding of key concepts and goals across the partnership. Some partner universities later replicated the foundation workshop within their own institution in order to broaden support for change among senior and mid-level management.

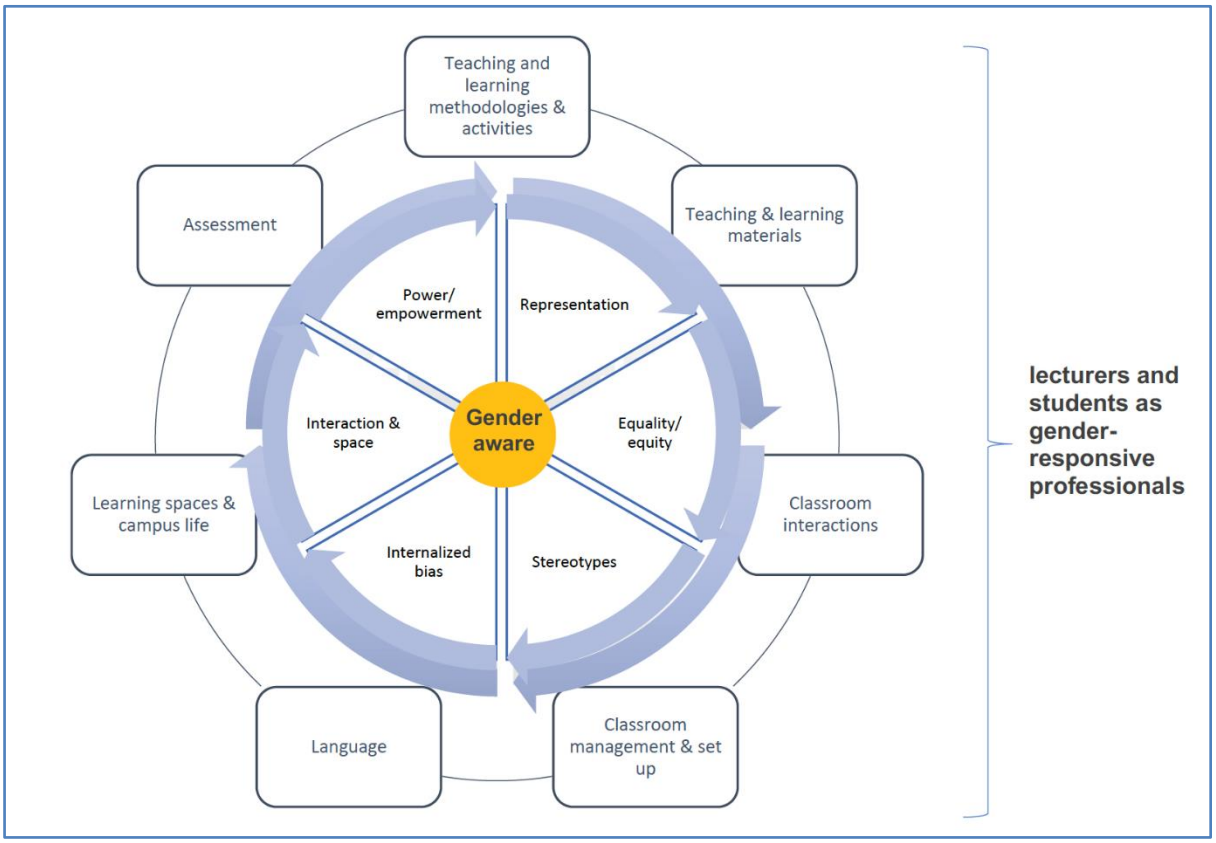
Following the initial 'transformative learning' workshops, more granular curriculum design workshops were used, drawing on the skills matrix which is aligned to Fink's "*taxonomy of significant learning*".[20] Workshops varied slightly by university and ran in three rounds as noted above. There is now an online version of this workshop covering the concepts, tools and practices and involving peer discussion over a ten-week period. As a further example of adaptive implementation, the team found that many teaching staff were still uncertain how to move from course-level design to actual teaching.[21]

19. "*Graduate skills for employability in East Africa: Evolution of a skills matrix for course redesign*", Joanna Wild, Mary Omingo, 30 January 2020
20. https://www.deefinkandassociates.com/GuidetoCourseDesignAug05.pdf
21. INASP and TESCEA paid particular attention to programme adaption as described in "*Using adaptive monitoring, evaluation and learning in*

In response, the project developed a six-week online course making use of Learning Designer (a free tool developed by the UCL Knowledge Lab).

The most engaged academics in TESCEA became "multipliers" – people trained to themselves train and mentor colleagues within their respective universities, described by Gloriana Monko from the University of Dodoma in this video. Training-of-trainers covered course re-design and gender responsive pedagogy. The latter was emphasised from the outset of the project, and the approach is illustrated by the framework in Box 4, and also referenced in Table 3.

Box 4 – TESCEA gender responsive pedagogy framework



Priority was given to helping lecturers introduce changes in teaching and learning as rapidly as possible. This meant that as training and course redesign changes were made, they were introduced to students in the immediately following semester, enabling student feedback to inform further course adaptation. Similar to PEBL, the scale of changes made in the academic content of each course (as distinct from teaching and learning strategies) was managed to reduce the need for re-accreditation, making it possible for re-designed courses (and learning design) to reach students quickly.

Additional observations on TESCEA's curriculum and pedagogical reform experience, as well as its particular approach to universities' engagement of employers and community stakeholders can be found in its summative evaluation here.

programme design: Reflections from a new partnership with higher education in East Africa".

Partnership for Enhanced and Blended Learning (PEBL)

As per the name, PEBL is focused entirely on blended learning, and all its activities are devoted to helping its network of universities develop capabilities in three interconnected aspects of blended learning: i) content development; ii) quality assurance (QA); and, iii) facilitating open access to new blended learning courses for universities wishing to use PEBL-supported courses. The project, led by the Association of Commonwealth Universities (ACU), involves 23 universities across Kenya, Uganda, Tanzania and Rwanda.

Four aspects of PEBL's curriculum and pedagogical reforms are especially noteworthy:

- In an environment somewhat resistant to and sceptical about distance education, PEBL helped universities appreciate that blended learning *can* involve high-quality content and *can* provide students with an effective learning experience
- PEBL included substantial attention to capacity building in QA, linking this to the reform of curriculum and pedagogy, as well as to broader institutional QA practices[22]
- PEBL's blend of curriculum and pedagogical capacity building enabled teaching staff involved in the project to play key roles as their universities grappled with Covid's impact and the consequential pressures to transition from in-person to remote teaching
- The wide variety of courses developed – 26 modules, with all but one at the undergraduate level – effectively adapted *existing* content from face-to-face to a blended delivery format. For the most part, course changes were made in teaching and delivery, rather than academic content.

The latter point was an intentional feature of the design of PEBL. Similar to TESCEA (and to some extent AQHEd-SL), managing the scale of academic content changes made to a course reduces the need for its re-accreditation, expediting its roll-out to students. In PEBL's case, this made it possible to see more redesigned courses readied for use during the life of the project. Broadly speaking, PEBL curriculum and pedagogical reform involved the activities summarised below (some of which were sequential and some concurrent).

The project commenced with orientation of university partners, national commissions and prospective 'participant' universities to the concepts and practices associated with development and implementation of blending learning.[23] Orientation included introduction of a model for academic development provided by the Staff and Educational Development Association (SEDA), a technical partner; and a model for development of QA practices at the level of courses and institutions by the Commonwealth of Learning (CoL), another technical partner.

Substantive project activities commenced with Vice Chancellors selecting the subject areas (ICT, business, health, applied sciences and education were chosen), from which candidate courses would

22. AQHEd-SL is the only other SPHEIR project that included a focus on QA. Both PEBL and AQHEd-SL included a national higher education commission among their project partners.
23. PEBL made a distinction between universities that were formal 'partners' (involved in project management and accountability) and 'participant' universities (those who benefitted from project activities but were not part of the formal project management structures). Over time the distinction became less obvious.

be competitively selected for reform. This was followed by three rounds – called batches – where course proposals within these subjects were submitted by universities. For each 'Batch', the selection process looked at learning outcomes, assessment plans, and demand (measured through the number of students enrolled), with the best-scoring course proposals funded for development.

In each Batch, teaching staff associated with the selected courses participated in training for 'academic developers' on how to design effective blended learning modules. It consisted of two units – Supporting Technology-Enhanced Learning (STEL), and Developing People and Enhancing Practice (DPEP). Similar to TESCEA's 'multipliers', some academics from the first Batch were further trained to support colleagues in their respective institutions and acted as 'tutors' for Batch 2. Some subsequently acted as 'mentors' for Batch 3, as some participants from Batch 2 themselves became tutors for Batch 3.

Over the three Batches, adaptations were made to SEDA's training, including the development of a module design template (for Batch 2 and 3), and the migration of the Batch 3 course to fully online delivery due to Covid. Course development began during the training in each Batch, so that teaching staff had opportunities to receive peer feedback, and guidance from SEDA trainers, who also reviewed final course designs.

Concurrent with the above, QA training and technical guidance was provided by CoL to the PEBL university network, notably the introduction of a Quality Assurance Rubric for Blended Learning. Universities were trained on the rubric's application, including its use while designing courses. It covers seven topics: programme and course design; learner support; materials development; student assessment; infrastructure and facilities; staffing; and, open and distance learning systems and structures. The rubric has 47 criteria/indicators against which components of blended learning courses can be self-assessed or formally scored. Box 5 shows the rubric's template for assessing quality elements of instructional design.

Box 5 – QA rubric for instructional design

Category	Quality Element	Qualifiers				Feedback	
		Fully Met	Part. Met	Not Met	N/A	Evidence of Quality Element Fully Met	Improvement Needed
3. Instructional Design (e.g., the content is pedagogically sound)	a) Learners are exposed to a variety of learning activities.						
	b) Learning activities / instructional materials are linked to learning outcomes.						
	c) Instructional materials contribute to the achievement of the stated learning outcomes.						
	d) Active learning strategies are used that engage the student and promote the achievement of the stated learning outcomes.						
	e) Learning activities provide opportunities for interaction (student–student, student–instructor, and with materials / technology) that support active learning.						
	f) Access to external programs / software is available (e.g., SPSS).						
	g) Media is thoughtfully integrated in the course (i.e., short videos, variety of interactive features).						
	h) The LMS is learner friendly (e.g., minimal clicks, minimal external links or documents to access, as is feasible).						
	i) There are learning activities designed to engage students in critical thinking.						

CoL also provided online training on Blended Learning QA and QA in the African HE context, and introduced a QA Review Tool to assess the QA system in the network of universities. Trained on use of the tool, university QA staff collected and analysed data, and then drafted action plans for their respective institutions. Another PEBL partner, Kenya's Commission for University Education (CUE), provided feedback on all of the QA tools introduced through the project.

Another technical partner, the University of Edinburgh, supported PEBL universities with training on open education resources (OER), as well as downloading and uploading re-designed courses on the OER Africa platform. All courses have open access licences for use by any university or academic.

PEBL and PedaL (below) also collaborated through SPHEIR's IPIE grant facility, to respond to universities' concerns that teaching staff did not always know how to use virtual learning environments. Training initially included 36 academics in the PEBL network, extending to more than 200 through follow-up trainings in PEBL and PedaL universities, through two training courses on Technology Enhanced Learning and Online Grading and Assessment.

Delivery of blended content is the responsibility of each university that chooses to utilise PEBL-developed courses, with the online component of blended courses made available to students through their universities' learning management system (LMS). Students receive credit for these courses from their respective institutions.

The following sample illustrates the diversity of courses developed through PEBL, their utilisation by

universities, and the number of students reached by early 2021: *Psychology of Learning* (2,567 students in one university); *Introduction to Critical Thinking* (400 students in two universities); *Introduction to Entrepreneurship* (5,772 students in three universities); and *Research Methodology and Design for Business* (2,323 students in five universities). PEBL's summative evaluation offers some interesting insights based on its survey of teaching staff and students, and identifies lessons beyond those that can be covered here.

Drawing on the success of PEBL as well as its lessons, the ACU, along with CoL, SEDA, the National Open University in Nigeria, and Nigeria's National Universities Commission, has launched PEBL West Africa with the support of the Australian Department of Foreign Affairs and Trade. It will build sustainable capacity for blended learning and development of quality-assured, credit-bearing blended courses involving 12 partner universities in Ghana and Nigeria.

Pedagogical Leadership in Africa (PedaL)

PedaL seeks to create systemic change in teaching and learning by equipping African academics with competencies for pedagogical practice and leadership, creating an active community of practice, and facilitating institutionalisation of pedagogical excellence in universities. The need for PedaL was driven by the view that while many teaching staff in African universities are highly qualified in their particular discipline, they often lack pedagogical skills, hindering their ability to facilitate the learning process for students. PedaL seeks to address a systemic gap in African higher education – specifically, that pedagogical competency is not a requirement for teaching or advancement at most African universities, and that few academics have themselves been taught how to teach. To be clear, this situation exists in many higher education systems outside of Africa.

The project is led by the Partnership for African Social & Governance Research (PASGR) based in Kenya, working with the University of Dar es Salaam (Tanzania), Egerton University (Kenya), University of Ibadan (Nigeria), University of Ghana, Uganda Martyrs University, Alliance for Research Universities in Africa (ARUA), and the Institute of Development Studies, University of Sussex (UK).

Taking a different path to TESCEA and PEBL, PedaL starts with pedagogical capacity building to catalyse changes in how academic staff approach teaching and learning. It is through the application of PedaL practices that teaching staff later undertake reform of curricula they teach. PedaL's model is comprehensively focused on pedagogical training at scale, and while its impact on specific curricula is less immediately visible, it is by no means insignificant – over 1,700 courses have been revised by lecturers involved in PedaL across the continent to date.

Initially PedaL involved teaching staff in 25 graduate social sciences degree programmes, selected primarily because the social sciences are distinctive in understanding how societies function, and how people participate in and influence societies. Masters programmes were targeted because they involve a cohort of students more likely to take up university teaching positions upon graduation or after doctoral studies. Uptake of PedaL pedagogy in Masters programmes was intended to lead to adoption in Bachelors, Masters and Doctoral programmes and, because most are two-year programmes, gauging impact on students was more feasible during the life of the project. Although largely focused on social sciences, PedaL has also been able to demonstrate that innovative pedagogies are equally valuable in the natural sciences – something which is also borne out by the

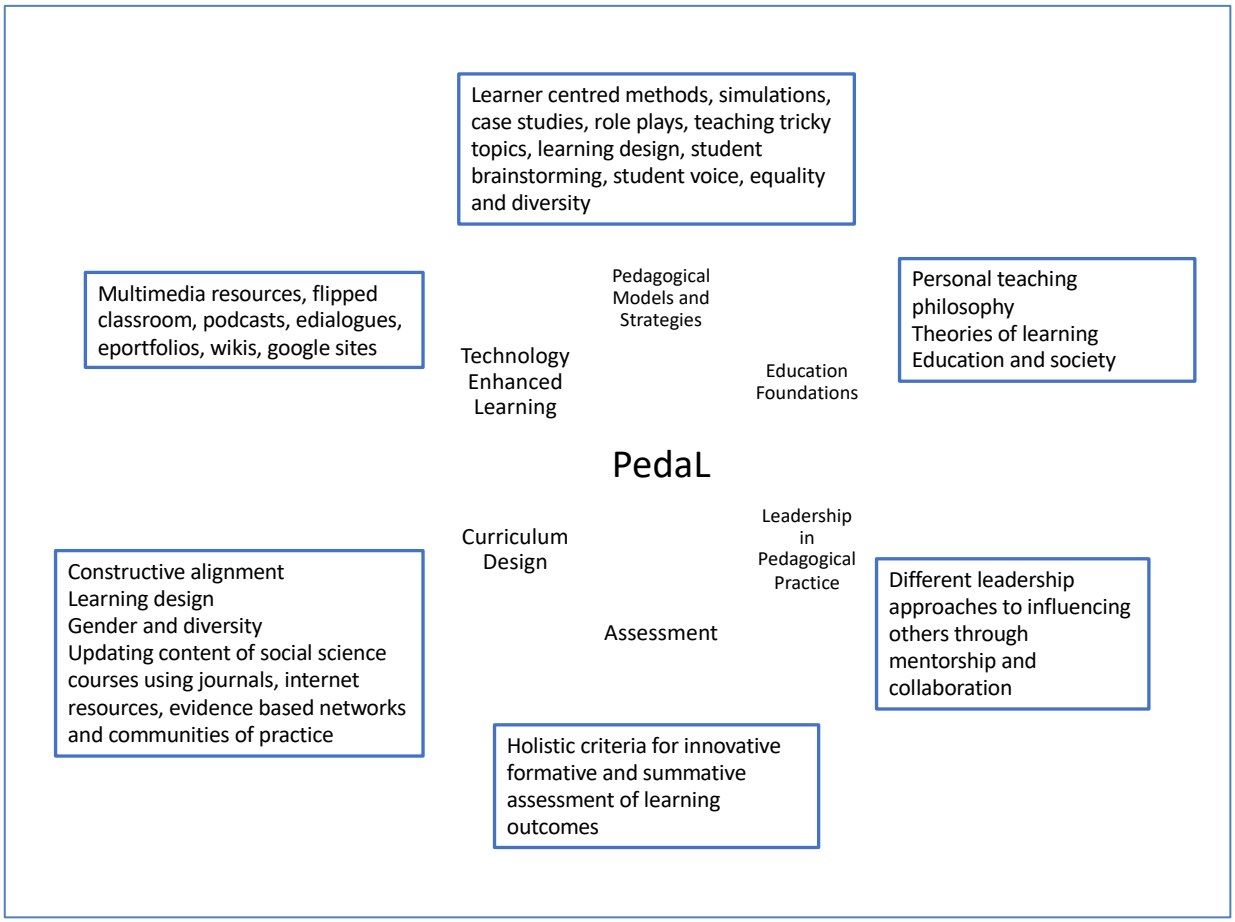
degree programmes covered in AQHEd-SL and PfP.

Commencing with teaching staff from the 25 initially targeted programmes, by June 2021 PedaL involved teaching staff in 737 programmes – 268 in partner universities, and 469 in non-partner universities. It uses a suite of training and tools concerned with the design, context, processes and content of teaching and learning, such as use of case studies, flipped classroom, role plays, and a range of problem-based learning aimed at maximising learning outcomes among students.

PedaL's core training was collaboratively designed in June 2018 by teaching staff from 13 African universities, assisted by resource persons from within and outside the continent.[24] Design was informed by two complementary theoretical frameworks: i) the John Biggs' Model of Constructive Alignment, used by PedaL to explain the logical connection between objectives, learning outcomes, learning activities and assessment tasks; and, ii) the Revised Bloom's Taxonomy Framework, used to explain types of knowledge to be acquired if students are to shift away from memorisation.

As illustrated in Box 6, 'PedaL pedagogy' includes six building blocks/modules, clockwise from the top: pedagogical models and strategies; educational foundations; leadership in pedagogical practice; assessment; curriculum and learning design (which encompasses gender responsive teaching and attention to diversity); and, technology enhanced learning.

Box 6 – PedaL pedagogy *building blocks*



24. PedaL builds upon a range of pedagogical innovations used earlier in the development of a collaborative Master of Research and Public Policy programme by PASGR and other PedaL university partners, and several other African universities.

Delivery of PedaL modules involves a blended approach, with face-to-face training interspersed with online engagement and practical application of skills in the classroom, although since Covid all delivery moved online. Training is offered over a period of one year in a flexible mode, and is delivered in a centralised location or in individual universities, facilitated by a core team of female and male trainers from across the continent and beyond.[25] The number of resource persons from African universities has grown to 119, 49% of whom are female.

By the end of training, participants are ready to implement innovations in their own teaching. This is supported by synchronous and asynchronous experiences using PedaL's customised LMS, to facilitate interactions with peers in their own institution, and in the wider PedaL community-of-practice. The LMS is the key tool supporting reflective practice, knowledge transfer and mentorship, and ultimately supporting their personal work on curriculum reform. Teaching staff are expected to capture and share a summary of reflections on their pedagogical experiences and update this periodically, and are actively encouraged to apply new skills and experience in the re-design of one or more of the courses they teach.

Design templates are provided, which are structured to prompt application of PedaL practices in setting out course objectives, expected learning outcomes, and the identification of teaching and learning methods to be applied to the specific content covered in each week of a semester, as well as assessment plans and the teaching resources/supporting technologies used.

Like other SPHEIR projects, adaptation played a very important role in PedaL, evidenced by:

- PedaL's collaboration with PEBL in response to concerns that teaching staff did not always know how to use virtual learning environments, leading to new courses like "Intensified University Teacher Preparation for the Digital Era", for faculty members from five universities that are part of both PEBL and PedaL.
- Development of PedaL Online, an adapted version of PedaL's pedagogical training that took teaching staff through the process of course planning (for face-to-face and online delivery), course design, effective online facilitation, and innovative assessment of online learning. Participants benefitted from a range of opportunities for collaboration, experience-sharing and reflective practice, using tools like: e-portfolios; online journals; feedback surveys; Zoom breakouts, discussion forums and chat rooms; and, collaborative wikis. All courses are benchmarked on the UNESCO ICT Competency Framework for Teachers.

As of June 2021, over 2,500 teaching staff across Africa have been trained through PedaL (41% of whom are women). To date, this has led to over 1,700 courses being redesigned by lecturers, applying new assessment strategies. These are individual courses (not part of reform of a full degree programme), and reflect the personal ownership of pedagogical leadership by PedaL academics.

Perhaps more significant in the longer term is that PedaL has created a growing network of African academics extremely well-equipped to lead or participate in more comprehensive curriculum reform and pedagogical transformation in their institution, country, or through the rich variety of regional university networks. A considerable number of teaching staff involved in AQHEd-SL, PEBL and

25. Including the Open University, UK; IDS, University of Sussex and University of Minnesota,

TESCEA are part of the PedaL network (or its antecedent, the PASGR-led collaborative MRPP programme), and some are PedaL resource persons. Many of the universities reached by PedaL are also part of other regional networks such as RUFORUM, ARUA and the African Centres of Excellence.[26]

4. Comparative aspects of curriculum and pedagogical reform

As noted in the introduction, although each project made its own determination regarding aspects incorporated into its respective reform activities, five in particular merit attention to the differences in approach taken.

- Employer and stakeholder engagement
- Internal or external quality assurance practices
- Development of gender responsive curriculum and teaching
- Approach to and recognition of pedagogical training or practice
- Non-academic skills such as critical thinking, problem-solving, communications or other so-called 21st century skills.

Some of these aspects are central to the design of specific projects, and are already covered in Sections 2 and 3 – for example, TESCEA's approach to critical thinking – so some sections in Tables 1 through 5 are shorter than others.

The first aspect – *employer and stakeholder engagement* – pertains to the involvement of individual employers, community organisations, alumni, students, sector bodies or organisations in the review and design of curriculum, or in the design of pedagogical training. For obvious reasons, such engagement has particular importance where the *academic* content of a degree programme or course is being revised, as illustrated in Table 1 especially by AQHEd-SL.

Table 1 – Engagement of external stakeholders

Partnership	Approaches taken
AQHEd-SL	Engagement of stakeholders (using the term in the broadest possible sense) was a major dimension of the project from its conception, and took a variety of forms. Initial efforts focused on forming a 'Skills Development Network', an overarching forum for employer and stakeholder engagement. This gave way to use of the more granular 'Sector Skills Councils', effectively the stakeholder groups in each subject cluster established by the project, who advised on the content of degree programmes to ensure they were better aligned with the realities of the working world. Collectively, over 160 individuals from close to 100 different organisations participated in various curriculum design activities, identifying the skills/attributes desired from graduates and gaps in academic content. For some clusters like STEM, employers shared views on the relevance of specific technical content to jobs in the current market, and views on the optimum learning progression of technical skills. In others, like the Management cluster, employers focused on general knowledge or skills gaps observed in past graduates, such as problem-solving, communications, and numeracy, to inform how development

26. Regional Universities Forum for Capacity Building in Agriculture (RUFORUM), African Research Universities Alliance (ARUA)

Partnership	Approaches taken
	of these skills might be better incorporated into teaching. In the later stages of the project, significant new mechanisms involving stakeholders were introduced to shape higher education policy, such as establishment of a High-Level Task Force on Higher Education, which was formed to improve and strengthen the ties between stakeholders and academic institutions created by the project and to sustain reform momentum. Aside from contributing to the development of the National Qualification Framework (see Table 2), stakeholders have been invited to give guest lectures, allowing them to interact directly with students, and join networking events to raise awareness and strengthen ties between stakeholders and academics. A blog on AQHEd-SL's university-employer engagement is here.
PfP	Employers of health professionals in Somaliland include public and private clinics and hospitals. Developing and delivering course content through face-to-face and online methods involved consultations with these employers, as well as with professionals in the UK's National Health Service. More broadly, the project has been engaging public and private stakeholders in Somaliland as part of the development of a national medical curriculum. For example, academic staff, employers and students were brought together in small working groups to define core curriculum content in order to address the primary clinical problems encountered in Somaliland. Indirectly, external stakeholders also contributed through the processes associated with the development of the CanMEDS framework and World Federation for Medical Education (WFME) standards, both of which were adapted for application in Somaliland and are covered in Table 2 below.[27]
TESCEA	Engagement of employers and community stakeholders started at the outset of the project to inform the development of the "graduate skills for employability" matrix, and continued through the Joint Advisory Groups (JAGs) created in each university. Although JAGs were not created expressly to play a role in curriculum design, some JAG members became involved in the course redesign process within TESCEA. JAGs also played a role in facilitating participation of guest lecturers, and as advisers and brokers helping to connect the university to other external stakeholders, or to initiate internship or project opportunities. Papers, blogs and a video related to TESCEA's involvement of employers and JAGs are available here.
PEBL	PEBL was primarily concerned with adapting existing content from face-to-face to blended delivery format, so for the most part academic content was not changed, lessening the need and opportunities for employer input into redesign of specific courses. The number and variety of courses selected for development meant that engagement of external stakeholders was left to the discretion of individual teaching staff as existing courses were re-developed for a blended format. Employer and stakeholder engagement is part of the QA Rubric (particularly under content), for example through development of learning outcomes against workplace standards and use of relevant learning frameworks.
PedaL	PedaL's external stakeholder engagement occurred at several levels. A variety of stakeholders were part of the design of PedaL training, and participated in events such as annual convenings. Many of the teaching strategies that are part of PedaL involve lecturers identifying and connecting with external stakeholders, to elicit their involvement in simulations, contribute to conventional case studies or e-cases, or become involved as visiting lecturers.

A learning paper exploring varieties of employer engagement within SPHEIR looks at: employer input into curriculum design; strengthening the relationship between the university and community; employer

27. CanMEDS, Royal College of Physicians and Surgeons of Canada.

interaction with students and academic staff; and, influencing the university as an employer.[28] The SPHEIR knowledge bank also contains a section dedicated to this topic.

Table 2 illustrates the various ways in which *internal or external QA processes* were used to inform, review or approve any courses or degree programmes reformed under the SPHEIR projects discussed here. As is evident, QA was more formally a part of some projects than others.

Table 2 – Internal or external quality assurance

Partnership	Approaches taken
AQHEd-SL	The project is unique within the SPHEIR portfolio in the comprehensiveness of its transformation of internal and external QA systems and practices in a single country. This involved multiple interventions that have complemented other core project activities like curriculum and pedagogical reforms. The main features of QA include: • Development and implementation of a Diploma in QA, with three cohorts of graduates now working on internal QA in universities or on external QA through the TEC • Development of comprehensive tools and documents like the various templates and guidance documents, validated in March 2021[29] • Institutionalisation of QA units in partner universities, utilising the project's QA Manual to monitor revised curriculum, and report internally or to the TEC where required • Strengthening the capacity and professionalism of the TEC. Note: It is important to underscore that some of the above were not funded by the project itself, but rather represent investments by the TEC or by universities (e.g. hiring of QA staff for newly created units), although catalysed by the project. AQHEd-SL also drafted a National Qualification Framework (NQF) for Tertiary Education in Sierra Leone, to address the problem of the lack of consistent standards in qualifications awarded by tertiary/higher education institutions. The process illustrates the level of project commitment to stakeholder engagement, such as: i) engagements involving the Ministry of Technical and Higher Education, the National Council for Technical, Vocational, Academic Awards and the TEC; ii) use of a 'town hall' to establish a common understanding of what the NQF was setting out to achieve and obtain stakeholder feedback; and, iii) a workshop on calculating credit hours for each degree programme being piloted under the framework (the eight degree programmes redesigned under the project) in order to improve understanding of the concept by institutions. A project video on QA is available here.
PfP	Two aspects of QA are apparent in PfP, the first related to review of specific courses developed for undergraduate programmes and the HPE. Both involved a process of external quality review by expert volunteers, including colleagues at the University of Manchester (also involved in supporting development of the national harmonised curriculum). The second aspect relates to the adaptation of internationally recognised standards to inform preparation of the national harmonised curriculum. This included use of the CanMEDS framework and WFME Global Standards for Medical Education.
TESCEA	Curriculum re-design in TESCEA did not involve any formal QA processes as part of project activities. However, partner universities have their own QA processes, which generally apply where re-design of a course is of a scale that necessitates re-

28. "*Varieties of employer engagement and higher education transformation in SPHEIR*", Hoffman, J., September 2020.
29. *Quality Assurance in Higher Education: Manual and Templates for Quality Assurance Professionals in Sierra Leone,* 2021, co-authored by Prof. R. Frazer-Williams; Prof. J. Redwood- Sawyerr; Ing. A. B. Savage; with contributions from AQHEd-SL partners and stakeholders.

Partnership	Approaches taken
	accreditation. Even where formal accreditation was not needed, each university used its own internal processes prior to re-designed courses being delivered to students.
PEBL	PEBL included a significant level of attention to strengthening QA practices associated with blended learning and broader institutional practices. The application of QA to blended learning courses took several forms: • Use of QA Rubric by teaching staff and trainers during course development in each Batch of modules produced under PEBL; • A peer review process employed to examine each course once developed, which was replaced by a more formal review of courses by SEDA experts; and, • Application by each individual university of its own QA and approval requirements to courses developed by its own teaching staff. In practice, this meant considerable variation in approach as some universities' QA capacity is more developed than others. Because the development process left most academic content unchanged since it was last formally approved by the university and/or national commission, courses developed via PEBL were not necessarily subject to the same level of QA scrutiny as a completely new course would receive.
PedaL	PedaL utilised QA professionals from partner universities during the design and development of training, as well as in specific training modules. QA resources are also available to teaching staff as they re-design courses following training. The extent to which specific courses re-designed by each lecturer are subject to formal QA review varies depending on the course, scale of change in academic content, and the university. Some universities, like Egerton (Kenya), or Uganda Martyrs, opted to accredit PedaL as either a post-graduate diploma or a degree programme, utilising formal QA mechanisms in their institutions and respective national commissions.

Table 3 captures how projects dealt with development of *gender responsive curriculum or teaching*. As illustrated below, this aspect of reform was central to some projects, while more tangential to others. All projects made efforts to address gender and other aspects of inclusion, and a variety of resources describing this are available here.

Table 3 – Development of gender responsive curriculum or teaching

Partnership	Approaches taken
AQHEd-SL	Project design treated gender, diversity and inclusion as "transversal topics", so that they would be integrated into all forms of trainings, and covered in the various project manuals and guidebooks, including the draft NQF. The main practical activities involved pedagogical training focused on gender responsiveness in teaching methods, and advocacy for equity within institutions, such as "Gender Champion" training. Training covered such areas as gender images and stereotypes, equity versus equality, understanding the gendered aspects of meritocracy, and the contextualisation of HE in a (gendered) society, and were carried into the train-the-trainer model as training was localised due to Covid. The project management unit used regular high-level meetings with leaders in institutions to promote adoption of equity and inclusion principles, and gender and inclusivity trainings were held with administration staff at Njala University, the University of Makeni, Ernest Bai Koroma University of Science and Technology, and Freetown Teachers College. The head of the 50/50 Group (a national gender advocacy NGO) sits on both the High-Level Task Force and the National Qualification Framework Task Force, to help mainstream gender and equity within their respective activities and any subsequent policies developed. 50/50 also engaged the Committee of Vice Chancellors and Principals on several occasions to advocate for equity and inclusion at

Partnership	Approaches taken
	the top levels of institutions. The University of Makeni established a gender office to advocate for female student and staff participation in university activities and decision making, and act as an independent complaints and investigations office for discriminatory/harassment issues. Similar staff and student advocacy efforts have been set up in other universities.
PfP	Monitoring student outcomes by gender and strengthening the project's "gender lens" involves analysing graduate data, particularly around the dimensions of "preparedness" for practice, and the student's journey from university to the workplace. Analysis of qualitative data on gender associated with the HPE courses is being incorporated into the project's summative evaluation. Internal data reveals that women feel prepared for work proportionally to men and face proportional problems in the areas of clinical procedure and medical knowledge, but are not in employment at the same rate as their similarly qualified male counterparts. Qualitative data from faculty studying on the HPE illustrates many barriers to professional development and work faced by women, but also shows how management of the HPE courses ensured these barriers did not affect training outcomes for women. PfP had intended to facilitate cross-organisational discussions on gender at its National Stakeholder Conference, which was postponed due to Covid. The team is reviewing equity data and discussing what can be done in the future to increase equity in health education.
TESCEA	A framework and approach to gender responsive pedagogy was co-developed with partners during the TESCEA project, (and also shared with AQHEd-SL, through INASP's involvement in that project). Universities were helped to integrate this framework into activities to ensure that the needs of both men and women are supported as part of the student journey, aimed at improving the employability and social impact of graduates as knowledge of gender responsiveness developed during their studies is brought into their future careers. The approach involves several phases of work, from scoping and establishing strong foundations for a gender responsive pedagogy, to development and scale-up across a university's programmes, making academic staff aware of how their classrooms, courses, materials, language, and teaching methods can influence the inclusivity of the learning experience. The TESCEA team itself noted that earlier course design workshops didn't integrate gender as strongly and as clearly as it would have liked. However, TESCEA went further than several other SPHEIR projects in making gender responsive teaching and learning an integral aspect of its curriculum reform activities. The project has published its framework and approach as well as a learning brief on the outcomes of TESCEA's work on gender-responsive pedagogy.
PEBL	PEBL monitors gender data for students taking PEBL courses and academics trained. Proposals for the courses selected to be redesigned under PEBL required information on the number of female academics involved in the design work, and the number of female students taking the traditional version of the course. As courses were delivered, data was collected to assess the perception of academics regarding the impact of blended learning on access to education for female students. SEDA's STEL training module on diversity and inclusion includes gender and other individual differences that affect learning. PEBL's module development teams were asked to comment on inclusivity with respect to each learning unit.
PedaL	PedaL's comprehensive approach to pedagogy includes practices in curriculum reform that integrate gender and inclusivity. Particular attention is paid to gender dynamics in the content of modules and selection of teaching and learning materials, as well as in classroom interactions, especially around inclusivity – such as equitable class participation and seeking the voices of marginalised groups to bring issues that affect them to the centre of learning. PedaL training includes a case study on female genital

Partnership	Approaches taken
	mutilation and one on gender sensitive policies. PedaL's training curriculum and resources were reviewed and enhanced to integrate inclusion into all modules – for example, integrating a case study on disability within an African context into PedaL Online. PedaL also deliberately supported female leadership in influencing the design and implementation of its training. By June 2021, the ratio of female-to-male resource persons was 58:61. Gender and inclusion were also reflected in the selection of the initial graduate social science programmes from which teaching staff were drawn for training. Programmes were selected with attention paid to equity and domains that address gender and marginalised groups. The four programme types selected were: Gender and Development Studies; Refugee and Migration Studies; Peace and Strategic Studies; and, Security Management. A case study related to PedaL in SPHEIR's mid-term evaluation looks at attributes of female leadership in pedagogical transformation, another aspect of gender in higher education in Africa.[30]

All five projects involved a significant investment in professional development of staff, primarily teaching staff, although QA and academic administrators were also trained. Table 4 illustrates the variety of ways in which *recognition of training and practice* occurred.

Table 4 – Recognition of training and practice

Partnership	Approaches taken
AQHEd-SL	Although there is formal recognition of participation in the project's pedagogical, gender and critical thinking training sessions, this does not involve accreditation similar to that received by participants in PEBL's initial cohort of SEDA-led training (see below). The QA Diploma developed by the project is a formal academic award accredited by the TEC and currently granted by the University of Makeni regardless of which institution graduates come from. Project partners are considering whether to upgrade the diploma programme to a BA, MA or PhD.
PfP	PfP's primary instrument for capacity building of higher education personnel is through the Certificate, Diploma and Masters in Health Professions Education (HPE) for faculty members, and the progressive transfer of HPE delivery to partner institutions for long-term sustainability. The first cohort graduated from the three-year programme in 2020, all 17 (10 male, seven female) students who started the Masters year completed it and received the Masters qualification. Follow-up indicates that students from the HPE course are at the forefront of leading reforms in their respective institutions. The joint PADILEIA/PfP professional development activity, "Sharing Wisdom about Online Pedagogies" did not involve formal accreditation given its experiential, knowledge-sharing orientation.
TESCEA	TESCEA activities include a significant number of workshops and training events, although participants received no formal certification following participation. Nor did 'multipliers' receive any formal accreditation. TESCEA's summative evaluation captures lessons and feedback from participants about their experiences during the project, including comments on training.
PEBL	Batch 1 "academic developers" participating in SEDA courses were accredited via one or two awards: Supporting Technology-Enhanced Learning (STEL) or Developing People and Enhancing Practice (DPEP). SEDA accreditation represents a UK professional

30. "*Eight attributes of female leadership transforming social science pedagogy in higher education institutions across Africa*", March 2021. The case study is part of an evaluation of the SPHEIR programme carried out by IPE Tripleline, Technopolis Group, and the University of Bedfordshire.

Partnership	Approaches taken
	standard in higher education teaching. As Batch 2 progressed and training involved 'tutors' and 'mentors' supporting colleagues in their respective institutions, formal SEDA accreditation became more challenging, as SEDA was less directly involved in delivery. Consideration is being given to how formal recognition of training can be offered in future initiatives, including PEBL West Africa. Other training under the project – for example the various CoL QA, or the PEBL/PedaL courses on TEL and Online Grading and Assessment – did not include formal accreditation or certification.
PedaL	Three levels of recognition are potentially available depending on where and how participants complete PedaL training activities: • All those successfully completing face-to-face and online engagement activities are awarded a certificate of accomplishment; • Upon completion of all training plus reflective practice and pedagogical leadership activities, participants attain a 'PedaL fellow' status attesting to outstanding competence; • Where the full PedaL programme is accredited by a university, participants at these universities will obtain either a post-graduate certificate; post-graduate diploma; or a Masters degree in pedagogical practice and leadership, for example, Egerton University has approved a postgraduate diploma in PedaL, and a Programme for a Master of Innovative Pedagogy and Leadership has been accredited by the National Council for Higher Education for offer at Uganda Martyrs University.

Attention to *non-academic skills* such as critical thinking, problem-solving, communications or other so-called 21st century skills is an increasingly visible aspect of higher education reform, and not unique to SPHEIR. As Table 5 illustrates, coverage is more central to some projects than to others, and has been approached in a variety of ways.

Table 5 – Non-academic skills (i.e. critical thinking, problem-solving, communications)

Partnership	Approaches Taken
AQHEd-SL	The critical thinking training in the project was led by INASP, drawing in part on their work described below under TESCEA. Coverage of critical thinking and related skills was infused in several activities: • Specific workshops initially provided by INASP, and later adapted for localisation • Coverage of critical thinking in various components of the pedagogical workshops and in the manual provided by the University of Illinois Urbana-Champaign • Use of locally appointed "Critical Thinking Task Force officers" involving a train-the-trainer approach, with all post-Covid training run exclusively by in-country taskforces • Coverage of critical thinking in the project's QA training and manual • Incorporation of critical thinking elements in curriculum revisions in all four subject-based clusters and in the two-volume handbooks and other resource materials on curriculum revision.
PfP	In the context of PfP's medical education focus, an approximation to critical thinking is often referred to as clinical reasoning. The National Harmonised Curriculum sets out several ways that 'critical thinking', analysis, clinical reasoning, communication skills, etc. form part of an appropriate standard of "*professional behaviours and values expected of a good doctor, including probity, ethical practice, working with patients, society and other health care professionals fairly and with respect*". The curriculum describes the demonstration of professional competence as "*the habitual and judicious use of communication, knowledge, technical skills, clinical reasoning, emotions, values, and reflection in daily practice for the benefit of the individual and community being served".*

Partnership	Approaches Taken
TESCEA	As more fully described in Section 4, TESCEA is probably the project with the most holistic and analytical approach to critical thinking and problem-solving, as this is central to the design of the initiative. The project's approach is comprehensively described in the graduate employability skills matrix, and in several articles, blogs and videos available here.
PEBL	The section on instructional design (i.e. soundness of pedagogical content) in CoL's QA Rubric is the most formal expression of attention to skills such as critical thinking in PEBL. The practical manifestation of this varied significantly across the 26 courses developed given their diversity. However, PEBL's student survey provides evidence that that "*the blended learning experience also helped them [students] build soft skills and become better – and more independent – thinkers, communicators, and learners*". For example, on 'soft skills', survey respondents commented: '*It widened my thinking ability*'; '*It also improved my communication skills...and I also benefited a lot from it*'; '*I now am comfortable doing everything by myself related to technology*'; '*How I communicate, listen, and interact with people is far better than before*'; and, '*I learnt on how to communicate and handle various situations in the field*.'
PedaL	PedaL's design was guided by the view that through innovative pedagogy, students gain critical thinking skills, knowledge and ability to contribute to both work and social life. The social sciences were chosen as a focus for PedaL because they lend themselves to 'deep learning', where students can engage with underlying concepts and meanings, linked to their own experience. Across the six PedaL modules, emphasis is given to examining how pedagogy and curricula can facilitate development of employable graduates in the context of 21st century skills (whether related to formal employment, entrepreneurship, or community service). How this is manifested in specific curricula varies depending on the curricula chosen by teaching staff for course redesign In contrast with TESCEA, which first focused on course re-design for critical thinking and does this with pre-selected courses and degree programmes, PedaL's coverage is driven by individual teaching staff revising their own curricula and is perforce more diffuse. That said, students surveyed as part of PedaL's draft summative evaluation indicate acquisition of 21st century skills from courses redesigned by PedaL teaching staff – i.e. critical thinking (92.6%), collaboration and teamwork (90.9%), reflecting and connecting to real life situations (90.3%), change and adaptability (79.5%), innovation and creativity (77.3%), and digital literacy (75.6%).

5. Other SPHEIR projects

As indicated in the introduction, three SPHEIR projects are not covered in depth in this paper as curriculum content was not developed or delivered by academics in universities in the countries targeted, or they did not include full degree programmes, courses/modules, or post-graduate qualifications as defined earlier. However, in the context of their respective objectives, each designed and implemented noteworthy learning experiences for students, and/or professional development for teaching staff that have relevance to teaching and learning. Although not involving curriculum and pedagogical reform as comprehensively as the five projects which are the focus of this paper, they are worth mentioning.

Lending for Education in Africa Partnership (LEAP)

LEAP is a private sector-led social lending fund that provides affordable loans for higher education in specific degree programmes in selected Kenyan universities and TVET institutions. It is managed by a dedicated team at Volta Capital (UK and Kenya), in partnership with the Mandela Institute for Development Studies – MINDS (South Africa), InHive (UK), Equity Group Foundation (Kenya), and Lundin Foundation (Canada).

LEAP expressly targets students (called LEAP Fellows) from disadvantaged backgrounds who otherwise could not afford the full cost of their higher education. LEAP is unique within SPHEIR in that it is not involved in the delivery or QA of any academic programme attended by its Fellows in partner universities. LEAP's focus is on removing financial barriers for disadvantaged students to *access* these programmes. However, it has been creative in designing and delivering learning experiences for its Fellows in areas of non-academic student support, such as financial literacy training, and always envisioned that support would include remote delivery as the number of Fellows grew. For example, financial literacy training is entirely SMS-based, with a compulsory core curriculum and refreshers based on credit behaviour. It is delivered directly to all LEAP Fellows, with modules tailored for new borrowers, and for students transitioning into the job market.

Career readiness training is provided to LEAP Fellows in their last 18 months of study. It uses a blended learning approach focusing on 21st century skills and employability provided through interactive training sessions and access to a customised online platform. Since Covid, the in-person element has been paused and all contacts between LEAP and its Fellows moved online, using virtual training and peer-to-peer sessions, newsletters, and hotlines, with facilitation and individualised follow-ups from the LEAP team. Career readiness training shifted to interactive webinars to deliver training 100% virtually through video and audio sharing, online quizzes and session activities. An i-Coach feature was introduced to provide Fellows with individualised support and an online learning academy has been used to discuss topics supported by LEAP-facilitated virtual discussion sessions.

Partnership for Digital Learning and Increased Access (PADILEIA)

PADILEIA's mission is to facilitate access to higher education for those displaced and affected by the Syrian refugee crisis in Jordan and Lebanon. The PADILEIA partnership is led by King's College London (UK), working with the American University of Beirut (Lebanon), Al al-Bayt University (Jordan), Kiron Open Higher Education gGmbH (Germany) and FutureLearn (UK).

PADILEIA is primarily concerned with facilitating access to higher education programmes (remotely or in-person), and does not directly focus on reforming curriculum or pedagogy in university degree programmes in Jordan and Lebanon.[31] It has, however, developed innovative learning experiences for its beneficiaries, using a three-pronged approach, determined by students' interests and immediate goals, including:

31. The project did, however, indirectly influence degree programmes in its Jordanian and Lebanese university partners. Through the involvement in the project and growing experience with online activities, staff in PADILEIA's partner universities were able to help their own institutions to adapt delivery under Covid.

- Bespoke short courses (one month)
- A foundational programme for college preparation (eight months)
- Self-paced study tracks (six to 24 months)

Each was designed from the outset with online elements, informed by learner-centric methodologies, knowledge on the gap between school-leavers and university entry requirements, and vigorous QA.

All online courses other than PADILEIA's bespoke foundation courses are open-access, downloadable, mobile-friendly, and optimised for low bandwidth. Online courses are provided through FutureLearn, King's Online, or the Kiron platform, with localised courses provided with university partners in Lebanon and Jordan. Short courses are designed to be introductory and are not accredited, although quizzes and summative assessments are used. Study track modules are all accredited in order to be transferrable to local universities.

Transformation by Innovation in Distance Education (TIDE)

TIDE brought together UK and Myanmar universities to improve the quality of distance education and academic knowledge in environmental science subject areas. In Myanmar, over 500,000 students access higher education through distance learning, and quality improvement of the system was a policy priority under the civilian government.

TIDE was led by The Open University (UK), working with Yangon University (Myanmar), Yangon University of Distance Education (Myanmar), Yadanabon University (Myanmar), Irrawaddy Policy Exchange (UK), Oxford University (UK) and University of Manchester (UK), and worked with over 330 staff (both academic and ICT support staff) across 39 universities and degree colleges in Myanmar.

Major elements of TIDE's Master Trainer Programme are highlighted below, which focused on helping TIDE participants in Myanmar to become key people to take the distance education model further within their institutions. It encompassed several strands, such as courses in:

- Creative Commons (six weeks, with facilitated sessions run via Zoom with translation in-session, recordings available on YouTube, and a Facebook group)
- Audio-visual (AV) training for professionals and academics on practical application of skills (moving from static studio-based filming to mobile-based, integrated with learning design)
- Natural Ecosystems, run by UK academics with support from Myanmar language study skills academics (including pre-recorded lectures, online teaching and self-study with assignments)
- Open and Distance Education, adapted from a UK Masters course in online and distance education, focused on the technologies that enhance learning and teaching. It was moved wholly online via Zoom, with recordings available on YouTube, weekly e-mails, telephone support, and monitoring to identify learners falling behind or who might need more support.

In some respects, TIDE was more a pedagogical/professional development project, as time and circumstance did not make it possible for Myanmar university partners to initiate curriculum reform of their own degree programmes, which remains a longer-term aspiration. Although the TIDE project was brought to an early closure following the escalating situation in Myanmar in early 2021, it was a joint winner of the 2021 Open Practices Awards (Open Collaboration Category) of the Open Education

Awards for Excellence run by Open Education Global.[32] The project's legacy documents are available here.

6. Reflections

The intention at the start of this paper was to close with reflections on curriculum and pedagogical reforms to inform thinking about sustaining or leveraging the reforms of projects, and about the design of future development assistance programmes, especially those targeting curriculum or pedagogical transformation. As the paper progressed, three questions emerged as the most relevant for reflection.

1. Are there particular benefits in investing in curriculum reform of full degree programmes over investment in reform of individual courses/modules?
2. What lessons do the five projects offer in terms of optimal approaches to pedagogical transformation?
3. How critical is the nature of the partnership model to successful curriculum and pedagogical reform or to higher education development assistance more generally?

These questions make the distinction between sustaining/leveraging existing projects and design of future development assistance somewhat artificial, so both aspects are merged into the discussion on each question. Views are specific to African higher education, partly because the paper draws almost entirely on reforms in Sub-Saharan Africa, and partly because the issues are most sensibly considered in the context of regional networks and pan-African institutions.

Are there particular benefits in investing in curriculum reform of full degree programmes over investment in reform of individual courses/modules?

Although an important distinction is made in this paper between curriculum reform involving full degree programmes and selected courses/modules, it is important to avoid assumptions that one approach is preferrable, or necessarily represents a 'better' investment of private or public funding or of development assistance. There are advantages and disadvantages associated with each, and both offer valid solutions to enhancing the quality and relevance of higher education.

To help unpack the differences, Table 6 looks at the respective *advantages* of both, and Table 7 takes the same approach to identify *disadvantages*.

Table 6 – Comparative advantages in approach to curriculum reform

Full degree curriculum reform	Selected course/module curricula reform
Enables the entirety of the student's journey over all years of study to be considered	Enables some aspects of the student's journey to be considered
Allows for comprehensive subject coverage and, depending on degree, use of international standards	Lends itself to coverage of skills that are not tied to a specific discipline or degree programme – i.e. critical thinking, problem-solving. Can be scaled to avoid triggering time-consuming approvals processes

32. The Open Education Awards for Excellence provide annual recognition to outstanding contributions in the Open Education community, recognising exemplary leaders, distinctive Open Educational Resources, and Open Practices from around the world.

Full degree curriculum reform	Selected course/module curricula reform
Can involve all teaching staff in a programme or department in making content changes	Potentially less time-consuming than a focus on an entire degree programme (fewer people, less content-orientated)
Attractive to employers and stakeholders interested in disciplinary or occupational content	Attractive to stakeholders interested more generally in attributes of graduates
Potential for impact on students beyond the targeted degree programme, where courses redesigned are offered as core or electives in other degree programmes	Potential for impact on large number of students more generically
Lends itself to potential collaboration among multiple universities in one or more countries	Lends itself to collaboration among peers and colleagues within the same department or institution
Usually occurs when there is institutional buy-in (which is likely to be a necessary pre-condition)	Not necessarily dependent on institutional buy-in due to scope for individual teaching staff to own course improvement
Opportunities to leverage process (and tools) for replication in other degree programmes, departments and institutions	Opportunities to leverage process (and tools) to benefit other teaching staff
QA and accreditation can be approached comprehensively	While QA can play a role, unless the scope of course/module changes requires accreditation, QA input may not be substantial

Table 7 – Comparative disadvantages in approach to curriculum reform

Full degree curriculum reform	Selected course/module curricula reform
Can take considerable time depending on the extent of changes to curricula and number of degrees covered	Can be done more quickly and cover more modules but less deeply
Potentially complex and time-consuming approval processes at university level and for national accreditation	Hard to deal with technical content. Risks curriculum reform in a specific course/module being dealt with in isolation from others
Potentially costly and requires multi-year commitment to complete especially if it involves cross-institutional collaboration	Less opportunity for collaboration across institutions during actual curriculum reform
	Challenging to obtain participation and input from employers and stakeholders on a single course

Looking at the above tables and thinking about realities on the ground, the investment choice is likely to be less binary than shaped by circumstance. In many countries there is room for both approaches simultaneously. Few countries are likely to undertake full system-wide reform (multiple different degree programmes in all institutions) along the lines of Sierra Leone, especially in a constrained economic environment complicated by Covid.[33] There are many universities in the region that have undertaken their own reform of selected degree programmes, in some cases connected with intervals complying with regulatory or policy requirements. Over the past 25 years or so, there are also several examples of full-degree reform, going back to early regional efforts like AERC's collaborative Masters and PhD programmes, and taking in more recent initiatives like the PASGR-led MRPP and the other

33. Andrea Paras (PI), Craig Johnson, Spencer Henson, Asa Coleman, and Jenine Otto, *The Impact of the Covid-19 Pandemic on Canada's Foreign Aid Sector*, University of Guelph's Covid-19 Research Development and Catalyst Fund, October 2020.

Masters and PhD initiatives under the Pan-African University and the African Institute for Mathematical Sciences. It is worth noting that most of these examples involved collaboration or partnership among multiple African universities, often involving multiple countries.

Deciding between full-degree rather than module-specific reform also involves factors such as the priority given to a discipline by institutions, governments or funders, and the merits of incentivising as many teaching staff as possible to enhance their own courses (in whatever programme). Curriculum design undertaken at the full-programme level is more likely to be fully completed and embedded in an institution's offering, than module-specific reforms undertaken by individual teaching staff.

Both approaches have the potential to result in a richer learning experience for students, and make teaching more interesting and intrinsically rewarding to an educator. There are, however, potentially significant differences in the numbers of students, courses, or programmes that can be reached under each approach.

Given the number of undergraduate and graduate degree programmes and institutions in say, Kenya or Nigeria, reliance on incremental whole-of-programme redesign is likely to be a very slow way to make curriculum more relevant, and leave large numbers of programmes, faculty and students untouched.

There is also a risk of exacerbating 'silos' within universities – significant unevenness in quality of content and teaching. This is why initiatives that go for more immediate transformation in teaching and learning – like TESCEA, PEBL and PedaL – and empower teaching staff to reform content in a more limited way, can potentially involve faster and broader change (i.e. in the speed and number of reformed modules made available and the number of students reached), albeit sacrificing depth. Policy makers, university leaders and funders should be mindful that one approach does not crowd out the other.

However, the calculus may have been altered by the impact of Covid. It is now commonly accepted that public and private African universities face the need to attain an acceptable level of quality in the delivery of online learning, whether blended or entirely online. Many universities have still not attained high or uniform levels of quality in their conventional degree programmes. Merely shifting delivery of a low-quality programme or module online can worsen quality if it creates barriers to learning.

In the context of online higher education, there is currently huge variation across universities in the region: some are doing or able to do little but hope for a return to conventional delivery; some are running what is essentially emergency learning with mixed quality and reliability; and, a few are successfully developing quality blended or fully-online degree programmes. In this context, future investment in curriculum reform – whether full programme or module-focused – probably needs to concurrently involve a transition to high-quality technology enhanced learning (for entire programmes or for selected courses/modules).

What lessons do the five projects offer in terms of optimal approaches to pedagogical transformation?

The rich variety of approaches to pedagogical capacity building across these projects offers several lessons (or raises questions) such as those below. For this discussion, pedagogical training also includes coverage of critical thinking, gender responsive teaching, and inclusivity.

- **Determining how important formal recognition of pedagogical training is**. On the one hand, it is clearly possible to train large numbers of teaching staff who can evidently apply their training without being too formal in how completion of training is recognised. Given that pedagogical competency is not a requirement for teaching or advancement in many universities, less formality seems to work, but is probably not optimal. If a broader objective is to professionalise pedagogical capability in higher education to make it more visible and linked to advancement, some form of formal recognition or accreditation is desirable.

- **Localisation of training design and delivery**. Although there is no question that exceptional pedagogical capacity development can come from resources outside the region (evidenced in different ways by all five projects), all seem to have converged on models of localisation. This is most evident in PedaL, where the conceptualisation of training content and its delivery has been 'owned' by African institutions from the outset. But it is also evident in PfP's progressive shift from delivery of HPE courses, from UK tutors – to co-delivery – to local delivery. AQHEd-SL, TESCEA and PEBL all used forms of 'multipliers' as part of localisation, as well as pedagogical expertise from within the region. One of the impacts of Covid on all initiatives was to accelerate localisation. Two aspects of curriculum and pedagogical training merit fuller discussion within the region: i) harmonisation of coverage (what might constitute 'core' skills for African academics associated with teaching and learning); and, ii) a framework that would guide how to draw on resources from outside the region without undermining localisation, ownership and agency. The latter has received some attention on the research side from a variety of African organisations and development partners involved in the Research Fairness Initiative. The Association of Commonwealth Universities (ACU) is looking at how to support its members in the development, delivery, and sustainability of partnerships that are equitable, covering a broader variety of forms of higher education collaboration.

- **Timing/sequencing of pedagogical training**. In these projects, pedagogical training has occurred before, during and following curriculum reform, and in some cases completely independent of curriculum reform. This suggests that there is not necessarily a 'correct' sequence or, rather, that the timing/sequence can be shaped by the design features and goals of particular reform initiatives. However, timing and sequencing have practical implications where both formal recognition and localisation are at play and need to be carefully considered. It is noteworthy that PEBL, TESCEA and AQHEd-SL gave particular attention to early training/orientation workshops designed to develop a shared understanding of what projects sought to accomplish and build interest from institutional leaders.

- **Technology platform and networking**. Each project used completely different approaches to creating/sustaining an online platform to facilitate access to pedagogical training, tools, resources and, in some cases, re-designed courses. Platform development is a usual element of reform initiatives, but the lack of a common or 'meta' platform for knowledge sharing on higher education reform is regrettable and makes it more difficult to leverage experience and maximise value. A potentially useful topic for regional dialogue would be how to create and sustain an open-source platform focused on teaching and learning in African higher education that would be available to all teaching staff and institutions (possibly with a section for students)

and also linked to the existing platforms of various regional initiatives.

- **Critical mass**. Although all the projects have or had specific targets for numbers of teaching staff trained, with the exception of PfP (because of its defined scope), it remains hard to discern what some projects envision as a desired critical mass. What is meant by this is some indication of the proportion of lecturers in a department, departments in a university, or universities in a country, that would need to be reached by curriculum and pedagogical training before it is possible to say that change has been comprehensive and self-sustaining. This may be a gap in the general approach to monitoring, evaluation and learning, where a theory of change includes impacts that are imprecise. It is worth considering how to help higher education reform projects look beyond logframe metrics and the project horizon to better articulate this aspect of their vision.

- **Non-academic content**. Clearly there is broad consensus that the student experience needs to encompass skills that are not purely academic, occupational or discipline specific – the most obvious examples are critical thinking, communications, collaboration, etc. The LEAP project's attention to peer-support, career-readiness and financial literacy training, suggests that there is room to think more broadly about skills relevant to all students in all institutions.

Like the discussion on full-degree versus course/module curriculum reform, the calculus on investment in pedagogical capacity development has also been altered by Covid. On one level, it is probable that pedagogical initiatives will need to expressly focus on technology (possibly in addition to face-to-face learning) if they are to aid a transition to online higher education in the continent. On another level, there are questions of scale, and whether or not there are benefits to having fewer but larger, more comprehensive, reform initiatives that can serve multiple existing academic networks.[34] Three SPHEIR projects (PEBL, TESCEA and PedaL) are currently exploring what this might look like, in order to leverage the array of tools, human resources and practices each has successfully developed (and which have a significant degree of complementarity). Considering that the five projects in this paper have collectively reached teaching staff in over 120 African universities, this could lead to some useful discussions with regional actors and funders in the near future.

How critical is the nature of the partnership model to successful curriculum and pedagogical reform or to higher education development assistance more generally?

SPHEIR funding was focused on partnerships – formal collaboration among a group of organisations that address HE in ways, and at a scale, that a single organisation cannot. The programme's original call-for-proposals was more indicative on this subject than prescriptive. It stated, "*The optimum number of organisations in a partnership should be determined by what the partnership proposes to do. The minimum number of partners is two, although there is no maximum… a successful partnership is one where all partner organisations share the following:*

- *Commitment to the goals of the proposed project including shared responsibility for its oversight and success*

34. There is also room to consider whether some aspects of pedagogical development are equally relevant in both university and TVET programmes.

- *Willingness to commit their own organisational resources to the project in cash or in kind*
- *Clearly defined roles and reciprocal obligations between and among all partners*
- *Commitment to assume performance and monitoring obligations including assuring access to data and fulfilling reporting requirements*
- *Support for the designated lead partner and of its role, including, where applicable, willingness to enter into contractual obligations with the lead partner where the intention is that funding flows through the lead partner to one or more partner organisations*
- *Accountability for the use of resources if directly received from SPHEIR or through the lead partner.*

Notably, the above approach avoided specific requirements on the numbers, identity and nationality of partners. Based on the characteristics of the five partnerships in this paper, it seems to have accommodated considerable diversity. For example:

- Two projects (PfP and AQHEd-SL) are led by universities
- Two projects (AQHEd-SL and PedaL) are led by African entities (a university and an African NGO)
- Two projects (TESCEA and PEBL) are led by different forms of international organisations, the latter (the Association of Commonwealth Universities) having over 500 institutional members in 50 countries
- The PfP and PedaL partnerships in several respects pre-dated SPHEIR in terms of the relationships among their respective partners. Although some partners within PEBL, TESCEA and AQHEd-SL were familiar with each other or had institutional relationships pre-SPHEIR, the partnerships emerged in response to the opportunity.
- All five involved 'Northern' partners (some as the lead), but also a strong sense of ownership among their African partners.

All the projects mentioned in this paper involved partnerships that embodied the attributes described above. Partnerships are not inevitably successful simply for being defined as a partnership, and higher education projects have been known to struggle, and in some cases fail, because the partnership construct was lacking. Of the five projects, only PfP involved delivery or co-delivery of curriculum from outside the region, primarily because of the specialised content and use of technology enhanced learning. In all projects, including PfP, African agency is tangible and very apparent, which is an important point of reflection for partnerships that are first and foremost concerned with enhancing the quality and relevance of higher education programme delivery in African universities.