Transforming Employability for Social Change in East Africa: an Evaluation

Report of a summative evaluation

Dr Gary Dooley (Consultant), Dr Albert Luswata (UMU), Dr Aloysius Malagala (Gulu), Dr Mursali Milanzi (Mzumbe), Dr Edwin Ngowi (UDOM), Dr Femi Nzegwu (INASP), Arnold Printer Otieno (Ashoka), Dr Damary Sikalieh (AFELT)

www.inasp.info
International Network for International Network for Advancing Science and Policy (INASP) is registered in England and Wales - Company No. 04919576 - Charity No. 1106349.

Transforming Employability for Social Change in East Africa: An evaluation

Report authors: Dr Gary Dooley, Dr Albert Luswata, Dr Aloysius Malagala; Dr Mursali Milanzi; Dr Edwin Ngowi; Dr Femi Nzegwu; Arnold Printer Otieno; Dr Damary Sikalieh

TESCEA is funded by the UK's Foreign, Commonwealth and Development Office (FCDO) as part of FCDO's SPHEIR (Strategic Partnerships for Higher Education Innovation and Reform) programme to support higher education transformation in focus countries in Africa, Asia and the Middle East.

SPHEIR
Strategic Partnerships for Higher Education Innovation and Reform

Contact: info@inasp.info

www.inasp.info/tescea

Report dated: May 2021

Acknowledgements The authors would like to thank all the individuals – teachers, students, JAG members, senior managers – that generously donated their time and provided their feedback for this evaluation. The authors would like to thank the leadership of TESCEA, in particular, for their unrelenting commitment and support to the MEL teams to collect the additional data needed for this evaluation, under the very difficult operating conditions created by the COVID-19 pandemic. The authors would like to acknowledge the work of our colleague Professor Robert Gateru (VC, Riara University) for his valuable contributions during the instrument development phase. Finally, we thank the Fund Manager, especially the MEL team, for being open to and supportive of our evaluation and learning approach.

www.inasp.info
International Network for International Network for Advancing Science and Policy (INASP) is registered in England and Wales - Company No. 04919576 - Charity No. 1106349.

Contents

Executive Summary

Transforming Employability for Social Change in East Africa (TESCEA) is a Foreign, Commonwealth and Development Office (FCDO) funded initiative, part of FCDO's Strategic Partnerships for Higher Education Innovation and Reform (SPHEIR) programme. With partners in Tanzania, Uganda and Kenya, TESCEA is designed to support universities to create a learner-centred experience for students. This improved learning experience has at its core critical thinking, problem-solving and gender-responsiveness pedagogy; and allows for practical learning beyond the classroom to improve a graduate's employability.

TESCEA's purpose is to:

- Facilitate new approaches to learning – strengthening the ability and motivation of academics to deliver learner-focused teaching that helps students learn how to think, not what to think, and which is focused on developing critical thinking, problem solving, and gender-responsive skills.
- Strengthen connections between universities, local employers and communities – fostering relationships between universities, employers and local communities to enable the design of relevant curricula and practical internships.
- Develop approaches and tools to enable scale up – expansion of the approach within and external to the TESCEA institutions and the institutionalisation /sustainability of these approaches are at the heart of TESCEA.
- Embed mechanisms to learn and refine the approach in the short and longer term.

The project is delivered though three outcomes and six outputs.

TESCEA's three outcomes are:

- Outcome 1: Multi-sectoral engagement in support of graduate employment, entrepreneurship and gender equity enabled;
- Outcome 2: A transformative teaching & learning environment which is critical thinking, problem solving and gender responsive created for faculty and students;
- Outcome 3: An iterative and adaptive approach to project learning and development embedded.

Its six outputs are

- Output 1.1 A Joint consultative private, public, community and HE sector forum on graduate employment & entrepreneurship created & operational
- Output 1.2 Business and community mechanisms which equitably promote industry-specific learning and social enterprise created
- Output 2.1 East Africa-specific gender-equitable pedagogical & CPD model defined and implemented
- Output 2.2 Mechanisms to support scale up and sustainability established
- Output 3.1: A landscape of intra and inter project learning enabled nationally and regionally
- Output 3.2: Adaptive MEL systems embedded within & across partner institutions.

Between March 2020 and January 2021, an evaluation of TESCEA was conducted. The overall purpose of this evaluation was to assess the state and quality of the outcomes that TESCEA was designed to achieve and the value of the approach. This was explored by reviewing evidence and providing learning about its effectiveness, sustainability, equity, value for money, learning and adaptation.

The evaluation was fully participatory**,** utilisation-focused, co-designed and co-implemented with the primary users (Mzumbe, UDOM, Gulu, UMU, AFELT, Ashoka East Africa, INASP). A core evaluation team comprised of these key stakeholders was engaged from the start in a collaborative process and oversaw the design and implementation of the evaluation. An external evaluation/data analyst oversaw the analysis of the data and the interpretation of the findings. The evaluation used a multi-method approach, drawing on a variety of sources for its data, including:

- Document review
- Qualitative feedback from teachers, students, senior management and Joint Advisory Group (JAG) members
- Baseline and follow-up surveys of teachers and students

The evaluation findings suggest that overall TESCEA has been successful in achieving its outcomes and outputs and has delivered its activities economically and efficiently and has thereby contributed to transforming the way universities teach and learn through a focus on critical thinking, problem-solving and gender-responsive pedagogy.

On effectiveness

Teachers

- Teachers do teach differently under TESCEA in comparison to pre-TESCEA styles of teaching.

- TESCEA has developed the capacity of its teachers to teach for critical thinking and problem-solving in a gender responsive manner. There are positive shifts in the knowledge and skills of teachers and their capacity to apply these skills.

- Ninety-four percent of teachers believe the TESCEA approach to be effective. The most important aspects of this transformation relate to their capacity to redesign their courses incorporating, at the core, critical thinking, problem solving and gender-responsive pedagogy.

- There are, however, concerns over aspects of the work, sometimes seemingly associated with the way the project has been rolled out in certain universities in comparison to others. The concerns raised by some teachers about the shortcomings of TESCEA and therefore its "vulnerability" have to do with five key factors:
    - Infrastructure
    - Time to implement the approach
    - Support – (from peers, management and students)
    - Ongoing training
    - Attitude of staff and students

Students

- Students' practice of problem-solving and critical thinking approaches in their learning has significantly increased. There is an increase in the frequency of critical thinking, problem- solving and gender-responsive learning activity engaged in by students as well as collaborative activity between students and teachers.
- Across the totality of student data, there is an improved understanding and increased engagement in critical thinking and problem-solving oriented tasks.
- The overwhelming majority of students were positive about their experiences in the TESCEA courses. In the follow up survey 94% of those surveyed were very satisfied/satisfied with "their educational experience".
- Six percent of the students surveyed expressed dissatisfaction of some kind or neutrality about their TESCEA experience. Most of the dissatisfaction expressed centred around three main issues:
    - The mode of delivery – shifts to online teaching and learning during the pandemic
    - Missing out on acquiring certain skills – as a result of more face-to-face interactions
    - Time – once again the issue of not enough time to "do it properly" surfaced for a few students

On institutionalisation & sustainability

- There is widespread support for the TESCEA approach among senior management. Ninety-four percent of those surveyed said TESCEA was very important to their institution. Everyone thought the university management was broadly supportive of the new approach. Respondents noted that TESCEA has resulted in changes for teachers, students and for the university as a whole.
- The strongest evidence in support of TESCEA's institutionalisation is the project's efforts to isolate and "package" successful features of its work over the last three years as learning resources to support institutions' ongoing efforts to scaleup internally but also to provide resources to other institutions nationally and regionally who may wish to adopt this same approach.
- The partnership has seen the adaptation of existing polices or the creation of new ones in response to embedding this approach to teaching and learning in the universities, the incorporation of these teaching skills in formal staff appraisals, the use of adaptive MEL tools more broadly across institutions, the availability of scale up plans and budgets, and the development of a collection of resources (the model) that will feed institutions with the useful, tried and tested content.
- Joint Advisory Groups (JAGs) are forums comprised of members from academia, industry, community and the public sector who meet regularly to advice on and support the development of a critical thinking, problem solving and the creation of a gender-responsive (equitable) teaching and learning environment within their affiliated universities. JAGs have played a tremendous role in supporting the universities in six key areas: advisory role; course revision to engage with industry;

brokering role; mentorship role (staff and students); student employment provider; and student engagement role.
- Overall assessment of these results clearly shows the gradual emergence of a student (learner)-centred learning environment. The envisioned scale up will require the propagation of these skills right across the institutions, addressing the structural issues that have been identified and systematically growing an awareness of how these new ways of teaching can positively impact the lives of their students.

On equity

- Gender responsiveness in the pedagogy as well as a broader gender awareness and responsiveness in the dynamics of the classroom are the two "pillars" of gender-related activity in TESCEA.
- There is evidence to support the assertion that TESCEA's gender component has positively impacted the university environments, albeit to varying degrees. It has impacted practice, awareness, engagement and attitudes. This is reported by teachers, students, senior managers and JAG members.

On Value for Money (VfM)

- TESCEA is run as an economical programme. Good quality inputs were procured at economical rates, based on benchmarked costs.
- Management costs are appropriate given the heavy management burden of TESCEA. However, this heavy management burden does raise questions as to whether this element of the Fund Manager's design is itself value for money.

On learning and adaptation

- Learning is an integral part of the TESCEA approach. There is evidence that the TESCEA team has successfully learned, adapted and continues to learn from this project over its lifespan.
- The two main formal structures through which this has occurred are the PSG (Project Steering Group) and MEL meetings.
- TESCEA has catalysed a range of learning outputs over the lifespan of the project.
- As of April 2021, there were 44 publications produced by the partnership and 29 abstracts that have been produced by the partnership for development into papers for publication.

Lessons learnt

Nine key overarching lessons learnt have been identified by the project:

- Trust as an enabler of true partnership
- The importance of a cohesive team
- The passion of teachers – palpable, obvious and essential for success
- The complex role of technology
- The need for minimum standards of infrastructural support
- The pivotal role of external engagement
- Remaining adaptable
- Ongoing training
- Adequate allocation of time to activities

In addition to these overarching project learnings, the team identified theme-specific learnings under the five DAC criteria examined.

Conclusion

The TESCEA project has achieved a tremendous amount in the last three years. There is evidence of TESCEA's contribution to transforming the ways in which its universities teach and learn. Specifically, we can see a shift towards an institutional practice which puts learners at the centre of their own learning. There is an adoption of teaching and learning practices more in line with critical thinking, problem-solving and gender-responsive pedagogy. Both teachers and learners have grown their understanding and skills in the application of these new approaches to teaching, learning, developing new course material and new forms of assessment. We can see changes in the relationships between students and teachers and between students and students. These are characterised by greater degrees of interaction and collaboration in an atmosphere of mutual respect and confidence. The role of the JAGs has emerged as pivotal in the successful adoption of

these new ways of teaching and the role of senior management has been critical in endorsing the approach and encouraging buy-in from the wider university.

Yet, there remain significant grounds to cover if the project is to see the approach adopted wholesale by their institutions and to fully embed the philosophy and practice of a transformed approach to teaching and learning. Across the feedback provided, there are six key areas that require action: **infrastructure reform**; allowing **sufficient time** to implement and embed the approach; **ongoing support** (from peers, management and students); **ongoing training**, **awareness and attitudes** of teachers, students, and the wider university staff; greater **external engagement**; and **investment** in this area for both teachers and learners.

The majority view is that the prospects for long-term sustainability of the TESCEA approaches within its universities are good, and the opportunity, therefore, to reach greater numbers of students institutionally, nationally and regionally is significant.

Recommendations

The recommendations which follow are directed at two audiences – the project/its institutions and the Fund Manager/Funder:

To the project and its institutions

1. Expand TESCEA's legacy beyond the project's funding period
2. Establish greater links and nurture existing links with national regulatory bodies
3. Ensure the continuation of JAGs
4. Tailor approaches to different groups of students
5. Review and amend the circuitous routes to access funding for activities within institutions
6. Communicate TESCEA's findings and success stories
7. Integrate learning and adaptation into all aspects of institutional activity and ensure it is part of the TESCEA design and approach

To the funder

1. Reduce the financial management burden imposed on the project through its design approach, especially for future such projects
2. Create greater alignment between the funder's financial reporting systems and universities' systems

2 Introduction

Transforming Employability for Social Change in East Africa (TESCEA) is a £3.6 million project funded by the FCDO and implemented through seven partners[1] in Tanzania, Uganda, Kenya and the UK. TESCEA has developed a scalable pedagogical model to support universities, working alongside industries, communities and government to create an improved learning experience for students. This improved learning experience aims to foster the development of critical thinking and problem-solving skills needed to solve real-world problems; grow an awareness, understanding and responsiveness to issues of gender parity; and allow for practical learning beyond the classroom with the expectation that this will contribute towards improving a graduate's employability. TESCEA seeks to:

- Facilitate new approaches to learning – strengthening the ability and motivation of academics to deliver learner-focused teaching that helps students learn how to think, not what to think, and which is focused on developing critical thinking, problem solving, and gender-responsive skills.
- Strengthen connections between universities, local employers and communities – fostering relationships between universities, employers and local communities to enable the design of relevant curricula and practical internships.
- Develop approaches and tools to enable scale up – expansion of the approach within and external to the TESCEA institutions and the institutionalisation /sustainability of these approaches are at the heart of TESCEA.
- Embed mechanisms to learn and refine the approach in the short and longer term.

TESCEA started operating in 2018 and will conclude in September 2021.

3 Scope of the evaluation

This evaluation occurs in the third year of the project's operation and encompasses both formative and summative elements. The formative elements are designed to enable the project to assess the value of its approach (especially its teaching and learning model) over the lifetime of the project – and to feed this learning into the final development of its model.[2] The bulk of the evaluation is summative, assessing the state and quality of the outcomes that TESCEA was designed to achieve. The majority of the data which the evaluation reviews is from its launch up until 2020 – its third year of operation. We do, however, also review evidence from its most recent quarterly report in 2021.

The scope of our evaluation will cover students, teaching staff, the university administration, business, public and community stakeholders (through the Joint Advisory Groups).

3.1 Evaluation objectives

There are three evaluation objectives:

1. To gain a better understanding of *what, if any,* aspects of the TESCEA project have contributed to transforming the way universities teach and learn with a focus on enabling a critical thinking, problem solving and gender-responsive pedagogy.
2. To understand *how* the different components of the TESCEA project have (individually or collectively) affected teaching and learning within universities. Specifically, we will be looking at the factors that facilitated these successes and those that have posed barriers to advancing the project goals.
3. To generate a broad scope of learning beneficial to the project and the wider sector as a whole.

[1] The current partnership is comprised of INASP, University of Dodoma, Mzumbe University, Gulu University, Uganda Martyrs University, Ashoka East Africa, and AFELT. The original partnership included LIWA (Linking Industry with Academia)

[2] *Transforming Higher Education for Social Change – a model from East Africa* will enable the partnership to document and share methodologies, best practices and learning developed by the partnership over the project's lifetime.

3.2 Evaluation questions

Five main evaluation questions shape the direction of this evaluation. Details of the questions, sub-questions and indicators are found in Appendix 1.

- What is the ongoing contribution of TESCEA to the teaching and learning experience and approach at its universities?
- What contribution has been made to a transformed teaching and learning paradigm by the inclusion of gender/ gender equity in key areas of teaching and learning within the institutions?
- What is the role played by the institutional and external environment in enabling or impeding the immediate and longer-term goals of transformed teaching and learning?
- Has the TESCEA project delivered value for money?
- How well did the programme learn and adapt its approach as needed and what are the wider lessons for the project?

3.3 Evaluation criteria

This evaluation is guided by three of the six OECD DAC evaluation criteria – effectiveness, sustainability and efficiency.

- Effectiveness – the extent to which the intervention achieved, or is expected to achieve, its results.
- Sustainability – The extent to which the net benefits of the intervention continue, or are likely to continue.
- Efficiency/VfM – The extent to which the intervention delivers, or is likely to deliver, results in an economic, efficient and timely way

Although not strictly DAC criteria, the evaluation is also structured around two additional guiding criteria:

- Equity – the degree to which the project promoted and embedded gender equity
- Learning and adaptation – the degree to which the project learned from and adapted its work based on its learning.

4 Evaluation Methods

4.1 Participatory and utilisation-focused

This evaluation is fully participatory**,** utilisation-focused, co-designed and co-implemented with the primary users (Mzumbe, UDOM, Gulu, UMU, AFELT, Ashoka East Africa, INASP). A core evaluation team comprised of these key stakeholders was engaged from the start in a collaborative process and oversaw the design and implementation of the evaluation. An external evaluation/data analyst oversaw the analysis of the data and the interpretation of the findings.

The evaluation is structured around five evaluation criteria (effectiveness, sustainability, equity, value for money; learning/adaptability) – aligned to the OECD criteria, and 14 evaluation questions (EQs) (see Appendix 1). Together, these provided the focus for all data collection and analysis.

There are six key components to our methods:

4.1.1 Co-design of the objectives and evaluation questions

The seven partners were involved in deciding where best to target their evaluation resource– what would be most valuable to learn from their work in TESCEA over the past three years and how best to use the limited funds. The questions were developed and shared with SPHEIR, iterated and finalised. During the inception stage the evaluation team refined the evaluation questions to ensure that the learning needs of the project and SPHEIR were appropriately addressed.

4.1.2 Development of instruments

Once the data needed to answer the questions was identified, the team shared out the task to develop the instruments. There was collective comment on each instrument before its finalisation. Most of the data

collection occurred in 2020 at the height of the COVID-19 pandemic. Consequently, a number of the planned data collection exercises could not take place in the manner originally conceptualised.

Some of these instruments were modified to accommodate the new context. Specifically, the interviews were changed to open-ended qualitative response templates via survey monkey – as both the time, connectivity and other associated challenges of the time made interviewing impossible.

4.1.3 Data collection

Most of the data collection took place from April to October 2020. During data collection, the core team, in monthly meetings, oversaw its collection in their individual countries and also supported the overall data collection process across the team. Baseline data was collected during August to September 2018 (teachers) and January to April 2019 (students).

The primary data sources were as follows:

- Surveys – baseline and follow up with teachers and students
- Interviews, which were refashioned into open-ended qualitative questionnaires with senior management, JAG members, teachers, and students

Secondary sources of data captured via desk reviews were:

- MEL reports
- Quarterly reports (individual and summary project level)
- Institutional data (policies and plans)
- Log frames and indicator reporting tables
- Financial data

4.1.4 Data analysis

The evaluation questions and criteria provided the overall framework for the synthesis. Using the evaluation matrix as a basis, the evaluation team developed a synthesis matrix that drew together the key findings from the eight streams of data collection and mapped these against the evaluation criteria and questions.

In total, the evaluation team consulted in excess of 40 key documents, including MEL Annual reports for 2019, 2020 and 2021, quarterly reports – project summaries and institution-based, two mid-year reports, the Theory of Change, Results Framework and Indicator tables, and TESCEA finance documents. In addition, feedback was received from a total of 766 people via survey (quantitative and qualitative) as follows:

- Teachers – 84 (quantitative survey)
- Teachers – 27 (open-ended qualitative feedback)
- Teachers – 21 (teacher value creation stories)
- Students – 407 (quantitative survey)
- Students – 31 (open-ended qualitative feedback)
- Students – 158 (student value creation stories)
- JAG members – 20 (open-ended qualitative feedback)
- Senior management – 18 (open-ended qualitative feedback)

Data collection and analysis was managed through an evaluation matrix (Appendix 1.) This also provided the basis for the synthesis. In the synthesis, data from the various streams was coded and mapped against the evaluation criteria and evaluation questions from which summary judgements were drawn. This component of the evaluation was overseen by the evaluation consultant.

The core aspects of our evaluation design are summarised in the diagram in the next section.

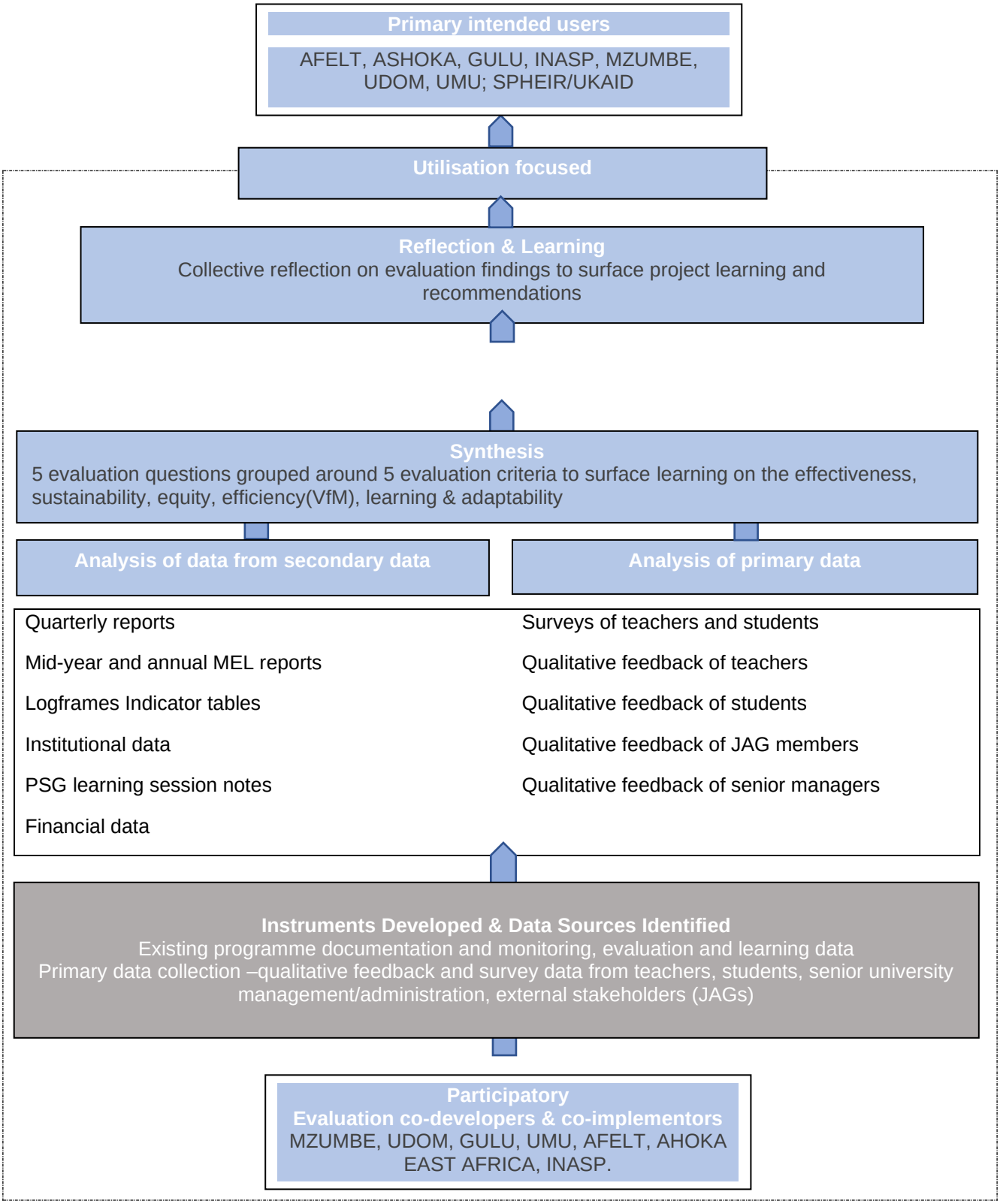
4.1.5 Data validation and synthesis

Following data analyses these were presented to the full team to deliberate on and “authenticate” in a workshop. Corrections were made where necessary and the data was adopted as accurate and robust. This final set of data constitutes the core used in this evaluation.

4.1.6 Reflections on and implications of findings

A final reflections workshop was held with the full project team. At this workshop, the team reflected on the evaluation findings and collectively identified the key learnings and recommendations from this exercise.

4.2 Overall evaluation design



4.3 Ethics

There were two main ethical considerations for this evaluation:

- That all participants would be informed about how their data would be used.
- That no names would be identified in reporting the findings.

4.4 Limitations

The evaluation encountered and addressed a number of challenges and methodological limitations. These included:

4.4.1 Adaptation of data collection tools

Originally conceived approaches to data collection had to be modified as a result of the COVID-19 lockdowns. The nature of our enquiry clearly shaped our approach to data collection and the design of our instruments. Many were meant to be qualitative, face-to-face interviews – conversations to explore the degree of impact and change experienced with TESCEA. When face-to-face contact was suspended, we converted the interview schedules into SurveyMonkey-based qualitative questions to allow us to continue with this reflective approach to data collection. We believe that some of the nuance of change and impact could have been lost in this approach.

4.4.2 Limited institutional data review

We could not undertake the extensive review of institutional data that was originally envisioned because of the pandemic, although members had provided significant institutional data as part of the project's routine monitoring activities.

4.4.3 In-class observations

An observational rubric was developed to review and produce learning on classroom teaching approaches and the classroom environment through direct observation – this was suspended in its entirety because of the suspension of classes at the height of the pandemic.

4.4.4 Baseline and follow-up measurement

At the outset of the project, surveys were administered to teachers and students to determine attitudes and knowledge about issues of teaching practice, learning, critical thinking and gender responsive pedagogy - this was considered a baseline measurement. Approximately 30 months later, follow-up surveys were administered to determine if there had been any changes in attitudes or practice. It is important to note that all participating teachers and students were given the opportunity to complete the surveys, so, although it is not possible to say that all the same individuals completed the surveys at both baseline and follow-up, they may be considered as being broadly from the same cohort. The statistics used to determine changes between baseline and follow-up were appropriate for cohort sampling.

Any differences observed between baseline and follow-up can be taken as an indication of changes in attitudes, knowledge and practice after an average of 30 months exposure to TESCEA methods. Changes reflect aggregate changes across all four participating universities and all academic disciplines.

5 Findings

This section presents the findings from the evaluation. It is structured around five evaluation criteria. (1) effectiveness (2) sustainability (3) equity (4) efficiency (VfM) (5) learning and adaptability. Each section starts with a summary of the key findings for each of the evaluation criteria.

5.1 Effectiveness

Key findings

- TESCEA has successfully challenged traditional modes of teaching and learning, introducing more learner-centred approaches which, on the whole, have been well received; however, there remain significant barriers to its wholesale adoption.
- There is evidence of significant changes in teachers' attitudes, knowledge and skillsets.
- These have resulted in changes in teaching methods, course materials in use and assessment methods.
- The majority of teachers surveyed (95%) were satisfied (including very satisfied) with the quality of the training they received in TESCEA.
- Teachers' capacity to develop quality teaching tools such as lesson plans is evident. One in three lessons plans developed was assessed as excellent; two-thirds were assessed as good.
- Although teachers are mostly positive about TESCEA they point to shortcomings of the approach primarily related to infrastructure, time, support and ongoing training.
- There is evidence of significant changes in the attitudes, learning styles and learning activities of students.
- There is evidence of students developing greater confidence and taking greater responsibility for their own learning.
- Students' learning experience has been positively impacted – 95% rate their learning experience as positive.
- From both teachers and students there is a minority view which is critical of the TESCEA approach, the nature of its rollout in their institution and sceptical about the benefit for them.

What is the ongoing contribution of TESCEA to the teaching and learning experience and approach at its universities? We consider five sub-questions in this section to measure how the TESCEA approach has changed the teaching and learning landscape of its universities:

- Do teachers teach differently to their previous styles of teaching since taking part in TESCEA?
- How useful or not has the project been in growing their capacity to teach for critical thinking and problem solving in a gender responsive manner?
- Do teachers believe the TESCEA approach to be an effective one?
- To what extent is student learning centred around problem-solving learning?
- How useful do students believe these ways of teaching and learning are?

5.1.1 Do teachers teach differently to their previous styles of teaching since taking part in TESCEA?

To date the TESCEA project has trained 307 teachers (224 men and 83 women) on using what it has termed a "transformative approach" to teaching and learning – comprising the incorporation of critical thinking, problem solving and gender-responsive pedagogy approaches in teaching. This number is above the projected target of 288 by the end of 2020 and on track to achieve the projected number of 412 by the end of the project in September 2021.

To understand whether there have been shifts in teaching practice, knowledge and attitudes from the start of the project in 2018 to 2020, we compared data from the baseline and follow up surveys for a number of

factors. At baseline, a total of 90 teachers (22% were female) were surveyed. At follow-up, we surveyed 83 teachers 37% of whom were female. Differences demonstrated in the results which follow are all statistically significant.

In comparing our data at baseline to follow-up, the analysis reveals that changes have occurred in teachers' practice, knowledge and attitudes. We observed:

A shift in practice

The data in the table below demonstrate a significant shift from baseline to follow-up on eight key elements of teaching practice.

Teacher's practice conducted often/very often	Baseline %	Follow-up %	Change
Use of critical thinking techniques	37	80	43
Use of gender-responsive pedagogy	46	91	45
Active learning techniques such as role play, fish-bowl debate, peer teaching etc in their practice	31	68	37
Use of small groups to discuss issues and present to the whole class.	73	82	9
Prefer students to listen and take notes while I am lecturing	30	9	-21
Use of small group project work, extended over several class sessions followed by class presentations.	58	69	11
Plan my teaching with the assumption that most of my students have very little useful knowledge of the topics to be covered.	40	14	-26
Adopt complex problem-based learning, team-based learning approaches in my classrooms very often	36	51	15

We also observed an increase in the proportions who report they *never* "focus on covering the information that [their] students will need to pass exams from 53% at baseline to 84% at follow-up.

A shift in knowledge

We compared teachers' familiarity with the concepts of critical thinking as a teaching approach. There were clear differences between baseline and follow-up with:

- *A significant drop in the proportion who select "I have heard of the term critical thinking but don't actually know what it is" from 28% to 2%; and*
- *A more than doubling of the proportion who select "I know the benefits of critical thinking and when and how to apply critical thinking in study, work and life", from 25% to 54%*

A shift in attitudes

We examined the data for shifts in attitudes between baseline and follow-up. Specifically, we assessed the degree to which teachers think that critical thinking, problem-solving and gender-responsive pedagogy are useful ways of enabling transformed teaching and learning in their universities:

Teachers' attitudes	% who agree and strongly agree		
	Baseline	Follow-up	Change
"Lecturing is the *most* effective way to teach my subject"	23	2	-21
"Teaching for critical thinking should be integrated into our entire philosophy and practice of education	58	72	14

"Students learn best when they are addressing complex, real world problems"	86	93	7
"Students mastering concepts and principles is more important than students covering every small fact in the entire curriculum"	57	70	13

And, conversely, the proportions of those who disagree with certain positions had also shifted over the course of TESCEA.

Teachers' attitudes	% who disagree and strongly disagree		
	Baseline	Follow-up	Change
"Critical thinking cannot be applied in the teaching and learning of the hard science"	75	84	9
"Teaching for critical thinking is important in [and should be restricted to] certain classes for certain subjects"	38	61	23
"It is important to present a lot of facts to students so that they know what they have to learn for my subject"	55	70	15

The evidence above clearly illustrates that the teachers who participated in these two surveys do teach differently under TESCEA in comparison to pre-TESCEA styles of teaching.

5.1.2 How useful or not has the project been in growing teachers' capacity to teach for critical thinking and problem-solving in a gender responsive manner?

In this section we review the evidence on whether the TESCEA project has grown the capacity of its teachers to develop quality lesson plans (referred to by the project as learning designs) which incorporate, among others, teaching for critical thinking, problem solving and gender-responsive pedagogy. Lesson plans are acknowledged to be a prerequisite for effective teaching.

The skill of lesson planning

The project collects lesson plans created by teachers especially following course redesign training sessions. We reviewed the quality of 36 lesson plans collected between March and April 2021. Quality learning designs or plans are those that demonstrate at least four key elements:

- Contain explicitly stated learning outcomes
- Contain detailed, authentic and realistic (in terms of time required) teaching and learning activities
- Contain clear assessment methods
- Reflect and respond to the classroom contexts and gender-equity considerations.

In addition, quality learning designs include learning outcomes that teach for skills such as critical thinking, problem solving, teamwork, learning how to learn, as well as fostering dispositions such as social responsibility, caring for communities and the environment. Thirty-six plans were assessed from across the four universities, each one done by two independent assessors. All plans were anonymised and assessed by evaluators not from the universities where the lesson plan originated.

On a scale of 1-5 where 1 is very poor and 5 very good – 8% of the plans were assessed as very good, 64% as good, 25% as fair, and 3% as poor.

Developing pedagogical patterns

A key objective in redesigning TESCEA courses is to ensure that the teaching and learning activities are aligned with course learning outcomes which in turn are aligned to five core skill dimensions (as per the skills matrix[3] developed by the project team):

1. Application
2. Integration
3. Human dimension
4. Caring
5. Learning how to learn

Each dimension encapsulates core skills and dispositions that students should develop alongside subject matter knowledge. For example, critical thinking would be included in the application, integration and how to learn dimensions (1,2,5); collaborating would be captured in human dimension (3), etc. Examples of teaching and learning activities that align closely with the learning outcomes and core skill dimensions demonstrate good pedagogical patterns.

A sample of TESCEA learning designs developed by teachers across the four institutions was evaluated for this quality – i.e. teaching and learning sequences which include critical thinking, problem solving, gender responsiveness as key activities, among many others. Out of a sample of 30 designs, one in three was assessed to be excellent – that is, to have a complete sequence of teaching and learning activities that enable the development and demonstration of critical thinking, problem-solving skills and gender-responsive skills among other features (for example teamwork, communications skills, self-reflections skills etc). The remaining two-thirds were found to have *some* good teaching and learning sequences albeit relatively less complete when compared to those that were rated excellent.

The project is close to completing the development of unique identifiers of good teaching and learning practice that can be shared, replicated, and used by colleagues. By the end of the project, the objective is to identify and isolate additional quality teaching and learning sequences, obtain permission to share these more broadly and categorise the patterns.

The findings from this evaluation demonstrate that the TESCEA project has developed the capacity of its teachers to teach for critical thinking and problem-solving in a gender responsive manner. In addition to the shifts in knowledge and skills seen earlier in the report, the current evidence points to capacity in the application of these skills.

5.1.3 Do teachers believe the TESCEA approach to be an effective one?

The evidence suggests that the TESCEA project has been widely successful in transforming teaching capacity amongst teachers who have been part of the project. Ninety-four percent of teachers believe the TESCEA approach to be effective. The most important aspects of this transformation relate to their capacity to redesign their courses incorporating, at the core, critical thinking, problem solving and gender-responsive pedagogy. The majority of teachers felt that TESCEA training enabled them to:

- Re-create courses with greater relevance for students by following an organised concept mapping process
- Develop and communicate clear course structures
- Develop student/learner-centred teaching, learning and assessment practices using adaptive and applied learning techniques
- Access better quality course materials in an attempt to make these more relevant to students' needs and life experiences.

There are, however, concerns over aspects of the work, sometimes seemingly associated with the way the project has been rolled out in certain universities in comparison to others.

This is succinctly captured in these two seemingly diametrically opposing viewpoints from teachers at two different universities:

> *"Our university is public and new in the country. I think this has contributed to flexibility in inviting any good practice that might benefit the staff and students in the learning process. This is to say, the TESCEA approach was very well accommodated in our curriculum."*

[3] Joanna Wild and Mary Omingo, 'Graduate Skills for Employability in East Africa: Evolution of a Skills Matrix for Course Redesign', accessed 21 August 2020, https://www.inasp.info/publications/skills-matrix-TESCEA.

"I believe the TESCEA course facilitators have not addressed the message clearly and effectively. Sometimes, they themselves have appeared confused about the gist of the transformative learning philosophy. This is a big turn-off to instructors who want to adopt the methods yet have questions that need clarification. Once clarification is vague, resentment breeds. Some instructors have wondered whether these changes are unique or actually exist as distinct philosophical entities of the project."

TESCEA concerns

The concerns raised by some teachers about the shortcomings of TESCEA and therefore its "vulnerability" have to do with five key factors:

1. Infrastructure
2. Time to implement the approach
3. Support – (from peers, management and students)
4. Ongoing training
5. Attitude of staff and students

Infrastructure

Teachers reported that, because the approach relied heavily upon technology (increasingly since COVID-19), a reliable technological infrastructure was essential and, in many cases, absent. Power supplies, Internet connections and equipment need to be available and reliable if TESCEA is to become truly embedded as an approach. The following quotes demonstrate:

"Limitations of physical infrastructure including a lack of learning materials, like textbooks and a lack of classroom space"

"Facilities such as all the time internet, projectors, microphones and speakers"

Time

Teachers talked of the time commitment required to adopt the new approach and how this often went unacknowledged. These teachers believed that time was required to absorb and integrate the new approach, in addition to the time taken to just 'do the training'. Some also talked of timing issues to do with the actual scheduling of the training, suggesting that the training had taken place at non-optimal times when they had been burdened with additional workloads. These two quotes from teachers are illustrative:

"The program is always handled as an emergency, so much is done in a short time…"

"The timing is also not right, should not be at a time when students are around to be taught…"

Support

Teachers identified areas of support that were inadequate and would and did impact TESCEA negatively. One type of support that was mentioned often was support from institutional policy. A number of concerns focused on that fact that some policies at some universities did not easily accommodate, and sometimes were in direct conflict with, the new programmes. Some teachers felt powerless to influence university policy themselves, relying instead on managers.

"[what teachers need most is] an enabling policy environment. Reasonable workload since transformative teaching requires a lot of preparation. Adequate technology"

"Some of the policies of the university need to be updated or revised to suit the new wave of Transformative Teaching and Learning. if these policies are not changed, it will hinder the full implementation or adoption of this approach"

One clearly frustrated teacher had decided to "pack it in"!

"Actually, I've abandoned it till things get better… staffing, facilitation to aid teaching, space requirements, library resources, and internet connectivity"

Ongoing training

Some teachers expressed what they believed to be limitations of the training approach and felt they required a more discipline-specific approach to these trainings:

"I think the strongest impetus to adopting these instructional approaches is mentorship and information sharing between faculty from similar departments/schools in institutions where such an initiative has taken root and is routine pedagogical practice. There is a limit to what a facilitator can enable me achieve once they are not from my discipline or speciality. Certain details can best be addressed by fellow content experts, not another lay expert. e.g An accountant, however smart cannot effectively steer course transformation among faculty in medicine."

Attitudes

A number of teachers spoke of how the attitudes of everyone – teachers, students and administrators – sometimes negatively impacted the adoption of this approach. They talked about the reticence of lecturers to make, what they perceived to be, such radical change. A reluctance on the part of students was also often cited, as was a lack of understanding of administrators (and not necessarily senior management) about what TESCEA was really about.

One teacher explains what the approach has meant for some of his students:

> *"Sincerely the style has caused more psychological damage to students. Many are trained from time immemorial to be receptors of knowledge. They hate being at the centre of learning. They have always sought solutions from teachers and demanded notes from them. Just a few have come out to appreciate the style and are always agitating for its implementation."*

Overall, some teachers believe that the new methods have created new challenges that are time consuming and require additional work in terms of preparation, evaluation, continued guidance for the students, along with exercises. Some do not embrace the additional work requirement that demand tutor input before, during and after lessons as the comments below suggest:

> *"Big work overload has hindered thorough preparation to teach and evaluate students appropriately."*

> *"Even after the lesson, there is still work for the lecturer in terms of more preparation, self-evaluation, and continued guidance for the students if there is any exercise or assignment. For other lecturers who want to try these approaches, be warned: there is work before, during, and after each lesson."*

These important concerns and challenges notwithstanding, most teachers were clear about the effectiveness of TESCEA as an approach. On the next page we provide a composite of the "TESCEA journey" for many teachers in their own words.

The TESCEA Journey: Teachers' perspectives

Starting off

- During the first week of the class following TESCEA training, I was overwhelmed by how much work I was required to do to have an impact on the students.
- This is one of the most enriched learning classes that I have ever done in my entire teaching as a lecturer.
- The process was intense, but the outcome was great.

Perceived changes in my skills

- The process of concept mapping in course design was a landmark for me which made me understand the course better and how its different parts connect.
- Making learners responsible for their learning helped me to rethink my teaching
- The course has become more practical and shorter.
- I was able to come up with five concepts …and this enabled me to finish everything that I wanted to deliver, compared to how I used to panic when the semester was ending
- I have been able to facilitate all my classes remotely during the COVID-19 lockdown using a variety of methodologies. This would not have been so had If I had no skills and experiences in ensuring learner-centred pedagogy

Perceived changes for me as a person

- …being able to be more confident when interacting with my students …this has improved my relationships as a teacher and as a wife at home.
- It made me realise that these learners are much brighter than I thought!

Perceived changes in students

- Students are more active
- [there is] …more participation in class.
- More interested in studying
- Learners have become proactive. Not as passive as they used to be

In their attitudes

- They also treat one another with respect
- Gender interaction has improved… Gender sensitivity has improved

In their communication styles

- The most significant change to my students is the way they communicate with me and among themselves
- …the way I taught this course brought out even the quiet ones. Some of those admitted that before this course they would never say anything in class or attempt to stand in any setting to say anything.

In their growth and understanding

- Students are beginning to understand that they come to university not to pass exams but to learn.
- They are also realising that learning is not just about accumulating a lot of information but personal transformation.
- They have learnt to relate what they learn to real life issues that happen in our society
- My students have been more active and have delivered remarkable work

5.1.4 To what extent is student learning centred around problem-solving and critical thinking learning?

3697 students had benefitted from TESCEA re-designed courses as of April 2020 (2126 male and 1571 female). The data suggests that for this group of students, their learning approach is problem-solving and critical thinking oriented to a large extent. We examined data from the baseline and follow-up surveys for changes in student abilities and activities.

At baseline, 982 students were surveyed across the four institutions. At follow-up, 407 students were surveyed. This is 41% of the number surveyed at baseline. At baseline and follow-up similar proportions of women and men participated – 42% of women at baseline and 40% at follow-up. All differences demonstrated in the results that follow are statistically significant.

Shifts in student practice

Students' practice of problem-solving and critical thinking approaches as measured in these surveys has significantly increased. While differences are not as marked as those observed in the teacher population, they are nonetheless significant. The data indicates an increase in student practice of these approaches from baseline to follow-up.

Student practice	% who rated it high in practice		
	Baseline	Follow-up	Change
To apply "*facts, theories or methods (for example to practical problems or new situations)*"	36	45	9
To "*examine the strengths and weaknesses of your own views on a topic or issue*	43	50	7
To *"change the way you thought about a concept or issue as a result of what you learn*"	50	55	5
To *"formulate and explore your own questions, problems, scenarios*	39	49	10
To "[*connect] ideas from your course to your prior experience and knowledge*	50	55	5
To "*develop or clarify personal values or ethics*	56	66	10
To better understand someone else's views by imagining how an issue looks from his or her perspective	47	57	10
To understand the consequences of your action and decisions on other people	62	68	6

Shifts in student activities

We examined the data for shifts in the frequency of learning activity engaged in by students as well as collaborative activity between students and teachers. The differences all reflect increased activity at follow-up compared to baseline.

Student activities undertaken often and very often	Baseline %	Follow-up %	Change
Asked questions in taught sessions	37	49	12
Discussed your academic performance and/or feedback with teaching staff	29	28	-1
Those who "never" discussed academic performance dropped from 25% to 14%			
Talked about their career plans with teaching staff or advisors	31	36	5
Discussed ideas from their course with teaching staff outside taught sessions, including by email/online	26	37	11
Worked with teaching staff on activities other than coursework	28	35	7
Made significant changes to their course work based on feedback	49	60	11
Working with other students on course projects or assignments	87	92	5
Worked with staff to make improvements to your course	38	46	8
Volunteered in the local community	44	50	6

The capacity to apply critical thinking and problem-solving skills

TESCEA's routine MEL data collection includes an indicator designed to assess how well students are able to apply critical thinking and problem-solving skills in their assignment. In February and March 2021, to collect this data, 14 final year students were assigned a 90-minute analytical task. The partnership received permission to use the critical thinking task developed by the Council for Aid to Education and adapted by UCL. As part of the task, students were presented with a scenario along with background data which they were asked to use to answer a set of questions designed to assess these skills. Tasks were assessed by two teachers, independently, from universities external to that of the student taking the task. All tasks were anonymised and assessed by evaluators *not* from the universities where the task originated.

Out of the 14 students who took the task across the four universities, their critical thinking and problem-solving skills were assessed as follows: 9% were classified as very good, 19% as good, 31% as fair and 41% as poor and very poor. In examining these grades, feedback from teachers suggested that there were some mitigating circumstances:

- The conditions under which the task was administered were problematic. Right in the middle of the pandemic, it was seen as a non-priority.
- The students had never taken such a task and there was limited opportunity to engage with them and explain its purpose, nature and approach.
- Teachers were somewhat reluctant to have their students take the test as it was seen as contextually inappropriate.

The data points to three in five people understanding and performing well or fairly well on the task, while the remainder did poorly. Looking across the totality of student data, however, it is clear that there is an improved understanding and increased engagement in critical thinking and problem-solving oriented tasks.

5.1.5 How useful do students believe these ways of teaching and learning are?

The overwhelming majority of students were positive about their experiences in the TESCEA courses. In the follow-up survey, 94% of those surveyed were very satisfied/satisfied with "their educational experience", while 6% were dissatisfied/very dissatisfied/neutral about their experience. In the baseline survey, the proportions expressing satisfaction were lower with 85% reporting being very satisfied/satisfied while 15% were dissatisfied/very dissatisfied/neutral.

The following comment is representative of many positive student comments about the TESCEA experience:

> *"This kind of learning is very, very, very important for the future of this world. It should continue"*

It is significant that these high levels of satisfaction were obtained during the COVID-19 pandemic when students experienced real challenges in accessing their learning resources.

Below we sketch a snapshot in composite form of student life under TESCEA in their own words:

The TESCEA Journey: Students' perspectives

What did we learn?

- Critical thinking and problem solving. Through the rigorous project during the semesters it has boosted my critical thinking and problem solving skills as I can now do self research
- This course has taught me politeness, humility, kindness, and empathy especially when I'm handling patients, because patients are humans and not only medical treatment can cure them but the way we manage and handle them matters a lot.
- Teamwork due to the fact that we are given group course works sometimes, communication as we always discuss in the class through presentations
- Doing research, group presentations and hands on areas requiring us to go to the field yielded exposure to the real world of business and enhanced applicability skills and practical knowledge in marketing, procurement and accounting course units.
- The interaction with the lecturers during the presentations has enabled us relate to some of them. I'm aware that has built our growth and knowledge.
- I learnt a lot on how to interact with patients especially in difficult situations like those with terminal illnesses and those going through bereavement. I also gained a lot in computer skills to a level that I can develop my own MS Access Applications

How did it affect us?

- This has helped me learn to appreciate the importance of working as a group or team because it helps to widen our learning community
- This has modelled for me on how to carry out activities in a humble manner and always act as an example to the community
- It has enabled me to build the leadership skills in me …
- My thinking and way of perceiving things have totally changed from focusing on how to get employed to how to improve my community by starting something that solves their problems while making money
- Enabled me to gain self-confidence. Allowed me to think outside the box always
- I used to be shy but now I can express myself freely with confidence
- I've applied the real life skills from practical businesses, into answering questions requiring applicability of certain theoretical concepts hence enabling me to marry up the two. - a great drive to excellence in my course.
- It changed the way I view patients and their relatives in that when I see a patient I think about what they are going through before I can suggest for them way-forward measures
- I have learnt to make right decisions after weighing current situations at hand. It's something that has enable to handle various situations in the community
- It has enabled me to think critically when solving critical matters. Am able to value a lot of things in life. Also to behave differently in the community in an ethical manner.
- Looking at every problem as an opportunity!

And the future?

- It will help me learn to share knowledge and accomplish tasks as a team. Because winning as a team is a great feeling
- I expect to be the most welcomed doctor by all categories in society including patients. And I will be the most skilled, knowledgeable, respectful, humble and hard-working doctor!
- It will make me a better advocate for change and a problem solver.
- Am hoping it makes me a good researcher and knowledgeable service provider.
- Will help me to shine in interviews tomorrow and also keep me in the job by observing professional ethics. Will help me also to value people around me and also machines e.g computers while using them for the rightful purposes.
- I will be the best of the best!
- Make me better team player and push me to unlearning and learning more stuff
- In the field, I shall be handling different projects. I believe I have got the capacity to plan and execute. It will also help to find answers to problems in real life
- It allows me to have an open mind. Life is not a straight arrow and no one knows the twists ahead. Having a willing and open mind allows for flexibility. I can only hope to find the corner of this world in which I fit perfectly.

But for some…

- I don't think it will affect me…
- To me, its nice and success will be achieved I believe, but with low skills. Simply because we didn't prepare for it (we need the interaction) with lecturers

Six percent of the students surveyed expressed dissatisfaction of some kind or neutrality about their TESCEA experience. That constitutes approximately 24 people. We explore the reasons for their dissatisfaction in greater detail in this section. Most of the dissatisfaction expressed centred around three main issues:

The mode of delivery

This refers more to the fact that delivery moved to an online mode during the pandemic rather than the TESCEA approach itself as these quotes illustrate:

> *"It's the amount that we have to pay! It's as if we're in physical campus…and we are using our own facilities to learn, that's not fair. Think about it."*

"It's really hard to accomplish and to pay tuition as I learn from home. Data is hard to acquire and appliances are hard to access."

"[It's] fake. Wasting my data. You are not decreasing on fees; the network is poor, even my phone has no battery"

"Personally, I look at this innovation in a positive sense, however it is a challenge to some of our classmates who have no gadgets, data, and those who live in remote areas where networks are problem"

Missing out on acquiring certain skills

Some students expressed concerns over the TESCEA approach believing that they were missing out on some skills. The following four comments illustrate:

"I don't prefer this learning. Some skills won't be attained"

"It's less engaging"

"It's not effective in any way"

"It seems to me that it's all guess work"

Time

Once again the issue of not enough time to "do it properly" surfaced for a few students:

"It's a good idea though rolled out very fast which is likely to affect my studies"

Although these issues were raised by a minority of students, they point to concerns about which the project's leadership need to be aware and possibly pre-empt in the roll out of this approach more widely.

5.2 Sustainability

Key findings

- The prospects for long-term sustainability of TESCEA's approach to develop a learner-centred environment (focused on critical thinking, problem solving and gender-responsive pedagogy) are good in TESCEA, provided these skills can become "normalised" across university structures.
- Significant components of the TESCEA approach have become embedded in existing university structures.
- There is evidence of the development of appropriate policies, the creation of structures (plans, budgets and new departments) that allow for the continuation and scale up of the approach.
- There is evidence of the replication of adaptive MEL tools and principles to oversee quality and facilitate learning where they have been adopted and are in use.
- The Joint Advisory Groups (in effect, the external perspective of the project) have significantly contributed to the development and propagation of the TESCEA approach through six key roles: course revision, advisory, brokering, mentorship (staff and students), student employment provider, student engagement roles.
- Both the JAGs themselves and teachers believe that the JAGs' roles have been and will continue to be a crucial success factor in the propagation of the TESCEA approach.
- '*Transforming Higher Education for Social Change – a model from East Africa*' will enable the project partners to continue to work together to sustain, add to and further develop and scale out the approach beyond the funding period.

In this section, we examine the evidence for:

1. How has the institutional environment enabled or impeded the goals of transformed teaching and learning for long-term sustainability?
2. What has been the contribution of the Joint Advisory Groups to the universities to which they are affiliated?

5.2.1 How has the institutional environment enabled or impeded the goals of transformed teaching and learning in support of long-term sustainability?

To answer this question, we reviewed qualitative data obtained from senior management about their vision of the TESCEA approach for their university, their role and demonstrated effort in support of the TESCEA approach in the short and long-term. We collected qualitative data from 18 senior managers from all four universities. There were representatives from all levels of the academic hierarchy from vice chancellor to lecturer. Only one woman participated in this survey, itself an indicator of gender imbalance at senior levels of management.

We also reviewed monitoring data on the number and type of institutional structures, policies, plans and practices that promote and embed critical thinking, problem-solving and gender-responsive pedagogies.

Support from senior management

Generally, there was very widespread support for the TESCEA approach. Of the 18 people surveyed, 94% (N=17) said TESCEA was very important to their institution. The one person who did not select this option believed TESCEA to be moderately important. Everyone thought the university management was broadly supportive of the new approach. Respondents noted that TESCEA had resulted in changes for teachers, students and for the university as a whole:

> *"To students it has brought in a new approach of personal involvement in the learning process. To Teachers a new definition of their role as facilitators in the learning process. To the university as a whole an appreciation of student-centred learning to revolutionise the traditional model of a teacher-centred learning tagged on a memory card!"*

In general, there was a feeling that a lot had already been achieved, but there was still a long way to go and continuing training, monitoring and support is essential for sustainability, as these two quotes illustrate.

> *"TESCEA has done a great job. We hope the good work will continue. But continuous training is a must; especially given the mobility of staff"*

> *"Like any changes to tradition, there is some resistance from some students and staff but as more and more stakeholders appreciate this approach, the resistance will eventually die".*

Embedding TESCEA in the universities' vision and mission

When asked, to what extent critical thinking and problem-solving were embedded in teaching and learning practice, and to what extent university's future visions were influenced by it, a mixed response emerged from across all the institutions, showing that the implementation of critical thinking and problem solving is still at a relatively early stage. Some participants admitted that the progress is moderate at this stage, other university respondents presented diverse opinions ranging from 'moderate' to a 'great deal'. 28% reported that the approach was embedded "a great deal", 50% "a lot" and 22% "a moderate amount".

We asked respondents the extent to which the TESCEA vision and mission were embraced across key institutions in the universities, such as faculty boards, the management team, the senate and council. 61% of respondents reported that these bodies had embraced this vision "very much" while 39% had embraced it "somewhat".

Seventy-six percent reported that their university charter and statutes explicitly embody and reflect the TESCEA mission while 24% reported that theirs did not.

The institutional response

Senior managers were asked how supportive their institutions were in institutionalising TESCEA's transformative ways of teaching and learning. 67% rated management as being "very supportive", 28% as "moderately supportive" and 6% as a "little supportive".

The evaluation reviewed specific activities undertaken by the institutions in support of sustainability. These actions included having policies in place, formal plans and budgets, building the teaching and learning of this approach into staff appraisal and promotion exercises and incorporating the use of adaptive monitoring, evaluation and learning tools to ensure that learning and adaptation remain a feature of integrating this approach into the university.

<u>Institutional policies in place</u>

Over the course of implementing TESCEA, the partnership has seen the adaptation of existing polices or the creation of new ones in response to embedding this approach to teaching and learning in the universities. To date, 12 policies have been developed across the four institutions, all designed to incorporate the essential elements of the TESCEA approach into the universities' infrastructure. The policies are:

- Quality Assurance Policy
- Research Policy
- Institutional Collaboration Policy
- Strategic Implementation Plan
- Quality Assurance Unit
- Community Engagement
- Gender Mainstreaming
- Teaching Policy
- Orientation Policy
- Staff appraisal Policy
- Teaching and Learning Policy
- Gender Policy

Number of universities with formal plans & budget for scale up of the model

Three out of the four universities have formal plans for scale up of the model. This has generally been achieved through three main approaches:

1. The development of a unit to implement the TESCEA approach
2. The development of specific policies
3. The use of multipliers – broadening the group of resource people knowledgeable about and critical to the expansion process across the universities.

Examples of this type of activity include:

- A newly established Institute of Development Studies (IDS) at UDOM has adopted TESCEA-MEL approach in its Quality Assurance Unit to transform teaching and learning. Through the Quality Assurance Unit, IDS has earmarked and set aside a budget for pedagogical capacity building using the trained TESCEA TOT multipliers to train its staff on critical thinking, problem-solving and gender-responsive pedagogy. UDOM has approved the new "Quality Assurance Policy" of 2020 to incorporate TESCEA approaches. Sections amended are "3.16 Policy Issue 16: Gender Responsiveness", page 16 where the Policy Statement states, "The University shall insist on gender responsive pedagogy where the learning needs of male and female learners are addressed in the teaching and learning processes (inside and outside the classroom). The process will require gender-responsiveness in planning and facilitating courses". Safeguarding issues has been accommodated under "3.15 Policy Issue 15: People with Disability and other Special Needs". The institutionalization of "multipliers" at UDOM (essentially trainers of trainers) to train staff from non-participating Departments University wide is designed to enable a scale up of the approach.
- In Gulu, multipliers have been trained and will be provided with a budget to scale up the model. The Centre for Innovation in Teaching and Learning now has a formal space, and a certificate course has been launched to formalise this process.
- UMU has made teaching the transformative learning approach obligatory for its staff. It has also developed an orientation policy which requires introduction of all its new staff to undergo a training in Transformative Learning.

Staff appraisal

We reviewed the number of institutions that have a formal plan in place to adapt staff appraisal criteria to include teaching critical thinking, problem solving and gender-responsive pedagogy skills. Three universities – Gulu, UMU, and Mzumbe – have developed approaches to incorporate TESCEA related criteria into their staff appraisal:

- A human resource manual is currently being reviewed at Gulu to adapt the existing staff appraisal criteria to include critical thinking, problem solving and gender equity pedagogy skills.
- UMU is revising its staff appraisal forms to include critical thinking, problem solving and gender equity skills. These appraisals are now used in promotion exercises and to renew staff contracts.
- Mzumbe University staff appraisal policy involves student assessments of lecturers on teaching effectiveness. Transformative teaching is included as a component of teaching effectiveness

Incorporating the use of adaptive MEL tools

The number of non-TESCEA departments and associated partners that have incorporated the use of adaptive MEL tools and principles in their routine work has increased significantly across all institutions. Over the course of the project, 32 non-TESCEA departments has incorporated aspects of MEL - from the adoption of a plan and a structured monitoring system to the use of learning sessions to capture and share emergent learning from their work:

UDOM

- Department of Political Science and Public Administration
- Department of Sociology and Anthropology
- Department of Geography and Environmental Studies
- Department of Management Sciences
- Department of Business Administration
- Department of Computer Science
- Department of Virtual Educational Technology and Applications
- Department of Educational Psychology and Curriculum Studies
- Department of Educational Management and Policy Studies
- Department of Educational Foundation and Continuing Education
- Department of Internal Medicine
- Department of Business Information Technology
- Department of History and Archaeology
- Department of Accounting and Finance
- Department of Economics and Statistics
- Department of Telecommunication and Communication Networks
- Department of Computer Engineering and Application
- Department of Department of Economic Law
- Department of Public Law
- Department of Public Health
- Department of Microbiology and Immunology

UMU

- Directorate of Quality Assurance
- Faculty of Agriculture
- Institute of Languages
- Institute of Ethics
- Faculty of Health Sciences
- Faculty of the Built environment

Mzumbe

- Directorate of Planning

Ashoka East Africa

Scaling up and scaling out

Perhaps the strongest evidence in support of TESCEA's institutionalisation is the project's efforts to isolate and "package" successful features of its work over the last three years as learning resources to support institutions' ongoing efforts to scaleup internally but also to provide resources to other institutions nationally and regionally who may wish to adopt this same approach.

The partnership has called the TESCEA Model (their approach) '*Transforming Higher Education for Social Change – a model from East Africa*'. The model is a shared TESCEA output which the partnership will collectively own and which will allow them to continue to work together to sustain, add to and further develop the approach beyond the funding period. The resources will enable existing TESCEA partners and multipliers to continue to facilitate and advocate for the TESCEA approach within their institutions. It will also enable other institutions outside of the current partnership who are interested in the TESCEA approach to learn from the project and replicate any or all parts of it at their institution.

Through this model, they will document and share methodologies, good practices and collective learning developed by the partnership over the project's lifetime.

The TESCEA model, which will be hosted on a dedicated website and the content made freely available, comprises the following:

- Toolkits for facilitating face-to-face workshops in Program Alignment, Transformative Learning and Course Redesign
- Online learning modules in Course Redesign and Learning Design
- A resource pack of guidance documents and case studies related to how to implement the TESCEA approach at an institution
- TESCEA learning papers

- A community of practice comprised of practitioners who have taken part in the TESCEA project. The CoP will enable members to exchange good practice around teaching and learning and will also be able to support the growth of the model within and external to the institution.

Some differing views

Views on the difficulty or challenges of the TESCEA approach were evident in the evaluation. Some senior managers suggested that the changes observed were minimal, even transitory, because the new approach had not been fully embedded, nor had there been sufficient time to see the difference it has made:

> *"The approach from lecturer-centred to student-centred approach is commendable. The impact is yet to be felt in the university as a whole."*

Many of the challenges discussed were not dissimilar to those identified by both teachers and students. These include:

Attitudes or a noticeable resistance to change

Many cited attitudes amongst some students and teachers as being resistant to change.

> *"Some people did not think this was an approach to be trusted. Change takes time…"*

Changing practice

The challenge of changing long-entrenched practices was also cited.

> *"Firstly, to get both staff and students interested in the new pedagogical teaching and learning by use of ICT technologies.*
>
> *"Changing entrenched teaching practices needs more time with some teacher and students but many are slow to adapt."*
>
> *"Getting staff to adjust their schedules and doctrines, knowledge chiefdoms, among others… and most of all adjusting the existing philosophy of learning resources and tools*

Technology

Technology and, more broadly, infrastructure were described as key challenges to TESCEA. This was cited as a significant challenge as was introducing a programme that was technology-dependent and potentially costly.

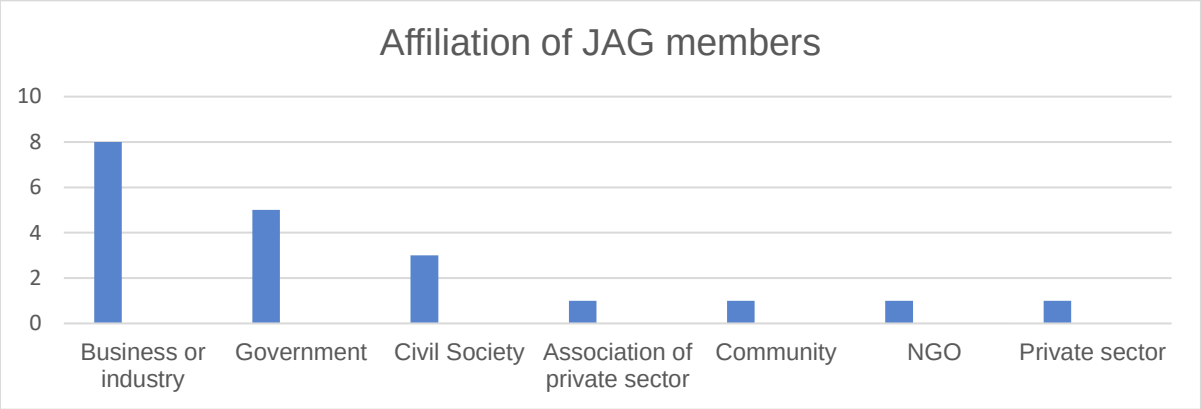
> *"Infrastructural investments in ICTs such as servers, zoom, back system for power"*
>
> *"It calls for an on-going modernization of ICT infrastructures and accessories whose costs are not easily affordable…"*

Overall assessment of these results clearly shows the gradual emergence of a student-centred learning environment. The envisioned scale up will require the propagation of these skills right across the institutions, addressing the structural issues that have been identified and systematically growing an awareness of how these new ways of teaching can positively impact the lives of their students.

5.2.2 What has been the contribution of the Joint Advisory Groups? How have they contributed to strengthening connections between universities, local employers and communities

Joint Advisory Groups (JAGs) are forums comprised of members from academia, industry, community and the public sector who meet regularly to advice on and support the development of a critical thinking, problem-solving and gender-responsive (equitable) teaching and learning environment within their affiliated universities. Initially, JAG members were invited as industry link partners to help strengthen the university's connection with local and national industry and government bodies in addition to creating opportunities for students to take part in placements and mentorship programmes. It was also envisioned that the JAG committee members would act as guest speaks to facilitate industry exposure to the classroom environment.

Data collected as part of JAG qualitative responses provides extensive insight into the JAGs contribution to the TESCEA project that goes well beyond their previously anticipated roles. The following graph shows the distribution of JAG representatives who participated in the feedback exercise. A total of 20 respondents from across the partnership took part in this survey.



Based on the qualitative data analysis, JAG members were identified to have six key distinguishable roles:

- Advisory role
- Course revision to engage with industry
- Brokering role
- Mentorship role (staff and students)
- Student employment provider
- Student engagement role

Advisory role

JAG members identified their main role to be advising their respective universities on external stakeholder engagement, while opening up public and private sector engagement opportunities to establish new partnership relationships.

> *"Provided advice for the university to engage relevant actors ... In addition to this, I showed the necessity of developing and signing MoUs between university and implementing organizations and institutions both from Public to Private sector"*

JAGs engaged in meetings and dialogues with their respective universities to inform them about contemporary business community needs and skills requirements.

> *"Sharing the picture of what the current skill requirement is in the market vis à vis what is being taught at the institution."*

Course revision to engage with industry

The biggest contribution of the JAG committee members, outside their advisory role, was their involvement in course revision and new programme development. Selected members actively advocated for a curriculum change in terms of 'rebranding' higher education and focusing more on developing self-sufficient entrepreneurs through education.

> *"The University has seen the need to change the curricula and teaching delivery methods to be more demand driven than before."*

> *"The university administration should take more ownership of TESCEA. It should see it as a way for re-branding its product in the labour market; as an institution for breeding entrepreneurs and people whose thinking is responsive to equity in all its manifestations."*

> *"Personally, have participated as a JAG Member and shared opinions, ideas on transformation teaching and learning of students, targeting employable graduates, student creativity and social change."*

Some JAGs acted as the first point of contact for universities to understand youth employment-related challenges and what roles universities could play to make graduates more employable. The JAG committees actively advocated for the need to introduce practice-based learning curricula.

> *"The platform provided us a chance to discuss youth employability challenges and possible solutions provided by academia"*

> *"the redesigning of course content and delivery, increased industrial opportunities for students doing internships, strengthened partnership between the university and the members of industry etc."*

Selected members from the committee shared their own labour market experience with the students periodically. Others provided wider placement opportunities for students to develop their employability skills. As a result of their interventions, one member claimed that:

> *"We have seen changes in course units to include practical work especially for example in the Faculty of Agriculture"*

Some of the partnerships appear to have developed strong foundations for placement programmes through dedicated internship framework.

> *"Having developed the University Internship framework which will facilitate meaningful students' placement as one way of improving the learnings practically or [enabling] hands on learning."*

Brokering

In the co-ordinator role, JAG members were involved in brokering (or co-ordinating public and private sector engagements and embedding structures to enable these engagements in the long term.

> *"The [greatest] achievement I consider is a strong collaboration between the university and the Government specifically Prime Minister's Office Division of Labour Youth Employment and Persons with Disability"*

Mentorship

In the mentorship role, JAG members mentored trainee students, helped to run bootcamps and speaker sessions, in addition to providing opportunities for students to participate in external conferences for skills development. Selected JAG members have also informed academics about industry based technological advancements in certain fields and provided them with, or directed them to, the relevant materials. It also appears that selected members from the committee guided academics and lecturers towards improving their presentation and in-class engagement skills.

> *"We had discussions and meetings both personally and virtually where presentations were made by the lecturers and we offered guidance to improve on the presentations"*

> *"We had an opportunity to share with academia on the new changes in technology and advancements that require alignment in teaching methodology and relevant materials."*

Student employment provider

JAG members have also created opportunities for students to work in businesses and farming facilities offering real life exposure to critical thinking and problem-solving skills.

> *"Giving opportunities to university students to intern at our business facility"*

> *"Participating in advisory meetings, inspirational talking and providing learning opportunity for agriculture students on our farm"*

Student engagement role

A major JAG role was also student engagement and soft skills development. JAG members engaged with students as in-class guest speakers and shared their expertise. Some JAG participants reported working directly with students (who sought their help) by presenting them with examples of real-life problems and working alongside them to develop creative solutions. Some of the members also contributed towards student soft skills development by educating them about "personal branding",[4] and the people skills needed to maintain their professionalism and work etiquette within a work environment.

> *"Being able to help students come up with meaningful solutions to problems especial through technology."*

> *"Lectured students on personal branding and general soft skills including work and people skills that are needed by the young graduates entering the world of work for their first time."*

Evidence of the value of JAG members is reinforced by teachers. On the whole teachers were very positive about JAGs with over 90% of those who responded identifying various aspects of their positive contribution as the following quote illustrates:

---

[4] This term is used to refer to what student's do to profile and present themselves well, e.g., in preparation for interviews, or as part of setting up a business venture.

"JAG members have really been instrumental in informing us about the skills requirements in industry, so that we endeavour to include them when preparing our students for the world of work. At one time I attended a JAG meeting and was impressed with the ideas they gave us that led into a JAG report. It is as if they really knew the gaps between teaching and work and aimed at bridging it up."

JAGs have enriched the collaboration between industry and academia, enriched the students and teachers' learning and teaching experiences respectively; and they have enabled greater access to more graduate placement/internship opportunities.

JAG members have, however, highlighted several barriers that prevent the majority of the students from fully benefitting from employability schemes and internship opportunities. These are, presented in no particular order: a mismatch of expectations (between the student and employer); students lacking expertise; limited places and high competition; limited supervision opportunities; gender barriers; limited office space and facilities; lack of trust; limited university collaboration; underperformance; unclear selection criteria; external forces (such as distance and travel); lack of supportive funds – that is the lack of sufficient investment in this component of a student's learning journey by universities; the employment sector; and the nation as a whole.

Prospects for TESCEA's sustainability: JAG views

All the JAG participants reported that they perceived a strong commitment on the part of the universities to reinforce and grow the ongoing change in their approach to teaching and learning. Additionally, all of those interviewed suggested that they would like to continue to engage with universities in the future, beyond the lifetime of the project. There was widespread enthusiasm for increased engagement. This was expressed in terms of wanting increased dialogue, but also in terms of wanting more practical change in things like course structure as the following quotes illustrate:

"However, from my interaction with VCs, staff and [fellow] JAG members I see serious resolve to bring lasting change in the university's teaching approach. It is a work in progress and all conditions holding constant."

"I highly rate the universities' commitment because it has already started making changes in its curricular to suit the emerging changes in the education system."

"I think the project team is very highly committed. The transformation of this commitment into institutional commitment is a process that is progressing well."

"The TESCEA project should pave the way to a new way of doing things: community engagement that should continue after the project."

Although the JAGs appeared to be optimistic about the initial success of the programme, they raised questions about the future sustainability of individual universities' perceived ambitions. In their opinion, such impact can only be sustained through greater opportunities and scalability of the new approach introduced by the TESCEA project. In addition, regular "open and honest' discussions need to take place between universities and external stakeholders, on an ongoing basis, to define and refresh future visions and objectives. More engagement and mentorship opportunities were identified to be key drivers of sustaining this transformative approach in the future. The JAG members clearly highlighted the importance of sustained relationships with industry and public authorities to drive wider national change. In their opinion, universities should be open to receiving constant feedback from industry and the community, and wider research projects should be deployed to identify graduate learning and skills development barriers and opportunities supported by government funding.

"Engaging in research and surveys as the ways of problem finding and solution making and using Government available funds in solving challenges facing young graduates"

Members suggested that more proactive strategic conversations should be initiated by universities to develop extensive networks of external stakeholders. Therefore, despite the JAG committees' involvement and key contributions, ultimately, universities are in the driving seat to further develop and sustain the impact of the TESCEA project.

5.4 Equity

Key findings

- There has been a marked shift in the gender-related perceptions, attitudes and teaching practices of teachers towards a greater consciousness and practice of gender equity.
- There are also positive shifts in students' behaviours and attitudes. The gender-responsive design of TESCEA is contributing to creating students who are active learners, not intimidated to interact with their fellow students, their teachers or assume more confident roles in class.
- An important aspect of enhanced student engagement is seen in the increased levels of gender interaction and awareness raising efforts made by the teachers in their classroom settings.
- The evidence suggests that gender conscious or responsive pedagogical approaches are systematically becoming an integral part of, not just lesson planning, but also how teachers prepare group work and classroom seating arrangements.
- Senior management is becoming increasingly committed to gender equity agendas and either have or are working to develop gender policies and plans to promote greater gender equity in and outside the classroom.
- All the universities have strategies, plans and/or structures to create greater gender equity awareness among staff and students.

5.4.1 What contribution has been made through the inclusion of gender/gender equity in key areas of teaching both within the universities and in associated institutions?

Gender responsiveness in the pedagogy, as well as a broader gender awareness and responsiveness in the dynamics of the classroom, are the two "pillars" of gender-related activity in TESCEA. Embedding gender to this degree in the TESCEA project was an intentional feature of the design. There is evidence to support the assertion that TESCEA's gender component has impacted the university environments, albeit to varying degrees. This is reported by teachers, students, senior managers and JAG members.

Below we present observed changes in the attitudes, perceptions and practice of gender equity in the project.

Shifts in teachers' gender attitudes

Shifts in gender attitudes were not as clear cut when compared with other observed attitude changes by teachers. Rather than demonstrate a shift *per se* they often demonstrate a strengthening of an existing position. For example, there was a move towards greater disagreement in the following attitudes.

Teachers attitudes on gender – disagreed/strongly disagreed	Baseline %	Follow-up %	Change
"It is not possible to observe any gender-related differences in how students learn"	73	83	10
However, the proportion who agree remains constant - 12% at both follow-up and baseline agree that it is not possible to observe these differences			
Gender-responsive pedagogy is important to adopt in teaching *only* certain classes or subjects	56	89	33
It is not the role of a teacher to work actively in the classroom to ensure that women and men are engaged in class as equals	82	94	12

In the following two statements there was a move towards greater agreement:

- "Gender-responsive pedagogy is important to adopt in teaching for all subjects" - 77% at baseline compared with 93% at follow-up

- "Gender-responsive pedagogy should be integrated into our entire philosophy and practice of education" - 82% at baseline compared with 94% at follow-up

Shifts in teachers' gender practice

There were significant differences between baseline and follow-up for each of the following practices among teachers carried out *very often* or *always*:

Teachers' gender-related practice	% undertaken very often or always		
	Baseline	Follow-up	Change
I guide the use of appropriate gender-responsive language in classroom interactions	45	80	35
I develop gender-responsive teaching and learning materials	27	71	44
I transform gender biased messages in existing teaching and learning materials into positive content	36	76	40
I organize my classroom to be gender-responsive	33	83	50
I take action to eliminate all forms of sexual harassment within a classroom setting	59	81	22
I consider the learning needs of female and male students when forming groups to accomplish a learning task	53	88	35
I use gender sensitive language while teaching	71	96	25
I encourage my students to think about what gender issues they might encounter in the course of their professional careers	41	66	25
I rotate roles for male and female students in groups: e.g. roles such as 'group leader', 'researcher' and 'scribe'"	55	81	26
"I set assignments that demand from students that they think about the gender dimension of the topic and/or problem	16	47	31
I discuss with my teaching colleagues the specific learning needs and/or challenges of male and female students"	23	54	31

Shifts in students' gender perceptions

The student survey also found shifts in gender-related perceptions.

- Over 90% of students agreed at baseline that "*all students on the course are treated equally regardless of sex, socioeconomic status, and ethnicity*". Agreement strengthened even further at follow-up at 93%.

It is worth noting that those who disagreed with this statement, even though they represent less than 5% of the total respondents, do represents some 46 individuals from the total sample who selected either 'disagree' or 'strongly disagree'. This is an important issue for the universities to further investigate going forward.

- Students were asked whether their teachers encouraged them to think about the gender dimension of a class topic, an assignment or their future careers. The percentage, at 78%, was not markedly different from baseline to follow-up.
- At baseline, 90% of students agreed that "women and men authors both contribute to our course materials" compared to 95% at follow-up. However, 12% indicated that classroom material and/or class activities contain gender stereotypes or biases. Proportions were not markedly different between males and females.

- About 1 in 10 persons indicated that sexual harassment was noticeable in their classrooms. Proportions were not markedly different between men and women and did not differ from baseline to follow-up.

An important aspect of enhanced student engagement was also noted through increased gender interaction and awareness raising efforts made by the teachers. Classroom discussions appeared to be more gender sensitive and it was noted that confidence amongst female students had improved since the inception of TESCEA.

> *"Gender interaction has improved; Gender sensitivity has improved; Confidence in discussions has improved"*

Teachers also reported that students appear more respectful of each other. Traditional teaching approaches prevented such opportunities to interact as students were more passive.

> *"They are now self-driven in their learning, I do not I need to push them a lot. They also treat one another with respect despite their different genders"*

> *"The learning environment, the nature of the interaction between the students and myself, the level of self-confidence [have improved], because in the traditional teaching the students are basically passive learners."*

The findings indicate that teachers are playing a proactive role in promoting gender conscious teaching and learning experiences by using mixed-group-based tasks in addition to promoting gender-balanced activities.

> *"trying out practical activities in group formation, I try to form groups comprising of mixed genders …. Then when it comes presentation nobody will dominate. Yeah, so both male and the female [students] do participate."*

> *"The gender aspect has enabled me give equal opportunities to both girls and boys in my class and avoid being gender blind."*

Teachers are making conscious efforts to use appropriate gender language in classrooms to avoid promoting conscious or unconscious biases. Some teachers reported using gender-balanced references and reading lists to promote inclusive environments. One teacher commented on using "proper and gender sensitive words" in his/her teaching and learning practices.

> *"So generally, we try to be, to make sure about even the language we use in the classroom… so that neither gender doesn't feel like they are being undermined."*

> *"The materials I upload caters for both. Lessons are not segregated, same time, same teacher, same resources for both sexes."*

> *"So I tried to put into perspective the gender responsiveness into the materials and because most of the reading materials are basically authored by males, and so I tried so much to look at, how can I make it more, more gender responsive."*

The evidence suggests that gender conscious or responsive pedagogical approaches are systematically becoming an integral part of, not just lesson planning, but also how teachers prepare group work and classroom sitting arrangements. Several teachers have commented on making conscious efforts to diversify discussion and workshop groups in order to provide equity of opportunities to students, so they can work with other students (and not just friends) with differing knowledge and skillsets. This conscious effort to break traditional setups and student comfort zones are a positive move towards enabling students to become more self-dependent in their learning.

JAGs' perspectives on gender

Just over half of the JAG members (55%) believed that there were issues affecting the access of female and male students to good placements in industry. There was no gender effect, with men and women being equally likely to hold that opinion.

Those who talked about gender issues focused upon stereotypical behaviours:

> *"In most cases women are not empowered enough to be assertive... The dis-empowerment of female students is sometimes caused by lack of gender responsive teaching and learning processes, that are deep rooted in patriarchal systems…"*

JAG members stated that there were no explicit barriers imposed by industries *per se* and that existing policies guarded against this. However, there was a general acknowledgement that there was a gender imbalance within many industries and that this should be addressed. There was also a tacit acceptance from some participants that gender can influence placement in some industries:

"Job nature, some job placements require gender selection e.g. Customer care desk, human resource work are mainly done by ladies, construction projects requires energetic young men. Therefore issues of gender imbalance are immense in the labour sector.

But there was some indication that these things were changing:

"Sometimes it's just a mindset issue or cultural. At our farm now we see female students taking on activities like tractor driving that has from long ago been associated to male gender"

Going forward, a role is indicated for the JAGs to be more prominent in supporting a placement system that identifies and engages with these barriers – explicit and implicit – prior to and during student placements.

Senior management's perspective on gender

It was widely noted that all the participating universities are becoming increasingly serious about gender equality/equity agendas, and they are either working to develop or had already developed gender equity/ diversity policies and plans. The majority of the senior management respondents reported that their respective universities have gender equality policies in place to promote a gender-responsive environment inside and outside the classroom. Often these policies are developed and approved in conjunction with university governing council rules that promote anti-discrimination policies, not just for the students, but at all operational levels. One member from the management team claimed that development of their gender policies was largely influenced by the TESCEA project. He also reported that TESCEA's influence has led to the development of a 'gender office' at the university. Such positive initiatives were repeated by managers from all the universities some of whom confirmed the establishment of 'gender desks'.

Beside policy development, all the universities had strategies and plans to promote greater gender awareness amongst staff and student. Respondents highlighted the importance of equal opportunities to learning and class participation. There was also an awareness that for staff, efforts are needed to create greater parity at senior levels within the universities. Some universities had also facilitated student gender clubs to instil confidence amongst female students.

"providing equal opportunity to all in terms of learning; equal opportunity in leadership positions, accessibility of half-tuition bursaries"

"We have a gender policy at university level and gender clubs for students. Men and women feel welcome in a safe and secure learning environment..."

Selected universities had also commented on having gender-conscious recruitment policies where significant numbers of female students are recruited to maintain course gender balance.

"Deliberate efforts to enrol a good number of female students"

All the participants agreed that diversity agendas are discussed in important management meetings, and all staff and students are given equal opportunity to voice their opinion through faculty board representation, student bodies representation, assemblies and university council.

"The university practices management through committees of different layers and this gives the chance for voices and spaces of divergent opinions."

"the university email where issues are raised, meetings of staff and/with students, departmental meetings, Faculty board meetings, Senate, etc; WhatsApp groups where members share views"

"Through student bodies and student representation right from faculty boards to university council"

Some universities were noted to have established more informal frameworks for freedom of expression and freedom of speech, executed through student assemblies, staff associations and socio-cultural groups. For others it appears to be a work in progress and moving in the right direction.

"Different committees allow free expression of opinion"

"Established structures (student Guild, department, faculty, senate and council) and also staff associations and social or cultural groupings. There are also staff and student's general assemblies."

"We are putting up structure through which voices can be channel from the excluded groups in the university"

Overall, the evidence suggests that senior management are conscious and supportive of diversity/ gender equity agendas at their respective universities. They also appear to have developed multiple

supportive mechanisms for staff and students to benefit or voice their gender equity and larger diversity agendas.

5.5 Value for money

Key findings

- TESCEA is run as an economical programme. Good quality inputs were procured at economical rates, based on benchmarked costs.
- The TESCEA partnership buys inputs of the appropriate quality at the right price, including staff, consultants, resources/materials.
- The overall proportion of costs of activities to support costs are in line with what was budgeted.
- Management costs are appropriate given the heavy management burden of TESCEA. However, this heavy management burden does raise questions as to whether this element of the Fund Manager's design is itself value for money.
- The teams are comprised of the right mix of staff for its roles and activities to ensure alignment between roles, activities and costs.
- In some instances, TESCEA has contributed to changes in excess of the initial investment. JAGs and the multipliers are key examples of these types of contributions.
- Cost and efficiency considerations are well embedded in the planning, implementation and budgeting for the programme, and there is some evidence of its institutionalisation.

The economy, efficiency, effectiveness and equity (known as the 4-Es) framework was the conceptual framework used to analyse the degree to which resources have been used to achieve the most impact. Effectiveness and Equity are covered elsewhere in the evaluation, and therefore the VfM questions relate only to the first two economy and efficiency.

In 2019, the TESCEA partnership collectively developed a VfM framework in line with the 4Es to assess the value of its work. There were seven elements of the framework. The project's point of departure was impact, *not cost*, to identify the key changes that people say made the most impact on them. The framework:

- Identified key aspects of TESCEA's performance at the outcome, output and input levels that can define value, worth and significance of resource used
- Identified the levels of change possible in TESCEA – what constitutes excellent (significant), good (moderate), satisfactory (acceptable) or poor (no change)?
- Identified the evidence required to demonstrate each change – e.g. use of indicators, change/impact stories, budgets
- Rated the observed change based on available evidence
- Identified the budget spend associated with each outcome, output, input level (normal financial tracking of unit costs)
- Made a judgement as to whether the expenditure was well spent in each area of observed change.

5.5.1 Has TESCEA expended funds on good quality inputs at economical rates? (Inputs include staff, consultants, raw materials and capital that are used to produce outputs)

Cost data was sourced from TESCEA's financial reports to assess whether they are in line with market rates. Cost analysis was supplemented by qualitative examples gathered from a desk review of programme documentation to assess evidence of good practice procurement processes being applied, e.g. how both cost and quality have been considered in procurement. Qualitative examples were derived from partner data gathered from quarterly reports and interviews with members of the team.

The overall proportion of costs on activities and support in the TESCEA project is in line with what was budgeted.

Outcome	Budget	% of total budget	Expenditure	% of total expenditure
1	281,785	7%	227,697	8%
2	2,446,780	64%	2,155,898	62%
3	414,066	11%	413,412	11%
MEL	204,575	5%	204,276	6%
CA	454,553	12%	454,154	13%
Total	3,801,759		3,455,437	

At the end of Q17, activity costs accounted for 63% of expenditure and 37% support costs. While a spend of 37% of total programme costs (£3,455,437) on management appears on the high side, the project team collectively believe that this demonstrates an acceptable allocation of funds between direct programme costs and support functions in TESCEA.

The proportion of expended project management costs is dependent on the type of the project – size and complexity. TESCEA has required significant management time – on an overall project level as well as at country level within teams. The cost of overall project management is significantly comprised of INASP's time as lead partner – the most expensive of all partner's time. In addition to the routine elements of project management, the project has included significant capacity building on project and financial management for the project's teams. INASP did not fully anticipate the support that would be required to align partners' financial management systems with required standards and maintain them. There was also additional management-related work associated with PwC's quarterly financial audits.

Qualitative examples: procedures for acquiring good quality inputs

6. Pre-COVID 19, for face-to-face meetings TESCEA compared venue, accommodation and flight pricing across different providers alongside considerations of safety and facilities/equipment needed for the event.
7. Partners' rates are determined based on employment contracts and salaries. This means that project team members are remunerated for project time at the same rate as they are paid for their day-to-day job. These have been verified as appropriate and necessary on a quarterly basis by the Funders' financial scrutiny visits.
8. TESCEA's non-receiptable expenditure rates were set in Year 2 of the project (for transportation and subsistence) and have been benchmarked against past project expenditure and university transportation rates. This is also an example of the additional unbudgeted financial management time that was required to support partners to align with good practice VfM approaches and financial compliance.

5.5.2 Are these inputs being translated efficiently into programme outputs?

Because of the volume of work (and time) involved in undertaking a full unit cost analysis of output level results, we have restricted this to TESCEA's core output (output 2.1) to assess whether inputs are being translated efficiently into programme outputs. Cost data was sourced from TESCEA/INASP financial reports disaggregated by activity buckets. Unit costs were analysed to compare performance over time and against programme targets to identify improvements in efficiency during implementation.

TESCEA has been able to manage its costs within the allocated budgets for specific types of activity. This has made the budgeting process much more efficient, although it has involved significant programme management time. Accordingly, activities undertaken under Output 2.1 (this is the core of TESCEA's delivery activities and is reflected in its logframe weighting) has accounted for 47% of total expenditure. This expenditure is in line with this logframe weighting.

Qualitative data were used to supplement unit cost analysis to explore how efficiencies were achieved during implementation. Programme documentation and feedback from programme staff provided the evaluation with examples of the project creating efficiencies.

Partnership meetings – designing and planning activities

- **Pre-COVID-19:** most quarterly partnership meetings (PSG) were held virtually, with one big partnership meeting taking place face-to-face each year. This enabled the partnership to keep costs down (for the virtual meetings) while still meeting as often as was needed to discuss project progress and make decisions. In between the quarterly partnership meetings, the project also held regular monthly, project leads meetings online. In this forum they were able to share updates on a regular basis, make timely decisions, and course correct as and when needed rather than waiting for quarterly PSG meetings to do this. As decisions were made at a partnership level, this ensured shared ownership of the project and project activities.

- **Meeting face-to-face once a year:** while a significant investment in terms of money, face-to-face meetings allowed the team to connect as partners and build relationships in a way that would not have been possible virtually. It also made it possible for them to discuss things in depth, broach difficult topics or issues that needed to be resolved as well as plan for the year ahead. In addition to this once a year face-to-face leadership meeting, partners also met in training of trainer (multiplier) workshops, MEL meetings, and university-based training sessions and workshops where significant achievements were recorded.

Multiplier approach

- TESCEA made a significant investment in the training of multipliers at the beginning of year 2 when the project brought staff from each of the four universities together for a face-to-face training of trainers (ToT). This initial group of resource people (referred to as multipliers) has since expanded by bringing further multipliers on board through subsequent course redesign sessions. The multipliers are currently involved in facilitating course redesign and gender sessions (the core of their training during the ToT). They are also involved in a range of other TESCEA activities, including student portfolio workshops, mentoring, and developing the TESCEA/East African Model. The initial investment has been an important element of building both the effectiveness and ultimately sustainability of the approach at each of the four universities.
- The training conducted for multipliers in lesson planning in Year 3 of the project was moved online due to COVID-19. Adapting the training from what was originally planned as a face-to-face training to an online training required greater time investment/expenditure for the people developing the training. However, online training was still significantly cheaper than the planned face-to-face trainings would have been. The additional investment of staff time ensured that the online training did not differ significantly in quality from previous face-to-face trainings.
    - As described earlier, the original pool of multipliers has expanded considerably since the original group was trained during the training of trainers in Year 2 of the project. This expanded pool of multipliers has grown organically (from within already planned course redesign sessions). Consequently, the expansion of this crucial group of resource people has occurred without any extra expenditure.

JAG members

- Another example where the team has achieved more than originally planned is in relation to the JAG members and their involvement at the universities. The original plan was to have them be involved in the JAGs themselves as well as a couple of other activities, including guest speaker events. The project has seen the involvement of JAG members grow into a wider variety of activities, including becoming mentors for students, contributing to institutional policy reviews, connecting the universities to similar initiatives and projects both domestically and abroad, as well as supporting and pushing for policy change at the national level.

5.5.3 What are the outcome cost considerations?

Although we address issues of effectiveness and equity in detail elsewhere in this report, it is useful to reflect briefly on TESCEA's outcome cost indicators. TESCEA is a £3.6 million investment by the FCDO. How effectively was this sum invested? Did it lead to outcomes of sufficient magnitude or scale to justify the sum? Employing a very crude metric that assesses the sum total invested against the number of students or teachers trained we find that £12K was spent on every teacher or just under £1K per student. The sums are considerable and underscore the concern expressed about the significant management costs associated with the project. They do, however, also highlight INASP's own relatively high costs.

TESCEA's VfM approach has always emphasised impact (the difference made) as a key factor for consideration.

If effectiveness can be estimated by the potential future reach of the "scalable model" (which is part of the intentional design of TESCEA) then £3.6 million is arguably justified as an investment that enables a significant shift in teaching practice in four institutions (with the potential to benefit many thousands of future students and graduates in those institutions) and with the potential (as the model is 'rolled out' and resources and tools made available to other institutions) to benefit many more thousands of academic faculty and students in other universities in both countries, and regionally.

5.5.4 How well is VfM embedded institutionally?

The degree to which VfM is embedded in partner institutions was assessed on two fronts:

Establishing the extent to which the partnership is aware of, committed to and engaged in demonstrating VfM

- The TESCEA partnership is aware of and committed to the concept and practice of value for money approaches. All partners report quarterly on VfM indicators. In addition, as earlier stated the partnership collectively developed TESCEA's VfM approach. This approach has been incorporated into the entire MEL framework that is being mainstreamed into some departments and other institutions.

Establishing the extent to which the VfM approach has been propagated across the partner institutions

- The MEL approach appears to be well established in the partnership. MEL leads have supported its propagation in other departments or structures of their universities or institutions. MEL leads have also been the focal persons involved in the development of the VfM framework. The project has seen a growth in the use of MEL techniques including VfM elements into institutional structures – especially those of finance and quality assurance.

5.6 Learning and adaptability

Key findings

- TESCEA's design has an embedded learning and adaptation mechanism that has proven effective in enabling learning and adaptation throughout the project's lifespan.
- The PSG and MEL leads learning sessions are the primary mechanisms through which learning and adaptation have occurred. But in addition to these more formal structures, the partnership uses a range of more informal mechanisms (e.g. WhatsApp) to communicate, check up on each other and offer support where required.
- TESCEA has catalysed a range of learning outputs over the lifespan of the project.
- As of April 2021, there were 44 publications produced by the partnership.
- Additionally, as of April 2021 there are 29 abstracts that have been produced by the partnership for development into papers for publication.

5.6.1 How well did the programme learn and adapt its approach as needed?

Learning is an integral part of the TESCEA approach. There is evidence that the TESCEA team has made important and successful efforts to learn, adapt and continue to learn from this project over its lifespan. In 2018, the team developed a simple "learning strategy" that laid out their approach to learning across TESCEA. Its main purpose was to identify what they considered important to learn about during the period, how they would go about doing it (i.e. the learning), who would be involved in the learning, and what they would do with the learning.

Specifically, their approach had four key elements:

- Learning spaces were created and protected time enabled to reflect on TESCEA's works, acknowledge success and challenges and consider the implications for the work.
- A clear decision-making process was in place to consider project learning and possible adaptations.
- Proposed adaptations to activities/project instruments (plans, activities, TOCs, indicators etc) based on the learning from the data and other relevant external factors would be considered at these spaces.

- Engagement as a partnership was collaborative, iterative, equity focused to promote evaluative thinking throughout the lifespan of the project.

Learning has occurred through two main arms of the project:

1. The Programme Steering Groups (PSGs) that meet quarterly to review the current state of the project, learn from their data and make decisions based on the findings about any required adaptations; and
2. The MEL monthly meetings which deliberate on MEL specific issues in support of the project team and feedback any issues to the main project team that require their attention or action.

Adaptations

A range of adaptations have occurred over the project's lifespan. The project has adapted its work to:

9. Respond to gaps in the training process (identified through Project Steering Group meetings and feedback from multipliers), leading to stronger transformative learning foundation and targeted learning design training. This includes an early-on adaption to conduct institutional/national Transformative Leaming (TL) workshops rather than a joint partnership workshop to be able to train a larger number of university lecturers in TL as a foundation for the course redesign workshops
10. Incorporate TL-refresher workshops for the second and third round of course redesign.
11. Conduct separate trainings – in an online mode – in learning design/lesson planning as a result of the lockdown.
12. Move work onto online spaces from largely face-to-face interactions in the training of teaching staff.
13. Scale up of the pace of implementing the approach, particularly in training, including the introduction of the "multiplier approach".
14. Enable the establishment of student influencers who sensitize their fellow students on transformative learning.

5.6.2 Learning outputs

To date, TESCEA has published 44 learning outputs. In addition to this evaluation, the project intends to publish a variety of papers related to its learning. Approximately 29 abstracts have been developed from which papers are currently being written. The list of abstracts is attached as Appendix 2.

5.6.3 What are the wider lessons for the project?

There is little doubt that TESCEA has generated significant learning on transforming teaching and learning within quite different university settings (large and small, public and private) in East Africa.

The following nine key learnings are overarching reflections on where significant learning has occurred over the three plus years of implementation:

Trust as an enabler of true partnership

- The strength of the TESCEA partnership has been assessed by its members to be one of the primary factors for its success to date. There has been an ongoing commitment to ensure that the partnership is governed by trust, candour, respect and an appreciation for the value each member and team bring to the partnership. TESCEA has demonstrated the value of trust as a fundamental prerequisite of a truly effective partnership and a successful project.

A cohesive team

- At all levels of the partnership, the data confirms the impact that this level of trust has had on the development of a cohesive team at institutional levels within the partnership. This has been achieved to varying degrees across the partnership. The data suggest that those teams with the greater levels of cohesion (defined by open and encouraged communication, respect for the ideas different members bring to the conversation regardless of their position in the institutional hierarchy, and a demonstrated response to those ideas) have fared better in dealing with both the challenges and opportunities of TESCEA – both on a "people level" as well as a "team level" than those teams with less cohesion.

Passion of teachers – palpable and obvious

- The partnership has identified the significant levels of commitment of the majority of teaching faculty as being one of the most important keys to the success of project. Our learning highlights that even in times of great challenge (such as during the COVID-19 pandemic) these levels of

commitment were enduring and enabled institutions to overcome their challenges. The learning also indicates that where there was less cohesion in team, and therefore lower levels of enthusiasm and commitment, the impact of the challenge was stronger.

The role of technology and COVID-19

- COVID-19 has had a wide ranging and profound impact upon the manner in which research and education are carried out in the TESCEA partner universities. In many institutions in East Africa, COVID-19 literally galvanised educators into adopting online approaches to teaching. On the face of it this appears to have been a win-win situation for institutions, their staff and students. In the face of a devastating pandemic, institutions were able to continue to conduct business. This
- enthusiastically embraced approach, however, does have associated costs and limitations which appear to have taken a backseat in the debate around technology enabled teaching and learning.

Infrastructural support or the lack of it

- The importance of adequate hardware and software, and reliable and robust internet connectivity on campus, as well as affordable data off-campus, need to be explicitly acknowledged. Infrastructure needs to be considered within a framework which takes account of how students actually work – i.e. the need for fieldwork or for off-campus learning. Universities need to consider the infrastructural needs in a range of learning situations and how this might impact students learning and the wider success of the approaches TESCEA has introduced.

External engagement

- The contributions of the Joint Advisory Groups to the project have been quite unique, often beyond what was originally conceptualised, in the degree of involvement and commitment of its members to the vision of these institutions and TESCEA more specifically. The external input of the JAG members in facilitating teaching and learning as students' external mentors, enabling access to and providing support in students' placements, provision of teaching equipment, and the introduction of gender-responsive intervention tools, as well as in direct support to teachers, has been impressive. It has authenticated an original idea that cultivating a "collective advisory body with an external perspective and voice" would add value in the short and long-term to this project, and to institutions as a whole.

Remaining adaptable

- All through the TESCEA project, the membership has remained flexible and adaptable in response to a changing internal and external environment. Even before the COVID-19 crisis, teams were being compelled to adapt to individual contexts, to working with differing teams, to reconceptualise the approach to training, communicating and learning from one another. The TESCEA team agrees on the critical role that its members have played in demonstrating a willingness to adapt (i.e. having the right attitude) and following this up with changes to their approaches and activities.

Ongoing training

- It seems that there is an appetite for ongoing training to support the TESCEA approach. The types of training most frequently identified as useful are those involving peers. Enabling peer support groups within and between universities could underpin future expansion. Teachers need to see – and preferably interact with – examples of successful teaching, within their own disciplines, in other universities.

Adequate time

- The need for sufficient time being made available to undertake key project-related activity surfaced as a key learning, particularly for training. The partnership felt that training needs to be done at a time that fits in with teachers' other commitments and workloads for it to be truly integrated into the "normal" workflow. This can prove challenging within the restrictions of an externally-funded project, which brings its own timelines and requirements.

In addition to these overarching project learnings, the team identified theme-specific learnings as follows:

Effectiveness

1. **Change begins at faculty level**: TESCEA has demonstrated that the power to transform teaching and learning lies largely with teaching staff. TESCEA inspired faculty and that created the catalyst for change.
2. **Students as change advocates**: students who have experienced these new ways of teaching and learning have themselves become ambassadors for the approach.
3. **Engaging management in the change process**: the evidence generated through TESCEA has provided the project with evidence and arguments to successfully engage with their institutional management at the level of policy reform. Changes witnessed in the formulation of new policies and plans have occurred because of the *demonstrated* value of TESCEA in the institutions at the level of teachers and students.

Sustainability

1. **Institutional factors are key in enabling sustainability**: Buy in from management and the goodwill this generated were essential in beginning the process of institutionalising the TESCEA approach.
2. **Defining a model for sustainability**: having a clear concept of what is required to enable sustainability and a plan to work to achieve this has contributed significantly to the possibility of long-term sustainability.
3. **Time**: institutional change takes time and cannot or does not always happen on the timescale that the project would like.

Equity

1. **The rapidity of change**: the change in equity and awareness is more visible in teachers than in students. Gender mainstreaming and an equity awareness have been infused into many elements of teaching. Although some benefits are already visible, the true benefits will become clearer in time.
2. **Intentionality and planning**: these two factors worked hand in hand to advance the concept of practice and equity in classrooms. At the teaching level there was a deliberate effort by teachers to make (sometimes small) things happen – such as changing seating arrangement. Having the intention to make change within those “small” parameters and backing these with concrete implementation plans helped create the opportunities for teachers to effect change.

Value for Money (VfM)

1. **Unrecognised volunteer hours**: the delivery of TESCEA did not occur solely within the time and funding allocated. Because of the high management burden at the university level, significant hours were invested in the project. This demonstrated a high level of commitment by team members and other staff to support the realisation of the vision.
2. **Financial management capacity development**: mentoring project team members by providing the necessary financial management skills was a success factor in delivering TESCEA.
3. **Streamlining as an enabler of efficiencies**: developing greater levels of efficiencies was a university-specific learning experience that involved, in differing degrees, streamlining activity – i.e. reorganising roles and functions to eliminate overlapping tasks and integrating workstreams where feasible to create greater coherence and minimise costs.

Learning and adaptation

1. **Integrating learning and adaptation into TESCEA’s design**: the learning and adaptation design that is at the heart of TESCEA was an important success factor. Routinising learning and creating the space for it ensured the team engaged with it.
2. **Holding on to the learning momentum in an emergency**: data collection lost momentum and dipped during Covid, but the occurrence of learning and adaptation did not. The iterative process of learning and adaptation was at the heart of successfully transitioning TESCEA from a largely face-to-face delivery mode to an online mode of working under very challenging and differing country circumstances.

6 Conclusions

The TESCEA project has achieved a tremendous amount in the last three years. There is evidence of TESCEA's contribution to transforming the ways in which its universities teach and learn.

Specifically, we can see a shift towards an institutional practice which puts learners at the centre of their own learning. There is an adoption of teaching and learning practices more in line with critical thinking, problem-solving and gender-responsive pedagogy.

Both teachers and learners have grown their understanding and skills in the application of these new approaches to teaching, developing new course material and new forms of assessment.

We can see changes in the relationships between students and teachers and between student and student. These are characterised by greater degrees of interaction and collaboration in an atmosphere of mutual respect and confidence.

The role of the JAGs has emerged as pivotal in the successful adoption of these new ways of teaching and the role of senior management has been critical in endorsing the approach and encouraging buy-in from the wider university.

Yet, there remain significant grounds to cover if the project is to see the approach adopted wholesale by the four institutions and fully embed the philosophy and practice of a transformed approach to teaching and learning.

Across the feedback provided there are six key areas that require action:

3. **infrastructural investment**
4. allowing **sufficient time** to implement and embed the approach
5. **ongoing support** (from peers, management and students)
6. **ongoing training**, **awareness and attitudes** of teachers, students, and the wider university staff
7. greater **external engagement** with industry, community, and government
8. **investment** in support for external engagement for both teachers and learners.

Nevertheless, the majority view is that the prospects for long-term sustainability of the TESCEA approaches within its universities are good, and the opportunity, therefore, to reach greater numbers of students institutionally, nationally and regionally is significant.

In concluding this evaluation, a final point of reflection by the project team was on what might have been done differently. The project team identified a number of areas. We select three below as they have not been raised elsewhere in this report. They are:

- A missed opportunity for some pieces of work like faculty placements, the development of student portfolios, and preparing the environment of the student placements to optimize their learning experience. The quotes below illustrate:

  "There are things we didn't do at all. We were supposed to have faculty placements in industry. I wish we could have had the opportunity to do this as it could bring a different learning opportunity"

  "Funding for this was very minimal. We have staff members who have never worked anywhere other than academia so the teaching can be very theoretical. Important opportunity. Covid didn't help"

- Provision of greater levels of mentoring for teachers throughout the project:

  "We couldn't visit many teachers in class because we are also teachers so our timetables clash - but if you visit and watch the class then you can give [greater] support right then"

- More time to have laid the groundwork such as setting up JAGs, staff and student engagement activities before starting the course redesign work.

7 Recommendations

The recommendations which follow target two main audiences, the project and its member institutions and the fund manager/funder.

7.1 The project and its institutions

1. **Expand TESCEA's legacy beyond the project's funding period:** within TESCEA institutions the need to ensure that the approach is sustained is crucial. Initiatives to expand TESCEA are being generated within individual institutions, in addition to collective project initiatives on sustainability. There needs to be a demonstrated commitment on the part of the entire university to ensure implementation of all of these initiatives.
2. **Establish greater links and nurture existing links with national bodies:** the need to re-engage with national bodies and/or continuing to engage with these bodies where these linkages have occurred is essential. This should be supported with evidence of achievements over the last three years to identify ways of even greater scale up than what is planned.
3. **Ensure the continuation of JAGs:** the continuation, expansion and diversification (gender and other) of the JAGs, both at current TESCEA universities (institutionalisation of JAGs) and at any new universities picking up the TESCEA approach, is an important factor in its sustainability in the near future and longer-term. The roles of JAGs in brokering relationships between universities and a host of "external voices" is crucial.
4. **Tailor approaches to different groups of students:** there is a need to ensure that no group of students gets left behind in this new teaching and learning process. It should be part of the institution's approach to track and identify groups of students facing challenges and offer support in the form of bespoke training and other needed resources.
5. **Review and amend the circuitous routes to access funding for activities:** the process of accessing funds from within the institution, needed to undertake activities, is currently so embedded in bureaucratic rules, regulations and approval processes that these frustrate efforts by faculty. These should be reviewed and streamlined to facilitate access and efficient working practices.
6. **Communicate our TESCEA findings and success stories:** the need to distil, refine and share TESCEA successes especially regarding design, application and impact should be a priority for the partnership.
7. **Integrate learning and adaptation into all aspects of institutions:** there is a recognition of the need to ensure that these remain part of the TESCEA design and approach going forward.

7.2 To the funder and fund manager

1. **Reduce the financial management burden imposed on the project** through the programme's funding structures: the reporting requirements of a programme of this type should be reviewed and alternative mechanisms for ensuring accountability identified, to ensure that the maximum benefit and ultimate impact can be secured from the funders' investment. The risk of a high management burden is that the key 'change leaders' are constrained in effecting change, within a relatively short time period, by the need to invest significant time in reporting and related requirements.
2. **Create greater alignment between the funder's financial reporting systems and processes and those of universities in the regional**: adapting funder rules and regulations, for examples restrictions not just on what is considered eligible expenditure, but also on how expenses can be evidenced and reimbursed, to accommodate regional difference or specifics would make for a more balanced and efficient reporting system in the future.

Appendix 1: TESCEA data collection matrix

Outcome link	Broad evaluation questions (learning questions-linked)	Sub-questions	Indicators	Details of evidence/source
Evaluation Criteria: Effectiveness				
Outcome 1, 2	EQ 1: What is the ongoing contribution of TESCEA to the teaching and learning experience and approach at its universities? •	1. Do teachers teach differently to their previous styles of teaching since taking part in TESCEA?	• Affirmation or otherwise by teachers • Availability of clearly demonstrable evidence	Monitoring data Pre and post surveys of teachers and students Qualitative feedback of teachers and students Value creation stories of teachers All Quarterly reports from 2018 to present
		2. How useful or not has the project been in growing capacity to teach critical thinking, problem solving and gender-responsive pedagogy?	• Availability of evidence in support of teaching capacity development	Learning designer evidence Quality of lesson plan development
		3. Do teachers believe the TESCEA approach to be an effective one?	• Affirmation or otherwise of usefulness of approach by teachers • Evidence of benefits of approach • Evidence of challenges encountered and how these have been addressed	Senior management survey Teachers' qualitative feedback Pre and post surveys
		4. To what extent is student learning centred around problem-solving learning?	• Evidence that new ways of teaching are desirable • Endorsement by teachers of key identified enablers or facilitators of new teaching and learning paradigm	Pre and post student surveys Pre and post teachers' surveys Value creation stories from teachers and students

Outcome link	Broad evaluation questions (learning questions-linked)	Sub-questions	Indicators	Details of evidence/source
		5. How useful do students believe these ways of teaching and learning are?	• Affirmation or otherwise of usefulness of approach by students	Pre and post student surveys Qualitative feedback of students
Evaluation Criteria: Equity				
Outcome 1, 2	EQ 2: What contribution has been made to a transformed teaching and learning paradigm by the inclusion of gender/ gender equity in key areas of teaching and learning within the institutions?	6. What contribution has been made through the inclusion of gender/gender equity in key areas of teaching both within the universities and in associated institutions? To include: • Classroom dynamics • Teaching/learning materials • Course content/curriculum • Any differences by gender	• Evidence of gender difference in teaching approaches; in student learning, attitudes, skills.	Pre and post student surveys Pre and post teachers' surveys Qualitative feedback of students Value creation stories JAGs' qualitative feedback Quarterly reports
Evaluation Criteria: Sustainability				
Outcome 1, 2	EQ 3: What is the role played by the institutional and external environment in enabling or impeding the immediate and longer-term goals of transformed teaching and learning?	7. How has the institutional environment enabled or impeded the goals of transformed teaching and learning in support of long-term sustainability?	• Factors that enable and impede sustainability • Evidence of institutional or project plans, policies and activities to ensure sustainability	Pre and post teachers survey Senior management qualitative feedback Quarterly reports JAGs qualitative feedback MEL Annual reports
		8. What has been the contribution of the Joint Advisory Groups? How have they contributed to strengthening connections between universities, local employers and communities	• Identification of key roles of JAGs and evidence of their contributions	JAGs qualitative feedback Teachers' qualitative feedback Quarterly reports MEL Annual reports

Outcome link	Broad evaluation questions (learning questions-linked)	Sub-questions	Indicators	Details of evidence/source
Evaluation Criteria: Value for Money				
Outcome 1,2,3	EQ 4: Has the TESCEA project delivered value for money?	9. Has TESCEA expended funds on good quality inputs at economical rates? (Inputs include staff, consultants, raw materials and capital that are used to produce outputs) 10. Are these inputs being translated efficiently into programme outputs? 11. What are the outcome cost considerations? 12. How well is VfM embedded institutionally?	• Evidence of ways in which inputs have been procured; funds have been expended, how funds have been expended; proportion of funds to activities and management	TESCEA and INASP financial data Interviews with managers
Evaluation Criteria: Learning and adaptation				
Outcome 3	EQ 5: How well did the programme learn and adapt its approach as needed and what are the wider lessons for the project?	13. What learning has been accomplished and demonstrated? 14. What adaptations have successfully occurred?	• Evidence of learning outputs – existing and forthcoming • Evidence of adaptations carried out	TESCEA publications Quarterly reports MEL Annual reports

Appendix 2: List of abstracts developed for publication

1. Moving from facts to real learning: the role of adaptive MEL in utilisation-based evaluation
2. A participatory approach to evaluating collective learning: landscapes of value creation in TESCEA
3. Creating an enabling environment for transformative teaching and learning at UMU: The role of institutional factors
4. The strategy: Social innovation approach for sustainability and resilience
5. Changing practices in teaching and learning at four East African universities– the TESCEA intervention
6. The effects of course redesigns and pedagogical training program on enhancing teaching practices: evidence from four universities in the East African region
7. In search of developing skills and problem-solving: A teachers place in effective education.
8. Innovative Assessments for transformative learning. Role of technology
9. Putting theory into practice – the importance of learning design in teaching staff's professional development in teaching and learning
10. Innovative Use of Technology to Promote the Infusion of Critical Thinking, Problem-Solving and Gender Responsiveness in the Learning Process: A Case Study of Four East African Universities
11. Best facilitators and biggest barriers impacting TESCEA's implementation
12. Making teaching more meaningful for teachers: value creation for teachers
13. The most significant impact of TESCEA: Mzumbe University Learning Journey
14. The impact of TESCEA on teaching and learning: voices of teachers
15. What teachers need to embed: The TESCEA Approach
16. Resistance to change: a student perspective
17. Student E-Portfolios: A case Study of Mzumbe University
18. The most significant changes to learning: A comparison of students and teachers' perspectives
19. Transforming how students learn: My learning journey with TESCEA
20. Creating JAG – the journey: Mzumbe University case study
21. TESCEA Mzumbe JAGs: A CASE STUDY. The strategy: selection, engagement, opportunities and challenges
22. Opportunities and challenges of JAGs/value of JAGs: Experience from Mzumbe University, Tanzania
23. The roles and impact of the JAGs in educational transformation: TESCEA case study
24. Engendering Pedagogy in TESCEA: An Assessment of Gender Responsiveness
25. Gender inclusive Pedagogy: Deconstructing cultural gender Norms and fostering gender equity through Education in Uganda
26. Application of Gender Responsive lens in Transforming Students Learning for Critical Thinking and Problem-Solving skills: A case of four East African Universities
27. The definition, journey and impact of partnership in TESCEA
28. Community engagement in TESCEA: Gulu's approach
29. Are Learners and Faculty Ready for Transformative Learning Approach? The TESCEA Intervention
30. Transformative learning in learning through participation: The TESCEA Intervention

Appendix 3: Publications produced by the project

Project Publications (articles, blogs, papers, reports (including tools, guidebooks) or interviews produced by TESCEA

Title and web link (where relevant)	Author(s)	Source	Date	Type
Untangling the impact of gender in the 'hidden curriculum'	Chapin, J.	INASP	15 Feb 2021	Blog
How do we address the higher education gender gap?	Chapin, J.	INASP	27 Jan 2021	Blog
Gender Responsive Pedagogy in Higher Education	Chapin, J., Skovgaard, M., Warne, V.	INASP	14 Jan 2021	Learning paper/ Framework
Pivoting to remote support for transforming higher education: what we have learnt	Buchner, T., Dryden, J.	INASP	14 Oct 2020	Blog
How to make university classes more gender responsive	Skovgaard, M.	INASP,	30 Sept 2020	Blog
How social entrepreneurs are contributing to HE change	Odhiambo, V.	University World News (Ashoka)	3 Sep 2020	article
How social entrepreneurs are contributing to higher-education change in East Africa	Odhiambo, V.	INASP (Ashoka)	12 Aug 2020	blog
Fresh thinking in East Africa: Helping graduates develop skills for the workplace and society	SPHEIR	INASP	06/08/2020	blog
Moving face-to-face workshops for higher education staff online	SPHEIR	INASP	23/07/2020	blog
TESCEA student perspective: Dorice Kagisa	INASP	University of Dodoma	23/07/2020	video
TESCEA student perspective: Ignatus Mkonga	INASP	University of Dodoma	23/07/2020	video
Adapting for sustainability: taking training of trainers online to continue higher education support	Buchner, T. Dryden, J.	UKFIET	13/07/2020	article
Adapting for sustainability: taking training of trainers online to	Buchner, T. Dryden, J.	INASP	01/07/2020	blog

Title and web link (where relevant)	Author(s)	Source	Date	Type
continue higher education support				
Redesigning university curricula to boost employability	Joanna Wild, J. Omingo, M	University World News, TESCEA	07/05/2020	article
Adapting to continue higher education support amidst a pandemic	Skovgaard, M. Buchner, T.	INASP	21/04/2020	blog
Enabling social change from changes in higher education	Harle, J.	INASP	21/04/2020	blog
University course re-design could solve high unemployment rate	Daily Monitor, Uganda	Daily Monitor, Uganda	17/02/2020	article
Report on Gulu course redesign on TV	New Vision TV	New Vision TV	11/02/2020	video
Understanding the skills gaps between higher education and the workplace in East Africa	Wild, J.	INASP	03/02/2020	blog
Graduate skills for employability in East Africa: Evolution of a skills matrix for course redesign	Wild, J. Omingo, M.	INASP, AFELT	30/01/2020	paper
Transforming core skills in university curricula	Harle, J.	University World News	16/1/2020	article
Employer engagement and its role in higher-education course redesign	Monk, D.	Gulu University	15/01/2020	blog
Multipliers in the TESCEA partnership	INASP	INASP	19/12/2019	video
Gender-responsive pedagogy in higher education: How we are approaching it in TESCEA	Skovgaard, M.	INASP	18/12/2019	blog
Rethinking how university courses are taught to help meet the needs of students and community	Monk, D.	Gulu University	13/12/2019	blog
Transferring skills and knowledge for scale-up and sustainability	Buchner, T.	INASP	21/11/2019	blog

Title and web link (where relevant)	Author(s)	Source	Date	Type
Gloriana Monko discusses curriculum redesign and the role of "multipliers" in the TESCEA partnership	Monko, G.	University of Dodoma	21/11/2019	video
eLearning – Can it improve graduate employability?	Kigotho, W.	University World News	14/11/2019	article
Experience of implementing course redesign to help students gain critical thinking skills	Munuve, V.	Uganda Martyrs University	25/10/2019	blog
Transforming learning and connecting communities to support higher education	Monk, D.	Gulu University	09/07/2019	blog
Reflecting on a year of partnership to boost higher education in East Africa	Harle, J.	INASP	21/05/2019	blog
How to bring gender-responsive pedagogy into course redesign in higher education	Tenywa Malagala, A.	Gulu University	01/05/2019	blog
Gender responsive programming: the global gender gap in the context of East African higher education	Chapin, J.	INASP	26/04/2019	blog
Transforming Employability for Social Change in East Africa (TESCEA)	INASP	INASP	15/04/2019	video
Asubuhi Njema Kitaifa na Michezo	Channel 10, Tanzania	Channel 10, Tanzania	13/01/2019	video
Transforming Employability for Social Change in East Africa: the first eight months	Harle, J.	INASP	21/12/2018	blog
Transforming teachers for transformed students	Harris, S.	INASP	20/12/2018	blog
For effective change, all stakeholders need to recognize the importance of critical thinking	Muchungi, K.	AFELT	14/12/2018	blog
East African context is important for appropriate higher-education frameworks in the region	Sesabo, J.	Mzumbe University	30/11/2018	blog

Title and web link (where relevant)	Author(s)	Source	Date	Type
University courses should support critical thinking skills to help address national needs	Mutonyi, H.	Uganda Martyrs University	27/11/2018	blog
Adaptive MEL at the heart of project implementation	Nzegwu, F.	INASP	30/10/2018	blog
TESCEA Joint Advisory Group Meeting 2018, Uganda Martyrs University	Uganda Martyrs University	Uganda Martyrs University	25/09/2018	video
Partnership aims to produce problem-solving graduates	Nakkazi, E	University World News	21/09/2018	article
New area of work supports critical thinking skills in East Africa	INASP	INASP	18/09/2018	blog
Using adaptive monitoring, evaluation and learning in programme design	Nzegwu, F.	INASP	14/08/2018	paper
TESCEA Training of Trainers in Arusha by AFELT mp3	AFELT	AFELT	30/07/2018	video

Appendix 4: List of documents consulted for the TESCEA evaluation

Financial documents

1. TESCEA Y1-3 expenditure
2. TESCEA Transaction Q 17_partners
3. TESCEA Transaction Q 16_partners
4. TESCEA Transaction Q 15_partners
5. TESCEA Transaction Q 14_partners
6. TESCEA Transaction Q 13_partners
7. TESCEA Transaction Q 12_partners
8. TESCEA Transaction Q 11_partners
9. TESCEA Transaction Q 10_partners
10. TESCEA Transaction Q 9_partners
11. TESCEA Transaction Q 8_partners
12. TESCEA Transaction Q 7_partners
13. TESCEA Transaction Y1_Partners
14. TESCEA Transaction Y2_Partners
15. TESCEA Transaction Y3 Partners
16. INASP TESCEA Transaction Q06
17. INASP TESCEA Transaction Q07
18. INASP TESCEA Transaction Q08
19. INASP TESCEA Transaction Q09
20. INASP TESCEA Transaction Q10
21. INASP TESCEA Transaction Q11
22. INASP TESCEA Transaction Q12
23. INASP TESCEA Transaction Q13
24. INASP TESCEA Transaction Q14
25. INASP TESCEA Transaction Q15
26. INASP TESCEA Transaction Q16
27. INASP TESCEA Transaction Q17
28. TESCEA Activity bucket progression
29. TESCEA management costs v activity costs
30. VfM outcome 2.1_INASP breakdown
31. VfM outcome 2.1_full TESCEA breakdown

Reports

1. Mid-year report 2019
2. Annual MEL reports 2019
3. Mid-year report 2020
4. Annual MEL report 2020
5. Annual MEL report 2021
6. Quarterly reports (2018 – present)

MEL Instruments

1. TESCEA MEL plan
2. TESCEA Indicator tables
3. SPHEIR Indicator table
4. TESCEA Results Framework
5. SPHEIR Results Framework
6. Learning questions summary
7. TESCEA Learning strategy 2018
8. Theory of Change