

Final Report

Final Evaluation of Phase II of the
Strengthening Pre-Service Teacher
Education in Myanmar (STEM) Project

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Foreword

As agreed between UNESCO and ICON-INSTITUTE, the final report is submitted to UNESCO in September 2020 after receiving comments and suggestions on the draft final report.

As indicated in the Solicitation Documents and re-affirmed in the proposal submitted by ICON-INSTITUTE the final report includes:

- ▶ An executive summary
- ▶ Background of the evaluation, objective and methodological approach
- ▶ Project description, including the Theory of Change (summary)
- ▶ Assessment against the evaluation criteria; presenting the key findings of the evaluation on each evaluation criteria
- ▶ Progress against recommendations contained in the mid-term evaluation report
- ▶ Conclusions and recommendations: presentation of the lessons learned and key recommendations and the way forward for the next phase
- ▶ Annexes (including the data collection formats)

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Abbreviations

Acronym	Definition
ADB	Asian Development Bank
HIV/AIDS	Human Immunodeficiency Virus/Acquired Immune Deficiency Syndrome
CapED	UNESCO's Capacity Development for Education Programme
CCT	Curriculum Core Team
CDT	Curriculum Development Team
CESR	Comprehensive Education Sector Review
COVID	Corona Virus Disease
CPD	Continuous Professional Development
OECD/DAC	Organization for Economic Co-operation and Development / Development Assistance Committee
DBE	Department of Basic Education
DDG	Deputy Director General
DERPT	Department of Education Research, Planning and Training
DFAT	Australian Department of Foreign Affairs and Trade
DFID	UK Department for International Development
DHE	Department of Higher Education
DTET	Department of Teacher Education and Training
EC	Education college
ELT	English Language Teaching
EMIS	Education Management Information System
EQIS	Education Quality Improvement Systems
EYE	Equipping Youth for Employment Project
IAQE	Inclusive Access and Quality Education
ICT	Information and Communication Technology
IE	Inclusion and Equity
IIEP	International Institute for Educational Planning
JICA	Japan International Cooperation Agency
LGBT	Lesbian, Gay, Bisexual, and Transgender
MEDG	Myanmar Education Development Group
MEL	Monitoring, Evaluation and Learning
MNEC	Mon National Education Committee
MOPFI	Ministry of Planning, Finance and Industry
MSEA	Myanmar Special Education Association
My-EQIP	Myanmar Education Quality Improvement Programme
NAQAC	National Accreditation and Quality Assurance Committee
NEPC	National Education Policy Commission
NESP	National Education Strategic Plan 2016-2021
NPO	National Project Officer
PPTT	Pre-service Primary Teacher Training
SDG	Sustainable Development Goals
SEN	Special Educational Needs
SES	Secondary Education Subsector
ST	Student Teachers
STEM	Strengthening Pre-Service Teacher Education in Myanmar Project
TCSF	Teacher Competency Standards Framework
TE	Teacher Educators
TEC	Teacher Educators Council
TOC	Theory of Change
TTF	Teacher Task Force
TVET	Technical Vocational Education and Training
VSO	Voluntary Services Overseas (British Council Programme)

Summary

This evaluation is designed as a final evaluation covering the whole duration of the Phase II of the “Strengthening Pre-Service Teacher Education in Myanmar” (STEM) project (January 2017 – June 2020) (in the remaining of this report, the project is referred to as **STEM Phase II**). As a final evaluation, the main purpose will be to assess the overall performance of the project and to provide recommendations and lessons learned firmly based on evidence. The recommendations and lessons learned will especially be used by UNESCO for fine tuning the TOC and results framework of STEM Phase III.

To gather the evidence needed for the evaluation, the evaluation team relied on a mix of qualitative and quantitative methods, including a thorough desk study and documentation review, a wide set of semi-structured interviews and focus group discussions (a total of 47 interviews and focus group discussions were conducted, involving overall 78 people from diverse backgrounds), and online surveys. The staff of 8 Education Colleges was directly interviewed, while the survey involved 32 EC Principals and vice-Principals, 732 Teacher Educators (TEs), and 904 Student Teachers (STs) pursuing the new four-year degree curriculum. To overcome the risks and limitations posed by COVID-19 and related lockdown measures, the evaluation was conducted remotely.

Characterization of STEM Phase II

STEM Phase II in Myanmar seeks to address the capacity needs of the national system for pre-service teacher education to deliver sufficient qualified teachers. This capacity shortfall is particularly critical given the vital role of teachers in enhancing the quality of education. Myanmar’s Education Colleges play a key role in preparing the country’s teachers for primary and middle (lower secondary) school levels – both those that have gone through the pre-service system and those recruited directly into schools – and are spread geographically throughout the country. However, Education Colleges struggle to provide quality pre-service teacher education due to a of lack of clear, holistic teacher education policies / strategies; an outdated, over-crowded, under-resourced curriculum; an inefficient and highly centralized management structure; and significant capacity development needs of teaching and non-teaching personnel¹. Tackling these challenges, which stems from decades of neglect of the teacher education system, will contribute to increasing the number of qualified school teachers, which in turn can have a positive impact on the learning outcomes of learners in primary and middle schools and the inclusivity of the education system and society.

STEM Phase II stated aim is **to improve the Education College pre-service teacher education system’s ability to produce qualified teachers**. In doing so, the project seeks to **increase the number of qualified school teachers who provide inclusive quality education in line with the Myanmar Teacher Competency Standards Framework (TCSF)**, enabling student teachers to develop critical thinking and problem-solving skills. This connects in turn to Sustainable Development Goal 4, which aims to ensure inclusive and equitable quality education for all. Based on STEM Phase I, Phase II focused on four specific areas being translated into operational objectives: i) contextualized and quality teacher policies, ii) a reformed teacher curriculum, iii) better management of Education Colleges, and iv) an integration of inclusiveness across all the project’s objectives.

The line of reasoning of how STEM Phase II leads from objectives to results and can be described as follows: ***STEM Phase II aims at helping the MoE (Ministry of Education) to improve the quality of primary and middle school teachers in Myanmar through capacitating national and institutional stakeholders to improve the policies, management of institutions, teacher education curriculum and***

¹ See STEM Phase II project Document, section on critical needs in pre-service teacher education in Myanmar

its roll-out, with particular attention to inclusiveness. Key in this line of reasoning is that the project's change process is both associated with reaching the main milestones; but also improving the capacities within the teacher education system to have a continued quality improvement potential within the system. The learning provided by STEM Phase II does not only provide learning for the sake of learning, or for immediate delivery of a specific output (i.e. a curriculum), but it should contribute to change in people's and organizations' behaviour and actions, in this case in the Ministry of Education and in Education Colleges. Hence, the ownership and leadership role of the Ministry of Education in the implementation of STEM Phase II is crucial.

The Strengthening Pre-Service Teacher Education in Myanmar project started in 2015 with funding from the Government of Australia (Phase I, USD 2.5 million). Phase II began in 2017 with funds from the Government of Finland (EUR 3.25 million), followed by Australian (USD 2.25 million) and UK contributions (USD 1 million). Phase II ended in June 2020. This evaluation focuses exclusively on the results produced in Phase II, with an overall budget of USD 7 million.

Conclusions

The summary focusses on the recommendations, and only provides a concise summary statement on the conclusions of the evaluation. A detailed account of the conclusions is provided in Chapter 5.

1. STEM Phase II is highly relevant in the national and international context, as it works on aspects of the TE system that are pertinent for the end-beneficiaries (ECs, TE, ST and students).
2. STEM Phase II is well-composed as a holistic Teacher Education reform, aiming at supporting the MoE to improve quality of primary and middle school teachers in Myanmar by capacitating national and institutional stakeholders to improve the policies, management of institutions, teacher education curriculum and its roll-out, with particular attention to inclusiveness.
3. STEM Phase II facilitated major changes in the Teacher Education system and has been effective to a moderate extent in terms of reaching its envisaged outputs and outcomes by 2020, and its projected outcomes for 2022.
4. The activities supported by STEM Phase II are well-designed, relevant and, responsive to beneficiary needs, however the duration of Phase II was too short to result in sustainably changing beneficiaries' mindsets.
5. STEM Phase II was confronted with a number of implementation challenges impacting the effectiveness in all Outcome areas such as inadequate prior understanding on key concepts used in STEM Phase II among key stakeholders; the very short timeline for developing the new curriculum and preparing the TEs in delivering it; understaffing of the whole Teacher Education system; and the COVID-19 pandemic.
6. STEM Phase II had a system for monitoring and evaluation that was insufficiently tailored to fully assess how project inputs contribute towards the project's overall objectives.
7. STEM Phase II and the overall reform process impact all ECs and all TEs who have started working with the new curriculum. However, it is still early days to discern the sustainable changes of behaviour and mindset regarding inclusive education and the use of ICT in teaching and learning (as well as for management and administration).
8. STEM Phase II can showcase main achievements but will not instantly lead to visible national impact on delivering academically qualified teachers according to international standards. This impact is not foreseen in the next years, as the policies that support reaching this impact are not yet in place; the first student teachers will only graduate in 2023; and the introduction of the four-year degree program will initially lead to a reduction of academically qualified teachers according to international standards.

9. STEM Phase II's cost-effectiveness is difficult to assess due to a lack of financial implementation information but when comparing finances with planned results (results matrix), STEM Phase II is considered to be moderately cost-effective as by August 2020 60% of the outputs is fully achieved; 35% is partially achieved; and 5% is not achieved. When compared to what is achieved (e.g. new curriculum, TCSF etc.), the costs seem reasonable, hinting to the finding that the project might have been overambitious at the start.
10. STEM Phase II is well managed by UNESCO and the MoE and is able to mobilize resources (financial, human resources, infrastructure) of UNESCO, MoE, donors, developing partners and other stakeholders.
11. STEM Phase II is yet unable to fully assure impact and sustainability of its results, mainly as a result of uneven achievement levels per Outcome Area. Factors that hinder assuring impact and sustainability concern 1) understaffing TE system; 2) general skills levels in ECs; 3) insufficient ICT accessibility; and 4) lack of a comprehensive teacher policy.
12. STEM Phase II generally responded adequately to the policy recommendations of the mid-term evaluation.
13. STEM Phase II responded adequately to the challenges posed by the COVID-19 pandemic.

Recommendations

The following recommendations are provided to the **UNESCO STEM team** for the design and implementation of STEM Phase III, in light of the COVID-19 context affecting timelines and delivery modes. These actions however also require the full engagement, involvement, commitment and ownership of the **national stakeholders**. The final set of recommendations is specifically addressing the national stakeholders to put in place the conditions to fulfil their role in enabling the designing, governing and implementing the STEM Phase III.

>> **Recommendations related to policy development**

As concluded (conclusion 2, 3, 11), continued attention to reforms is needed for the project's results to reach impact and sustainability. The following recommendations are proposed on the basis of the evaluation findings:

- A. Establish, on the basis of the Teacher Task Force (TTF), a Teacher Education Council that consists of government representatives and representatives from Education Colleges, universities, schools and teachers. This Teacher Education Council should have the mandate to prepare policies.
- B. Develop and implement a teacher promotion policy that encourages Student Teachers to select the primary school specialization track in the third year of the new four-year teacher education degree program. Besides the teacher promotion policy, create momentum to develop a comprehensive teacher policy, in line with the approved TCSF, that covers all aspects for quality teacher education and quality teaching and learning.

Action point for MoE: Lead on these recommendations and ensure political will; enhanced implementation capacity within MoE and ensure smooth inter-ministerial collaboration concerning financial consequences of policy implementation.

Action point for UNESCO: Provide technical assistance upon request from the MoE and support creating momentum, for instance by suggesting (international) experts; mobilize UNESCO expertise; or supporting seminars.

Action point for donors: Support advocacy efforts on policy issues as members of STEM Steering Committee, facilitate exposure and learning opportunities with donor countries.

>> **Recommendations related to capacity building of TEs**

As concluded (conclusion 4, 5, 7, 11), a key challenge in STEM Phase II was the training of all TEs in delivering the new degree program and fully apply the principles and methods of the program. In STEM Phase III, increased efforts are needed to capacitate the TEs. The following recommendations are proposed on the basis of the evaluation findings:

- C. Operationalize and practically implement the CPD framework for teacher educators, and ensure that it addresses the aspects of costing, timing and planning of concrete (training) activities. Within this CPD policy, linked to the TCSF, all teachers should have the possibility to be fully trained in delivering the new curriculum. This would imply more in-depth and extensive courses on ICT in education; inclusive education; summative and formative assessment practice in new curriculum; and support to Student Teachers.
 - a. Linked to the above, involve and capacitate national level stakeholders in the delivery of CPD training to TEs, such as CCT members, staff from Universities of Education and other experts (for instance the Myanmar Special Education Association (MSEA) to train all TEs how to deal at a basic level with inclusion of student teachers with disabilities; and Department of Rehabilitation, Ministry of Social Welfare, Relief & Resettlement).
 - b. CCT members' knowledge could be capitalized for this purpose as well. To ensure CCT members' involvement in CPD and curriculum activities it is suggested to continue the provision of specific activities that help motivate individual CCT members to remain involved.
 - c. Linked to the above, CPD training should be provided to TE on inclusive education and ICT teaching and learning on a regular basis, including standardized ICT training to TE. This CPD course could be provided in an online modality. Particular attention needs to be paid to securing the buy-in of senior teacher educators.
- D. Establish (online) teacher educator communities, by EC, and by subject-area, and define the roles and responsibilities of CCT in these communities for communicating with the other TEs and informing about discussions and developments relevant to that community.

Action point for MoE: Lead on these recommendations in rolling out the development of the specific courses and modules of the CPD framework and organize the implementation, involving national stakeholders.

Action point for UNESCO: Provide technical support in further capacitating national stakeholders to develop and deliver the CPD modules.

Action point for donors: None.

>> **Recommendations related to the development and roll-out of the new four-year degree program**

As concluded (conclusion 5, 7, 8, 9, 11), the development and roll-out of the first year of the new curriculum faced challenges and consumed more efforts from UNESCO as envisaged. The following recommendations are proposed on the basis of the evaluation findings:

- E. MoE further expands its leading position for the development of syllabi, textbooks and teaching and learning materials for the remaining years of the new degree program; this includes as well expanding on administrative leadership.

- F. Ensure a progressive involvement of CCT members in the development of the remaining years and decrease the role of national and international experts in order to capitalize on developed skills of CCT members and to further build the skills related to developing/renewing curricula.
- G. Ensure careful review of the teaching and learning materials in Myanmar before distributing them to avoid language mistakes and use of terminologies that are difficult to understand.
- H. Evaluate the roll-out of the Year 1 semester 1 (and possible 2) to understand how the curriculum is being implemented and find out the gaps and opportunities to come up with better approaches (revision of the curriculum, if necessary; provision of additional CPD trainings; strengthening EC capacity, etc.). This will require more in-depth interactions with beneficiaries at the EC to verify the workload for TE and ST and the challenges they face in teaching and learning in the new degree program.
- I. Reconsider whether the PPTT in its current (revamped) form is a good solution for solving the shortage of qualified teachers in the coming years: further align PPTT with insights and quality standards developed in the new pre-service teacher education curriculum.

Action point for MoE: Lead on the development of the new degree program and increase involvement of national experts. Review the PPTT against the quality standards of the four-year degree program.

Action point for UNESCO: Provide technical assistance through mobilizing expertise (within UNESCO and internationally) and support the implementation and evaluation of the roll-out of Year 1 and 2.

Action point for donors: None.

» **Recommendation on ICT and learning materials in ECs**

As concluded (conclusion 5, 7, 11), there are some challenges with using ICT for teaching and learning and availability of the learning materials developed for the new degree program. The following recommendations are proposed on the basis of the evaluation findings:

- J. Further strengthen the ICT infrastructure in ECs to access internet so that TE and ST can effectively use ICT in the preparation and delivery of teaching and learning. The new curriculum is designed to make best use of ICT and hence this precondition needs to be fulfilled to make the delivery effective. For this reason, internet connection should have a sufficient bandwidth and should be available not only in the Principals' office, ICT classrooms, administration room and the library, but also in the non-ICT classrooms and study rooms and also outside class-room and school hours (for instance in the evening or at weekends). TE also need to have the possibility to print teaching materials. ECs do not have a specific budget for fixing or maintenance of existing ICT equipment which are malfunctioning. In order to do so, specific ICT budget allocations should be made at the ECs level for both improving and maintaining ICT.
- K. Use the COVID-19 momentum to improve the ICT infrastructure to become less dependent on face-to-face delivery.

Action point for MoE: Negotiate, also in the context of the MoE's Response and Recovery plans on the pandemic, with the service provider to increase bandwidth for the ECs for increased accessibility of internet at no cost and demand ECs to increase accessibility of internet to TE and ST outside school hours.

Action point for UNESCO: Support ECs with guidelines and capacity building for the effective utilization, management and maintenance of the infrastructure and equipment for education.

Action point for donors: Provide additional financial support to strengthen the ICT infrastructure and equipment.

>> Recommendations related to further professionalizing the EC management and administration

As concluded (conclusion 2, 5, 7, 11), STEM Phase II had a limited impact on the further professionalization of EC management and administration. A more professional management and administration of ECs (in line with governance arrangements for higher education institutions) is beneficial for the teacher education reforms to reach impact and be sustainable. The following recommendations are proposed on the basis of the evaluation findings:

- L. Better support the transition in EC governance structures, management and administration to match the demands for full degree-awarding higher education institutions. This requires the development of policies and procedures to integrate ECs in the higher education governance, but also further capacity building at EC level (see below).
- M. Support the operationalization of the CPD policy for EC management and administrative staff, in terms of costing, activity planning and implementation, with the purpose to increase the professionalization of the EC management and administration in terms of leadership, administration, teacher education support, student teacher support, planning, assessment and inclusive education. Furthermore, offer CPD opportunities on a regular basis.
- N. Further embed inclusive education in EC policies, procedures, infrastructure and facilities and consider a pilot project establishing ethnic language units (or alike) in specific ECs to encourage and develop culture, customs and ethnicity education.
- O. Continue working on an Education Management Information System (EMIS) to gather better information at regional and state level to support planning and governing the teacher education sector.

Action point for MoE: Lead on working on EC governance arrangements; the development and implementation of the CPD modules; impose ECs to embed inclusive education in their policies; and finalize the work on EMIS.

Action point for UNESCO: To provide technical assistance, by mobilizing expertise on specific CPD modules; embedding inclusive education in EC policies (e.g. funding for a pilot project); and continue working on the EMIS.

Action point for donors: None.

>> **Recommendations for STEM Phase III project design, monitoring and evaluation, and coordination**

As concluded (conclusion 6, 9), the STEM Phase II monitoring and evaluation framework contained weaknesses hampering an insightful progress monitoring on the one hand and an understanding of budget allocation and spending on specific activities, outputs and outcomes on the other hand. The following recommendations are proposed on the basis of the evaluation findings:

- P. Further develop the STEM Phase III Theory of Change and intervention logic to develop a monitoring and evaluation framework (with indicators), able to i) track the project implementation; ii) track whether the activities implemented lead to the envisaged change; and iii) whether what is achieved also leads to impact. All in all, the project design and monitoring framework should better link activities, outputs, outcomes and envisaged impacts. The framework should also include a clear identification of assumptions, risks and mitigation plans. In doing this, the framework should pay more attention on measuring impact on inclusive education; changing mind-sets, behaviour and changing practice of TEs and ECs as a whole organization. This construction of the Theory of Change could be structured with support of the questions included in annex 2 of the report.
- a. Linked to the above, on the basis of the STEM Phase III project design and monitoring and evaluation framework, further develop the Value for Money framework including more aspects linked to inclusive education; or as an alternative integrate elements of the Value for Money framework into the overall monitoring and evaluation framework.
 - b. Linked to the above, increase transparency on financial (initial and realized) allocation of resources and time of STEM team members to activities, outputs and outcomes to better track which parts of the project implementation consume more funds than anticipated and to identify potential financial challenges.
 - c. Linked to the above, donors could agree on a uniform financial reporting approach in which financial resources are allocated to a specific activity that should lead to a specific output/outcome. Implementation differing from the initial plan could then be easily identified.
- Q. Besides recruiting a senior education advisor for the implementation of STEM Phase III (as recommended by the mid-term evaluation in 2019), the role of the Regional Office and UNESCO HQ (also IIEP and International Task Force for Teachers) in terms of policy leverage could be strengthened.

Action point for MoE: Support UNESCO in developing STEM Phase III project design and in setting joint targets for the program in line with NESP II which will be launched in 2021.

Action point for UNESCO: Finalize the STEM Phase III design ensuring that activities are linked to envisaged change in ECs that is measurable with a set of indicators.

Action point for donors: Critically review STEM Phase III project design and the M&E framework and make suggestions for improvement. Also, upfront, agree on a uniform financial reporting approach to create transparency in financial implementation.

» ***Specific recommendations addressing particular conditional factors related to the successful implementation of STEM Phase III***

As concluded (conclusion 5, 11), the implementation of STEM Phase II faced challenges concerning the human resources in the whole teacher education system. For this reason, to assure an effective and sustainable implementation of STEM Phase III, the absorption capacity (in terms of governance; procedural arrangements; organization; availability for training; and taking responsibility/assuring ownership) by the national stakeholders needs to increase. The following recommendations are proposed on the basis of the evaluation findings:

- R. Develop a strategy to increase human resources, who are fit-for-purpose, qualified and well-trained, in DHE to continue to increase its support of the teacher education reform.
- S. Develop a roadmap for upgrading the management and administration of the ECs and support the ECs towards becoming more autonomous higher education institutions by undergoing the transition to Education Degree Colleges.
- T. Stimulate more TEs to be recruited in order to cope with the increasing workload, also caused by the teacher education reforms. In particular, find ways to strengthen ICT departments, also to support other TEs in using ICT for teaching and learning.
- U. Further enhance inter-ministerial (e.g. Ministry of Planning, Finance and Industry (MOPFI)) and inter-institutional (e.g. NEPC, TTF/TEC) collaboration in policy development from the early phase onwards to avoid major delays in validation or implementation of policies.
- V. Increase the clarity about the roles, responsibilities and complementarities of different national bodies and committees leading in Myanmar education sector (such as BoS (Board of Studies) TTF, and NEPC) to ease the policy development and implementation.

1 Evaluation objective and methodological approach

1.1 Aim of the evaluation

This evaluation is designed as a final evaluation covering the whole duration of the Phase II of the “Strengthening Pre-Service Teacher Education in Myanmar” (STEM) project (January 2017 – June 2020) (in the remaining of this report, the project is referred to as **STEM Phase II**). The purpose of the evaluation is to assess i) the extent to which the four (4) outcomes, expected to be attained by 2022, and annual targets have so far been achieved by Phase II of the STEM project and ii) the project’s overall effectiveness in supporting the realization of the teacher education reform agenda in Myanmar. As a final evaluation, the main purpose will be to assess the overall performance of the project and to provide recommendations and lessons learned firmly based on evidence. The recommendations and lessons learned will especially be used by UNESCO in fine tuning the TOC and results framework of STEM Phase III.

The evaluation is summative in nature with a focus on effectiveness and results. The evaluation will serve the following purposes (as presented in the ToR):

- ▶ Outline the achievements attained during Phase II against the Results Matrix and the extent to which these have so far contributed to Phase II’s expected outcomes to be attained by 2022;
- ▶ Enhance the project’s efficiency and effectiveness, providing key recommendations to reorient aspects of the project towards improvements and greater impact as it moves into the next Phase;
- ▶ Assess how effectively STEM Phase II is contributing to gender mainstreaming, equity and social inclusion;
- ▶ Analyse the extent to which the project is likely to enable a pre-service teacher education reform that is sustainable and how it could evolve to further secure its sustainability;
- ▶ Determine the factors for the observed performance and draw lessons that could be used in future interventions, including more broadly in the teacher education reform agenda beyond 2021;
- ▶ Assess progress against the recommendations highlighted in the Mid-Term Evaluation Report and the challenges encountered in implementing these recommendations;
- ▶ Assess partnerships, governance mechanisms and level of collaboration with the MoE and other local partners to ensure quality control, as well as the contribution to strengthening impact and the effectiveness of such collaboration; and
- ▶ Document the project’s progress so far, highlighting challenges, lessons learnt, and areas that need to be addressed in STEM Phase III.

Geographically, the evaluation will cover all targeted Education Colleges (ECs) in the country and draw conclusion at a national level. The primary users of the evaluation findings and recommendations will be:

- ▶ Myanmar Ministry of Education
- ▶ The Donors (Australia, Finland and the United Kingdom)
- ▶ UNESCO Project Office in Myanmar
- ▶ STEM Phase II Project team

1.2 Methodology and research activities

The COVID-19 pandemic emerged some weeks before the start of the evaluation. Because of this and of the related health measures taken in Myanmar, the evaluation and its data collection methods were designed to rely as much as possible on remote modalities such as online interviews and surveys.

Desk study and documentation review. During the inception phase, a thorough review of the documentation provided by UNESCO provided crucial contextualization of the project, as well as a first mapping of existing evidence to answer the evaluation questions. For each evaluation question, evidence was mapped. The mid-term evaluation concluded that STEM Phase II Project's M&E plan was lacking performance indicators. For this reason, a special emphasis was given to the identification of blank spots in the available documentation in order to orient data collection in the field phase. These identified gaps also constitute the basis for recommendations on how to better structure the M&E framework for Phase III.

Semi-structured interviews. Even before the desk study was completed, the evaluation team started conducting interviews with key stakeholders, including UNESCO, national partners, donors, ECs, and other external stakeholders.

In five weeks, the evaluation team carried out a total of **47 interviews and focus group discussions, involving overall 78 people** from diverse backgrounds and with different perspectives about the project and its unfolding across the Myanmar education sector. Besides fully interviewing the UNESCO team involved in the project (including contributing staff from UNESCO regional office), the evaluation engaged with all national stakeholders involved into the project at central level. ECs were also thoroughly interviewed, with specific stakeholders from 8 colleges being involved². The evaluation also interviewed representatives of the three donors of the project, as well as four external stakeholders deemed relevant to provide insights and interesting perspectives on the project.

The table below summarizes the type and number of actors interviewed.

Type of actor interviewed	Organizations and actors interviewed	# of interviews conducted	# of people interviewed
UNESCO	UNESCO Project Office in Myanmar, UNESCO Asia and Pacific Regional Bureau of Education	11	11
National stakeholders	National Education Policy Commission; National Accreditation Quality Assurance Committee; DHE Deputy Directors General (Dr May San Yee and Dr. Yin Myo Thu); DHE team; Curriculum Core Research Team; TCSF Teacher Competency Standard Framework group; Teacher Task Force; Gender team.	9	24
ECs	Hlegu EC; Taunggoo EC; Mandalay EC; Hpa-An EC; Monwya EC; Kyauk Phyu EC; Patheingyi EC; Lashio EC	19	31
Donors	DFID; DFAT; Finland	3	3
Other stakeholders	Myanmar Special Education Association (MSEA); Mon National Education Committee (MNEC); Myanmar Education Consortium (MEC); DFID Tree project; UNICEF	5	9
TOTAL		47	78

Table 1: Type and number of actors interviewed

² On UNESCO's request, the number of ECs involved doubled from 4 to 8.

As for the involved ECs, the evaluation team interviewed principals, teacher educators, and members of the curriculum core team. The table below details the actors involved in each EC.

EC	Total TE	Total student	EC location	Principal	Curriculum Core Team	Teacher educators
Hlegu	76	479	Lower Myanmar	✓	✓	✓
Hpa-An	70	692	Lower Myanmar	✓	✓	✓
Kyauk Phyu	49	355	Lower Myanmar	✓	✓	✓
Lashio	48	513	Lower Myanmar	✓		✓
Mandalay	89	597	Upper Myanmar	✓		✓
Monwya	87	594	Upper Myanmar	✓	✓	✓
Pathein	87	652	Lower Myanmar	✓		
Taunggoo	78	537	Upper Myanmar	✓		✓

Table 2: Actors involved in each EC

All interviews were conducted online, and while they loosely followed the same format, they were also adapted to the interviewers and to the specific interview objectives. Evaluators were assigned interviews on the basis of their skills and language competences, with international experts usually leading interviews in English and national experts leading interviews in Myanmar. Specific interview guidelines were developed for each of the foreseen interviewee categories: UNESCO staff, national project stakeholders, donor representatives, EC principals, EC teacher educators, curriculum core teams (CCT), and other stakeholders. All interviewees received a copy of the interview guidelines before the interview³. On the basis of these, international and national evaluation experts led the interviews, loosely guiding a conversation across the guideline themes.

Online surveys. In addition to analysing existing data and conducting interviews, the evaluation also targeted all 25 ECs with three different online surveys, specifically designed for principals, teacher educators, and student teachers. To ensure participation, the developed surveys are in Myanmar language, relatively brief, and imply a commitment of maximum 30 minutes. In their deployment, the team relied heavily on the support of EC principals, who distributed the surveys among educators and students and ensured the necessary level of motivation and participation. The texts of the surveys are available in Annex 7. The response to the survey is as follows:

- ▶ 35 EC Principals (or vice-Principals) participated, representing 18 ECs (72% of all ECs). Of these 35 respondents, 34 were female and 1 male;
- ▶ 723 TEs responded to the survey, representing all ECs. Given that according to DHE data in November 2019 there are in total 1,829 TEs, the response rate is 40%. A total of 635 (88%) were female, 82 (11%) were male, and 6 (1%) did not specify.
- ▶ 904 STs participated in the survey, representing all ECs. The survey was targeted at student teachers that pursue the new curriculum. Given that according to DHE data in November 2019 they are total 3,267, the response rate is 28%. A total of 560 of these respondents were female (62%), 341 (38%) were male. 3 respondents (0%) did not specify their gender.

In the analysis of the survey differences between respondents with different background characteristics were compared, such as gender, age, but also their awareness and/or participation in project workshops. For Principals and Teacher Educators the share of women is so substantial among respondents that any differences are analysed with due caution.

Final analysis and reporting. The data collected by the evaluation was subsequently triangulated, both to ensure consistency and to explore different perspectives on the same subject. While doing this, the

³ When relevant as in the case of EC staff, the guidelines were translated in Myanmar.

team was particularly careful to make a clear distinction between opinions, analysis and verifiable evidence.

The triangulated data was then analysed under the perspective of multiple theories, including the application of theoretical insights of capacity development and organizational development. This allowed the team to formulate conclusions, paying special attention to render the reasoning as much transparent and extensively inclusive as possible, to ensure broad consensus on methodology and interpretation of findings.

As a last step, the evaluation developed recommendations for actions and/or adaptations to the **next Phase III of the project.**

2 Project description, including the Theory of Change

2.1 Problem statement underlying STEM Phase II

The main problem STEM Phase II in Myanmar seeks to address is the insufficient capacity of the national system for pre-service teacher education to deliver sufficient qualified teachers. This insufficient capacity is particularly problematic given the crucial role of teachers in overall quality of education⁴. Myanmar's Education Colleges play a key role in developing the country's teachers at primary and middle (lower secondary) school levels – both those that have gone through the pre-service system and those recruited directly into schools. ECs are also geographically spread throughout the country. However, Education Colleges struggle to provide quality pre-service teacher education due to lack of clear, holistic teacher education policies / strategies; an outdated, over-crowded, under-resourced curriculum; an inefficient and highly centralized management structure; and significant capacity development needs of teaching and non-teaching personnel. Tackling this problem will contribute to increasing the number of qualified school teachers, which in turn can have a positive outcome on learning outcomes of learners in primary and middle (lower secondary) schools and the inclusivity of the education system and society.

2.2 Operational objectives of STEM Phase II

STEM Phase II stated aim is **to improve the Education College pre-service teacher education system's ability to produce qualified teachers**.⁵ In doing so, the project seeks to **increase the number of qualified school teachers that provide inclusive quality education in line with the Myanmar Teacher Competency Standards Framework (TCSF)**, enabling student teachers to develop critical thinking and problem-solving skills⁶. This connects in turn to Sustainable Development Goal 4, which aims to ensure inclusive and equitable quality education for all. Based on STEM Phase I, Phase II focused on four specific areas being translated into operational objectives; contextualized and quality teacher policies, a reformed teacher curriculum, better management of education colleges, and an integration of inclusiveness across all the project's objectives.

2.3 STEM Phase II Line of reasoning

This section presents the Theory of Change (ToC). The development of a Theory of Change helps to understand strategic and operational planning of initiatives with ambitious and complex goal, and it can serve as a key benchmark in evaluation and provides the scope for asking the 'right questions' in an evaluation. Based on the reconstruction presented in annex 2, the following line of reasoning tries to capture how STEM Phase II aims to solve the main challenges identified.

The line of reasoning of how STEM Phase II leads from objectives to results concerns the following: ***STEM Phase II aims to help the MoE to improve the quality of primary and middle school teachers in Myanmar through capacitating national and institutional stakeholders to improve the policies, management of institutions, teacher education curriculum and its roll-out, with particular attention to inclusiveness.***

Key in the line of reasoning is that the project's change process is both associated with reaching the main milestones (such as the development and production of EC curricula); but also improving the

⁴ E.g. Rivkin, Steven G., Hanushek, Eric A., Kain, John F, (2005), Teachers, Schools, and Academic Achievement, in: *Econometrica*, Vol. 73, No. 2. (Mar., 2005), pp. 417-458.

⁵ STEM Project document page 17.

⁶ This is based on the mid-term evaluation.

capacities within the teacher education system to have a continued quality improvement potential within the system. The learning provided by STEM Phase II does not only provide learning for the sake of learning, or for immediately delivering a specific output (i.e. a curriculum), but it should contribute to change in people's and organizations' behaviour and actions, in this case in the Ministry of Education (OA1) and in teacher colleges (OA2)⁷. Figure 1 provides an overview of how the four outcome areas relate to the overall objective and line of reasoning of STEM Phase II.

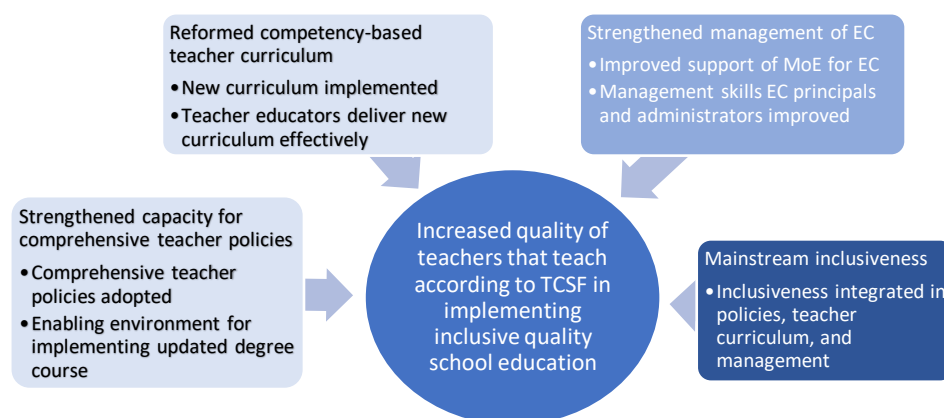


Figure 1: Outcomes and general objective STEM Phase II

2.4 Description of project implementation

STEM Phase II implementation is grounded in the principle of government ownership, with UNESCO providing support in terms of advocacy; strategic advice; generation of evidence; capacity development; work planning, drafting, editing, translation of policy documents and products; monitoring & evaluation; and Steering Committee progress review accountability.

The approach per outcome area is discussed here below:

- **Outcome area 1: Strengthening capacities to develop teacher policies:** Outcome Area (OA) 1 focuses fully on the policy component, with capacity building workshops that are focused predominantly on policymakers and relevant stakeholders. UNESCO aims to take more democratic and inclusive process by involving different stakeholders including teacher educators and teachers. Support is provided to set up a policy forum that also involves teacher representatives and serves to advise and support implementation of teacher education and management reforms. Secondly, this outcome area supports the establishment of a certification system for teachers, which will be based on the newly developed competence framework for teachers in Myanmar. Most activities actually focus on supporting the conception, development and validation of this competence framework, which after completion is complemented with assessment tools of teachers. Thirdly, STEM Phase II envisaged to work, together with policymakers – and the Teacher Task Force⁸ (TTF) – on concrete policies for teacher recruitment, promotion and deployment. Of the policy options proposed on the three issues, the TTF decided to focus on promotion. As a result of these three lines of action, the project seeks to achieve the adoption of quality and comprehensive teacher policies. With the new legislative environment, it also aims to result in a more facilitating environment to roll out the reforms at education colleges under outcome area 2 and 3.
- **Outcome area 2: Development and implementation of competency-based pre-service teacher education curriculum:** Outcome area 2 focuses on the development of a new

⁷ We are aware that the project aims at building capacities of management of education colleges in OA3. However, phase 2 of the STEM project only lays the foundations and does not actually foresee the training of administrators (this is foreseen in the project's Phase 3). Our evaluation of this outcome area should reflect this accordingly; no organisational changes can be expected here at this point.

⁸ A Teacher Task Force was temporarily established to pave the way to a more permanent Teacher Education Council.

curriculum. Faced with a teacher education curriculum that has for the most part not been updated since 1998, it is one of the core areas of support of STEM Phase II. It supports the establishment of a taskforce of staff from education colleges to support and provide context to international authors in the development of a competency-based curriculum (Curriculum Core Team: CCT). The project supports the development of key inputs for the new curriculum, including syllabi, textbooks, and teacher educator guides for the newly developed 4-year teacher education curriculum. A third strand within this area focuses on improving the skills of training teacher educators to deliver this new curriculum, including in the area of ICT. By combining the approach of curriculum development, with support of practitioners and additional training of teacher educators, the project lays the foundation for the new four-year curriculum in education colleges. An anticipated outcome is that teacher educators apply the new curriculum, and what they learned in their own teaching. In addition to the main result of having a new curriculum, the project will have resulted in enhanced capacities among a body of curriculum development experts (The CCT) that have been supported by the project, which can help to keep the curriculum up-to-date in the future.

- **Outcome area 3: Strengthen management of Education Colleges:** Outcome area 3 also focuses on education colleges, but moves attention towards the management and administration side. It consists of capacity building workshops to support the Ministry of Education to improve its capacity to plan resources more effectively, with particular attention for the development of a costing model. A second strand focuses on the development of a framework for continuing professional development for education college management and administrators, which should offer the structure to help improve their capacity to manage and administer their colleges more efficiently. The underlying logic is that ensuring more adequate support from the Ministry to the needs of Education Colleges, in combination with better management capacity at the level of Education Colleges facilitates the introduction of the new curriculum, and supports teacher educators in their work.
- **Outcome area 4: Mainstream inclusiveness:** Finally, under Outcome area 4, STEM Phase II defines its horizontal commitment to inclusiveness. STEM Phase II has defined inclusiveness in a broad way, which includes not only inclusiveness from the perspective of gender, disability, ethnolinguistic background, or any other characteristic, but also brings together various areas of UNESCO's global priorities, such as human rights, peace education, and education on HIV/AIDS. The project seeks to ensure the integration of the concept of inclusive education in all its activities. It means that attention to inclusiveness is integrated in the newly developed policies under OA1, the new curriculum and support for teacher educators in OA2, and the attention to management of EC in OA3. To support the horizontal integration of inclusiveness, a number of specific activities are also put in place. First of all, a baseline assessment is supported by the project, which provides the concrete input and priorities for other activities. Secondly, specific training modules will be developed and implemented for staff in the Ministry of Education, Education Colleges and Curriculum core teams on gender and education, gender sensitive and responsive pedagogy, education for sustainable development, whole school approach to education for peace and sustainable development (EPSD), as well as HIV/AIDS awareness and sexuality education. A module on gender mainstreaming has already been completed.

2.5 Coordination structure, actors and resources

The project approach is focused on participation and the broad involvement of stakeholders in the area of teacher education in Myanmar, such as policy makers and government officials from the Ministry of Education (MoE) and teacher educators, principals and administrators in Education Colleges. To effectively coordinate the activities among these diverse target groups, the following organizational structures / positions are put in place for STEM Phase II:

- **National Steering Group**, comprised of MoE's Minister, Deputy Minister, Directors-General of Department of Higher Education (DHE), Department of Basic Education (DBE) and Department of Education Research, Planning and Training (DERPT); the Deputy Directors-General of Department of Teacher Education and Training (DHE-TET), Senior management from UNESCO and STEM project technical specialists, donor representatives, NEPC, NCC, NAQAC. As needed, the Steering Group can invite representatives of the ECs or University of Education as observers. DHE-TET has been designated by the MoE as the focal point departments for the coordination of the STEM activities with UNESCO.
- **UNESCO project support** is provided through the Project Office in Myanmar.⁹ UNESCO oversees the project execution and financial management, and it provides daily support to the project, as well as supervision of progress and reporting.

A variety of actors are involved in each of the stages of the project. In the table below, an overview is presented of the main actors targeted by project interventions in each of the defined outcome area.

Outcome area	Key actors involved	Cooperation / partnerships
OA1: Strengthening teacher policies	<ul style="list-style-type: none"> Ministry of Education (DHE) Myanmar Teacher Task Force (TTF) National Education Policy Commission 	<ul style="list-style-type: none"> Myanmar Teacher Education Working Group Myanmar Education Consortium Myanmar Education Quality Improvement Programme (My-EQIP) Myanmar Education Development Group (MEDG) Mon National Education Committee (MNEC)
OA2: Upgrade teacher programs with competency-based curriculum	<ul style="list-style-type: none"> Curriculum Core Team Teacher educators in 25 education colleges Ministry of Education (DHE) 	<ul style="list-style-type: none"> Board of Studies Basic Education curriculum development team of DERPT National Education Policy Commission Myanmar Special Education Association (MSEA) Australian Council for Educational Research – My-EQIP MoE - Department of Technology Promotion Committee
OA3: Strengthen management of Education Colleges	<ul style="list-style-type: none"> Ministry of Education (DHE) Senior management in 25 education colleges (principals, vice-principals, heads of department, administrative staff) 	<ul style="list-style-type: none"> National Education Policy Commission UNESCO International Institute for Education Planning (IIEP) UNESCO Regional Office in Bangkok team for planning
OA4: Mainstream inclusiveness	<ul style="list-style-type: none"> Ministry of Education (DHE) Education colleges (management, teacher educators) Curriculum developers Education Promotion Commission 	<ul style="list-style-type: none"> UNESCO CapED team UNFPA Basic Education curriculum development team of DERPT UNESCO Regional Office in Bangkok Team for gender Mainstreaming in Education and HIV/AIDS and Sexuality Education Myanmar Special Education Association (MSEA)

Table 3: Key actors and partnerships

Strengthening Pre-Service Teacher Education in Myanmar project started in 2015 with funding from the Government of Australia (Phase I, USD 2.5 million). Phase II began in 2017 with funds from the Government of Finland (EUR 3.25 million), followed by Australian (USD 2.25 million) and UK contributions (USD 1 million). Phase II ended in June 2020. This evaluation focuses exclusively on the results produced in Phase II, with an overall budget of USD 7 million.

⁹ The UNESCO Bangkok office is involved in some gender activities in the context of a regional project.

3 Assessment against the evaluation criteria¹⁰

3.1 Relevance of Project Results

3.1.1 Contribution to national objectives and priorities

STEM Phase II forms an important pillar of implementation of the Myanmar ambitious overhaul of its education system, which underlines its relevance. In the National Education Strategic Plan (2016-2021, NESP), the Myanmar government operationalized its response to the findings of the Comprehensive Education Sector Review (CESR), finalized in 2014¹¹. This high-level strategic review and subsequent plan provides the blueprint for sector-wide education reforms that seeks to improve access to quality, equitable and relevant education¹² for students at all levels of the national education system. STEM Phase II has been designed to deliver the NESP ambitious objectives in the field of teacher education (NESP Chapter 9: Teacher education and management).

Innovation in teacher education is crucial for the success in other education areas, for which the NESP offers equally ambitious objectives. The new Basic Education law (2019) for instance provides the framework for a new curriculum in Basic Education, and is complemented by the revised National Assessment Policy for Education and recently approved CPD framework for Basic Education teachers. STEM Phase II's attention for comprehensive teacher policies, revision of the teacher curriculum, building of institutional capacities at Education Colleges and integrating inclusiveness all feed directly into Myanmar's broader national reform ambitions.

3.1.2 Relevance of results for final beneficiaries (ECs, TE, ST and pupils).

Teacher Policies. STEM Phase II responds to the lack of a comprehensive and coherent perspective on teacher policy in Myanmar. There are persistent shortages in the number of qualified teachers¹³, particularly in primary education. In response to this shortage a high number of daily wage teachers were contracted in 2014 to teach in primary education, often with minimal training. This response however did not address the underlying cause, which is rooted in the existing promotion system for teachers, where successful graduates begin their careers as primary teachers and are subsequently promoted to secondary school teaching positions. STEM Phase II partly seeks to address such more structural concerns through the development of a framework on the quality of teaching (TCSF); with the creation of a teacher education council; and with developing a comprehensive teacher policy.

The Teacher Competency Standard Framework is a comprehensive framework for the teaching profession. At the policy level, it is an important and relevant first step to unify the existing approaches into a common framework. The validation study of the TCSF also confirms that many policymakers, researchers, educational leaders, teacher educators, and teachers are aware of the TCSF. They also recognize its overall importance to the future of Myanmar's education system¹⁴. However, its practical relevance for teacher educators, school principals and teachers is not yet sufficiently clear to them. This will require additional policy and practices (for instance promotion and recruitment policies), through which the TCSF can be further integrated into other teacher policies. The development of a Teacher Education Council is particularly relevant from this perspective, as would allow to further support this. At the moment of evaluation, the project established a national Teacher Taskforce as precursor to the Teacher Education Council, which also allows to discuss teacher policies in a comprehensive manner.

¹⁰ Annex 4 provides an overview of the evaluation questions, the corresponding sub-headings in the report and a brief answer.

¹¹ Comprehensive Education Sector Review (CESR): <http://www.cesrmm.org/>

¹² See MoE (2016), National Education Strategic Plan 2016-21 Summary; foreword Daw Aung San Suu Kyi; State Counsellor The Republic of the Union of Myanmar

¹³ See for instance: Han, Min Min, (2019), Assessment of Equity and Inclusion in Pre-service Teacher Education in Myanmar: At the Education College Level, p. 11.

¹⁴ MoE, Australian Aid, UNESCO (2020), Teacher Competency Standards Framework (TCSF): Validation study report May 2020.

It brings together various stakeholders, who can review the existing body of teacher (education) policies in relation to recruitment, deployment and promotion policies and formulate informed responses to it. The Teacher Taskforce does not have the same mandate as the foreseen Teacher Education Council.

Teacher educators and principals identified a clear need for reform of teachers (See figure below, on a scale from 0-5, average 4.49 and 4.34 respectively), while this need is less clear for student teachers. In theory this is sensible, as student teachers may not yet be fully aware of all ins and outs of the existing framework of teaching policies. Among the teacher educators, those above 40 years old see significantly less need for a reform of teacher policies (4.43 on average) than younger teacher educators (4.54 on average).

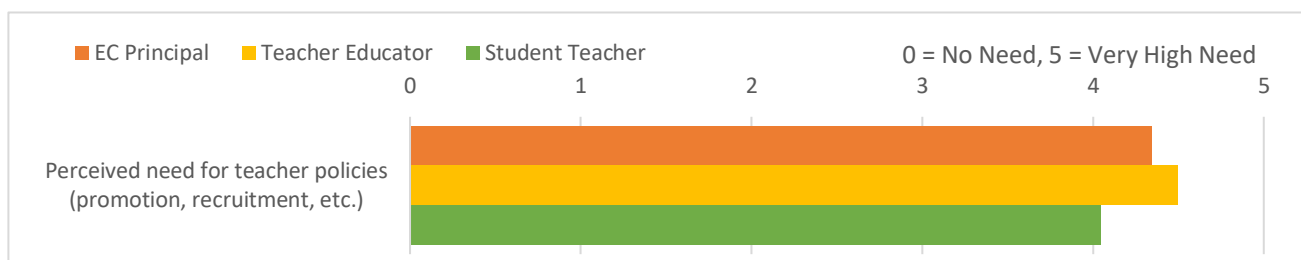


Figure 2: Perceived need for reform of teacher policies – by target group.

Source: Survey in the framework of this evaluation, conducted among Principals (N=35), Teacher Educators (N=723), and Student Teachers (N=904). Scale 0-5 (0 no need - 5 very high need)

Curriculum

The revision of the two-year diploma course offered at Education Colleges into a four-year degree program is a relevant response, particularly from the perspective of primary schools where graduated ST start their career. So far, new graduates from ECs are often young (between 18 and 19 years old) and still lack teaching experience, with practical experience limited to observations instead of actual practice. The curriculum that is now being introduced consists of two additional years and includes a particular focus on gaining practical experience through the four-year program. As a result, the graduates of the upgraded four-year program will be matured and with the revised curriculum can be equipped with more practical teaching experience before they start teaching autonomously. The introduction of specialization tracks for primary and middle school (lower secondary) education are further relevant measures to help increasing the quality of new graduates, particularly in primary and middle school education. At the moment of evaluation, however, the specialisation tracks are not likely to be relevant for student teachers, as the pre-existing promotion policy (and associated salary scales) for teachers continue to favour lower secondary education over primary education. With the new curriculum in its first year of implementation, it is key that these contextual policies are adjusted – and its changes widely communicated before the first student teachers choose their specialization track. If not, it is likely to lead to an unintended further reduction of qualified teachers in primary education and a further reliance on the graduates from the shorter Pre-service Primary Teacher Training (PPTT) to fill vacancies.

The curricula for pre-service teachers used by the educational colleges until 2019 have had a considerable focus on general knowledge and focus less on competency-based approaches and problem-solving skills. The new curriculum that started in December 2019 was designed to specifically address this and further emphasize learner-centred approaches. As such, it consists of a relevant response to the challenges faced by the education sector in Myanmar. Large numbers of teacher educators that already worked with the first year of the new curriculum indicated that the contents of the first year of the curriculum are mostly appropriate to the Myanmar context and connect to the prior knowledge and experience of the students. Only a small number of teacher educators expressed concerns, especially related to the ambitious level of the new curriculum, which marks a considerable shift from the old approach. This is confirmed in the survey, where principals, teacher educators, and

student teachers alike indicate that there is a need for curricula that are competency-based and learner-centred (on a disagree-agree Likert scale from 1 to 5, 4.36 on average). Younger teacher educators were significantly more convinced about the need for competency-based and learner-centred approaches than teacher educators older than 40 years old (not presented in figure below); however, no such differences exist in the perceived need for CPD for teacher educators.

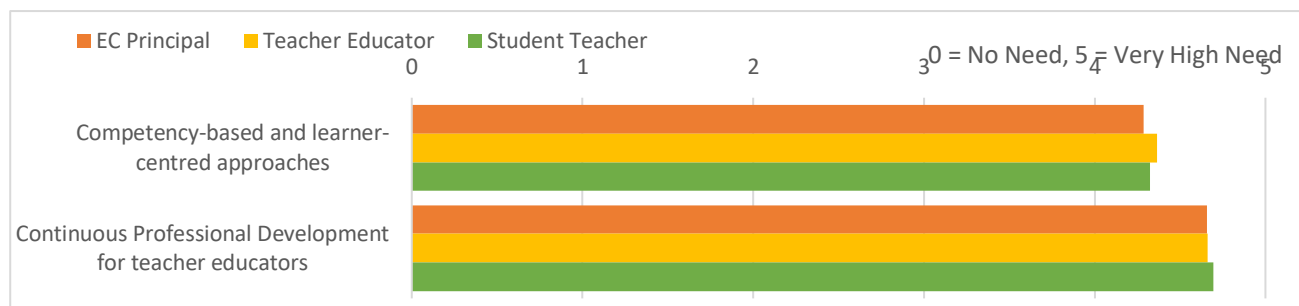


Figure 3: Perceived need for reform in teacher education on CPD – by target group. Source: Survey in the framework of this evaluation, conducted among Principals (N=35), TE (N=723), and Student Teachers (N=904).

Capacity development of Teacher Educators

The development of a revised teaching curriculum also comes with the necessary update of skills and competences of teacher educators. The fundamental changes to teaching as introduced by the competency-based approach and attention to learner-centred teaching methods requires that teacher educators themselves also undergo additional training. As shown in the figure above, respondents also confirm the clear need for preparing teacher educators for this. While this is mentioned in the TCSF and CPD framework for teacher educators, this still needs to be rolled out in full in phase III. Without this, it is difficult to imagine that the teacher education curriculum is implemented as originally anticipated. Particularly experience in reflective practices, (ICT) research skills and English language skills are mentioned in interviews as areas that require additional training before teacher educators can successfully implement the curriculum. Mentioning these competences in the TCSF or CPD framework alone is relevant but not enough; although some training has already been provided as part of the curriculum implementation process, actual training will be necessary to ensure the successful implementation of the curriculum.

Management in the Teacher Education system

The capacity development in the Ministry of Education and of Education Colleges' management is a relevant response to the need to further improve the contextual conditions of teacher education. The CESR underlines persisting weaknesses of Educational colleges and township education offices in terms of collaboration and supporting learning equipment for teacher trainees¹⁵. The development of a costing model helps to better understand the future needs for teachers and its associated costs, and can help such institutions and the central government to better anticipate such needs, mobilize the resources necessary and engage proactively, and with a clear national vision towards possible external donors. The development of a CPD framework for education college support staff is relevant in pointing out development needs. It serves as the starting point for the capacity development of education college management and administrative staff. An important element of this CPD framework is the attention for ICT, for which additional learning is foreseen for teacher educators, administrators and school management. These ICT courses are aligned to what is needed in the current local context in terms of ICT administrative capacity and in terms using ICT in teaching and learning. Particularly the need for additional training in ICT, both for the purpose of teaching and learning as well as for EC management scores as one of the highest aspects that respondents to the survey want to focus on.

¹⁵ CESR, Phase 2 Report/Teacher Education proposal, page 10.

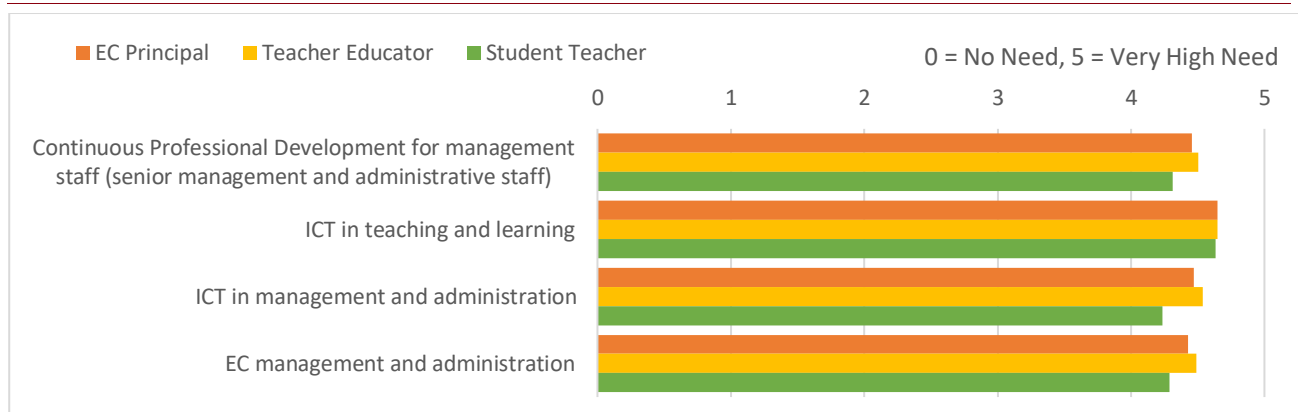


Figure 4: Perceived need for reform in EC institutions – by target group. Source: Survey in the framework of this evaluation, conducted among Principals (N=35), Teacher Educators (N=723), and Student Teachers (N=904).

Inclusiveness

Attention to inclusiveness in the development of the new curriculum, as well as in broader teacher policies and in the management of education colleges is timely. STEM Phase II has defined inclusiveness in a broad way, which includes not only inclusiveness from the perspective of gender, disability, ethnolinguistic background, or any other characteristic, but also brings together various areas of UNESCO's global priorities, such as human rights, education for peace and sustainable development, and education on HIV/AIDS. Attention for such themes in the implementation of STEM Phase II is a relevant aspect, but mostly based on an international perspective. The high ethnic diversity and variety of local languages require that the curriculum for teacher educators prepares student teachers adequately for the reality of the classrooms in which they will work (especially for lower primary ethnic classes for Myanmar language learning - Ethnic-based multi lingual education). Respondents to the survey underline the need for attention to education for peace and sustainable development (4.52 on average). Other aspects of inclusiveness score slightly lower, such as equal opportunities for people from disadvantaged backgrounds (4.30 on average) and people with disabilities (4.20). Student teachers are slightly more sensitive than principals and teacher educators to equal opportunities for people from disadvantaged backgrounds, including ethnic and language minorities. Conversely, gender inclusiveness is considered as the lowest priority (3.98 on average) by student teachers. While they see the necessity for reform in the area of equal opportunities, they are considerably less likely to see a need for reform in the area of gender inclusiveness. Possibly, this is related to considerable improvements in this area during STEM Phase I, when awareness raising on gender issues started; alternatively, the lack of need could also be attributed to the fact that female students and teachers outnumber their male counterparts in ECs, and this type of gender inequality is often overlooked.

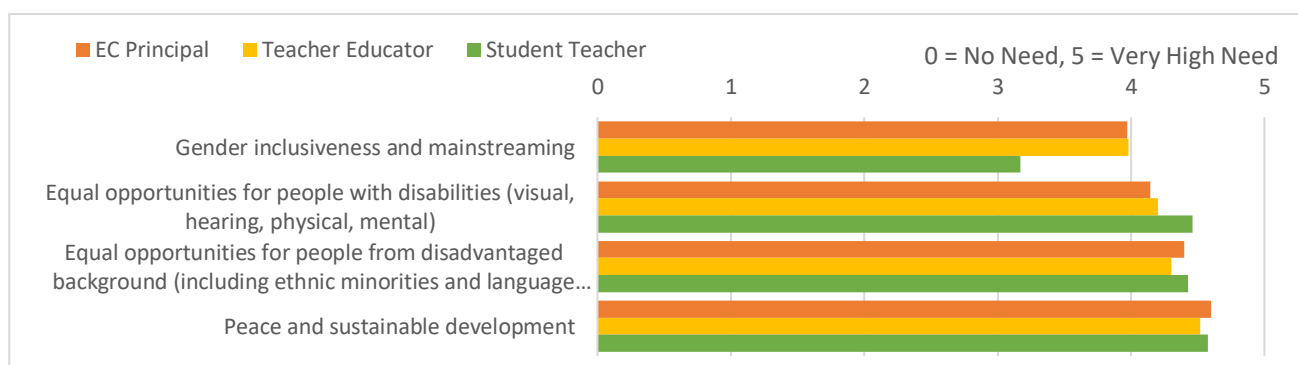


Figure 5: Perceived need for reform in teacher education on issues of inclusiveness – by target group. Source: Survey in the framework of this evaluation, conducted among Principals (N=35), TEs (N=723), and Student Teachers (N=904)

3.2 Effectiveness in Implementation

3.2.1 Achievements of expected outcomes (expected to be attained by 2022), as outlined in the STEM Phase II Results Matrix

For each outcome area, outputs and outcomes are defined, together with performance indicators. The progress is reported on in the annual progress reports. The following figure provides an overview of the progress in relation to the performance indicators linked to the outputs and outcomes by July 2020. It also provides an estimation of the expectation of results by 2022 (under the assumption that the work continues in Phase III). A more detailed overview is presented in the Annex 3.

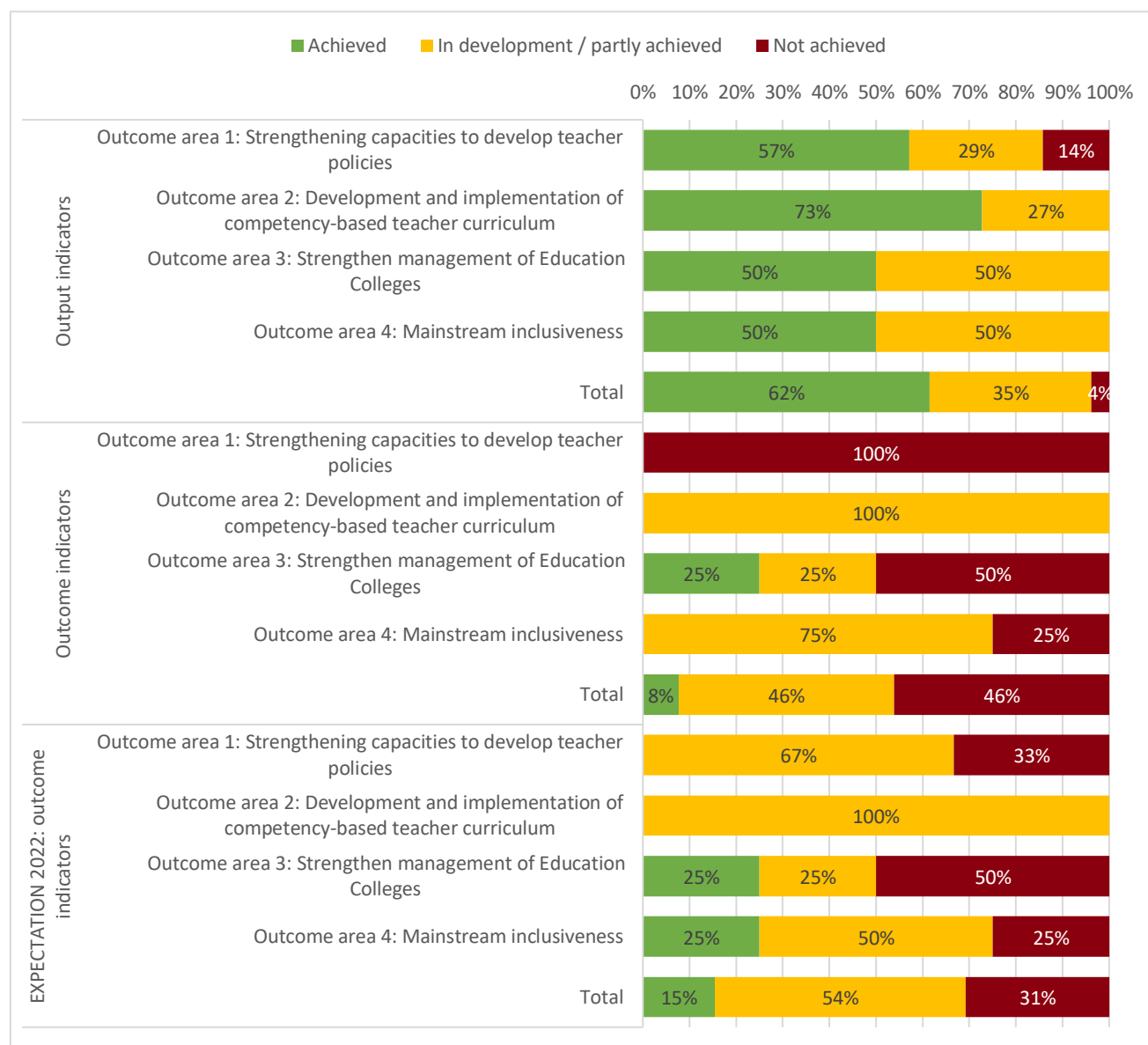


Figure 6: Overview of achievement of expected outputs, outcomes, achievements and expectation 2022.

Source: authors, based on project reporting provided by UNESCO

The presented overview shows that STEM Phase II (partially) achieved more than 90% of the envisaged outputs and (partially) achieved more than half of its expected outcomes by August 2020. For one third of these expected outcomes, it seems unlikely that these will be reached by 2022. Also, when taking a close look, it can be observed that while a lot of activities, workshops, trainings have been provided and materials have been developed, the project seems less effective in the outcomes

related to completing the change processes at all levels. Here below, the realization of the STEM Phase II is discussed per outcome area. Furthermore, the expectation for 2022 is briefly discussed.

>> Outcome area 1: Strengthening capacities to develop teacher policies

The policy development is driven by the MoE with UNESCO providing technical support. The work focused on three topics, being linked to the outputs of STEM Phase II: 1) the establishment and validation of the TCSF- Beginning teachers¹⁶; 2) the establishment of the Teacher Education Council; and 3) the development of a comprehensive teacher policy. By July 2020, major progress is achieved in relation to the first topic: The TCSF is validated and an extensive validation study was completed in May 2020; it received approval from the MoE in August 2020. On the basis of this, a draft implementation plan (including costs overview) is produced to further roll-out the TCSF. On the second topic, UNESCO supported the capacity development of key persons for the establishment of the Teacher Education Council (and the Teacher Task Force) such as sending key persons to the International Teacher Taskforce meeting in Dubai (October 2019). Furthermore, between September 2019 and July 2020 four meetings of the Teacher Task Force took place in which the mission and vision was agreed and in which decisions were taken on what teacher policies to work on. While the Teacher Task Force is in place, it is still not clear what will be the role of the Teacher Education Council (decision-making, advice...); what will be the position of the Council (independent or under the MoE); and what should be the composition of the Council (balance members from ECs and Universities of Education). Concerning the third topic, limited progress is reported as of July 2020 on the development of a comprehensive teacher policy. While already in 2017 and 2018 policy seminars were organized, only very recently (January 2020), the MoE and the TTF decided to focus on the teacher promotion policy and UNESCO supported in providing technical assistance (for instance in procuring a consultant) and providing technical advice.

In terms of effectiveness, by July 2020, the overall progress is moderate, with major achievements for the TCSF, but limited results in establishing the Teacher Education Council (TEC) and the development of a comprehensive teacher policy, while progress is foreseen in the near future.

As an outlook for 2022, under the condition of continued support, it is expected that the TEC will see its establishment and that parts of the teacher policy will be developed (NB: the promotion policy will have to be in place by December 2021 so that Student Teachers have sufficient clarity about the consequences for the selection of the specialization track in Year 3).

>> Outcome area 2: Development and implementation of competency-based teacher curriculum

Under Outcome area 2 the majority of STEM Phase II interventions were implemented, involving technical assistance, training and procuring ICT. The most important topics is the development of the new four-year Degree Program in Education College. In the context of this new curriculum, STEM Phase II was effective in recruiting and training of CCT members and involved the CCT actively in the development of the Year 1 and Year 2 syllabi and textbooks. The CCT is based on voluntary membership and grew rapidly to more than 150 members (151) in 2020. STEM Phase I (2014-2017) prepared the ground for the new curriculum, and the STEM Phase II of the project managed to reach the critical deadline of starting the roll-out of the Year 1, semester 1 in December 2019. Furthermore, Year 1, semester 2 is also ready for implementation and Year 2 is currently being developed (implementation starts December 2020). UNESCO procured curriculum writers to support the development of the new curriculum and was heavily involved in quality assurance, writing, and technical assistance (for instance on the translations). The development and roll-out is accompanied by extensive consultations and monitoring activities to improve the curriculum while being implemented.

¹⁶ TCSF is described for four levels: beginning teachers; experienced teachers; expert teachers; and leader teachers. The current TCSF pertains only to beginning teachers.

Besides the CCT, Teacher Educators and Student Teachers are also consulted. Alongside the capacity building of the CCT and the development of the new degree program, the project sensitized Teacher Educators about the new degree program and trained them in the changes in delivery; supported ICT trainings and provided orientation trainings to the EC on the upgrade of the curriculum. Related to the capacity building topic, a CPD framework is developed for Teacher Educators, management staff and administrative staff in ECs (also linked to outcome 3). Finally, the use of digital technologies is supported through providing laptops and projectors, basic internet infrastructure, and establishing an e-Library to improve Education Colleges (ECs) staff, teacher educators and student teachers' access in an organized way to teaching and learning materials and teacher education references in media formats and allow for sharing of teaching resources among ECs.¹⁷ Between December 2019 and June 2020, nearly 3,500 unique users entered the e-Library resulting in more than 55,000 page views. The envisaged e-Learning platform is not developed (and will not be developed due to a lack of funding in STEM Phase III). Instead, an e-Learning function is being developed and integrated into the existing e-Library.

In terms of the **quality of the new four-year degree program (first Year)**, as evidenced by the validation study, almost all TEs "reported the new curriculum would support student teachers to be equipped with the skills to tackle 21st century challenges such as collaboration, critical thinking and problem solving. They reported the activity-based learning and learner-centred approach created the opportunities for students to participate in the group activities and developing collaboration and leadership skills".¹⁸ Furthermore, the textbooks and teacher guides were appreciated although there were concerns related to language and translation. "Both teacher educators and student teachers faced challenges in the new curriculum because of the Myanmar language translation. More than 50 percent of the teacher educators and two thirds of student teachers perceived it was not easily comprehensible due to its lengthy and complex sentence".¹⁹ In comparison, the various users completing the evaluation survey are quite positive about the new curriculum. Principals, Teacher educators and student teachers were asked to indicate whether the new curriculum is an improvement in comparison to the old. All three target groups are positive, all with a majority of respondents that see (very) large improvements in comparison to the previous curriculum.

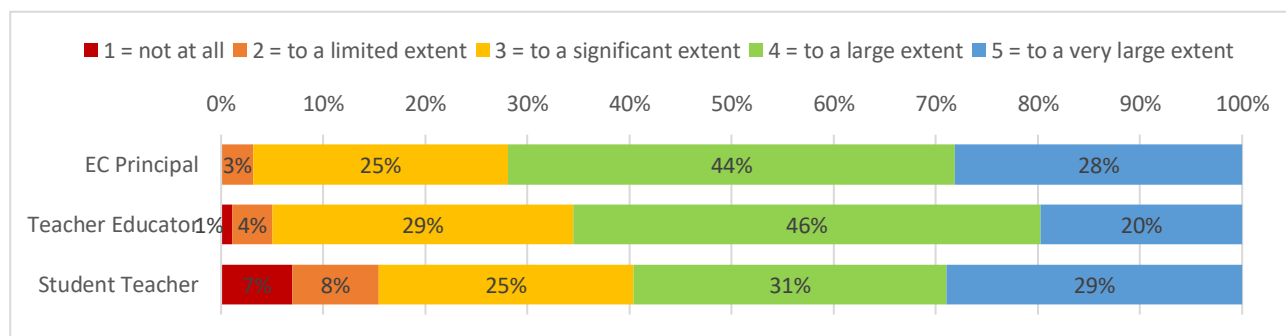


Figure 7: Comparing the quality of the new curriculum to the old – principals, teacher educators and student teachers. Source: Survey in the framework of this evaluation, conducted among Principals (N=32), Teacher Educators (N=658), and Student Teachers (N=849). Scale 0-5 (0 no improvement at all - 5 improvement to a very large extent)

The implementation of the new curriculum depends not only the actual quality of the curriculum, but also on the extent to which teacher educators and principals are **already confident in implementing it**. As a result of the evaluation survey, for the first year of the new curriculum, which is already implemented, on a scale from 0 to 100 teacher educators rate their confidence at 68 and principals 71.

¹⁷ <https://edc.moe.edu.mm/en/elibrary>

¹⁸ Nielsen MMRD (2020), - Summative Report - Monitoring the Implementation of the Semester 1, Year 1 of the New 4-year Degree Program in Education College, p. 98.

¹⁹ Nielsen MMRD (2020), - Summative Report - Monitoring the Implementation of the Semester 1, Year 1 of the New 4-year Degree Program in Education College, p. 99

This shows both the fact that there is still a considerable work to do, but also that there is a steady basis from which teacher educators can get further used to the curriculum.

In the delivery of the new curriculum, there are a number of challenges that partly explain the confidence levels. The interviews highlight that TE are not fully aware of the whole four-year program; some TE need to deliver a new subject; they need to apply new learning methods and adjust to new classroom management; and there is a lack of clarity on how to apply summative and formative assessments. All in all, TEs require more training to gain confidence in successfully delivering the curriculum.

In terms of effectiveness, Outcome area 2 is generally effective, leading to major changes. This is most prominent in the capacity building of the CCT members, developing the new degree program and the roll-out of Year 1 (and associated training). On the other hand, the Year 2, 3 and 4 still need to be developed and rolled-out.

As an outlook for 2022, it is expected that, with a continued STEM support, and continued (or even increased) involvement of the MoE, the remaining Years of the degree program will be developed and that teachers will be further capacitated in delivering the new program.

>> Outcome area 3: Strengthen management of Education Colleges

The work under Outcome area 3 related to firstly developing a comprehensive plan for upgrade of Education College (ECs) to 4-year degree institutions; and secondly, implementing capacity development plans for Education College management staff. Supported by UNESCO International Institute for Educational Planning (IIEP), a simulation model was developed which provided projections on the need for qualified teachers. The model is however not yet translated in a vision and a master plan how to arrive at the required number of qualified teachers. In the context of the simulation model development, capacities have also been strengthened within the MoE and the ECs to conduct own projections. It is estimated that the capacity development is not yet enough to facilitate the change of ECs towards becoming Degree Colleges, or degree-awarding higher education institutions. A CPD framework is developed covering management and administrative staff, too, but it still largely lacks the modules and the implementation of CPD courses to lead to improved capacities (the development of modules and training is shifted to STEM Phase III due to delays in the development of the CPD framework). In terms of the use of ICT in EC management and administration, this is improved as a result of the ICT training manuals in Myanmar language developed and delivered to all ECs, but still needs a more systematic approach such as provided by an Education Management Information System (EMIS²⁰). STEM Phase II however contributed heavily in the internet connectivity of ECs, providing 8Mbps broadband internet.

In terms of effectiveness, outcome area 3 is fairly limited. While major initial steps are taken, it requires still a lot of effort to strengthen the management and administration of Education Colleges.

As an outlook for 2022, it is expected that, additional efforts are needed, mostly from the MoE to support the further development and improvement of the management and administration of Education Colleges. This in terms of supporting the quality of management and administration; and the quantity of quality graduates ECs can deliver. Furthermore, if the simulation model is not used by experts in the MoE or ECs in the next two years, it is likely that the capacities to apply it will disappear. Furthermore, while the simulation model provides important insights for overall planning purposes; more tools and capacities are needed to improve the operational planning in ECs.

²⁰ Which is supported through the UNESCO CapED programme: <https://en.unesco.org/news/better-data-better-decisions-myanmars-education-sector>

» Outcome area 4: Mainstream inclusion

Outcome area 4 can be considered more a transversal outcome area where the activities are implemented in the context of the other three outcome areas. The work related to ensuring inclusiveness in the TCSF (outcome area 1); the new degree program (outcome area 2); and in the CPD framework for teacher educators and management staff (outcome area 2 and 3). For this purpose, under outcome area 4, assessments were conducted (such as Assessment of Equity and Inclusion in Pre-service Teacher Education in Myanmar: at the Education College Level) and training modules were developed (on gender equality, human rights and Education for peace and Sustainable Development, HIV/AIDS, mainstreaming inclusion into Education College Year 2 curriculum, psychosocial support training for ECs).

In terms of effectiveness, Outcome area 4 is moderate. While inclusiveness touches upon many sensitive issues in the Myanmar context, STEM Phase II managed to get attention to education for peace and sustainable development; sexuality education (in the context of HIV/AIDS education); and gender. The project ensured that inclusion issues are integrated in the other outcome areas, and initial steps are taken in sensitizing policy officials in the Ministry, EC management and TEs. Still however, truly changing the mindset of EC management and Teacher Educators on these inclusion-issues requires a longer-term perspective, as is evidenced by the December 2019 report on Assessment of Equity and Inclusion in Pre-service Teacher Education in Myanmar: *“EC staff need to be exposed to and trained in inclusion and equity (IE), while also being supported in their professional roles to be able to include new teaching methods and IE. IE needs to be mainstreamed into systems and policies, and rely less on the good-will of EC staff. It is important that EC management leads by example and that inclusion and equity is taken into account for promotions and recruitment. The current work overload represents one barrier to TEs and staff taking these changes on-board, even when there is a genuine willingness. It prevents them from developing their capacities and attitudes which at times need to shift, particularly in regards to people with disabilities.”*²¹ The interviews conducted in the context of the evaluation also show that among the Teacher Educators there is still a clear lack of proper understanding of inclusion aspects (gender equality etc.). There is a lack of awareness of what changes or improvement are expected/intended as results in each specific context, under this attempt of inclusive practice.

As an outlook for 2022, it is expected that inclusiveness is further embedded in the teacher education system, but that more capacity building needs to take place to ensure a change in mind sets.

» Cross links between outcome areas

There are clear cross links between the outcome areas (as highlighted in Chapter 2). The effectiveness of one outcome area might rely heavily on the results of the other. This is the case with the effectiveness of the implementation of the new degree program: if there is no effective teacher promotion policy in place, it will have a negative effect on the ability of the new degree program to provide quality primary school teachers. Furthermore, if the EC management and administrative capacities are not sufficiently improved, the ECs will not be able to provide a sufficient number of qualified teachers.

» Overall quality of capacity building initiatives

The interviews provide evidence that the capacity building initiatives are highly appreciated and assessed as of being of high quality. This is also confirmed by the survey. Principals were particularly satisfied with the preparation and planning of the workshops, while teacher educators were most

²¹ Han, Min Min, (2019), Assessment of Equity and Inclusion in Pre-service Teacher Education in Myanmar: At the Education College Level, p. 23.

positive about the content of the workshops. This corresponds to what is most relevant for each group in substantial terms, which is a good sign that the workshops were well designed to take the needs of target groups into account.

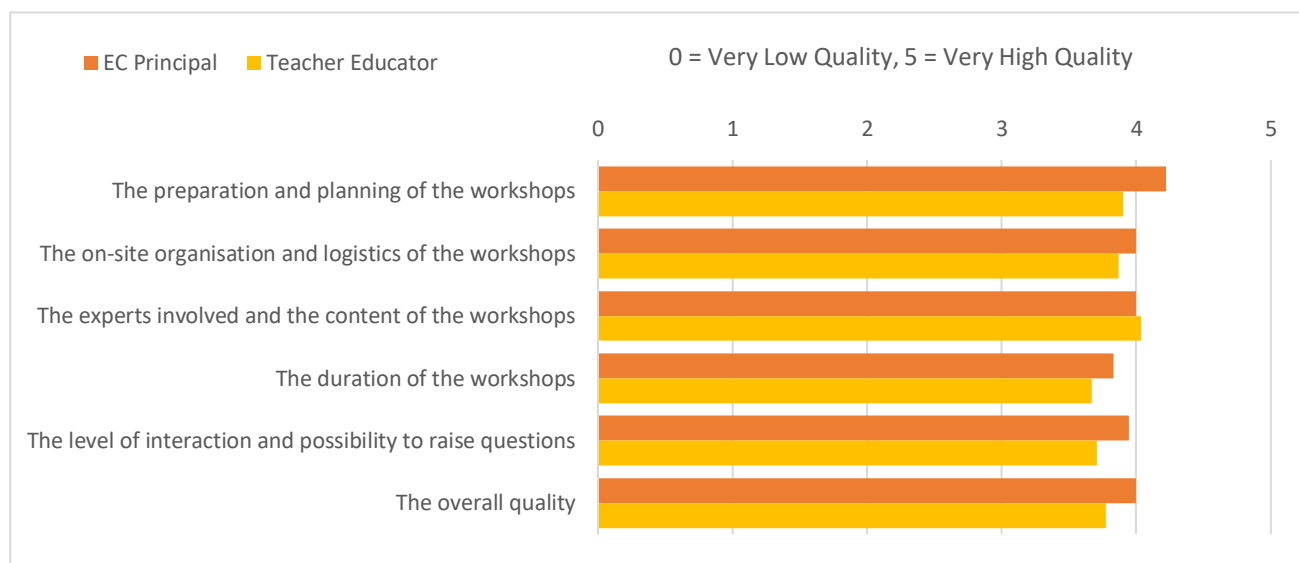


Figure 8: Assessment of quality of workshops by participants. Source: Survey for this evaluation, conducted among Principals (N=18), Teacher Educators (N=271), Scale 0-5 (0 very low - 5 very high)

3.2.2 Constraints in implementing project activities

STEM Phase II encountered challenges and constraints at different levels: country-level constraints; project/programmatic level constraints; institutional level constraints; and EC/TE level constraints. These constraints are discussed together with their drivers and the way they were addressed.

The political will and vision do not always match with what is realistically achievable on the ground. As a result, the STEM Phase II project has been overambitious.

This relates for instance to the development of the TCSF, the comprehensive teacher policies, the establishment of the Teacher Education Council and the capacity building in ECs. All these processes require at the same time political attention and other processes (including policy development processes) in place and aligned. Within the timeframe of STEM Phase II, this appeared not realistic hampering the project to reach its envisaged outputs and outcomes in Outcome area 1 and 3. The STEM Phase II tried to push the policy agenda through organizing policy fora and assisting the MoE in organizing the TTF meetings, but progress depends a lot on the progress made by national stakeholders. The UNESCO STEM Phase II involvement in the establishment of the TTF, despite being clearly stated in the STEM Phase II project documents, is not recognized by TTF members. Having a stronger UNESCO involvement could create momentum for its further evolution into a Teacher Education Council.

The prior understanding on key concepts used in STEM Phase II and the teacher education reform (competency-based curriculum; learner-centred approaches; inclusiveness; etc.) was underdeveloped in the ECs and MoE. For this reason, the STEM Phase II had to engage more in lengthy awareness raising and capacity building activities across actors and levels; also, UNESCO had to take up a larger role in the curriculum development.

The TCSF and the new curriculum are introducing new concepts and approaches of which stakeholders at all levels (ECs, and MoE) are relatively unfamiliar. The development of a new curriculum had not taken place for about two decades in the country, so that there has been a lack of institutional experience about the process, and about what is needed when. In this sense, the capacitation and expansion of the CCT is a major achievement of STEM Phase II, but also took more time and resources than planned to

achieve. Furthermore, as the MoE and the CCT were not fully equipped to take a leading role in the curriculum development, UNESCO had to spend more resources in technical assistance to develop the new curriculum, its syllabi, textbooks, and manuals. Finally, while the STEM Phase II project has started making people aware of inclusiveness and equity relates issues, more capacity building (and even efforts to deconstruct pre-existing conceptions and behaviours) are needed to change the mind-set of a larger group of stakeholders across levels. All in all, the STEM team solved this challenge by taking up more responsibilities and using more resources as initially foreseen on developing the new curriculum.

The very short timeline for developing the new curriculum and preparing the TEs has implied problems with the curriculum and textbooks (errors, translation issues, overburdening of student teachers) and ill-informed and prepared TEs to deliver the new curriculum in a quality manner.

The decision was taken to have the first enrolments in the new curriculum in December 2019. Even if the outline for the new curriculum was already in place through STEM Phase I, Phase II only had two years to capacitate key stakeholders, develop the syllabi, contract textbook writers, consult with the CCTs, conduct quality assurance, and get the Year 1, semester 1 curriculum validated. Furthermore, the TEs had to be trained on delivering the new curriculum prior to December 2019. This all appeared to be possible, but not without cutting some corners, especially in i) the preparation of the TEs in delivering the new curriculum (most of them were only involved in two five-day face-to-face trainings), but also in ii) making available sufficient learning resources (textbooks, but also supporting materials to for instance support group work) and assuring correct linguistic versions of the materials.

The Teacher Education system as a whole (MoE (DHE) and ECs) is understaffed. As a result, the key persons for STEM Phase II cannot contribute as required/desired to reach the STEM Phase II results.

This understaffing relates to the lack of human resources in the MoE to work in a timely manner on the various aspects of the reform; and to get validation and approval; but also to the ECs, in which TEs are responsible for more tasks as there is a shortage of TEs, especially ICT TEs. As a consequence, they have less time to be engaged in the curriculum development; training and lesson preparation. This is a challenge for the whole teacher education system, but has its impact on how much time TEs can devote to STEM Phase II activities as well. In the MoE, the understaffing resulted in delays in implementation²²; lack of progress in policy development; and alignment/coordination issues between departments.

Lack of expertise in national experts and international experts on including inclusion-aspects in the curriculum, causing extensive revisions and pressure on timeframes.

As the expertise for developing the syllabi and textbooks was not readily available in Myanmar, international experts were consulted to do the work. These international curriculum authors were not always familiar with the Myanmar context and lacked experience in inclusion and equity issues. As a result, UNESCO had to invest more resources in revising the materials and quality assure them.

Lack of ICT facilities has hindered the delivery of the new curriculum in classroom: lesson preparation by TEs and preparation by Student Teachers caused demotivated (older) TEs and STs to be less prepared.

STEM Phase II provided basic ICT infrastructure in the ECs, with at times a poor connection. The new curriculum implementation however relies heavily on the use of ICT in its delivery. This concerns that TE need to prepare their lessons by searching online for learning materials; STs to access the online learning materials and also using ICT equipment in the classroom delivery. As the basic infrastructure

²² The understaffing should also be understood within the context of the multiple reforms that MoE is currently undertaking.

does not allow all ST to access the online materials when they need to prepare their lessons (cannot download the materials) and ICT infrastructure is not available in the non-ICT classrooms, the TEs need to improvise and use their own internet packages.

Lack of longer-term training for TEs caused a lack of buy-in from mainly older TEs in delivering the new curriculum.

A large group of TEs have no experience with learner-centred approaches and are unfamiliar with inclusiveness and equity issues. They only received a limited amount of orientation training before being thrown into the deep end with the new curriculum. This, together with main shifts in the curriculum (some subjects disappeared; other significantly changed), resulted in a group of (mostly older) teachers not supportive of the implementation. Furthermore, a large group has insufficient ICT skills to effectively deliver the new curriculum.

The Global COVID-19 pandemic and associated lockdown discontinued the face-to-face delivery of the Year 1, semester 2 curriculum.

As of March 2020, the ECs are closed to combat the COVID-19 pandemic. This meant that all face-to-face course delivery discontinued. The ECs try to continue through teleworking and teach online (to the extent possible). The STEM team provides support to the ECs to work in an online environment. In May-June 2020, STEM provided 10 days of online training: 1-day orientation via teleconferencing; 6-day training at EC level and a 3-day Q&A session via teleconferencing. In doing so, STEM modified the training modality to reach all teacher educators and received quite good feedbacks from the TEs.

3.2.3 Relevance of identified risks; key assumptions and mitigation strategies

The assumptions as presented in the initial project document (2016) remained highly relevant during the project implementation. For the overall project it was assumed that “the MoE will have the financial and technical capacity to implement the teacher education reforms within the planned schedule.” This assumption remains in place and also posed a threat to the implementation, given that the reforms are not implemented within the planned schedule. More specifically, the following assumptions were identified for each outcome area. The table also highlights how the project dealt with those assumptions.

Assumptions under which the work will be effective (preconditions)	Validity of assumptions/preconditions
Outcome 1: 1) There will be political will to adopt and implement comprehensive teacher policies that adhere to international norms and standards of human rights, gender equality, and rights of teachers. 2) MoE/DTET and EC leadership have the management skills necessary to implement new policies	The <u>preconditions remain valid and are in place to a large extent</u> : there is political will and within the MoE and EC in general terms the management skills are present to implement new policies. On the other hand, the management capacity (human resources) might be insufficient to maintain the pace needed to complete the activities in outcome area 1 within the project timeframe.
Outcome 2: A new promotion policy is developed and implemented which enables primary and middle school teachers to be promoted, while continuing to teach in their specialty (primary or middle school)	This <u>precondition remains valid and is not yet in place</u> . For the new degree program implementation to be effective, the promotion policy will have to be in place. It is desired to have it in place before Student Teachers will select the specialization track (Year 3: December 2021).
Outcome 3: MoE gives EC management staff sufficient autonomy to manage human resource and financial management systems at their EC	This <u>precondition remains valid and is not yet in place</u> . While plans are developed, this has not yet been upgraded to a reform strategy for the EC management. Furthermore, the capacity building of EC management and administration is lacking behind. Finally, understaffing remains a key issue: right personnel have to be recruited for any capacity building to be effective and sustainable
Outcome 4: Training on human rights, gender equality, Education for peace and Sustainable Development, and	The <u>precondition remains valid and is in place to a large extent</u> , but needs a longer-term perspective. In order to

Assumptions under which the work will be effective (preconditions)	Validity of assumptions/preconditions
rights of teachers is delivered in a way that relate to the practical work of policy makers, curriculum developers, and EC staff to ensure understanding and application.	change mind-sets, longer term interventions are required instead of short courses and work-shops.

Table 4: Assumptions and validity

In terms of the identified risks, they impacted the implementation only to a limited extent. External risks (political, economic, environmental, security), did not influence the implementation; on the other hand, internal risks did play a role, with the main risk being the programmatic issue of having limited implementation capacity within MoE and ECs. Other risks such as loss of institutional memory have not established major challenges in the implementation. An unforeseen external challenge was obviously the COVID-19 pandemic, disrupting the entire education sector.

3.2.4 Adequacy of the M&E system in place

In the 2016 STEM Phase II project document, it is stated that UNESCO will regularly monitor the implementation of the project's components, with particular regard to technical quality, soundness of policy and sustainability of outcomes. UNESCO will provide regular progress reports, annual reports and financial reports to the donor. In 2018, UNESCO contracted a consultancy firm to develop the M&E framework and tools, emphasizing the qualitative data collection through key informant interviews. In 2019, a mid-term review was conducted.

The 2019 Mid-term review findings and conclusions on the monitoring and evaluation system remain valid in 2020. The STEM Phase II results matrix (as presented in the progress reports) does not describe the activity level. Furthermore, it does not indicate clearly which activities lead to the desired outputs and outcomes and in many instances, there is not a clear link between the activities implemented under a specific outcome area and the items described in the result matrix itself. For instance, the capacity building of CCT members is not included in the result matrix, while this is regarded as a key component of STEM Phase II. Finally, there seems not to be an initial detailed workplan to assess the progress against and hence, it is particularly difficult to obtain a good overview of the evolution of the project implementation working towards its objectives.

Furthermore, from the monitoring information, it is not clear how the financial implementation is progressing; how the realized expenditure compares to the planned expenditure; and to what extent budgets have shifted between outcome areas. The progress reports indicate that some activities will not take place due to a lack of funding (e.g. further development e-Library; CPD EC management and administration), and in fact interviews confirm that Outcome area 2 (new curriculum) has been more resource intensive; however, in the provided financial overviews it is not possible to trace how much funding was shifted from outcome area 3 to outcome area 2.

This being said, the STEM Phase II project does gather quite some evaluative and monitoring information on the various activities, such as workshops (satisfaction surveys); feedback on the new curriculum; reflections on the TCSF in the validation study. Also, internal overviews are compiled of activities, who participated and what was discussed in workshops and meetings. This information is used to draft the progress reports and the summative overviews of how STEM Phase II is developing in relation to the defined outcomes and outputs.

The current monitoring and evaluation system, as emphasized by the mid-term review in 2019, does not provide a systematic approach to track the progress and impact of STEM Phase II, especially concerning whether the activities have any impact on inclusion-related aspects (change of mind-set, behaviour, actions, practice) in the ECs and by TEs. The current reporting system remain rather output-oriented, while not clearly explaining how the specific outputs support the overall theory of change.

As recommended in the mid-term review, STEM Phase II should invest in a **Value for Money (VfM) framework**. This work is taken up in 2019-2020 resulting in a first framework with key evaluation questions and indicators to be used in STEM Phase III. Currently, while presenting a good, but rather

monetary approach, this framework needs to be adapted to the objective and theory of change of STEM Phase III, emphasizing the institutional capacity building dimension; the awareness raising aspects; and the national ownership dimension of the STEM results. What could be provided a more prominent place is measuring actual change in ECs given that they will have to change even more to provide the four-year curriculum and develop towards Degree Colleges. In addition, the VfM framework could indicate to measure actual change in primary and middle schools as a result of STEM Phase II as it can be expected that graduates from the four year new degree program will enter in the schools in 2023.

3.3 Impact of STEM Phase II

3.3.1 Impact on the different beneficiaries or target groups²³

STEM Phase II reached out to all ECs, its principals, teacher educators and new student teachers (in the first year of their studies, started December 2019). All are confronted with the new degree program (Year 1). Furthermore, most teacher educators are somehow involved in the development of the new curriculum or received an orientation training related to the delivery of the new curriculum.

The interviews and the survey show that the new curriculum and the training provided by STEM Phase II on inclusive education and the new curriculum to a large extent changed the mindset of teacher educators, but that has only moderately lead to behavioural change. Before the new curriculum was introduced, teacher educators would ask specific questions to boys and other specific questions to girls; now, teacher educators indicate that they are more sensitive to such gender patterns. When compared to the lowly perceived need for reform on gender inclusiveness and mainstreaming (for more details see relevance section 3.1.2, inclusiveness paragraph), this points to a gap in the perception of gender equality that the STEM Phase project is bridging.

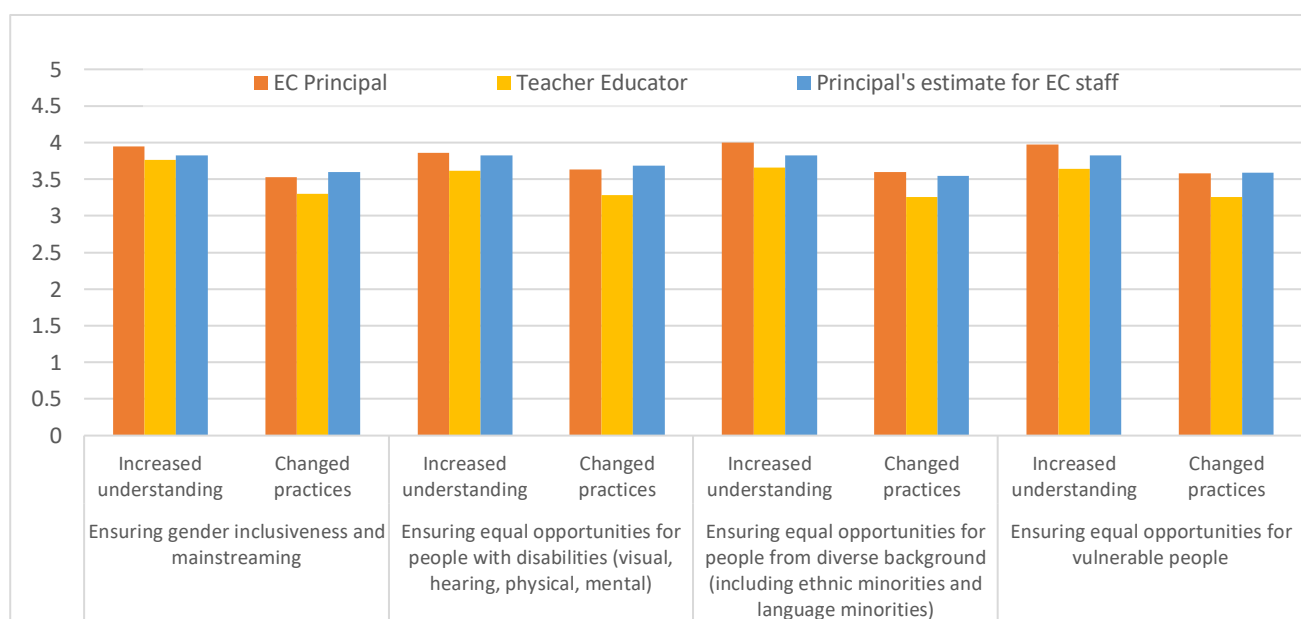


Figure 9: Impacts on understanding and practice – inclusiveness. Source: Survey for this evaluation, conducted among Principals (N=35), Teacher Educators (N=709), Scale 0-5 (0 very low - 5 very high)

²³ This section also discusses Q5.3: To what extent can observed changes be attributed to the interventions of STEM Phase II? How have women, men and vulnerable groups experienced these changes? And: Q5.5: What evidence, or in the absence of strong evidence, “weak signals” of impact, positive or negative, intended or unintended, can be found of STEM’s contributions to the final beneficiaries in the long-term?

In terms of disability, too, teacher educators indicate that the teacher education system is currently more inclusive. The survey confirms how the project had a positive impact on teacher educators' understanding of inclusion issues, such as gender inclusiveness (on 1-5 disagree-agree Likert scale, an average 3.76), and inclusiveness of people with disabilities (3.62), diversity in background (3.65), and vulnerable people (3.64).

EC Principals are generally more positive than teacher educators, not only about their institution's response, but also when asked to estimate changes to the understanding of teacher educators. The survey also shows that practices remain harder to change. The biggest differences are found when comparing teacher educator's self-assessment of changes to their actual behaviour towards inclusiveness. These in turn are hardly above the middle of the scale (between 3.25 and 3.30) and considerably lower than what principals expect their teacher educators are doing.

These survey findings are also supported the recent reports – commissioned by STEM Phase II – that conclude that at EC level, current beliefs, knowledge, and practices related to inclusion and equity among EC management and TEs are very varied and while knowledge is relatively widespread, attitudes and practices still need to shift, especially regarding people with disabilities. Generational differences play a role here as well. The older TEs argued for instance “that a TE with a disability would find it difficult to become a teacher in the future, since parents would not accept them, fearing they would have a negative influence on their students.”²⁴ TEs lack confidence to apply inclusion and equity in reality as they lack both knowledge and experience. As expressed by an EC staff member “Now the result relates to a change in awareness, but gradually, proper practices and training on gender mainstreaming – gender responsiveness, gender sensitivity etc. are required.” Older TE report considerably higher improvements in their understanding of these issues than younger TE, but at the same time reported less often changes to their teaching practice. Overall, TEs indicate that the new curriculum encouraged them to discuss more among themselves and give feedback to each other. They have begun to exchange ideas on how best to use the teaching plans and adapt their teaching styles. Many TEs embraced the learner-centred approach and the flipped classroom approach. Older TE however “struggle with the new curriculum, and are not always motivated to learn how to use it.”²⁵ This also relates to the use of ICT, for which most older TEs are not well prepared, leading to a lack of confidence; less motivation and even reduced engagement in sharing the knowledge and experience they have as an older generation. Still, as they are overburdened due to staff shortages, most TEs still have a limited awareness of inclusiveness and equity, just as insufficient teaching materials and time.

The project supported **EC administrative and management staff, who show a change of mindset to a moderate extent**. A part of the management staff (Principals) is closely involved in the discussions concerning policies, curriculum and simulation models, but this does not trickle down to other staff members. The introduction of the new curriculum and the changed working methods of the TE (i.e. more collaborative work), increased the need for administrative and leadership support concerning for instance timetabling (time to work together on lesson preparation); access to laptops and internet; use of projectors; support in ICT skills. For the administrative staff, also only part of the staff (usually 2 staff members) are directly supported by STEM Phase II with an excel course. The survey shows moderately increased understanding of the application of ICT in management and administration among principals (3.80) and teacher educators (3.57). The question was not posed to administrative staff directly, but the relatively moderate scores by principals show sufficient room for improvement, particularly also in terms of actual changes in practices. The use of ICT in teaching and learning is

²⁴ Han, Min Min (2019), Assessment of Equity and Inclusion in Pre-service Teacher Education in Myanmar: At the Education College Level, p. 9.

²⁵ Han, Min Min (2019), Assessment of Equity and Inclusion in Pre-service Teacher Education in Myanmar: At the Education College Level, p. 11.

judged to be higher, both among principals (3.88) and teacher educators (3.71). However, also here, a considerable difference exists between perceived changes in understanding and practice.

The most visible changes in understanding are reported in the areas that most matter from the perspective of the curriculum reform: the application of competency-based and learner-centred approaches. Principals and teacher educators alike assigned comparatively high average scores to their assessment of the increase in understanding of teaching staff at the teacher colleges (4.00 and 3.83 respectively). In terms of changed practices, too, teacher educators are most positive about the impact of the curricular reform on their work (3.50)²⁶. Principals do not see an immediate link on their own work, but are particularly positive about the extent of which they think teacher educators have changed their practices (3.77). As for the other elements, this suggests that principals are more positive about the extent of change already achieved than teacher educators themselves.

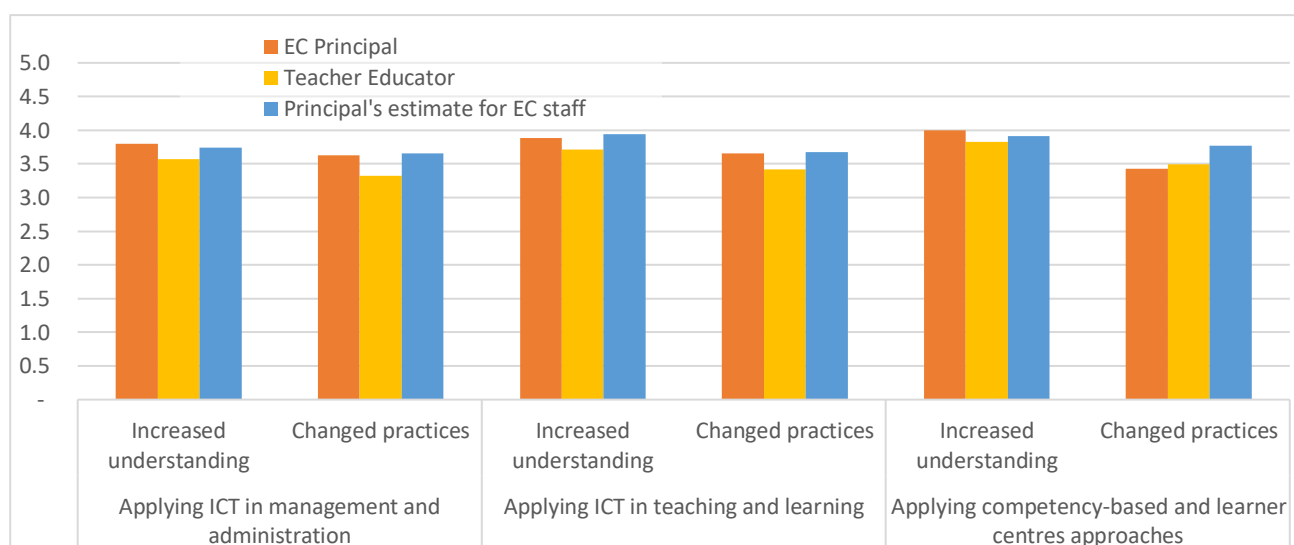


Figure 10: Impacts on understanding and practice – Impacts on EC staff.

Source: Survey for this evaluation, conducted among Principals (N=35), Teacher Educators (N=709), Scale 0-5 (0 very low - 5 very high)

When asked to specify in more detail the types of changes that teacher educators and principals identify, most principals point to the understanding and practices related to the application of inclusive education (4.06 for principals, 3.73 for teacher educators). Teacher educators see most impacts of the STEM Phase II project in becoming a better teacher educator (3.76), which is also important individual impact.

²⁶ An analysis of the responses from female and male teacher educators shows that women significantly more often answered to understand the competency-based and learner centred approaches than men, while men on the other hand significantly more often indicated that they have changed their teaching practices. Note however that the number of male teacher educators responding to the survey is relatively small (11%), so this finding needs to be treated with due caution.

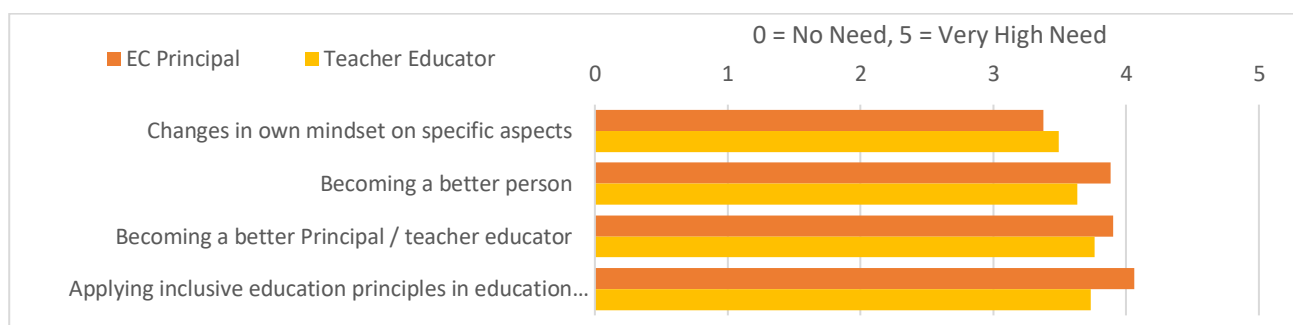


Figure 11: Overview of impacts at the personal level – principals and teacher educators.

Source: Survey for this evaluation, conducted among Principals (N=35), Teacher Educators (N=709)

For the **Student Teachers, as beneficiaries of an improved curriculum and modernized teaching methods, the impact is moderate.** The EC level assessment (2019) reported that for Student Teachers, the new curriculum is more activating, reflective and encouraged students to exchange points of view, as well as to provide peer-support and feedback. The interviews with EC staff confirm that student teachers are generally pleased with the new pedagogical approach although they had to get used to the flipped classroom method. In addition, they had to get used to proactively get engaged in classroom practices by speaking out, voicing their opinions, and discussing different viewpoints. The new program is however very packed and intensive, also given that the student teachers are expected to prepare each lesson. The survey confirms student teachers' satisfaction with the curriculum; more than two-thirds (68%) rate the curriculum as good or excellent, while the remaining 31% still rates the curriculum as fair. Less than 1% of the surveyed student teachers rate the new curriculum as poor or very poor.

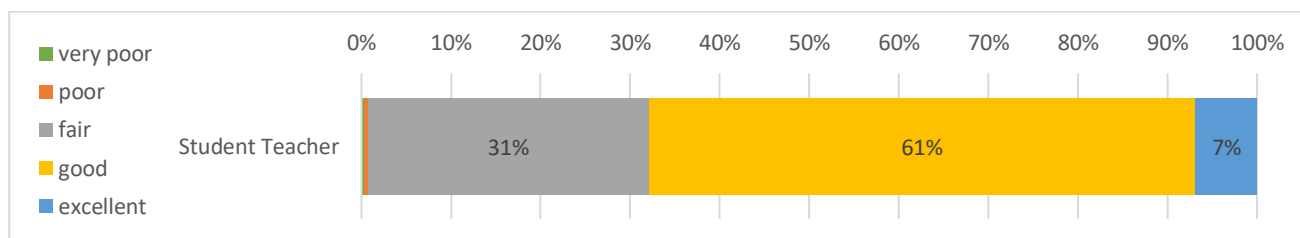
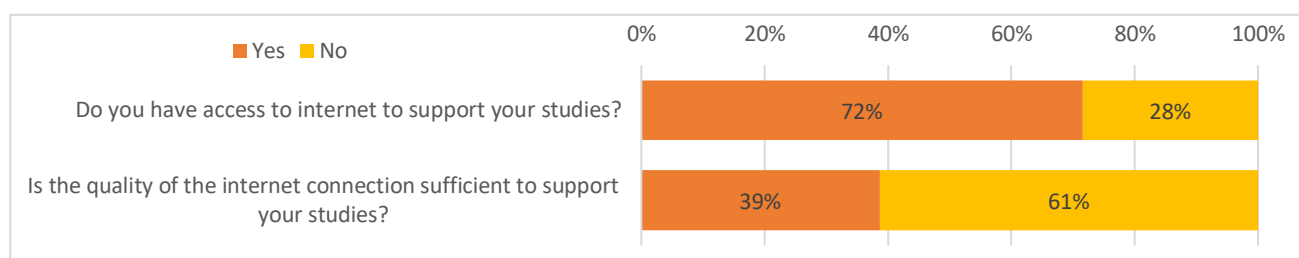


Figure 12 Quality of the new curriculum – student teachers.

Source: Survey in the framework of this evaluation, conducted among Student Teachers (N=903).

The new courses require a considerable level of preparation from student teachers. In this preparation, the use of internet is a central requirement, for which teacher educators already indicated persistent challenges at the EC. Student teachers further underline this challenge. Internet is central to their curriculum, and almost three-quarters (72%) reports that they have access to internet. This is an important pre-condition for successful implementation of the new curriculum. At the same time however, a substantial majority also reports that the quality of internet connections is currently insufficient to support their studies (61% indicates that the quality is not enough).



*Figure 13: Quality and availability of internet connection to support studies – student teachers.
Source: Survey in the framework of this evaluation, conducted among Student Teachers (N=903).*

It is evident that on a final beneficiary level the STEM Phase II project, mainly through the ‘shock therapy’ of introducing a new curriculum, is changing the mind set of teacher educators, EC management, EC administration and student teachers. These changes are promising and all-encompassing for some younger generations, but only limited for many older staff members, who will need to build confidence in delivering the new curriculum. This requires additional support, in terms of policies, resources, and training.

3.3.2 Impact at an institutional level

STEM Phase II led to profound impacts on the ECs. It capacitated TEs in delivering the new degree program, and supported the introduction of the Year 1 curriculum as of December 2019. It required the ECs and TEs to work in a different manner and to work more collaboratively in lesson preparation and delivery. Furthermore, STEM Phase II contributed to increased application of ICT and the use of internet (through providing access, equipment, and ICT training) in teaching and learning and in administration. Finally, STEM Phase II supported ECs to take first steps in becoming more autonomous (higher education) institutions through improved planning capacities. To arrive at impact on this matter will however require more efforts, both at EC and DHE level.

The survey asked respondents to indicate for a range of outcome areas the contribution of the STEM Phase II project at the institutional level, as shown below. Principals are most positive about the effects on the quality of teacher education at their institution (4.26), followed by perceived improvements in their institutions in applying ICT in education and training (4.09) and the CPD opportunities offered to teacher educators through the STEM project (4.06). Teacher educators themselves are more reserved in their judgment than principals, but largely agree on the same impacts. They also see most benefits in the quality of teacher education in their institution (3.86), the capacity to apply competency-based and learner-centred approaches (3.77), CPD for teacher educators (3.70) and the application of ICT in teaching and learning (3.69). The assessment of student teachers lies somewhere in the middle; they perceived most institutional improvements at the institution’s capacity to offer competency-based and learner-centred approaches (4.26), overall quality of teacher education (4.14), and equal opportunities offered to people from diverse backgrounds (4.10).

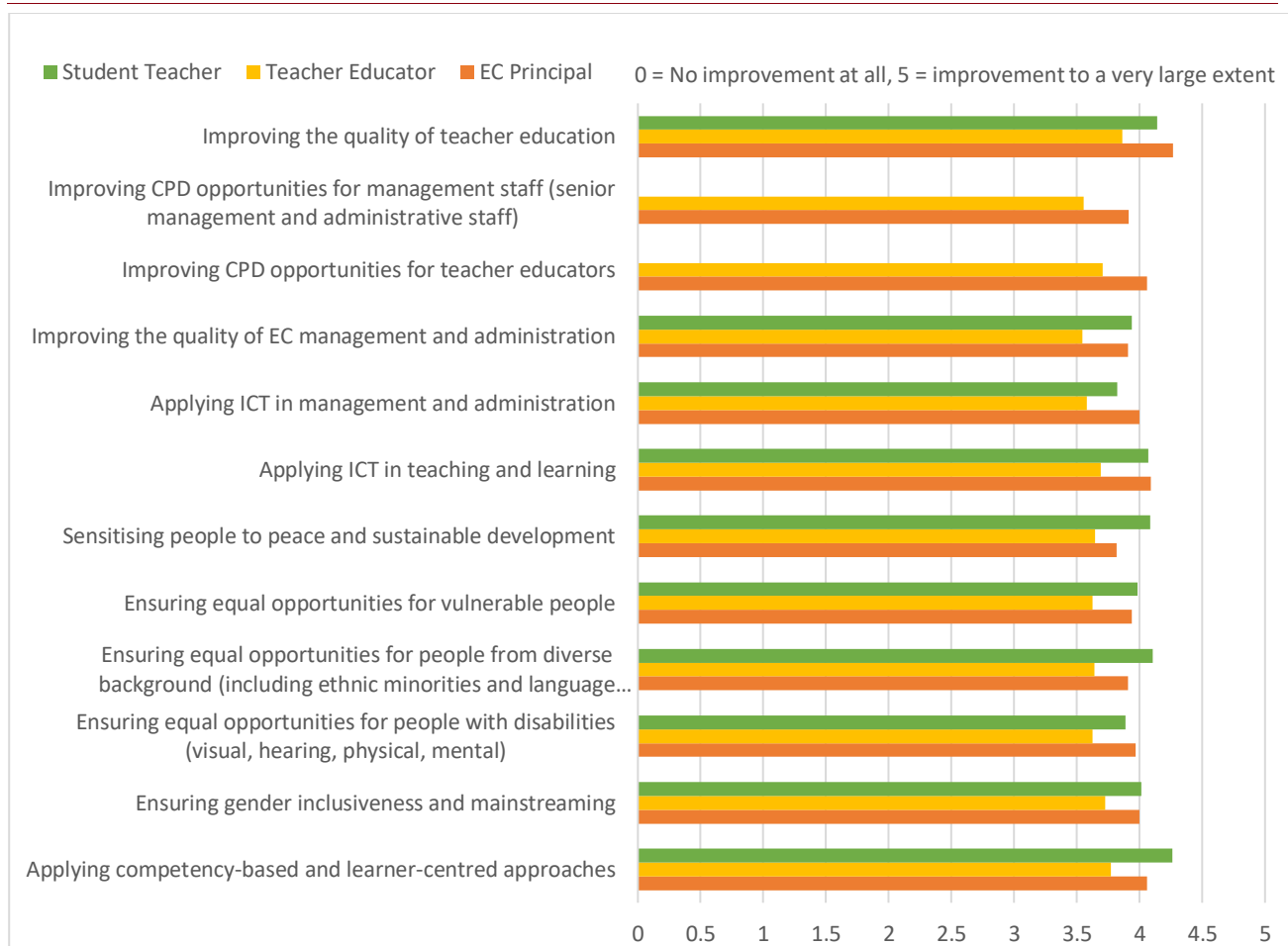


Figure 14: Support of STEM Phase II to changes at institutional level – principals, teacher educators, student teachers.
Source: Survey in the framework of this evaluation, conducted among Principals (N=35), Teacher Educators (N=709), and Student Teachers (N=902). Scale 0-5 (0 no improvement at all - 5 improvement to a very large extent)

While the scores presented here are largely positive, the evaluation also assessed what types of constraints limit the potential of changes at the institutional level. This assessment is based on the interviews conducted with the various stakeholders, as well as the survey among principals and teacher educators. Principals and teacher educators both point primarily to the limitations in ICT infrastructure in the EC. Challenges in internet connections at many institutions make it difficult to use the internet for the various aspects in the new curriculum that depend more heavily on internet. Teacher educators are expected to prepare their classes based on online material, while student teachers are also encouraged to access learning material online. Furthermore, the use of projectors in teaching (limited numbers available), the quality of the Wi-Fi, and access to the e-library continues to be challenging. When comparing principals and teacher educators' responses, the figure again shows more concern among principals about the time teacher educators have to prepare for the curriculum than among teacher educators themselves. Still, this is another important challenge, which is inherent of the approach chosen: drastically overhauling the overall system in one go means that there is inevitably little time; on the other hand, this may have the advantage to make considerable changes at once. The lack of supporting policies is a third major issue, mentioned by slightly less than one-third of teacher educators and principals.

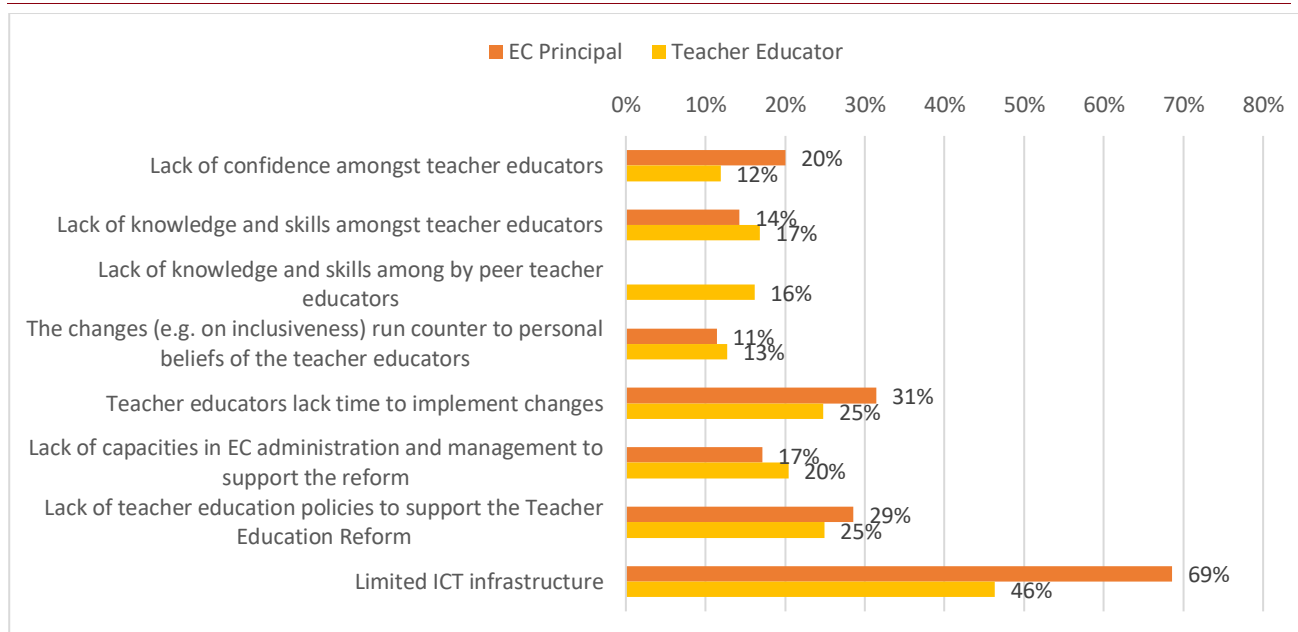


Figure 15: Overview of perceived constraints to implementation.

Source: Survey for this evaluation, conducted among Principals (N=35), Teacher Educators (N=706), respondent can select multiple categories (items sum to more than 100%)

3.3.3 Contribution to the broader and longer-term response to teacher education reform in Myanmar

The project aims at making a broad and long-term contribution to improving the EC pre-service teacher education's ability to produce qualified teachers in Myanmar. The most important long-term contribution of STEM Phase II to the education system is the revised content of the teacher education curriculum. This is the project's main achievement, which is likely to result in positive effects on the quality of teacher graduates by 2023 (the first year when graduates from the new degree program will start working in the schools). At the same time, it is insufficiently accompanied by supporting policies and the required level of institutional change at the ECs and the MoE to lead to changes at the system level. Most visibly, the project as it currently stands in fact risks contributing to an even greater shortage of primary school teachers. Even if the project's attention for inclusiveness has not yet resulted in substantial behavioural change of key national stakeholders, it has succeeded in putting the issue on the agenda, from where it can be further developed. Also, as it is included in the curriculum, TEs will have to work with it, slowly changing behaviours and practice. Each of these broader and longer-term outcomes are discussed in more detail below.

STEM Phase II resulted in the identification of supporting policies that can help reaching such results, but these are at this moment not yet put in place. Without adequate policies that align the policies for recruitment, deployment, promotion and continued professional development to innovations in the teacher education curriculum, STEM Phase II cannot fully reach its transformative potential. At the same time, the evaluation finds that the establishment of a national Teacher Task force, as precursor of a Teacher Education Council, helps increase the likelihood that such policies are further developed in the future. It offers – at least in theory – the possibility to learn practical experiences with existing policies and thus offers concrete insights in challenges and needs for future policies. The development of the TCSF provides further structure against which teacher policies can be developed.

The development and implementation of the new teacher curriculum is the central driver for innovation supported by STEM Phase II, and holds considerable potential for improving teacher education in Myanmar. By 2022, all four years of the new curriculum are expected to be implemented, with teacher educators across the 25 teacher colleges trained to follow the principles of this new curriculum in their teaching. As such, it presents a qualitative improvement of Myanmar's education colleges graduates. The establishment of the CCT also ensures a link between curriculum designers and the field, which

further helps ensuring its likelihood to contribute to actual change. At the same time, the way the revised curriculum has been implemented so far results in lower outputs of graduates at the degree level, due to capacity issues at the EC that will not be fully addressed by 2022. Moreover, without changing the teacher career development structure, it is unlikely that the required number of teacher students will specialize in primary education. In terms of the capacity to deliver the **required number of quality teachers** to solve the teacher shortage, the impact of STEM Phase II might be negative in the first years. With the change from a two-year to a four-year degree program, for two years no students will graduate from the ECs. In addition, EC and hostel capacities in the EC limit the intake of students as the student teachers occupy the facilities for four instead of two years. This means that also the number of new teachers being qualified by the new degree program will be less than is currently qualified by the program that is phased out. Hence, the number of qualified teachers according to international standards, will initially not increase due to STEM Phase II. These two factors (lack of teacher policies and capacity of ECs) are likely to result in a considerable reduction of the number of qualified teachers in primary education, which may have to be compensated by increased enrolment of the shorter teacher education program (1-year Pre-service Primary Teacher Training (PPTT), or the Primary Teacher Education Correspondence Course, or PTECC)²⁷). At this moment it is difficult to say what the aggregate effects will be by 2022.

STEM Phase II contributed to improving Ministry officials' capacity to plan and implement future teacher policies, and has planned an extensive CPD program for principals and administrators at the Education Colleges as well. While initial plans have been made to also raise the capacity of education colleges to do more of the institutional planning themselves, this is a slow and gradual process, which is unlikely to bear its first fruits by 2022. Interviewees confirm that it is still a long way from seeing Education Colleges take their planning and management decisions in an autonomous manner.

Attention for inclusiveness across the various project components helped underline its importance and may have beneficial long-term effects for teacher education, and the Myanmar education system as a whole. On the short term, at least until 2022, policies, pre-service programs and EC management practices may refer to various concepts of inclusiveness (including gender, disabilities, ethnic, language), but have so far not directly resulted in major paradigm shifts at the system level. For many, such concepts of inclusiveness are likely to remain unfamiliar until a critical mass is reached. Then, these concepts can be sustainably integrated in the Myanmar system. While STEM Phase II is unlikely to reach such a critical mass by 2022, it does offer a crucial starting point by putting it on the agenda.

²⁷ A one year distance education course with one month EC-based lessons for degree holders. The number of in-service teachers taking this course reached several thousand per year in recent years due to the recruitment of a large number of 'daily wage teachers' (degree holders without credentials in teaching at the time of recruitment).

These findings are reflected in the survey among principals, teacher educators and student teachers. Student teachers and principals are quite positive about the likely national impacts, and see particularly high potential for a more inclusive education system (4.31 and 4.03 on average respectively). Teacher educators, who face most of the challenges in implementing the curriculum reform in practice are a bit more reserved, though are overall also positive.

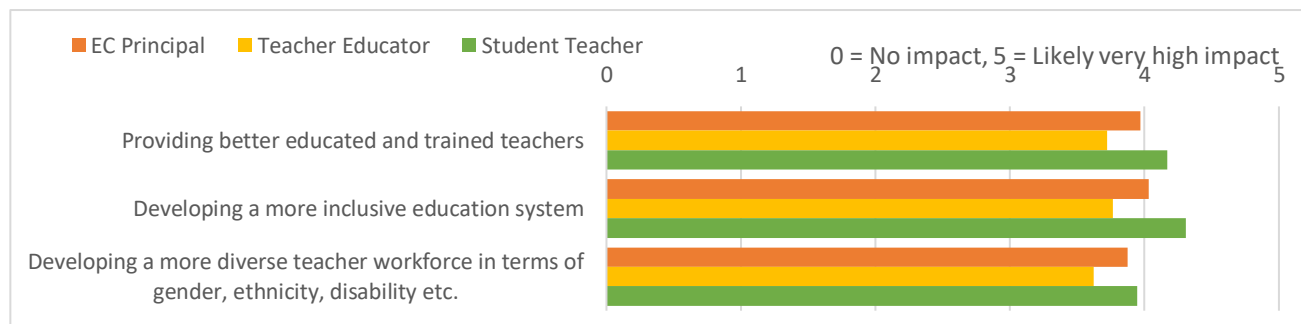


Figure 16 – Most likely impacts of STEM Phase II at national level – by principal, teacher educators, and student teacher.

Source: Survey for this evaluation, conducted among Principals (N=35), Teacher Educators (N=706), student teachers

3.4 Efficiency of Implementation and governance

3.4.1 Efficiency of the implementation

This evaluation echoes earlier reflections in the 2019 mid-term evaluation that “STEM’s current financial reporting is constrained by the cost categories available from UNESCO financial management system. Currently STEM costs are broken down either by ‘outcome’ (i.e. the four work streams) plus categories such as Program Management, M&E and equipment, or by a broader set of general categories. With this system STEM and its donors cannot assess specific cost categories within work stream areas. For example, this means costs spent directly on the CCT are not clearly distinguished from costs spent on the contracted curriculum development supplier.”²⁸ By August 2020, this situation has not improved and the STEM project team was unable to provide the evaluators with an overview of the initial budget allocation, planned and realized expenditure per cost category, outcome area and outputs. The following table provides an overview of what is known.

	Expenditure (including obligated) from January 2017 to 31 December 2019	Estimated budget from January 2020 to June 2020	Estimated budget from July 2020 to August 2020	Total	%
STEM Outcome 1: Comprehensive teacher policies informed by international human rights, gender equality, and rights of teachers are adopted, enabling implementation of an updated competency-based EC degree program	\$308,602.00	\$81,000.00	\$6,000.00	\$395,602.00	5%
STEM Outcome 2: ECs supply all States/Regions with high quality, specialized, primary and middle school teachers trained through an updated competency-based curriculum, in line with international norms and standards, that meets the varied demands of diverse learners in Myanmar	\$2,828,930.00	\$388,107.00	\$31,434.00	\$3,248,471.00	41%
STEM Outcome 3: Increased efficiency of human resource and financial management systems in ECs supporting the	\$170,352.00	\$68,865.00	\$1,135.00	\$240,352.00	3%

²⁸ Mid-term evaluation, p.55.

	Expenditure (including obligated) from January 2017 to 31 December 2019	Estimated budget from January 2020 to June 2020	Estimated budget from July 2020 to August 2020	Total	%
implementation of an updated competency-based degree program					
STEM Outcome 4: Increased awareness of issues of inclusion in teacher education creating an enabling environment for teacher education reform to be developed and implemented in line with international standards on rights of teachers, gender equality, human rights, and Education for peace and Sustainable Development	\$484,328.00	\$86,069.00	\$44,000.00	\$614,397.00	8%
Program Management	\$1,616,008.00	\$300,114.00		\$1,916,122.00	24%
Monitoring and Evaluation	\$262,704.00	\$61,707.00	\$50,649.00	\$375,060.00	5%
Equipment and maintenance	\$246,257.00	\$20,861.00		\$267,118.00	3%
Other expenses	\$69,859.00	\$53,898.00		\$123,757.00	2%
Program support costs	\$679,831.00	\$86,209.00		\$766,040.00	10%
Total	\$6,666,871.00	\$1,146,830.00	\$133,218.00	\$7,946,919.00	

Table 5: Expenditure STEM Phase II (data provided by UNESCO)

Given the donor support of EUR 3.25 million in total from the Government of Finland (2017-2020); USD 2.25 million in total from the Government of Australia (2018-2020); USD 1 million in total from the Government of the United Kingdom (2018-2020), the actual expenditure exceeded the total donor contribution of USD 7 million for Phase II. UNESCO provided own funding in the form of linkages with other (Regional and Global – CapED and EPSD) projects and initiatives (USD 750,000) and the MoE also provided additional budget (USD 130,000). The STEM Phase II absorbed all donor-provided funding by August 2020 (implementation rate is 100%). Additional information provided by UNESCO indicates that in total USD 418,000 of donor funding is spend on workshops and trainings; and USD 943,000 on external consultants (between 2017 and June 2020).

The most cost-intensive costs categories are by far STEM Phase II Outcome area 2 (41%) and program management (24%). Outcome 3 only reflects 3% of the expenditure. This shows the rather skewed implementation of STEM Phase II and questions the internal logic of the project to work extensively on all outcome areas to reach sustainable results and long-term impact.

Cost-inefficiencies were reported by interviewees relates to the work in outcome area 2, dealing with contracting national authors for drafting the Year 2 textbooks in some subject areas which required extensive redrafting by UNESCO and difficulties in finding good translators with both strong technical language in education terminologies resulted in more time and effort from the UNESCO team for quality assurance.

While UNESCO positively reports on the cost-effectiveness and reports on a reasonable implementation rate²⁹, the evaluation finds that when relating the inputs with the outputs and envisaged outcomes as presented in the progress reports, the cost-effectiveness is more negative. In terms of output indicators, by July 2020 only 62% was achieved and when looking at outcomes, only 8% was achieved and nearly half (46%) was not achieved (see Section 3.2.1). This more negative assessment refers more to how the actual implementation relates to the project design, rather than a judgement about what is actually done within STEM Phase II. The whole set of key achievements (such as the CCT; TTF; TCSF; TCSF validation study; Year 1 and Year 2 curriculum and textbooks; orientation workshops for all TEs; annual ICT-training; sensitization workshops on inclusiveness; involvement in Regional project on girls education) seems reasonable against the presented costs.

²⁹ SISTER Reporting Jan - June 2020 (STEM- UNESCO Project Office in Myanmar).

3.4.2 Effectiveness governance framework and coordination mechanisms

The coordination between UNESCO, MoE and the donors is assessed as being conducive to the results of STEM Phase II. There is regular communication between UNESCO, donors and the MoE and a Steering Committee meeting is organized on a regular basis. The MoE is positioned as the decision-taker and co-organizes every STEM Phase II activity.

3.4.3 Mobilization of time and resources of the MoE, UNESCO, donors and others

Through the effective governance and coordination mechanism, STEM Phase II is able to mobilize time and resources of MoE, UNESCO and the donors. Through the ownership developed within the MoE, there is a willingness to contribute more to the next years of the new degree program development compared to what MoE has financially contributed for Year 1. Also, UNESCO has been able to link STEM Phase II closely to the CapED project (on policy development); to the HNA Regional project (on gender); and UNESCO-internal expertise (such as IIEP simulation modelling; Education for Peace and Sustainable Development; HIV/AIDS). Moreover, donors provided additional resources to support the project. DFAT for instance support the technical assistance in the development of the VfM framework and DFID made available its TREE-project work infrastructure in the ECs for support to STEM Phase II activities.

A critical aspect in the cooperation among stakeholders is the capacity at the MoE to increase its role in STEM Phase II; both in terms of human resources to act more quickly and pro-actively in implementing of STEM Phase II activities and in terms of inter-departmental coordination and alignment; for instance when it comes to aligning the Teacher Education Reform with the Basic Education reform and clarifying the role of the ECs in providing CPD for in-service teachers. However, while being stated already in the mid-term evaluation, this aspect has not yet received the desired follow-up.

3.4.4 Alignment with work of other national, regional and international actors

The reforms in the basic education and teacher education systems in Myanmar are supported by a number of key actors and projects, as briefly presented in the box below.

CREATE Project³⁰ (The Project for Curriculum Reform at Primary Level of Basic Education in Myanmar) was launched in 2014 for developing new primary education textbooks, developing Teacher's Guide, changing assessment, and introducing new primary education to in-service and pre-service teachers. CREATE Project is jointly organized by Ministry of Education in Myanmar and **Japan International Cooperation Agency (JICA)**.

The **Equipping Youth for Employment Project (EYE)**³¹ project provides cohesive support to secondary education subsector (SES) and technical and vocational education and training (TVET) reforms. The project amongst others, aims at developing and delivering a new SES curriculum. The project is supported by the **ADB** (In partnership with Australia) from 2017 to 2023.

The **TREE - Towards Results in Education and English**³² has three intended outcomes: increased competence in Education College (EC) principals and teacher educators (TEs) in implementing teacher education reforms; improved learning outcomes for student teachers (STs), particularly in English Language Teaching (ELT); and a stronger, more effective and more inclusive education system to support teacher education reforms. TREE is managed and implemented by a consortium of partners, led by the **British Council with Voluntary Services Overseas (VSO), Montrose and**

³⁰ <https://createmm.org/en>

³¹ <https://www.adb.org/projects/48431-003/main>

³² <https://www.britishcouncil.org.mm/tree/about>

the Open University UK. The project started in 2019 and has appointed inclusion and English facilitators in each of the 25 ECs (total 50).

Myanmar Education Quality Improvement Program (My-EQIP)³³ aims to improve education policy, planning, budgeting and management by building an effective EQIS that MoE has the capacity to maintain and use. The project is funded by **DFAT** and runs from 2017 to 2021.

Through the **Inclusive and quality basic education programme**³⁴, **UNICEF** supports the capacity development of head teachers and other education officers to plan, manage, and evaluate education activities through CPD.

The **Myanmar Education Consortium (MEC)**³⁵ help strengthen monastic and ethnic education systems, including in the areas of information management, quality assurance, monitoring and evaluation.

Recently, the **World Bank** supported a new USD 100 million project to improve education quality and access across country (**Inclusive Access and Quality Education (IAQE)**)³⁶.

STEM Phase II is well embedded and aligned with all these key actors and projects. UNESCO is leading the teacher education key development partner meeting and facilitates the close engagement of all development partners when working on similar topics. Synergies are established in the implementation, for instance in jointly organizing a series of policy forums (UNESCO and UNICEF) or ensuring that STEM Phase II and TREE together strengthen inclusivity in ECs. Furthermore, synergies are sought around the work on teacher competences: while UNESCO supports the pre-service competence development; UNICEF supports the in-service teacher competence development; both contribute to applying learner-centred and inclusive approaches in education (in line with the TCSF and the Basic Education Law (2019)). The My-EQIP team was co-supporting the TCSF validation study.

UNESCO actively engaged in-country stakeholders such as the Myanmar Education Consortium (MEC), Mon National Education Committee (MNEC) and Myanmar Special Education Association (MSEA) to contribute to the STEM Phase II activities; but also to align their activities to the outcomes of STEM Phase II (such as the TCSF, and the new curriculum).

3.4.5 Communication of results, good practices, lessons learned and challenges

The progress and results of STEM Phase II are regularly communicated with the **key stakeholders**. The annual progress reports also discuss the challenges and lessons learned. Furthermore, within the description of progress, examples of good practices are shared. Furthermore, for many STEM Phase II activities, satisfaction surveys are organized and the results of these surveys are presented in small reports and acted upon in future activities.

As expressed by interviewees, as a project STEM Phase II is not widely and/or fully known by Principals and TEs. In addition, UNESCO is not always recognized as contributing to some of the STEM Phase II activities (for instance the establishment of the Teacher Education Council). On the contrary, the activities which STEM Phase II supports are well-known, and most notably the development of the new degree program. The 2019 orientation training for TEs made UNESCO's work better known to the target audience. This lack of awareness among TEs and a wider audience is also

³³ See DFAT (2017), MYANMAR EDUCATION QUALITY IMPROVEMENT PROGRAM –DRAFT DESIGN -3 FEBRUARY 2017

³⁴ <https://www.unicef.org/myanmar/education/inclusive-and-quality-basic-education>

³⁵ MEC is a multi-donor fund to strengthen monastic and ethnic education systems. Australia, with the United Kingdom and Denmark fund MEC.

³⁶ <https://www.worldbank.org/en/news/press-release/2020/03/03/myanmar-new-project-aims-to-improve-education-quality-and-access-across-country>

subject to a communication workplan 2020 which includes the development and distribution of animation videos about the teacher education reform for wider use.

3.5 Sustainability

3.5.1 Sustainability of benefits and impact

The revised content of the teacher education curriculum can be seen as the main benefit of STEM Phase II. This outcome is sustainable; so far, the Ministry has implemented the first year of the curriculum and essentially moved past the point of no return. The first cohort of teacher students already started their studies in the new curriculum. This fact will prove to be a motivating factor for the ECs and the MoE to keep developing the content and train the EC staff on the remaining years of the new teacher curriculum until 2022.

The TCSF (for beginning teachers) is in place and provides the broader framework of requirements on teacher quality. Its approval is a relevant accomplishment, which can have a sustainable impact on the landscape of teacher policies in Myanmar. It provides the structure against which future teacher policies and CPD programs can be developed and helps developing a common direction of travel. However, at the moment, the TCSF and teacher curriculum are out of sync with the national teacher policies that are currently in place. As long as such discrepancies persist, this threatens the sustainability of the project results.

The capacity building at EC management is designed as another element that can cement the sustainability of the project's other result areas. It can help create the conditions for teacher educators to apply their newly acquired competences in a sustainable way and provide the structure to help sustainably improve the output capacity at education colleges. While the CPD framework within which such capacity development has been approved and put in place, the actual trainings of EC principals and administrators still needs to take place. As a result, the sustainability of the other capacity development activities can be expected to increase substantially after the conclusion of Phase III. The training of Ministry staff in the use of planning models for policy development and monitoring of education colleges is an important contribution to the quality of policymaking. Its potential would also be made more sustainable once EC themselves are trained and are able to meaningfully voice their concerns in the process of resource allocation.

The sustainability of the measures related to inclusiveness is not fully assured. As already identified the main contribution of STEM Phase II towards inclusiveness has been putting the issue on the agenda. This has been an important contribution towards inclusive teacher education, but will not continue by itself. The issue requires continued attention and advocacy, from international organizations like UNESCO and donors alike, until it is fully integrated in teacher education. Only after becoming a home-grown concept as well as an engrained teaching practice, it will ultimately affect education practices at the school level.

3.5.2 Organizational, social and financial structures supporting sustainability of results

The sustainability of outcomes is impacted by the organizational, social and financial structures put in place. This section discusses the presence of each type in more detail below.

Organizational structures

STEM Phase II developed a number of key organizational structures that support the sustainability of the project's outcomes. First of all, the establishment of the national Teacher Task Force, as precursor to a future Teacher Education Council is an important structure through which national teacher policies will be developed and aligned to the already developed teacher curriculum. Similarly, the establishment of the Curriculum Core Team ensures structural input from practitioners in the development of the

teacher curriculum. It consists of representatives of all ECs and will also be a central player in the near future when the remaining years of the teacher curriculum will be finalized.

The major source of sustainability of capacity development projects like STEM Phase II rests on the mobilization and involvement of the competent Ministry. Positive for the sustainability for results is the fact that the project is fully integrated in existing policy frameworks, which also guide the work of the Ministry. While all the work in the project has been done in close alignment with these policy frameworks and the Ministry, the evaluation notes that much of the actual development of the curriculum has been coordinated by UNESCO. The involvement of the CCT in the various development stages, including its planned involvement for the coming years, are an important condition to increase the likelihood of sustainable results. However, with the weight of the coordination and implementation of the curriculum development activities on UNESCO's side, the project has not visibly increased the Ministry's capacity to take on such a major task in the future by itself. This does not limit the project's potential to meet its pre-defined objectives, nor to produce results that are relevant to the Myanmar teacher education system. However, it does affect the sustainability of the results, as it does not result in increased experience in the Ministry to update the revised curriculum in the future, should in the future additional needs or desires become relevant.

Social structures

STEM Phase II has made a very preliminary attempt to make a sustainable contribution to inclusiveness in education by putting the issue on the agenda. The current results of these efforts, however, cannot yet qualify as lasting change to the existing social structure affecting issues of inclusiveness in education. The efforts to introduce concepts such as gender inclusiveness, inclusiveness of people with disabilities and of different ethnicities and languages have taken place but continue to be seen as 'foreign concepts'. As much as these are not translated into Myanmar language, they are also not integrated in existing social structures.

STEM Phase II introduces other broad changes to the national education system and the curriculum for teachers. It imports the application of 'learner-centred approaches' into Myanmar teacher curriculum, and seeks to structure this curriculum on the basis of competency-based learning. These two concepts are radically different from the existing methods of teaching and learning, which continue to be teacher-centred and focus predominantly on rote-learning. The introduction of the new Basic Education Law in 2019 further addresses this, which is already underlined in the NESP, but it takes time before such revisions have a lasting impact on education. Such a fundamental departure from existing practices cannot be put in practice in a single year, nor can such a change be expected within a few years. It requires all involved stakeholders to increase their awareness of prior implicit teaching habits, their understanding of what should be changed, and finally actually adjustments to practice. The introduction of the new curriculum and the CPD sessions for teacher educators are an important first step. However, building an understanding of the required changes and acting on these will depend on teacher educators themselves. The same is also true for student teachers, who enter the revised teacher education programs with experience of education that was not learner-centred, nor competency-based. Interviews with teacher educators confirm that student teachers faced initial difficulties when starting in the new curriculum, which introduced innovations such as flipped classrooms, and require considerable preparation by students in advance. This constitutes a major shift from known methods, and it will take time for involved actors to get used to.

Financial structures

STEM Phase II supported the development of the TCSF, which provides a framework for future activities towards the development of teacher competence in Myanmar linked to a mapping of costs. A similar role is also played by the recently approved CPD framework. This framework is tightly aligned to the TCSF and presents the next steps and needs in terms of capacity building of administrators and principals in the Education Colleges, as well as the broader development needs of teacher educators. Both structures help to guide future (donor) activities in the area and help ensuring

that such continued interventions are strategically aligned to the work and results of STEM Phase II. This is first of all true for the continuation of activities under the heading of STEM Phase III, but is also applicable more generally for future national policy initiatives.

3.5.3 Measures to strengthen capacity at the individual and organizational level

STEM Phase II focused on mobilizing the right people in the right places to ensure increasing the chances of reaching sustainable results. By bringing together an active group of enthusiastic practitioners in the CCT, the project was able to ensure a continued momentum in the EC for the rollout of the curriculum. The same is true for the involvement of teacher educators in the TCSF, which is considered by practitioners as the clear next steps in the development of the teaching profession in Myanmar. To continue this momentum created by STEM Phase II, there are a number of factors that should receive further attention. These are discussed here below.

- A critical issue is that the **teacher education system is understaffed**. This is a reality in the MoE and in the ECs and leads to challenges in maintaining momentum; following-up policy developments; engagement of TEs and EC Principals and administrative staff in trainings; peer-support and further rolling out the reforms while at the same time delivering increasing numbers of better qualified student teacher graduates. For reaching impact and sustainability, **these staffing issues within the MoE and ECs need to be solved, especially ensuring staffing for ICT TEs**.
- Another critical issue is that the **skills levels in the ECs need improvement** to 1) deliver the new curriculum in line with the envisaged quality; and 2) to further develop the ECs towards higher education institutions. The TEs are currently engaged in the delivery of the new curriculum with mostly a short training as preparation, not receiving a full overview of the whole four-year curriculum; they need to receive subject-specific training or more support in conducting formative and summative assessments in line with the new curriculum. This while the new curriculum is based on some changes that require a change in mind-set and behaviour to really be delivered in line with the stated learning outcomes. While it is expected that the TEs will learn a lot by doing (thrown into the deep), their skills, competences and confidence need to be further stimulated by a **comprehensive training and CPD offer, focusing on all aspects of the delivery of the new curriculum (preparation, learning methods, assessment, student support, use of ICT, inclusiveness, etc.)**. To develop into more autonomous institutions, the leadership and administrative capacities of ECs need improvement as well, supported by a comprehensive training and CPD offer.
- An important aspect for the delivery of the new curriculum is the **current identified lack of learning resources and materials**. This relates to the lack of support materials (flipcharts for instance to facilitate group work); insufficient or lacking ICT infrastructure (connectivity, projectors, laptops; and the limited functionality of the e-Library (no online learning platform). For continuing delivery of the new curriculum more financial resources are needed at the EC level to **provide these learning resources and the ICT capacities will have to be improved, including the functionality of the e-Library**.

4 Progress against recommendations contained in the mid-term evaluation report

The mid-term review resulted in 20 recommendations. The STEM team **accepted** all but three., that were partly accepted:

- ▶ Recommendation 2c. STEM supports MoE to co-ordinate each EC's creation and delivery of an action plan covering the next six months of preparation for the new program. This was not deemed necessary by UNESCO as an action plan was developed at the level of the DHE, indicating what was needed at EC level. In 2020, it can be concluded that this is another indication that more emphasis is needed to capacitate ECs to become more autonomous higher education institutions before they can be asked to develop their own detailed (action) plans.
- ▶ Recommendation 3. Strengthen STEM's senior-level engagement, for example with the appointment of a senior education adviser. This was considered relevant by UNESCO. For STEM Phase III UNESCO aims to recruit a senior national project officer and base this person in Nay Pyi Taw to enable closer cooperation with the MoE. See below for more details.
- ▶ Recommendation on disability c. Provide pathways & learning opportunities for educators wishing to specialize in SEN. This recommendation is only partially accepted by UNESCO as it could create a separate system for SEN, which is not desirable. It is suggested to develop a post-graduate certificate that comes with corresponding career incentives.

Of the 20 recommendations, half are acted upon and completed. For some recommendations, actions are taken, but still more needs to be done to completely follow-up on the recommendations. These include:

- ▶ Recommendation 3. Strengthen STEM's senior-level engagement, for example with the appointment of a senior education adviser: action to be taken for STEM Phase III.
- ▶ Recommendation 7. Identify STEM's intended changes (outcomes), reflect these in results matrix (with an appropriate measurement plan). Develop an operational Monitoring, Evaluation and Learning (MEL) plan: This needs to be completed in the preparation of STEM Phase III.
- ▶ Recommendation 8. Define and agree on Value for Money indicators: This needs to be finalized in the preparation of STEM Phase III.
- ▶ Recommendation on disability a. STEM to support inclusion of explicit mention of disability inclusion in the TCSF. While SEN is mentioned in the TCSF, dealing with disability is not specifically addressed.
- ▶ Recommendation on disability b. Develop Special Education Needs/disability awareness training for EC management: While this is included in the CPD framework, developing this support is more tasked to TREE.
- ▶ Recommendation on disability c. Provide pathways & learning opportunities for educators wishing to specialize in SEN: as indicated previously, a specific CPD course is envisaged, not a specialization track.
- ▶ Recommendation Gender: Expand and coordinate gender mainstreaming. Gender sensitive approaches are included in the curriculum development and included in the TE guides. In Year 1 and 2, there is attention to gender equity, sexual reproduction education (in life skills Year 2) and also LGBT is very briefly discussed in the Year 2 curriculum. Furthermore, capacity building took place to the gender working group, the Ministry and TEs to increase understanding of gender stereotyping. It will however take time to change mind-sets. For this purpose, a module is foreseen to be developed in the context of the CPD framework.

- ▶ **Recommendation on Communications:** Create a coordinated communication strategy between CCT and ECs to influence transfer of knowledge and attitudes: While action is taken on this, still concerns are raised during interviews with TE, that non CCT lack information and support by CCT members. Not all ECs have CCTs that cover all subjects, and accordingly, it is not possible to support or share/sort out the TEs' problems and difficulties facing in different subjects.

During the interviews carried out in the context of the final project evaluation, for some of the recommendations the relevance and need was questioned. This concerned for instance the need to have a senior-level education advisor to support UNESCO. Interviews indicated that UNESCO is already well connected with MoE and other stakeholders and that there is no need for an additional senior-level engagement. What could on the other hand help is a closer involvement and support from UNESCO's Regional Office or even UNESCO HQ and the International Taskforce on Teachers in providing leverage in policy developments. Furthermore, the emphasis on disability (four sub-recommendations) being more than on ethno-linguistic diversity (2 recommendations) and gender equity (1 recommendation) seems a bit overstated and not recognizing the more fundamental and systematic equity issues related to ethno-linguistic diversity and gender equity in the Myanmar education system.

All in all, the STEM team managed to reflect and work on most of the mid-term review recommendations or promised to take it on board in the preparation for Phase III. The response is weaker on the recommendations related to inclusion, hinting to the underlying concern that inclusion might need a much more intensive intervention to get fully embedded in the Myanmar education system.

5 Conclusions and Recommendations

5.1 Conclusions

On the basis of the evaluation findings, the following conclusions are drawn:

1. STEM Phase II is highly relevant in the national and international context, as it works on aspects of the TE system that are pertinent for the end-beneficiaries (ECs, TE, ST and students). STEM Phase II has been designed to deliver the NESP ambitious objectives in the field of teacher education and is therefore neatly aligned with the national policy documents such as the NESP. It addresses the main challenges in the teacher education system, by working on teacher policies, curriculum development, TE CPD, EC management and administration and inclusive education. Furthermore, it is closely linked to other education reforms initiated by the NESP, such as the 2016 curriculum reforms in basic education. Finally, STEM Phase II corresponds to international developments in teacher policies and teacher education systems and aligns with SDG 4 ensuring “inclusive and equitable quality education and promote lifelong learning opportunities for all”.

2. STEM Phase II is well-composed as a holistic Teacher Education reform, aiming to support the MoE to improve quality of primary and middle school teachers in Myanmar by capacitating national and institutional stakeholders to improve the policies, management of institutions, teacher education curriculum and its roll-out, with particular attention to inclusiveness. In order to make changes to the TE system, the whole system needs to change. STEM Phase II applied this reasoning, supporting an ambitious reform agenda working on multiple, interconnected outcome areas, each of them contributing to reaching results in other outcome areas.

3. STEM Phase II facilitated major changes in the Teacher Education system and has been effective to a moderate extent in terms of reaching its envisaged outputs and outcomes by 2020, and its projected outcomes for 2022. The evaluation acknowledges that STEM Phase II can be credited for the development of the new four-year degree program; the capacity building of CCTs; and the development of the TCSF. These are major achievements that have the potential to carry further teacher education policy reform. At the same time, STEM Phase II (partially) achieved more than 90% of the envisaged outputs and (partially) achieved more than half of its expected outcomes by August 2020. For one third of these expected outcomes, it seems unlikely that these will be reached by 2022.

4. The activities supported by STEM Phase II are well-designed, relevant and, responsive to beneficiary needs, but the duration of Phase II is too short to result in sustainably changing beneficiaries’ mindsets. The UNESCO support is highly appreciated and highly valued by all stakeholders, and UNESCO is applauded for its pro-active support; responding to emerging needs; cooperation with stakeholders; and ability to solve emerging implementation problems. However, stakeholders are more critical about the capacity building activities (workshops, seminars, online meetings). The main concern is the need of a more intensive capacity building approach to contribute changing mind-sets and support the full implementation of the envisaged reforms in teacher education, even involving the ‘deconstruction’ of existing knowledge, mind-sets and behaviours before ‘constructing’ new knowledge, mind-sets and behaviour.

5. STEM Phase II was confronted with a number of implementation challenges impacting the effectiveness in all Outcome areas such as inadequate prior understanding on key concepts used in STEM Phase II among key stakeholders; the very short timeline for developing the new curriculum and preparing the TEs in delivering it; understaffing of the whole Teacher Education system; and the COVID-19 pandemic. As identified during interviews with UNESCO, national stakeholders, donors and EC stakeholders, the following implementation challenges are identified, causing negative effects on the implementation of STEM Phase II:

- The prior understanding on key concepts used in STEM Phase II and the teacher education reform (competency-based curriculum; learner-centred approaches; inclusiveness; etc.) was underdeveloped in the ECs and MoE. As a result, STEM Phase II had to engage more in lengthy awareness raising and capacity building activities across actors and levels; also, because of this UNESCO had to take up a larger role in the curriculum development.
- The very short timeline for developing the new curriculum and preparing the TEs has implied problems with the curriculum and textbooks (translation issues, overburdening of student teachers), with ill-informed and unprepared TEs to deliver the new curriculum in a quality manner. Related, an inadequate longer-term training for TEs caused an insufficient buy-in from mainly older TEs in delivering the new curriculum.
- The Teacher Education system as a whole (MoE, DHE and ECs) is understaffed, so that the key persons for STEM Phase II cannot contribute as required and desired to reach the STEM Phase II results.
- National and international experts had insufficient specific expertise on how to include inclusiveness aspects in the curriculum, causing extensive revisions and pressure on timeframes.
- Insufficient ICT facilities have hindered the delivery of the new curriculum in classroom; lesson preparation by TEs and preparation by Student Teachers, causing demotivated (older) TEs and STs to be less prepared.
- The Global COVID-19 pandemic and associated lockdown discontinued the face-to-face delivery of the Year 1, semester 2 curriculum.

6. STEM Phase II had a system for monitoring and evaluation that was insufficiently tailored to fully assess how project inputs contribute towards the project's overall objectives. As already indicated in the Mid-term evaluation, the STEM results matrix does not describe the activity level or how activities contribute to reaching the outputs and outcomes. The M&E system lacks indicators that are able to measure change at EC level, especially concerning inclusive education-related aspects. Furthermore, from the monitoring information, it is not clear how the financial implementation is progressing; how the realized expenditure compares to the planned expenditure; and to what extent budgets have shifted between outcome areas. The reason for this lack of transparency partly lies in how the different donors would like to see the reporting, but still a more structured approach could have been implemented to provide oversight on planned and realized expenditures. Nonetheless, evaluative approaches are generally implemented to gather reflections on STEM Phase II supported activities such as the capacity building activities; on the developed teaching and learning materials (new curriculum); and on the TCSF (beginning teachers).

7. STEM Phase II and overall reform impact all ECs and all TEs who have started working with the new curriculum. However, it is still early days to discern the sustainable changes of behaviour and mindset regarding inclusive education and the use of ICT in teaching and learning (as well as for management and administration). At EC level, the TE reform supported by STEM Phase II contributed to more collaboration between TEs; more use of ICT in teaching and learning and in management and administration; and increased planning capacities. The impact on improved quality EC management and administration and inclusive education is however rudimentary and requires additional efforts. On a final beneficiary level, it is evident that STEM Phase II, mainly through the 'shock therapy' of introducing a new curriculum, is changing the mind set of teacher educators, EC management and administration and student teachers. These changes are promising and all-encompassing for some younger generations, but only limited for many older staff members, who will need to build confidence in delivering the new curriculum.

8. STEM Phase II can showcase main achievements, but will not instantly lead to visible national impact on delivering academically qualified teachers according to international standards. This

impact is not foreseen in the next years, as the policies that support reaching this impact are not yet in place; the first student teachers will only graduate in 2023; and the introduction of the four-year degree program will initially lead to a reduction of academically qualified teachers according to international standards. The most important long-term contribution of STEM Phase II to the education system is the revised content of the teacher education curriculum. This is the project's main achievement, which is likely to result in positive effects on the quality of teacher graduates by 2023 (the first year when graduates from the new degree program will start working in the schools). At the same time, it is insufficiently accompanied by supporting policies and the required level of institutional change at the ECs and the MoE to lead to changes at the system level. As it stands, the project in fact risks contributing to an even greater shortage of primary school teachers. In terms of the capacity to deliver the required number of quality teachers to solve the teacher shortage, the impact of STEM Phase II might be negative in the first years. With the change from a two-year to a four-year degree program, for two years no students will graduate from the ECs. In addition, EC and hostel capacities in the EC limit the intake of students as the student teachers occupy the facilities for four instead of two years. This means that also the number of new teachers, being qualified by the new degree program, will be less than is currently qualified by the program that is phased out. Hence, the number of qualified teachers according to international standards, will initially not increase due to STEM Phase II.

9. STEM Phase II's cost-effectiveness is difficult to assess due to a lack of financial implementation information but when comparing finances with planned results (results matrix), STEM Phase II is considered to be moderately cost-effective as by August 2020 60% of the outputs is fully achieved; 35% is partially achieved; and 5% is not achieved. When compared to what is achieved (e.g. new curriculum, TCSF etc.), the costs seem reasonable, hinting to the finding that the project might have been overambitious at the start. The actual expenditure exceeded the total donor contribution of USD 7 million for STEM Phase II. UNESCO provided own funding in the form of linkages with other (Regional) projects and initiatives (USD 750,000) and the MoE also provided additional budget (USD 130,000). Cost-inefficiencies were reported by interviewees relates to the work in Outcome areas 2, dealing with contracting international experts for drafting the textbooks; low-quality translation of the materials; and excessive re-drafting processes of the materials before finalization. The assessment of moderate cost-effectiveness refers more to how the actual implementation relates to the project design than a judgement about what is actually done within STEM Phase II. The whole set of key achievements seems reasonable against the presented costs.

10. STEM Phase II is well managed by UNESCO and the MoE and is able to mobilize resources (financial, human resources, infrastructure) of UNESCO, MoE, donors, developing partners and other stakeholders. The project is solidly built upon ownership by the MoE, and the governance arrangements reflect this. Furthermore, through the steering committee, the donors are highly engaged and supportive to the project implementation. UNESCO was able to mobilize UNESCO expertise and link STEM to a relevant regional project. Also, UNESCO and the MoE are able to align their activities those of other developing partners. These activities are also relatively aligned to activities of national stakeholders, such as the Myanmar Education Consortium (MEC), Mon National Education Committee (MNEC) and Myanmar Special Education Association (MSEA).

11. STEM Phase II is yet unable to fully assure impact and sustainability of its results, mainly as a result of uneven achievement levels per Outcome area. Factors that hinder assuring impact and sustainability concern 1) understaffing TE system; 2) general skills levels in ECs; 3) insufficient ICT accessibility; and 4) lack of a comprehensive teacher policy. A key factor in the line of reasoning behind STEM Phase II is that the project's change process is both associated with reaching the main milestones (such as the development and production of EC curricula), but also improving the capacities within the teacher education system to have a continued quality improvement potential within the system. The learning provided by STEM Phase II does not only provide learning for the sake of learning, or for immediately delivering a specific output (i.e. a curriculum), but it should

contribute to change in people's and organizations' behaviour and actions. Together, STEM Phase II reaches its impact. STEM Phase II concentrated most of its implementation attention to curriculum development, while was originally anticipated to become a comprehensive system reform. The project achieved insufficient results in important supporting activities in other outcome areas, such as capacity building of MoE for policy development, the training of TE and EC management and the integration of inclusiveness. The following factors pose a risk towards sustainability:

- The teacher education system is understaffed. To achieve sufficient impact and sustainability, staffing issues within the MoE and ECs need to be solved, especially ensuring staffing for ICT TEs.
- The skills levels in the ECs need improvement to 1) deliver the new curriculum in line with the envisaged quality; and 2) to further develop the ECs towards higher education institutions. While it is expected that the TEs will learn a lot by doing (thrown into the deep); their skills, competences and confidence need to be further stimulated by a comprehensive training and CPD offer, focusing on all aspects of the delivery of the new curriculum (preparation, learning methods, assessment, student support, use of ICT, inclusiveness, etc.). For developing into more autonomous institutions, the leadership and administrative capacities of ECs need improvement as well, supported by a comprehensive training and CPD offer.
- There is insufficient ICT infrastructure, accessibility to (online) learning resources and materials. For continuing delivery of the new curriculum, more financial resources are needed at the EC level to improve the ICT capacities and to improve access to learning resources (online and, in hard-copy and prints).
- There is a lack of a comprehensive teacher policy that supports the roll-out of the TCSF, the new curriculum and the CPD frameworks, especially taking into account inclusive education and equity issues. Hence, to reach the impact of more and better trained teachers, taking into account inclusiveness issues, comprehensive teacher policies need to be put in place quickly, demanding clear vision and direction from the MoE.

The progress made with regard the teacher policy and capacity building in ECs is not sufficient to support the impact and sustainability at the moment and these aspects need to be taken on board in designing the STEM Phase III project.

12. STEM Phase II generally responded adequately to the policy recommendations of the mid-term evaluation while some of the recommendations related to inclusion were not considered particularly helpful. The UNESCO team accepted to work on practically all recommendations received. Only three of the 20 recommendations were accepted with some reservations. Currently, additional efforts are required for nine recommendations to complete the work. The majority of these will be taken up in the design of STEM Phase III.

13. STEM Phase II responded adequately to the challenges posed by the COVID-19 pandemic. While the COVID-19 pandemic caused a major challenge in the roll-out of the new curriculum, the delivery of the second semester, and all other activities of STEM, it also showed that the infrastructure and ICT proficiency, within its limitations, enabled a broad continuation of activities. The Teacher Education sector should gain confidence from this experience and further develop towards online and blended learning modalities.

5.2 Recommendations

The following recommendations are provided to the **UNESCO STEM team** for the design and implementation of STEM Phase III, in light of the COVID-19 context affecting timelines and delivery modes. These actions however also require the full engagement, involvement, commitment and ownership of the **national stakeholders**. The final set of recommendations is specifically addressing the national stakeholders to put in place the conditions to fulfil their role in enabling the designing, governing and implementing the STEM Phase III.

5.2.1 Recommendations related to policy development

As concluded (conclusion 2, 3, 11), continued attention to reforms is needed for the project's results to reach impact and sustainability. The following recommendations are proposed on the basis of the evaluation findings:

- A. Establish, on the basis of the TTF, a Teacher Education Council that consists of government representatives and representatives from Education Colleges, universities, schools and teachers. This Teacher Education Council should have the mandate to prepare policies.**
- B. Develop and implement a teacher promotion policy that encourages Student Teachers to select the primary school specialization track in the third year of the new four-year teacher education degree program. Besides the teacher promotion policy, create momentum to develop a comprehensive teacher policy, in line with the approved TCSF, that covers all aspects for quality teacher education and quality teaching and learning.**

Action point for MoE: Lead on these recommendations and ensure political will; enhanced implementation capacity within MoE and ensure smooth inter-ministerial collaboration concerning financial consequences of policy implementation.

Action point for UNESCO: Provide technical assistance upon request from the MoE and support creating momentum, for instance by suggesting (international) experts; mobilize UNESCO expertise; or supporting seminars.

Action point for donors: Support advocacy efforts on policy issues as members of STEM Steering Committee, facilitate exposure and learning opportunities with donor countries.

5.2.2 Recommendations related to capacity building of TEs

As concluded (conclusion 4, 5, 7, 11), a key challenge in STEM Phase II was the training of all TE in delivering the new degree program and fully apply the principles and methods of the program. In STEM Phase III, increased efforts are needed to capacitate the TEs. The following recommendations are proposed on the basis of the evaluation findings:

- C. Operationalize and practically implement the CPD framework for teacher educators, and ensure it addresses costing, timing and planning of concrete (training) activities. Within this CPD policy, linked to the TCSF, all teachers should have the possibility to be fully trained in delivering the new curriculum. This would imply more in-depth and extensive courses on ICT in education; inclusive education; summative and formative assessment practice in new curriculum; and support to Student Teachers.**
 - a. Linked to the above, involve and capacitate national level stakeholders in the delivery of CPD training to TEs, such as CCT members, staff from Universities of Education and other experts (for instance the Myanmar Special Education Association, MSEA, to train all TEs how to deal at a basic level with inclusion of student teachers with

- disabilities; and Department of Rehabilitation, Ministry of Social Welfare, Relief & Resettlement).
- b. CCT members' knowledge could be capitalized for this purpose as well. To ensure CCT members' involvement in CPD and curriculum activities it is suggested to continue to provide specific activities that help motivate individual CCT members to remain involved.
- c. Linked to the above, CPD training should be provided to TE on inclusive education and ICT teaching and learning on a regular basis, including standardized ICT training to TE. This CPD course could be provided in an online modality. Particular attention needs to be paid to securing the buy-in of senior teacher educators.
- D. Establish (online) teacher educator communities, by EC, and by subject-area, and define the roles and responsibilities of CCT in these communities for communicating with the other TEs and informing about discussions and developments relevant to that community.**

Action point for MoE: Lead on these recommendations in rolling out the development of the specific courses and modules of the CPD framework and organize the implementation, involving national stakeholders.

Action point for UNESCO: Provide technical support in further capacitating national stakeholders to develop and deliver the CPD modules.

Action point for donors: None.

5.2.3 Recommendations related to the development and roll-out of the new four-year degree program

As concluded (conclusion 5, 7, 8, 9, 11), the development and roll-out of the first year of the new curriculum faced challenges and consumed more efforts from UNESCO as envisaged. The following recommendations are proposed on the basis of the evaluation findings:

- E. MoE further expands its leading position for the development of syllabi, textbooks and teaching and learning materials for the remaining years of the new degree program; this includes as well expanding on administrative leadership.**
- F. Ensure a progressive involvement of CCT members in the development of the remaining years and decrease the role of national and international experts in order to capitalize on developed skills of CCT members and to further build the skills related to developing/renewing curricula.**
- G. Ensure careful review of the teaching and learning materials in Myanmar before distributing them to avoid language mistakes and use of terminologies that are difficult to understand.**
- H. Evaluate the roll-out of the Year 1 semester 1 (and possible 2) to understand how the curriculum is being implemented and find out the gaps and opportunities to come up with better approaches (revision of the curriculum, if necessary; providing additional CPD trainings; strengthening EC capacity, etc.). This will require more in-depth interactions with beneficiaries at the EC to verify the workload for TE and ST and the challenges they face in teaching and learning in the new degree program.**
- I. Reconsider whether the PPTT in its current (revamped) form is a good solution for solving the shortage of qualified teachers in the coming years: further align PPTT with insights and quality standards developed in the new pre-service teacher education curriculum.**

Action point for MoE: Lead on the development of the new degree program and involve in it more and more national experts. Review the PPTT against the quality standards of the four-year degree program.

Action point for UNESCO: Provide technical assistance through mobilizing expertise (within UNESCO and internationally) and support the evaluation of the roll-out of Year 1 and 2.

Action point for donors: None.

5.2.4 Recommendation on ICT and learning materials in ECs

As concluded (conclusion 5, 7, 11), there are some challenges with using ICT for teaching and learning and availability of the learning materials developed for the new degree program. The following recommendations are proposed on the basis of the evaluation findings:

- J. Further strengthen the ICT infrastructure in ECs to access internet so that TE and ST can effectively use ICT in the preparation and delivery of teaching and learning. The new curriculum is designed to make best use of ICT and hence this precondition needs to be fulfilled to make the delivery effective. For this reason, internet connection should have a sufficient bandwidth and should be available not only in the Principals' office, ICT classrooms, administration room and the library, but also in the non-ICT classrooms and study rooms; also outside class-room and school hours (for instance in the evening or at weekends). TE also need to have the possibility to print teaching materials. ECs do not have specific budget for fixing or maintenance of existing ICT equipment which are malfunctioning. In order to do so, specific ICT budget allocations should be made at the ECs level for both improving and maintaining ICT.**
- K. Use the COVID-19 momentum to improve the ICT infrastructure to become less dependent on face-to-face delivery.**

Action point for MoE: Negotiate, also in the context of the MoE's Response and Recovery plans on the pandemic, with the service provider to increase bandwidth for the ECs for increased accessibility of internet at no cost and demand ECs to increase accessibility of internet to TE and ST outside school hours.

Action point for UNESCO: Support ECs with guidelines and capacity building for the effective utilization, management and maintenance of the infrastructure and equipment for education.

Action point for donors: Provide additional financial support to strengthen the ICT infrastructure and equipment.

5.2.5 Recommendations related to further professionalizing the EC management and administration

As concluded (conclusion 2, 5, 7, 11), STEM Phase II had a limited impact on the further professionalization of EC management and administration. A more professional management and administration of ECs (in line with governance arrangements for higher education institutions) is beneficial for the teacher education reforms to reach impact and be sustainable. The following recommendations are proposed on the basis of the evaluation findings:

- L. Better support the transition in EC governance structures, management and administration to match the demands for full degree-awarding higher education**

- institutions. This requires the development of policies and procedures to integrate ECs in the HE governance, but also further capacity building at EC level (see below).
- M. Support the operationalization of the CPD policy for EC management and administrative staff, in terms of costing, activity planning and implementation, with the purpose to increase the professionalization of the EC management and administration in terms of leadership, administration, teacher education support, student teacher support, planning, assessment and inclusive education. Furthermore, offer CPD opportunities on a regular basis.**
 - N. Further embed inclusive education in EC policies, procedures, infrastructure and facilities and consider a pilot project establishing ethnic language units (or alike) in specific ECs to encourage and develop culture, customs and ethnicity education.**
 - O. Continue working on an Education Management Information System (EMIS) to gather better information at regional and State level to support planning and governing the teacher education sector.**

Action point for MoE: Lead on working on EC governance arrangements; the development and implementation of the CPD modules; impose ECs to embed inclusive education in their policies; and finalize the work on EMIS.

Action point for UNESCO: To provide technical assistance, by mobilizing expertise on specific CPD modules; embedding inclusive education in EC policies (e.g. funding for a pilot project); and continue working on the EMIS.

Action point for donors: None

5.2.6 Recommendations for STEM Phase III project design, monitoring and evaluation, and coordination

As concluded (conclusion 6, 9), the STEM Phase II monitoring and evaluation framework contained weaknesses hampering insightful progress monitoring and understanding of budget allocation and spending on specific activities, outputs and outcomes. The following recommendations are proposed on the basis of the evaluation findings:

- P. Further develop the STEM Phase III Theory of Change and intervention logic to develop a monitoring and evaluation framework (with indicators), able to i) track the project implementation; ii) track whether the activities implemented lead to the envisaged change; and iii) whether what is achieved also leads to impact. All in all, the project design and monitoring framework should better link activities, outputs, outcomes and envisaged impacts. The framework should also include a clear identification of assumptions, risks and mitigation plans. In doing this, the framework should pay more attention on measuring impact on inclusive education; changing mind-sets, behaviour and changing practice of TEs and ECs as a whole organization. This construction of the Theory of Change could be structured with support of the questions included in annex 2.**
 - a. Linked to the above, on the basis of the STEM Phase III project design and monitoring and evaluation framework, further develop the Value for Money framework and in this include more aspects linked to inclusive education; or as an alternative integrate elements of the Value for Money framework into the overall monitoring and evaluation framework.
 - b. Linked to the above, increase transparency on financial (initial and realized) allocation of resources and time of STEM team members to activities, outputs and outcomes to

better track which parts of the project implementation consume more funds than anticipated and where financial challenges arise.

- c. Linked to the above, donors could agree on a uniform financial reporting approach in which it is clear what financial resources are allocated to what activity, leading to what output/outcome (and how implementation differs from the initial plan).

Q. Besides recruiting a senior education advisor for the implementation of STEM Phase III (as recommended by the mid-term evaluation in 2019), the role of the Regional Office and UNESCO HQ (also IIEP and International Task Force for Teachers) in terms of policy leverage could be strengthened.

Action point for MoE: Support UNESCO in developing STEM Phase III project design and in setting joint targets for the program in line with NESP II which will be launched in 2021.

Action point for UNESCO: Finalize the STEM Phase III design ensuring that activities are linked to envisaged change in ECs that is measurable with a set of indicators.

Action point for donors: Critically review STEM Phase III project design and the M&E framework and make suggestions for improvement. Also, upfront, agree on a uniform financial reporting approach to create transparency in financial implementation.

5.2.7 Specific recommendations addressing particular conditional factors related to the successful implementation of STEM Phase III

As concluded (conclusion 5, 11), the implementation of STEM Phase II faced challenges concerning the human resources in the whole teacher education system. For this reason, to assure an effective and sustainable implementation of STEM Phase III, the absorption capacity (in terms of governance; procedural arrangements; organization; availability for training; and taking responsibility/assuring ownership) by the national stakeholders needs to increase. The following recommendations are proposed on the basis of the evaluation findings:

- A. Develop a strategy to increase human resources, who are fit-for-purpose, qualified and well-trained, in DHE to continue to increase its support of the teacher education reform.**
- B. Develop a roadmap for upgrading the management and administration of the ECs and support the ECs towards becoming more autonomous higher education institutions as they make the transition to Education Degree Colleges.**
- C. Stimulate more TE to be recruited to cope with the increasing workload, also caused by the teacher education reforms. In particular, find ways to strengthen ICT departments, also to support other TEs in using ICT for teaching and learning.**
- D. Further enhance inter-ministerial (e.g. Ministry of Planning, Finance and Industry (MOPFI)) and inter-institutional (e.g. NEPC, TTF/TEC) collaboration in policy development from the early phase to avoid major delays in validation or implementation of policies.**
- E. Increase the clarity about the roles, responsibilities and complementarities of different national bodies and committees leading in Myanmar education sector (such as BoS (Board of Studies) TTF, and NEPC) to ease the policy development and implementation.**

Annex 1: Evaluation Framework

The theory of change and evaluation design are inextricably linked; only after evaluators have a full picture of what the project in theory was designed to deliver, why, by whom, when and how, they can meaningfully assess the extent to which it actually did. While following the OECD DAC criteria, the evaluative approach of ICON is based on a realistic evaluation answering the question what works, for whom, in what context.

For the purpose of this evaluation, based on what is indicated in the ToR and further analysis, a **detailed evaluation matrix** was developed. In view of this evaluation's summative and prospective focus, the DAC evaluation criteria to assess past activities are woven into more prospective considerations, which will structure the overall approach. The questions are **grouped by these evaluation pillars: (i) Effectiveness in Implementation; ii) Relevance of Project Results and Governance; iii) Efficiency of Implementation; iv) Sustainability; and v) Impact.** Under the evaluation criteria, the aspect of gender equality and inclusive education will also be considered as these are priorities for UNESCO (for instance Gender Equality as Global Priority³⁷). Furthermore, questions are included to assess progress against the recommendations of the mid-term evaluation.

Starting point of the evaluation matrix was the already extensive list of evaluation questions defined in the solicitation documents (which we slightly revised (restructured and made dichotomous)).³⁸ For each of these questions more operational questions were formulated to structure the data collection.

³⁷ See <http://www.unesco.org/new/en/culture/about-us/how-we-work/strategy/global-priority-gender-equality/>

³⁸ In addition to this, we would suggest studying the evaluation design approach of the mid-term evaluation for the same project, to make sure that the findings, conclusions and recommendations of both evaluations are as much as possible comparable.

Evaluation questions (ToR)	Indicator / judgement criterion	Sub-questions	How to answer sub-question
Mid-term evaluation recommendations follow-up	Most of the recommendations were followed-up or an explanation is provided why not.	What were the recommendations in the mid-term evaluation 2019? To what extent were the recommendations followed-up? What was achieved by the follow-up?	<ul style="list-style-type: none"> • Desk research on the mid-term evaluation and the management response • Interviews with project stakeholders (UNESCO)
1. Effectiveness in Implementation³⁹			
Q1.1: To what extent can the activities and outputs realized as part of STEM Phase II lead to the achievement of the expected outcomes (expected to be attained by 2022), as outlined in the STEM Phase II Results Matrix? Why/Why not?	A large majority of outcomes as defined in the Results Matrix are likely to be achieved by 2022 (provisional indication: 80%).	How do the activities link to the expected outcomes to be attained by 2022? Is it likely that these activities actually contribute to the expected outcomes? Have changes been implemented on the Result matrix? Why? Which activities have /have not been conducted? Why? How many of the expected outcomes are likely achieved by 2022?	<ul style="list-style-type: none"> • Reconstruction of the theory of change • Desk research on project outcomes • Interviews with project stakeholders (UNESCO) • Survey among EC teacher educators and principals
Q1.3: To what extent were the identified risks and key assumptions relevant? To what extent the mitigation strategies were effective in addressing the risks during the implementation of the project?	The key assumptions as defined the project formulation report remained generally valid throughout the project implementation (general positive assessment).	What were the key underlying assumptions and risks in the project implementation? Which mitigation strategies were foreseen? Did some of the identified risk occur during implementation? How effective were the mitigation strategies? To what extent did the key assumptions for project implementation remain generally valid?	<ul style="list-style-type: none"> • Desk research on the project formulation report • Interviews with project stakeholders (UNESCO)
Q1.4: What constraints were encountered in implementing project activities? How were they addressed and what was the impact on the achievement of project outcomes?	A large majority of the challenges and constraints were effectively addressed and the (negative) impacts were mitigated (provisional indication: 80%).	Which implementation challenges did the project encounter? How were these challenges approached and which solutions were found? What was the negative impact of the constraints and how is this impact mitigated? For how many constraints solutions were found that minimized negative impact?	<ul style="list-style-type: none"> • Desk research on implementation reports • Interviews • Project stakeholders (UNESCO) • National project stakeholders (MoE, NEPC, TCSF, Curriculum Core Team, gender WG) • Representatives of the Donors
Q1.5: Did the M&E system in place allow for the collection of sex-disaggregated data, monitoring of	The M&E framework enabled effective monitoring on progress in project implementation towards	What is the quality of the M&E system in terms of links between indicators and outcomes, ability of disaggregate data, and reporting?	<ul style="list-style-type: none"> • Desk research on the M&E system • Interviews with project stakeholders (UNESCO)

³⁹ Q1.2 is removed in consultation with UNESCO.

results and preparation of regular progress reports?	reaching the outcomes (general positive assessment).	What data collection tools are used in monitoring? To what extent are beneficiaries’ perspectives taken into account?	
2. Relevance of Project Results and Governance			
Q2.1: To what extent did STEM Phase II produce results that are relevant to and resulted in benefits to beneficiaries such as Education Colleges, principals, teacher educators and student teachers?	STEM results are relevant at institutional level and led to change (acknowledged by a majority of the beneficiaries: provisional indication: 80%).	To what extent are the topics addressed by STEM considered relevant by beneficiaries (Education Colleges, principals, teacher educators and student teachers) within the institutional context?	<ul style="list-style-type: none">• Interviews• Project stakeholders (UNESCO)• National project stakeholders (MoE, NEPC, TCSF, Curriculum Core Team, gender WG)• Representatives of the Donors• Teacher Education Colleges (Principals/teacher educators)• Representatives of other stakeholders (civil society/donors)• Survey among EC teacher educators, student teachers and principals
		To what extent did STEM lead to change at beneficiary level in terms of change of behaviour on STEM specific aspects (such as inclusive education)?	
Q2.2: To what extent did the STEM Phase II contribute to the objectives and priorities of National Education Strategic Plan (NESP) and other national development objectives?	STEM results are closely linked to the NESP objectives and other development objectives (general positive assessment).	What are the main national development objectives (incl. NESP)?	<ul style="list-style-type: none">• Desk research on the national policy context• Interviews• National project stakeholders (MoE, NEPC, TCSF, Curriculum Core Team, gender WG)• Teacher Education Colleges (Principals/teacher educators)• Representatives of other stakeholders (civil society/donors)
		How are the links between STEM and national objectives substantiated? To what extent can a contribution of STEM to the national objectives be expected?	
Q2.3: How effective was STEM Phase II’s governance framework and coordination mechanisms with the MoE, donors and UNESCO?	The governance framework and coordination between MoE, Donors and UNESCO was effective and did not lead to main implementation challenges and/or conflicts (general positive assessment based on the views of key stakeholders).	To what extent did the stakeholders fully understood and were able to work with the governance framework and coordination mechanism?	<ul style="list-style-type: none">• Desk research on the governance framework and coordination mechanism• Interviews• Project stakeholders (UNESCO)• National project stakeholders (MoE, NEPC, TCSF, Curriculum Core Team, gender WG)• Representatives of the Donors
		To what extent did the governance framework and coordination led to challenges, or avoided challenges to occur?	
3. Efficiency of Implementation			

Q3.1: Was STEM Phase II implemented in the most efficient way vis-à-vis its financial and human resources? Do the results justify the resources invested into the project?	STEM phase II is implemented efficiently: the resources are justified by the activities implemented and results reached (general positive assessment in comparison to similar projects).	What financial and human resources were invested in STEM Phase II? What is the absorption/implementation rate of the project?	<ul style="list-style-type: none">• Desk research on the financial administration, comparable projects• Interviews• Project stakeholders (UNESCO)
		Are the costs per activity or result justified and in line with similar projects?	
Q3.2: Did STEM Phase II make appropriate use of the time and resources of the MoE, UNESCO and the donors to achieve its expected outcomes? How effective was cooperation among the various stakeholders?	The key stakeholders mobilized own resources and worked effectively together (general positive assessment).	To what extent did the project mobilize time and resources at MoE, UNESCO and donors?	<ul style="list-style-type: none">• Interviews• Project stakeholders (UNESCO)• National project stakeholders (MoE, NEPC, TCSF, Curriculum Core Team, gender WG)• Representatives of the Donors
		To what extent was the cooperation in the project implementation effective?	
Q3.3: Are STEM Phase II's activities aligned to the work of other national, regional and international actors involved in Myanmar's teacher education reform initiatives?	Alignment and synergies are secured with other actors and projects working on the topic of teacher education reform (general positive assessment).	Which other national, regional and international actors work on the areas covered by STEM?	<ul style="list-style-type: none">• Desk research on other actors and projects• Interviews• Project stakeholders (UNESCO)• National project stakeholders (MoE, NEPC, TCSF, Curriculum Core Team, gender WG)• representatives of other stakeholders (civil society/donors)
		To what extent are synergies sought with these other actors/projects?	
Q3.4: Are results, good practices, lessons learned and challenges being communicated in an effective manner to all stakeholders? ²⁴⁰	Lessons learned in the STEM project are effectively communicated to all stakeholders (stakeholders are aware of the project and the main lessons learned) (50% of the stakeholders are aware of the main lessons learned)	Is there a communication policy in place to transmit lessons learned about STEM?	<ul style="list-style-type: none">• Desk research on communication policy• Interviews:• Project stakeholders (UNESCO)• National project stakeholders (MoE, NEPC, TCSF, Curriculum Core Team, gender WG)• representatives of other stakeholders (civil society/donors)
		To what extent are stakeholders aware of the project and its lessons learned?	
4. Sustainability			
Q4.1: To what extent are the benefits/impact of STEM Phase II likely to continue? What are the	The STEM project led to sustainable change at the level of individuals, institutions and policy (provisional	To what extent are the results of the STEM institutionalized and incorporated in existing structures?	<ul style="list-style-type: none">• Interviews:• Project stakeholders (UNESCO)

⁴⁰ In the ToR, this question was grouped under 'impact'. As it concerns the communication strategy, we propose to discuss this question under efficiency.

major factors that will affect continuity?	indication: 60% of beneficiaries report changes in behaviour and organizational change).	To what extent did the project lead to change in individual behaviour and/or change in actions of individuals and organizations? (linked to Kirkpatrick)	<ul style="list-style-type: none"> National project stakeholders (MoE, NEPC, TCSF, Curriculum Core Team, gender WG) Teacher Education Colleges (Principals/teacher educators) Survey among EC teacher educators, student teachers and principals
		What factors affect the sustainability (positive and negative)?	
Q4.2: What evidence can be found of organizational, social and financial structures that will support sustaining the results achieved by STEM?	There are positive signs that project results are supported further after the project (general positive assessment).	How are the project results supported after the project duration by national stakeholders, other sources?	<ul style="list-style-type: none"> Desk research on project results Interviews: Project stakeholders (UNESCO) National project stakeholders (MoE, NEPC, TCSF, Curriculum Core Team, gender WG) Representatives of the Donors Teacher Education Colleges (Principals/teacher educators) Representatives of other stakeholders (civil society/donors)
Q4.3: What measures have been undertaken to strengthen capacity at the individual and organizational level to sustain results?	The project led to stronger institutional capacities and those capacities also being used in further developing teacher education (provisional indication: 60% of beneficiaries report changes in behaviour and organizational change).	<p>To what extent are capacity building approached integrated in the project activities so that the project effectively developed the capacities of those involved?</p> <p>To what extent institutional and organizational environment has been encouraging and supporting the individual's application of capacities improved by STEM in respect of changes in individual behaviour and organizational change?</p>	<ul style="list-style-type: none"> Interviews: Project stakeholders (UNESCO) National project stakeholders (MoE, NEPC, TCSF, Curriculum Core Team, gender WG) Teacher Education Colleges (Principals/teacher educators) Representatives of other stakeholders (civil society/donors) Survey among EC teacher educators and principals
5. Impact			
Q5.1 ⁴¹ : What impact did STEM have on the different beneficiaries or target groups, including contribution to gender equality and equity and social inclusion in teacher education?	The STEM project positively impacted individual beneficiaries and target groups in gender and inclusive sensitive teacher education (provisional indication: 60% of beneficiaries report impact).	To what extent did STEM reach its envisaged target groups?	<ul style="list-style-type: none"> Desk research on monitoring data Interviews: Project stakeholders (UNESCO) National project stakeholders (MoE, NEPC, TCSF, Curriculum Core Team, gender WG) Teacher Education Colleges (Principals/teacher educators)
		To what extent did STEM lead to learning and change of individual professional behaviour and actions? To	

⁴¹ This question was in the ToR grouped under 'effectiveness'.

		what extent was this related to gender equality and social inclusion? (linked to Kirkpatrick)	<ul style="list-style-type: none"> Representatives of other stakeholders (civil society/donors) Survey among EC teacher educators, student teachers and principals
Q5.2: What changes did STEM Phase II bring about at an institutional and individual level? To what extent did the project contribute to the broader and longer-term response to teacher education reform in Myanmar?	The STEM project impacted institutions (teacher colleges) and the teacher education reforms (provisional indication: 60% of beneficiaries report impact).	To what extent did STEM reach the teacher colleges and engaged them in active participation?	<ul style="list-style-type: none"> Desk research on monitoring data Interviews: Project stakeholders (UNESCO) National project stakeholders (MoE, NEPC, TCSF, Curriculum Core Team, gender WG) Teacher Education Colleges (Principals/teacher educators) Survey among EC teacher educators, student teachers and principals
		To what extent did STEM lead to institutional change? (linked to Kirkpatrick)	
		To what extent did STEM contribute to the teacher education reform? (linked to Kirkpatrick)	
		To what extent has STEM supported activities that prepare ECs and ultimately teachers for supporting inclusive education policy and diversity in the classroom?	
Q5.3: To what extent can observed changes be attributed to the interventions of STEM Phase II? How have women, men and vulnerable groups experienced these changes?	STEM is positively associated with the ongoing national reforms in teacher education policies (general positive assessment).	What development at teacher college and national level took place in the recent years?	<ul style="list-style-type: none"> Desk research on monitoring data Interviews: Project stakeholders (UNESCO) National project stakeholders (MoE, NEPC, TCSF, Curriculum Core Team, gender WG) Teacher Education Colleges (Principals/teacher educators) Representatives of other stakeholders (civil society/donors) Survey among EC teacher educators, student teachers and principals
		To what extent can these changes be attributed to STEM phase II?	
		How do different vulnerable groups experience the changes?	
Q5.4: Considering the progress made in Phase II, to what extent does the evidence demonstrate the likelihood of achieving the final outcomes (expected to be attained by 2022)?	STEMs progress is in line with reaching the outcomes by 2022 (general positive assessment).	To what extent is the current state of implementation a predictor to achieve the outcomes by 2022?	<ul style="list-style-type: none"> Desk research on monitoring data Interviews: Project stakeholders (UNESCO) National project stakeholders (MoE, NEPC, TCSF, Curriculum Core Team, gender WG)
Q5.5: What evidence, or in the absence of strong evidence, “weak signals” of impact, positive or negative, intended or	There is (anecdotal) evidence of STEM on long term change in the work of final beneficiaries (general positive assessment based on	To what extent do final beneficiaries record any contributions of STEM on the long-term (also unintended)?	<ul style="list-style-type: none"> Desk research on project implementation reports and monitoring data Interviews: Project stakeholders (UNESCO)



unintended, can be found of STEM's contributions to the final beneficiaries in the long-term?	descriptions of anecdotal evidence).		<ul style="list-style-type: none">• National project stakeholders (MoE, NEPC, TCSF, Curriculum Core Team, gender WG)• Teacher Education Colleges (Principals/teacher educators)• Survey among EC teacher educators and principals
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Table 6: Evaluation Questions and Indicators

Annex 2: Reconstructing the Theory of Change

Approach towards Reconstructing the Theory of Change

In this section, the Theory of Change (ToC) is presented. The development of a Theory of Change helps to understand strategic and operational planning of initiatives with ambitious and complex goals. At its simplest, theory of change is a dialogue-based process intended to generate a ‘description of a sequence of events that is expected to lead to a particular desired outcome.’⁴² In our understanding, a reconstruction of the project’s theory of change should assess the logic behind the project’s approach and the context in which it is implemented. This helps to clarify the intended outcomes of an intervention, while it also seeks to make implicit assumptions in the chosen project approach explicit. It starts from a baseline analysis of the context and issues. It then maps out the logical sequence of changes that are necessary in the different contexts to support the desired long-term change.

A theory of change can serve as a key benchmark in evaluation and provides the scope for asking the ‘right questions’ in an evaluation. With the ‘right questions’ at hand, data collection can directly inform evaluation judgement necessary to assess success of previous activities and draw important lessons for the future. In our evaluation approach, key evaluation findings are contrasted to the *a priori* reconstructed theory of change, which allows the development of theoretically meaningful and empirically informed policy recommendations. The figure below summarizes this approach, which is further presented in more detail in the subsequent sections.

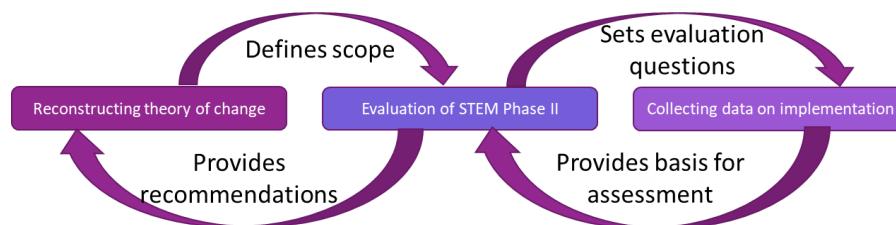


Figure 17: Overview evaluation approach

The table below lists the essential elements for a comprehensive ToC approach. It follows the logic that to fully understand the change process it is necessary for each element in the project implementation to identify the ‘why, what, who, when, and how’⁴³.

⁴² Rick Davies, April 2012: Blog post on the criteria for assessing the evaluability of a theory of change <http://mandenews.blogspot.co.uk/2012/04/criteria-for-assessing-evaluability-of.html>

⁴³ Stein, D., Valters, C., (2012), Understanding ‘Theory of Change’ in international development: a review of existing knowledge (LSE), adjusted and elaborated by authors.

Cluster	Elements of ToC	Questions for mapping ToC
Line of reasoning towards achieving results (mechanism and expected outcomes)	Problem Statement	<ul style="list-style-type: none"> What is the challenge STEM Phase II seeks to overcome? What are the underlying causes of the challenge?
	Overall Goal	<ul style="list-style-type: none"> What are the objectives of the STEM Phase II project? How do such objectives relate to the challenge(s)? How can success of the STEM Phase II project be measured?
	Change Process	<ul style="list-style-type: none"> What actions / activities are planned in order to achieve the objectives? What is the mechanism of change linking the inputs to short-term output/outcomes and long-term goal (How are the project activities envisaged to lead to the expected results)?
	Change Markers	What are the milestones, indicators or other tools to assess/measure extent of change?
	Meta-Theory	<ul style="list-style-type: none"> What is the underpinning theory that justifies the chosen change process?
Implementation (planned interventions)	Inputs	<ul style="list-style-type: none"> What is the (financial and human resource) input related to the STEM Phase II project? What is the timeline associated with reaching the objectives?
	Institutional / organizational	<ul style="list-style-type: none"> What coordination mechanisms are put in place? What institutional rules and requirements have a likely effect on project implementation?
	Actors	<p>What actors are involved in the change process, what is their role and relationship to the STEM Phase II project? Differentiate between:</p> <ul style="list-style-type: none"> End-users / Intended beneficiaries Implementing actors Points of collaboration with partners/other agencies
Practical implementation (Outcomes and context)	Assumptions	What are the beliefs, values, and unquestioned elements for each step of the change process?
	Internal Risks	What are the potential modalities of the activities that may undermine its success?
	External Risks	What are external risks to the activities with the potential to undermine its success and outline plans to overcome these?
	Obstacles to Success	<ul style="list-style-type: none"> What are obstacles likely to threaten the change process? What plans are outlined to overcome them?
	Knock-On Effects	What are the potential unintended consequences of the STEM Phase II project, both positive and negative?

Table 7: Required elements for a comprehensive ToC approach

Problem statement

The main problem the STEM project in Myanmar seeks to address is the insufficient capacity of the national system for pre-service teacher education to deliver sufficient qualified teachers. This insufficient capacity is particularly problematic given the crucial role of teachers in overall quality of education⁴⁴. Myanmar's Education Colleges play a key role in developing the country's teachers at primary and middle (lower secondary) school levels (previously, ECs training was just for primary school level) – both those that have gone through the pre-service system and those recruited directly into schools – and, are spread geographically throughout the country. However, education colleges struggle to provide quality pre-service teacher education due to lack of clear, holistic teacher education policies / strategies; an outdated, over-crowded, under-resourced curriculum; an inefficient and highly centralized management structure; and significant capacity development needs of teaching and non-teaching personnel. Tackling this problem will contribute to increasing the number of qualified school teachers, which in turn can have a positive outcome on learning outcomes of learners in primary and schools and the inclusivity of the education system and society.

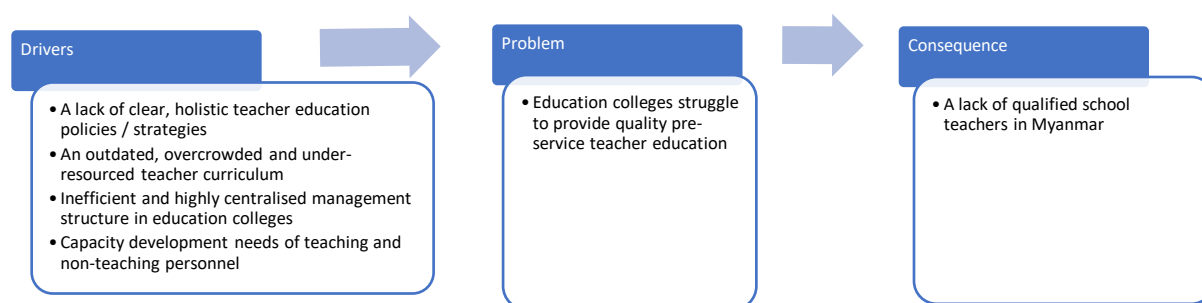


Figure 18: Problem statement

From problem statement to change process

The STEM project's stated aim is to improve the Education College pre-service teacher education system's ability to produce qualified teachers.⁴⁵ In doing so, the project seeks to increase the number of qualified school teachers that provide inclusive quality education according to the Myanmar Teacher Competency Standards Framework (TCSF), enabling students to develop critical thinking and problem-solving skills⁴⁶. This connects in turn to Sustainable Development Goal 4, which aims to ensure inclusive and equitable quality education for all. The analytical work of phase 1 of the STEM project identified four specific problem drivers behind the challenge, which are already highlighted in the previous section. Each of these specific areas are subsequently addressed in phase II of the STEM project and translated into operational objectives; contextualized and quality teacher policies, a reformed teacher curriculum, better management of education colleges, and an integration of inclusiveness across all the project's objectives. The relation between these objectives are summarized in the figure below.

⁴⁴ E.g. Rivkin, Steven G., Hanushek, Eric A., Kain, John F. (2005), Teachers, Schools, and Academic Achievement, in: Econometrica, Vol. 73, No. 2. (Mar., 2005), pp. 417-458.

⁴⁵ STEM Project document page 17.

⁴⁶ This is based on the mid-term evaluation. Any support in formal documentation?

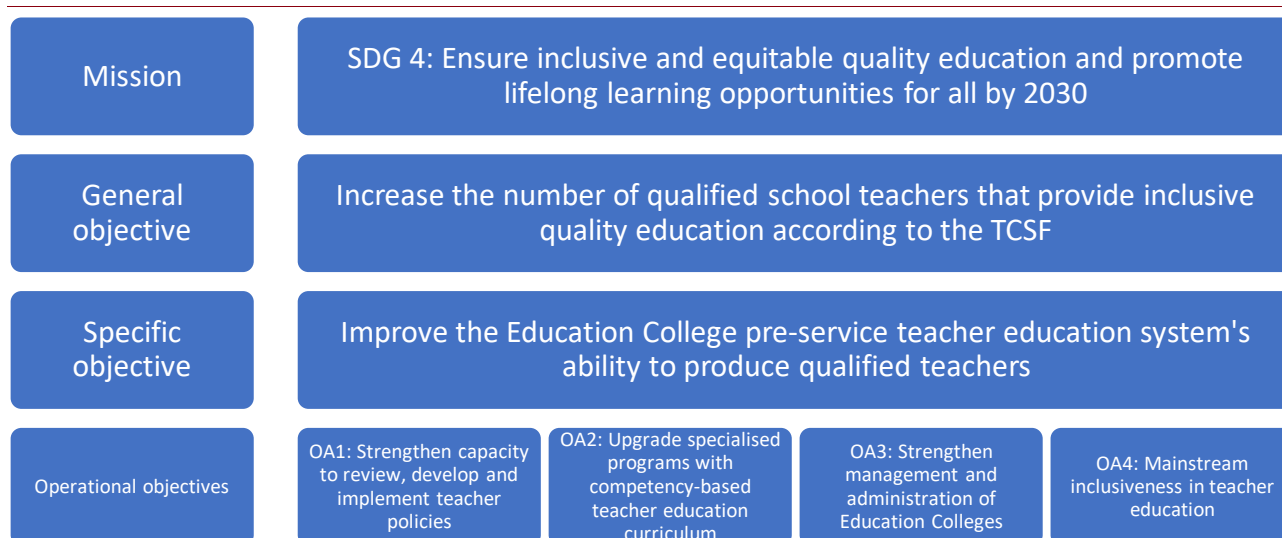


Figure 19: Operational objectives

Line of reasoning: from objectives, to activities and results

Based on the definition of challenges, and a brief description of the change process put in place, a more detailed theory of change is reconstructed. This section seeks to describe how the activities under the project are envisaged to lead to the expected results in each outcome area. We split out the discussion for each outcome area, due the different scope of their objectives and activities. The outputs are defined in immediate relation to completing the relating activity. Subsequently, the elements identified as outcomes are more indirect consequences of the intervention. These would provide the evidence for improvements to the pre-service education system's ability to produce qualified teachers. This section provides a more detailed overview of the operational objectives, the planned activities and their anticipated outputs, as well as broader outcomes and their link to general objective.

The overall line of reasoning of the project can be summarized by the statement below:

Line of reasoning:

STEM Phase II aims to help the MoE to improve the quality of primary and middle school teachers in Myanmar through capacitating national and institutional stakeholders to improve the policies, management of institutions, teacher education curriculum and its roll-out, with particular attention to inclusiveness.

Outcome area 1: Strengthening capacities to develop teacher policies

Outcome Area (OA) 1 focuses fully on the policy component, with capacity building workshops that are focused predominantly on policymakers. Support is provided to set up a policy forum that also involves teacher representatives and serves to advise and support implementation of teacher education and management reforms. Secondly, this outcome areas supports the establishment of a certification system for teachers, which will be based on the newly developed competence framework for teachers in Myanmar. Most activities actually focus on supporting the conception, development and validation of this competence framework, which after completion is complemented with assessment tools of teachers. Thirdly, the STEM project worked, together with policymakers – and the Teacher Task

Force⁴⁷ (TTF) – on concrete policies for teacher recruitment, promotion and deployment. Of the policy options proposed on the three issues, the TTF decided to focus on promotion.

As a result of these three lines of action, the project seeks to achieve the adoption of quality and comprehensive teacher policies. With the new legislative environment, it also aims to result in a more facilitating environment to roll out the reforms at education colleges under outcome area 2 and 3.

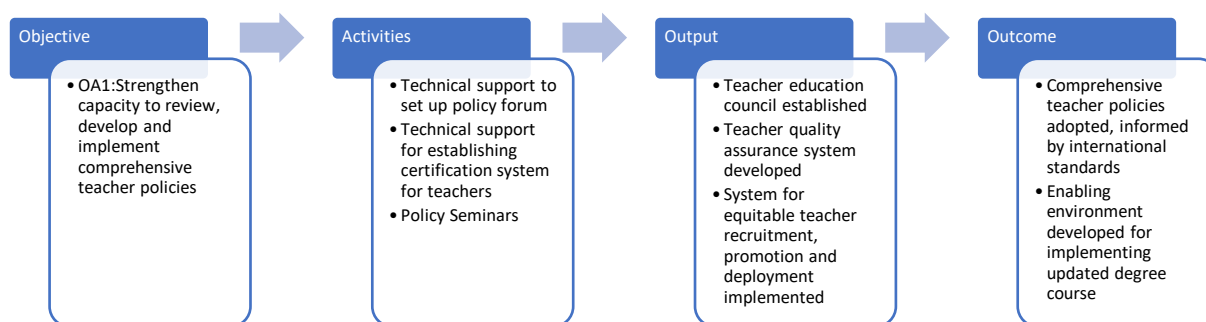


Figure 20: Result chain for outcome area 1

The evaluation will have to test how the following implicit assumptions affect the potential of achieving the objectives:

- The new Teacher Education Council has some influence on the development of teacher policies.
- There remains political will to adopt and implement comprehensive teacher policies at the national level

Outcome area 2: Development and implementation of competency-based teacher curriculum

Outcome area 2 focuses on the development of a new curriculum. Faced with a teacher curriculum that has for the most part not been updated since 1998, it is one of the core areas of support of the STEM project. It supports the establishment of a taskforce of staff from education colleges to support and provide context to international authors in the development of a competency-based curriculum. The project supports the development of key inputs for the new curriculum, including syllabi, textbooks, and teacher educator guides for the newly developed 4-year teacher curriculum. A third strand within this area focuses on improving the skills of training teacher educators to deliver this new curriculum, particularly in the area of ICT. By combining the approach of curriculum development, with support of practitioners and additional training of teacher educators, the project lays the foundation for the new four-year curriculum in education colleges. In view of the central importance of this outcome area for the overall project, the theory of change attached further attention to it. An anticipated outcome is that teacher educators apply the new curriculum, and what they learned in their own teaching.

In addition to the main result of having a new curriculum, the project will have resulted in enhanced capacities among a body of curriculum development experts that have been supported by the project, which can help to keep the curriculum up-to-date in the future.

⁴⁷ A Teacher Task Force was temporarily established to pave the way to a more permanent Teacher Education Council.

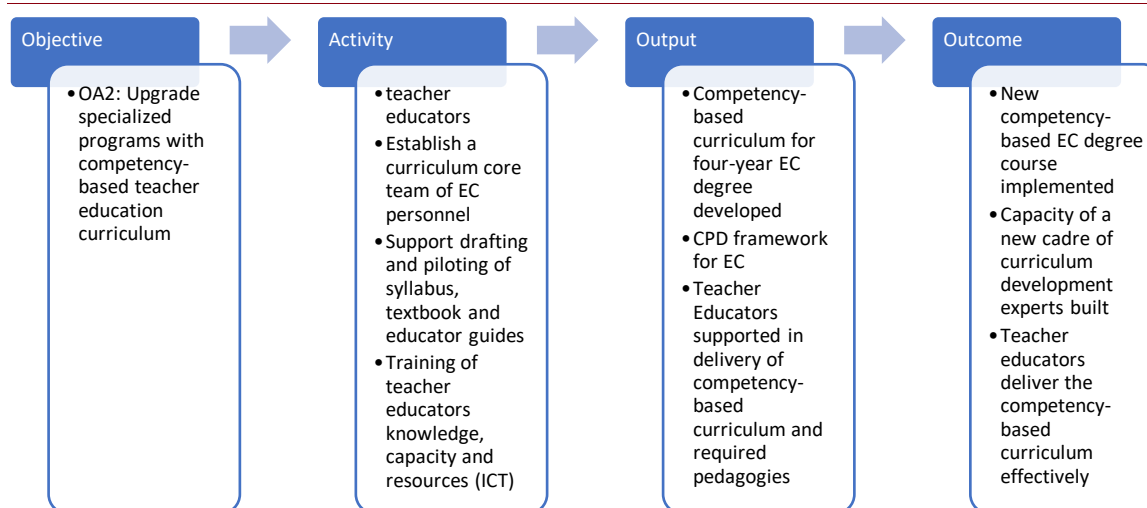


Figure 21: Result chain for outcome area 2

The evaluation will have to test how the following implicit assumptions affect the potential of achieving the objectives:

- National stakeholders, particularly in CCT, have the capacities and knowledge on the requirements of competency-based curriculum development
- The competence-based approach and key inputs for the new curriculum are in line with the needs of teacher educators, and bring supportive impact on learning enhancement among varied and diverse learners at school level in country.
- Teacher educators can apply the new elements of the curriculum, including ICT in their teaching
- The infrastructure at Education Colleges is sufficiently upgraded to deliver the newly revised curriculum

Outcome area 3: Strengthen management of Education Colleges

Outcome area 3 also focuses on education colleges, but moves attention towards the management and administration side. It consists of capacity building workshops to support the Ministry of Education to improve its capacity to plan resources more effectively, with particular attention for the development of a costing model. A second strand focuses on the development of a framework for continuing professional development for education college administrators, which should offer the structure to help improve their capacity to administer their colleges more efficiently. The underlying logic is that ensuring more adequate support from the Ministry to the needs of Education Colleges, in combination with better management capacity at the level of Education Colleges facilitates the introduction of the new curriculum, and supports teacher educators in their work. Note however that the actual training of EC administrators will only take place in phase 3 of the project and thus fall outside the scope of the evaluation.

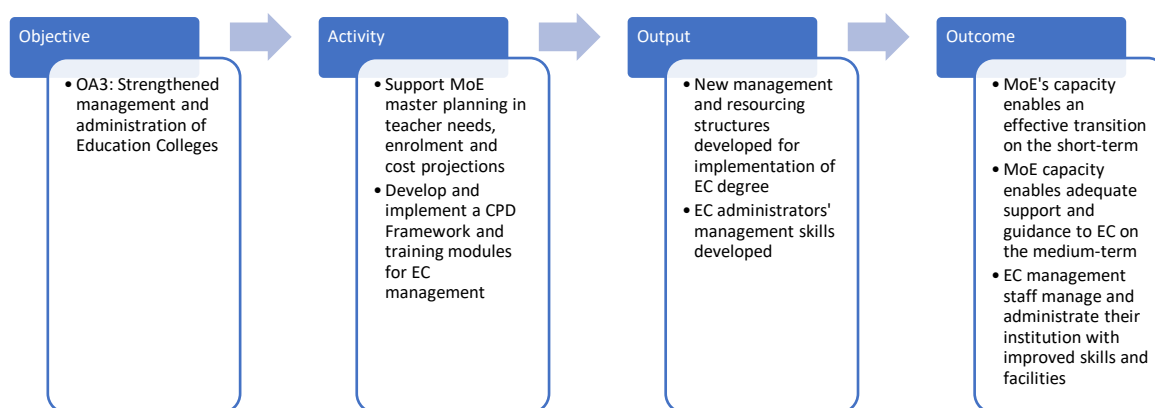


Figure 22: Result chain for outcome area 3

The evaluation will have to test how the following implicit assumptions affect the potential of achieving the objectives:

- Ministry staff trained on the master planning are able to apply what they learned.
- The resource allocation to Education Colleges are revised based on the inputs of the model
- The model results in sufficient allocation of resources to the Education Colleges for successful implementation of the reformed curriculum
- Education College administrators can apply the skills they learned (to be assessed after phase III of the STEM project)

Outcome area 4: Mainstream inclusiveness

Finally, under outcome area 4, the STEM project defines its horizontal commitment to inclusiveness. Based on the project document we understand 'inclusiveness' to mean 'awareness on gender equality, human rights, and Education for peace and Sustainable Development.'. Attention to inclusiveness in education should result in the provision of education that meets the needs of all Myanmar's children, regardless of gender, disability, ethnolinguistic background, or any other characteristic. The project seeks to ensure the integration of this concept in all its activities. It means that attention to inclusiveness is integrated in the newly developed policies under OA1, the new curriculum and support for teacher educators in OA2, and the attention to management of EC in OA3. To support the horizontal integration of inclusiveness, a number of specific activities are also put in place. First of all, a baseline assessment is supported by the project, which provides the concrete input and priorities for other activities. Secondly, specific training modules will be developed for staff in the Ministry of Education, Education Colleges and Curriculum teams on gender and education, gender sensitive and responsive pedagogy, Education for peace and Sustainable Development and human rights. A module on gender mainstreaming has already been completed.

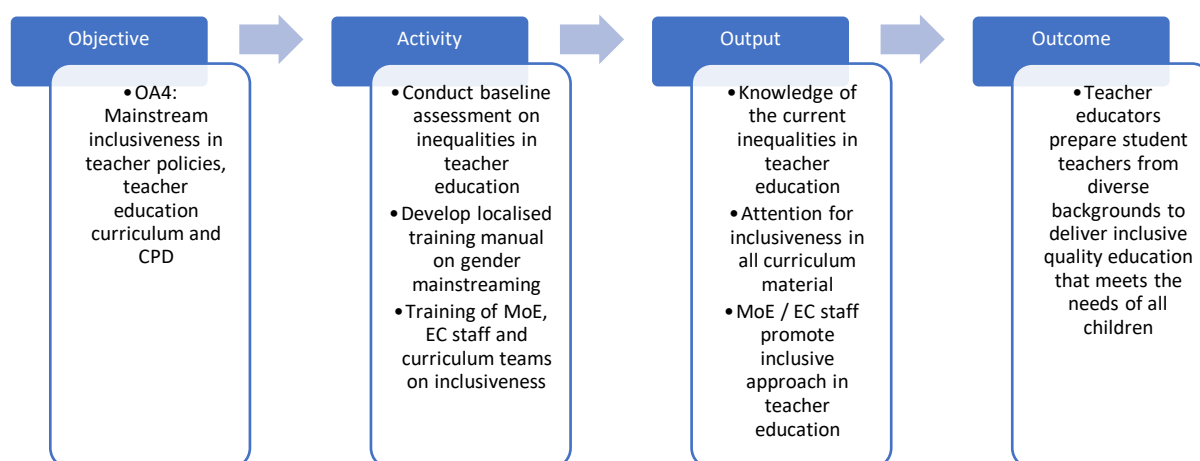


Figure 23: Result chain for outcome area 4

The evaluation will have to test how the following implicit assumptions affect the potential of achieving the objectives:

- The baseline assessment developed is used as input for the remaining work on inclusiveness, including in the other outcome areas
- There is political support from the Ministry for the integration of human rights / gender equality, Education for peace and Sustainable Development, and rights of teachers in capacity building, training and curriculum development.
- Stakeholders trained in the various areas of inclusiveness can apply their knowledge
- Other deliverables that are not explicitly mentioned in OA4 also meet the criteria of inclusiveness

With the more precise definition of the operational objectives of the four outcome areas (linked to concrete activities), their immediate outputs and their broader outcomes - the reconstructed Theory of Change now presented the building blocks that structure *how* the broader outcomes, defined for each specific objective, contribute to the general objective of the project. This is visualized in the figure below and reinforces the structure for the evaluation to take. After measuring progress in each of the broader outcomes, the evaluation needs to make explicit how each broader outcome contributes to meeting the general objective of the project: *to increase number of qualified primary and middle school teachers that provide inclusive quality education according to the TCSF*.

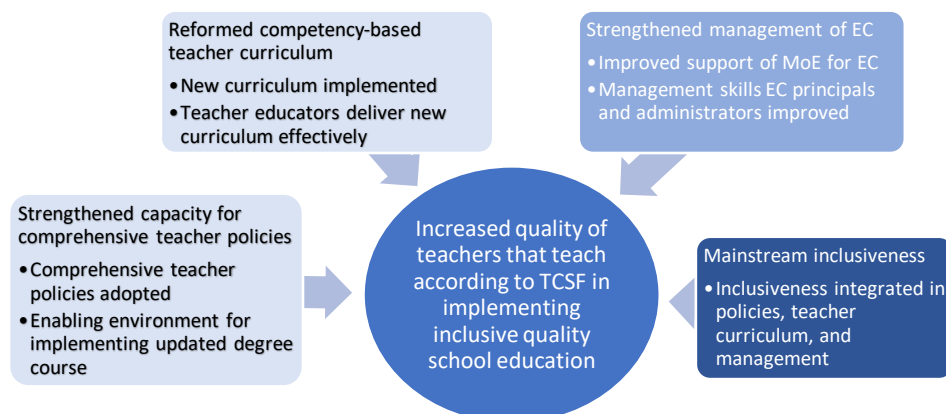


Figure 24: Outcomes and general objective

Testing meta theory underpinning line of reasoning

Key in this reconstructed theory of change is that the project's change process is both associated with reaching the main milestones (such as the development and production of EC curricula); but also improving the capacities within the teacher education system to have a continued quality improvement potential within the system. This approach can be assessed from the perspective of a number of related theories, amongst which the most relevant concerns **models for evaluating the effectiveness of building capacities (for instance through training, advice and exchange)**: The learning provided by STEM Phase II does not only provide learning for the sake of learning, or for immediately delivering a specific output (i.e. a curriculum), but it should contribute to change in people's and organizations' behaviour and actions, in this case in the Ministry of Education (OA1) and in teacher colleges (OA2)⁴⁸. Tools to measure the effect of learning are based on validated standards, like the Kirkpatrick Model. The model considers the value of any type of training, formal or informal, across four levels:

- Level 1 'Reaction' evaluates how participants respond to the training;
- Level 2 'Learning' measures if they learned the material;
- Level 3 'Behaviour' considers if they are using what they learned on the job; and
- Level 4 'Results' evaluates if the training positively impacted the organization / the process⁴⁹.

Implementation

Inputs

Strengthening Pre-Service Teacher Education in Myanmar project started in 2015 with funding from the Governments of Australia (Phase I, USD 2.5 million). Phase II began in 2017 with funds from the Government of Finland (EUR 3.25 million), followed by Australian (USD 2.25 million) and UK contributions (USD 1 million). Phase II is due to last until August 2020. This evaluation focuses exclusively on the results produced in Phase II, with an overall budget of USD 6 million.

⁴⁸ We are aware that the project aims at building capacities of management of education colleges in OA3. However, phase 2 of the STEM project only lays the foundations and does not actually foresee the training of administrators (this is foreseen in the project's Phase 3). Our evaluation of this outcome area should reflect this accordingly; no organisational changes can be expected here at this point.

⁴⁹ Kirkpatrick, J.D., (2016). Kirkpatrick's Four Levels of Training Evaluation Paperback.

Coordination structure

The project approach is focused on participation and the broad involvement of stakeholders in the area of teacher education in Myanmar, such as policy makers and government officials from the Ministry of Education (MoE) and teacher educators in Education Colleges, principals and administrators. To effectively coordinate the activities among these diverse target groups, the following organizational structures / positions are put in place for the STEM project:

- **National Steering Group**, comprised of MoE's Minister, Deputy Minister, Directors-General of Department of Higher Education (DHE), Department of Basic Education (DBE) and Department of Education Research, Planning and Training (DERPT); the Deputy Directors-General of Department of Teacher Education and Training (DTET), Senior management from UNESCO and STEM project technical specialists, donor representatives, NEPC, NCC, NAQAC. As needed, the Steering Group can invite representatives of the ECs or University of Education as observers. DHE-DTET has been designated by the MoE as the focal point departments for the coordination of the STEM activities with UNESCO.
- **UNESCO project support** is provided through the Project Office in Myanmar.⁵⁰ UNESCO oversees the project execution and financial management, and it provides daily support to the project, as well as supervision of progress and reporting. At the Myanmar Project Office, the project is currently staffed as follows:
 - There are 2 **international project officers** provide support to planning, management and technical oversight the STEM project.
 - The team consists six qualified **National Project Officers** (NPO); two national program officers were selected to coordinate the implementation of project activities on the ground and report on progress. One NPO focuses on supporting capacity building activities and curriculum development, and a second focuses on activities related to ICT management and technical support.
 - Three **project assistants** provide general and administrative support.
 - As necessary, **technical experts** are hired on a consultancy basis to provide specific inputs throughout the project.

Actors

A variety of actors are involved in each of the stages of the project. In the table below, an overview is presented of the main actors targeted by project interventions in each of the defined outcome area.

Outcome area	Key actors involved	Cooperation / partnerships
OA1: Strengthening teacher policies	<ul style="list-style-type: none"> • Ministry of Education (DHE) • Myanmar Teacher Task Force (TTF) • National Education Policy Commission 	<ul style="list-style-type: none"> • Myanmar Teacher Education Working Group • Myanmar Education Consortium • Myanmar Education Quality Improvement Programme (My-EQIP) • Myanmar Education Development Group (MEDG) • Mon National Education Committee (MNEC)
OA2: Upgrade teacher programs with competency-based curriculum	<ul style="list-style-type: none"> • Curriculum Core Team • Teacher educators in 25 education colleges • Ministry of Education (DHE) 	<ul style="list-style-type: none"> • Board of Studies, • Basic Education curriculum development team of DERPT • National Education Policy Commission • Myanmar Special Education Association (MSEA)

⁵⁰ The UNESCO Bangkok office is involved in some gender activities in the context of a regional project.

Outcome area	Key actors involved	Cooperation / partnerships
		<ul style="list-style-type: none"> • Australian Council for Educational Research • MoE - Department of Technology Promotion Committee
OA3: Strengthen management of Education Colleges	<ul style="list-style-type: none"> • Ministry of Education (DHE) • Senior management in 25 education colleges (principals, vice-principals, heads of department, administrative staff) 	<ul style="list-style-type: none"> • National Education Policy Commission • UNESCO International Institute for Education Planning (IIEP)
OA4: Mainstream inclusiveness	<ul style="list-style-type: none"> • Ministry of Education (DHE) • Education colleges (management, teacher educators) • Curriculum developers • Education Promotion Commission 	<ul style="list-style-type: none"> • UNESCO CapED team • UNFPA • Basic Education curriculum development team of DERPT • UNESCO Bangkok Team for gender Mainstreaming in Education and HIV/AIDS and Sexuality Education

Table 8: Outcomes and general objective

Risks and Assumptions

The project documents list a number of potential risks to the implementation of the activities. The most relevant are presented here.

- **Scope of human resources for the ambitious project:** The timeline and resources required for the overall reform are highly ambitious. It requires the full commitment of both UNESCO and national counterparts at the Ministry. Staff changes within national administrations occur frequently and affect particularly long-running projects like the STEM project. It is important that the project is able to anticipate these, and have contingencies in place to mitigate its most visible consequences.
- **Conflicting schedules at ECs to participate in STEM activities:** The ambitious capacity building activities concentrate many activities in the Education Colleges, who in addition to their participation to the STEM project, naturally continue to perform their important daily work of preparing future teachers. It is necessary to ensure an effective planning of capacity building activities, which needs to be actively coordinated with management at education colleges.
- **Communication of reforms to stakeholders:** An effective implementation of the policies and curricular reform of the STEM project depends on the support of stakeholders. Communication activities can help to mobilize such support, but require additional attention, both from the project team as from UNESCO.
- **Stretched approval process:** The formal political approval of strategies can be a lengthy process. A potential risk is that such processes hold up additional activities, which then depend on the approval of formal strategies. It is therefore necessary to ensure the mobilization of senior-level management support for the project and its activities, to help avoid that formal approval processes cause cascaded delays throughout the project implementation.

Annex 3: Overview outputs, outcomes and achievements

The following table provides an overview of the initial project outputs and outcomes; the slightly revised outputs and outcomes (as presented in the progress reports) and an assessment of the achievement by July 2020 (based on documentary evidence and clarifications from interviews). In the second column, the orange-shading refers to modifications in the output/outcome; in the fourth column the shadings refer to the stage of development: green-shading refers to 'achieved'; orange-shading to 'in development / partly achieved'; and finally, the red-shading refers to 'not achieved'. For some indicators, further explanation is provided.

Initial Project document	Latest progress overview	Performance indicators	Progress July 2020
Output 1.1 A national mechanism, supportive of a human rights-based approach to teacher policies, established to lead and advise on policy development, standard setting, and quality assurance in teacher education	Output 1.1: Teacher Education Council established to enable teacher representatives to advice and support implementation of NESP Teacher Education and Management (NESP S1C1)	PI1.1.1. Teacher Education Council established and operational PI1.1.2. Teacher Education Council leads policy development and standards setting for teacher education	A Teacher Education Council has been approved but not yet been established. Not yet, decided to focus on one area; teacher promotion
NA	Output 1.2: Teacher quality assurance system developed for assessment of teacher quality and measurable improvement in student learning (NESP S1C2)	PI1.2.1. TCSF developed including ICT specific competencies PI1.2.2. The number of states and regions taking part in TCSF validation study with national focus group discussions conducted PI1.2.3. MoE-appointed TCSF Working Group leads the development of the TCSF and advice on implementation	the TCSF is currently being validated All states/regions took part in the TCSF validation study.
Output 1.2 Strengthened capacity of the MoE to review, develop, and implement comprehensive teacher policies informed by international human rights, gender equality, and rights of teachers	Output 1.3: Design and implement an equitable teacher recruitment, promotion, and deployment system to improve management and achieve an appropriate teacher student ratio (NESP S1C3)	PI1.3.1. Teacher policy on recruitment, promotion and deployment developed and implemented PI1.3.2. Teacher Task Force leads in the development of teacher policies	In development Teacher promotion was discussed in the TTF meetings
Outcome 1 Comprehensive teacher policies informed by international human rights, gender equality, and rights of teachers are adopted, enabling implementation of an updated competency-based EC degree program	Outcome 1: Comprehensive teacher policies informed by international standards are adopted, enabling implementation of the updated competency-based Education College (EC) degree	PI1.1. Comprehensive teacher policy developed PI1.2. Teacher promotion policy revised to support specialization tracks PI1.3. Updated/new teacher policies are being used in MoE strategies and decision making	
Output 2.1 EC competency-based course curriculum, subject-level syllabi, textbooks and other materials developed, based on the Curriculum Framework produced under STEM Phase 1	Output 2.1: Competency-based curriculum for four-year EC degree developed with support of the Curriculum Core Team (CCT)	PI2.1.1. Competency-based curriculum framework for 4-year degree is developed	First year is developed; second year under development. Year 3 and 4 are scheduled for the next years.

Initial Project document	Latest progress overview	Performance indicators	Progress July 2020
Output 2.2 Updated competency-based EC curriculum delivered through flexible EC programs in close collaboration with schools for practicum periods, including distance education and blended learning programs		PI2.1.2 Number of participative curriculum building workshops held with the CCT members	
		PI2.1.3. Syllabi, textbooks and teacher educator guides are developed, for year 1, 2, 3 and 4 of the new curriculum	The full EC curriculum for Semester 1 of Year 1 was distributed for use by all 25 ECs by December 2019; and Semester 2 of Year 1 was distributed by June 2020 (soft copies were made available at E-library in March 2020). Year 2 EC curriculum subject syllabi have been developed and submitted for the approval
		PI2.1.4. CCT members participate in decision making in the development of the EC materials	CCT members are participating in decision making
Output 2.3 Capacity development plans implemented with training of Teacher Educators on curriculum development and required pedagogies for implementation of an updated competency-based EC curriculum	Output 2.2: Teacher Educators supported in delivery of competency-based curriculum and required pedagogies for implementation of the new EC degree program	PI2.2.1. % of Teacher Educators trained in competency-based curriculum, including ICT	Over 98% of all teacher educators received an introduction to competency-based curriculum with practical exercise during two five-day sessions in October and November 2019.
		PI2.2.2. Number of training workshops held on ICT with ICT teacher educators from all ECs	takes place annually (2015-2019)
		PI2.2.3 Number of orientations in ECs completed about the upgrade	Orientations were provided to all 25 ECs in August 2019 by MoE with support of STEM.
		PI2.2.4. E-portal is developed with access to course modules and other selected teaching and learning resources, and shared with all ECs	All ECs have access to the E-library component of the E-portal. E-learning platform development is on hold due to the limitation of funding in Phase III.
		PI2.2.5. Framework for Continuous Professional Development (CPD) for Teacher Educators developed	CPD framework is completed. The approval process for CPD framework is being further clarified.
		PI2.2.6. Training modules for Teacher Educators developed for selected modules	
		PI2.2.7. Teacher Educators use the ICT equipment, e-Portal and other digital resources to improve their teaching	
Outcome 2 ECs supply all States/Regions with high quality, specialized, primary and middle school teachers trained through an updated competency-based curriculum, in line with international norms and standards, that meets the varied demands of diverse learners in Myanmar	Outcome 2: Education College (EC) two-year diploma upgraded to specialized programs with competency-based teacher education curriculum (NESP S2C2)	PI2.1. Number of ECs that use the updated competency-based curriculum	As at June 2020, all 25 ECs are using the updated competency-based curriculum for their Year 1 cohort of student teachers.
		PI2.3. Competency-based teacher educator guides are being used by Teacher Educators in implementation of new reform	For Year 1 the guides are developed
Output 3.1 Capacity building conducted for improving financial planning and management of ECs through innovative financing mechanisms, including pooled budgets	Output 3.1: Comprehensive plan for upgrade of Education College (ECs) to 4-year degree institutions developed and implemented	PI3.1.1. Master Plan developed for implementation of the new EC degree, including enrolment and cost projections	A resource plan was developed indicating enrolment options and costs for the EC upgrade at the national level.
		PI3.1.2. Physical facilities in relation to ICT equipment and internet access improved	
Output 3.2 Capacity development plans	Output 3.2: Capacity development plans	PI3.2.1. Framework for Continuous Professional Development (CPD)	

Initial Project document	Latest progress overview	Performance indicators	Progress July 2020
implemented with training of MoE/DTET and EC management staff on efficient management of ECs, delivered through a diversity of formats	implemented with training of Education College management staff	for EC management staff developed and used PI3.2.2. Training modules in management skills developed for selected modules	 in development, but largely on hold.
Outcome 3 Increased efficiency of human resource and financial management systems in ECs supporting the implementation of an updated competency-based degree program	Outcome 3: Strengthened management and administration of Education Colleges (NESP S2C4)	PI3.1. New management structures to support upgrade of 4-year degree implemented	no confirmation
		PI3.2. % of EC management staff trained in management skills	
		PI3.3. Projections of teacher needs used in planning	The projections were used in the national resource plan for the EC reform
		PI3.4. EC managers make use of the ICT equipment to perform management tasks	
Output 4.1 Baseline STEM 2 analytical study of inequalities in teacher education identifying causes and possible responses, informing issues of equality and equity to be raised with the Government during the teacher education reform process	Output 4.1: Baseline assessments on inequalities in teacher education in Myanmar informing the teacher education reform process	PI4.1.1. Baseline assessments of inequalities in teacher education conducted and informing planning of reform activities PI4.1.2. Inclusion issues mainstreamed into policy, curriculum, and training programs across Outcome 1-3 project activities	
Output 4.2 Capacity development on issues of HR, gender quality, teachers' rights, peace education across training of curriculum developers, MoE/DTET staff, EC Teacher Educators and management staff in STEM Outcomes 1-3	Output 4.2: Ministry of Education and Education College staff supported in capacity building and promotion of inclusive approach in teacher education	PI4.2.1. CCT members are supported during the curriculum development workshops to include gender equality, human rights and peace education throughout materials PI4.2.2. Awareness raising and training modules on gender mainstreaming, gender and education, gender sensitive pedagogy teacher hand book, peace education and human rights in CPD program for MoE staff, ECs staff and CCT members to implement inclusive approach in teacher education	 Initial steps are taken and some manuals are developed. The training will take place in Phase III
Outcome 4 Increased awareness among MoE and EC staff of inequalities in teacher education creating an enabling environment for teacher policy and teacher education reform to be developed and implemented in line with international human rights, gender equality, peace education, and rights of teachers	Outcome 4: An inclusive education approach mainstreamed through teacher policies, teacher education curriculum, and Education College Continuous Professional Development (CPD) programs	PI4.1. Updated curriculum, syllabi and textbooks demonstrate awareness on gender equality, human rights, and peace education	This is the case for the Year 1 curriculum and foreseen for the Year 2 curriculum as well.
		PI4.2. Updated teacher policies demonstrate awareness on gender equality, human rights and peace education	Discussions started
		PI4.3. CPD program demonstrates awareness on gender equality, human rights and peace education	CPD framework is there and foreseen attention to the inclusiveness topics
		PI4.4. Teacher educators, policy makers and MoE officials promote an inclusive approach in teacher education	

Table 9: Overview of outputs, outcomes and achievements

Annex 4: Evaluation questions, sub-headings and concise answers

Title in report	Linked to Evaluation Question	Answer
3.1.1 Contribution to national objectives and priorities	Q2.2: To what extent did the STEM Phase II contribute to the objectives and priorities of National Education Strategic Plan (NESP) and other national development objectives?	STEM Phase II is a central pillar of implementation for teacher education policies defined in NESP and other national development objective. It is difficult to envisage progress on the NESP without the important steps supported by STEM Phase II
3.1.2 Relevance of results for final-beneficiaries	Q2.1 To what extent did STEM Phase II produce results that are relevant to and resulted in benefits to beneficiaries such as Education Colleges, principals, teacher educators and student teachers?	STEM Phase II produced relevant results with immediate and more long-term benefits to key beneficiaries, such as education colleges, its management, teacher educators and student teachers.
3.2.1 Achievements of expected outcomes (expected to be attained by 2022), as outlined in the STEM Phase II Results Matrix	Q1.1 To what extent can the activities and outputs realized as part of STEM Phase II lead to the achievement of the expected outcomes (expected to be attained by 2022), as outlined in the STEM Phase II Results Matrix? Why/Why not?	Many activities, workshops and trainings have been conducted according to plan, but more will be needed to reach all the expected outcomes by 2022.
3.2.2 Constraints in implementing project activities	Q1.4 What constraints were encountered in implementing project activities? How were they addressed and what was the impact on the achievement of project outcomes?	Constraints in the implementation of activities can be identified in discrepancies between the political ambitions and realities on the ground, the relatively short timeline to develop the new curriculum, challenges in staffing and expertise in the Ministry and EC. Finally, the COVID-19 pandemic and associated lockdown also posed a major constraint by effectively halting the face-to-face delivery of the first semester.
3.2.3 Relevance of identified risks; key assumptions and mitigation strategies	Q1.3 To what extent were the identified risks and key assumptions relevant? To what extent the mitigation strategies were effective in addressing the risks during the implementation of the project?	The assumptions as presented in the initial project document remained highly relevant during the project implementation. The risks identified in the project document impacted implementation only to a limited extent. Mitigation strategies adopted were largely effective in addressing – mostly internal – risks.
3.2.4 Adequacy of the M&E system in place	Q1.5 Did the M&E system in place allow for the collection of sex-disaggregated data, monitoring of results and preparation of regular progress reports?	The M&E system does not outline in detail progress at the level of activities, and does not indicate how activities are linked to expected outputs and outcomes. This makes it difficult to rely on the existing M&E system in place for the monitoring of results.
3.3.1 Impact on the different	Q5.1 What impact did STEM have on the different beneficiaries or target groups, including contribution to gender equality and equity and	STEM Phase II reached out to all ECs, its principals, teacher educators and new student teachers (in the first year of their studies, started December 2019). All are confronted with the rollout of the new degree program (Year 1). Furthermore, most

beneficiaries or target groups	social inclusion in teacher education?	teacher educators are somehow involved in the development of the new curriculum or received an orientation training related to the delivery of the new curriculum.
	Q5.3 To what extent can observed changes be attributed to the interventions of STEM Phase II? How have women, men and vulnerable groups experienced these changes?	
	Q5.5 What evidence, or in the absence of strong evidence, “weak signals” of impact, positive or negative, intended or unintended, can be found of STEM’s contributions to the final beneficiaries in the long-term?	
3.3.2 Impact at an institutional level	Q 5.2 What changes did STEM Phase II bring about at an institutional level?	STEM Phase II required the ECs and TEs to start working in a different manner and to work more collaboratively in lesson preparation and delivery. STEM Phase II contributed to increased application of ICT and the use of internet (through providing access, equipment, and ICT training) in teaching and learning and in administration. Finally, STEM Phase II supported ECs to take first steps in becoming more autonomous (higher education) institutions through improved planning capacities.
3.3.3 Contribution to the broader and longer-term response to teacher education reform in Myanmar	Q 5.4 To what extent did the project contribute to the broader and longer-term response to teacher education reform in Myanmar? Considering the progress made in Phase II, to what extent does the evidence demonstrate the likelihood of achieving the final outcomes (expected to be attained by 2022)?	The most important long-term contribution of STEM Phase II to the education system is the revised content of the teacher education curriculum. This crucial achievement is however insufficiently accompanied by supporting policies and the required level of institutional change at the ECs and the MoE to lead to changes at the system level.
3.4.1 Efficiency of the implementation	Q3.1 Was STEM Phase II implemented in the most efficient way vis-à-vis its financial and human resources? Do the results justify the resources invested into the project?	The efficiency of STEM Phase II cannot be fully assessed due to constraints in the reporting on financial information. The STEM project team was unable to provide the evaluators an overview of the initial budget allocation, planned and realized expenditure per cost category, outcome area and outputs.
3.4.2 Effectiveness governance framework and coordination mechanisms	Q2.3 How effective was STEM Phase II’s governance framework and coordination mechanisms with the MoE, donors and UNESCO?	The governance framework is conducive to achieving desired results of the STEM Phase II project.
3.4.3 Mobilization of time and resources of the MoE,	Q3.2 Did STEM Phase II make appropriate use of the time and resources of the MoE, UNESCO and the donors to achieve its expected outcomes? How effective was	The project’s effective governance and coordination mechanism enabled the mobilization of time and resources in the Ministry of Education, UNESCO and donors.

UNESCO, donors and others	cooperation among the various stakeholders?	
3.4.4 Alignment with work of other national, regional and international actors	Q3.3 Are STEM Phase II's activities aligned to the work of other national, regional and international actors involved in Myanmar's teacher education reform initiatives?	The reforms in the basic education and teacher education systems are supported by various key actors and projects active in Myanmar
3.4.5 Communication of results, good practices, lessons learned and challenges	Q3.4 Are results, good practices, lessons learned and challenges being communicated in an effective manner to all stakeholders?	The progress and results of STEM Phase II are regularly communicated with the key stakeholders, through annual progress reports. The project reaches out to the field through frequent surveys.
3.5.1 Sustainability of benefits and impact	Q4.1 To what extent are the benefits/impact of STEM Phase II likely to continue? What are the major factors that will affect continuity?	The most crucial benefits are likely to continue; the implemented teacher education curriculum essentially moved past the point of no return. Sustainability is lower of measures that depend on supporting policies, such as the TCSF, EC management, and inclusiveness objectives.
3.5.2 Organizational, social and financial structures supporting sustainability of results	Q4.2 What evidence can be found of organizational, social and financial structures that will support sustaining the results achieved by STEM?	There is evidence for the presence of organizational, social and financial structures that can sustain results achieved so far. This does however not exclude the necessity of continued support in the form of national policies.
3.5.3 Measures to strengthen capacity at the individual and organizational level	Q4.3 What measures have been undertaken to strengthen capacity at the individual and organizational level to sustain results?	While measures have been taken to strengthen capacity at the organizational and individual level, a number of challenges remain, which need to be taken up in STEM Phase III.

Annex 5: List of interviewees

NAME	POSITION
UNESCO MYANMAR	
Min Jeong Kim	Head of Office
Antony Tam	Responsible STEM manager until May 2020
Emily De	National Program Officer - Education, involved in Outcome 4
Sandar Kyaw	Project Officer, Outcome 1 lead
Nwe Ni Win	Assistant Project Officer (ICT)
Kay Thi Oo	Project Officer, Outcome 3 lead
Atiba Xavier Johnson	M&E Officer
Dolly Shein	Project Officer, Outcome 4 lead
Hyekyung Kang	Project Officer, Outcome 2 lead
UNESCO REGIONAL OFFICE BANGKOK	
Mr. Nyi Nyi Thoung	Program Specialist, involved in Outcome 3 simulations
Maki Hayashikawa	Chief Section for Inclusive Quality Education (IQE) and Gender Focal Point
DONORS	
Ms Khaing Phyu Htut	Education Adviser, DFID
Sanna Takala	Senior Specialist on Development Policy, Finland
Esther Sainsbury	First Secretary, DFAT
NATIONAL STAKEHOLDERS	
Dr Win Aung	Member of the National Education Policy Commission
U Mae Aung	Secretary DDG DEPT, National Accreditation Quality Assurance Committee
Dr May San Yee	DDG DHE, Ministry of Education
Daw San San Nu	Director, DHE team, Ministry of Education
U Kyaw Than	Director, DHE team, Ministry of Education
Daw Khin Htwe	Director, DHE team, Ministry of Education
Daw Khin May Thit	Director, DHE team, Ministry of Education
Daw Thit Thit Soe	Deputy Director, DHE team, Ministry of Education
Daw Marlar Khaing	Assistant Director, DHE team, Ministry of Education
Dr Yin Myo Thu	DDG DHE, Ministry of Education
Dr Naing Naing Thein	Associate Professor, Methodology Department, Yangon University of Education
Dr Aye Thida Soe	Deputy Director, Department of Educational Research Planning and Training
U Khaing Zeyar Tun	Staff Officer, Department of Basic Education
Daw May Lwin Mg Mg	Assistant Lecturer, Magwe EC
U Than Htet Soe	M&E Officer, Monastic Education Development Group
Dr Su Su Thwin	Professor (Retired), Department of Educational Theory
Dr Daw San Win	Associate Professor, Education Psychology Dep., Yangon University of Education
Daw Lei Lei Win	Associate Professor, Sagaing University of Education
Dr Daw Khin Myo Myint Kyu	Petron of TTF, Former Deputy Director General of DEPT
Dr Saw Pyone Naing	Chairperson of TTF, Rector of Sagaing University of Education
Dr Sai Khaing Myo Tun	member of TTF, President of Myanmar Teacher Federation
Daw Thuzar Shein	Vice Principal, Myaung Mya EC, Gender Country team member for STEM
Dr. Soe Moe Aung	Lecturer, Mandalay EC, Gender Country team member for STEM
Daw Aye Mya Mya Tun	Lecturer, Patheingyi EC, Gender Focal for Patheingyi EC
Min Hlaing Non	Project Coordinator, Mon National Education Committee (MNEC)
EDUCATION COLLEGES	
Hlegu EC	
U Nang Sian Khual	Teacher educator, Education Psychology
Daw Myat Thuzar	Lecturer, Mathematics
Daw San San Nyunt	Head of Department, Educational Studies
Daw Hay Man Nway Hnin Si	Teacher educator, English
Daw Aye Aye Lwin	Principal
Taungoo EC	
Daw San San Myint,	Principal
U Kyaw Thauung	Assistant Lecturer
U Hein Htet San	Assistant Lecturer
U Chit Ko Oo	Assistant Lecturer
Mandalay EC	

NAME	POSITION
Daw Moe Moe Kyi	Principal
Daw Yin Yin Oo	Lecturer
U Wai Lin Soe	Assistant Lecturer
Dw Kyu Kyu Swe	Assistant Lecturer
Hpa-An EC	
Daw Khin Myo Myint	HoD, Local curriculum
Daw Hsu Thizar Phyo	Teacher educator, Educational Studies
Daw Nang Thi Thi Han	Teacher educator, Mathematics
Daw Ywet Nu Aye	Teacher educator, ICT
Daw Khin Myint Hlaing	Vice Principal
Monwya EC	
Daw Yee Yee Win	HoD, English
Daw Thin Ei Zar	Teacher educator, ICT
Daw Win Theingi Kyaw	Principal
Daw Aye Phyu Zin	Vice principal
Daw Yee Yee Win	Lecturer, Mathematics
Kyauk Phyu EC	
U Myo Naing	HoD, English
Daw Khin May Htway	Teacher educator, Social Studies
U Sithu Kyaw	Teacher educator
Daw Mya Aye San	Teacher educator
Daw Me Me Win	Principal
Patheingyi EC	
Daw Than Than Naing	Principal
Lashio EC	
Daw Khin San Win	Principal
Daw Kay Thi San	Assistant Lecturer, Educational Theory
Daw Mar Lar Khin	Assistant Lecturer, English
U Myo Min Zaw	Assistant Lecturer, Mathematics
OTHER STAKEHOLDERS	
Helen Drinan	Team Leader DFID Tree project
Ikuko Ishimizu	Education Specialist, UNICEF
U Hta Uke	Position? Myanmar Special Education Association (MSEA)
Claire Roman	Education Director. Myanmar Education Consortium (MEC)

Annex 6: List of sources (besides project-specific sources)

Myanmar Government, Comprehensive Education Sector Review (CESR), Phase 2 Report/Teacher Education proposal

DFAT (2017), Myanmar Education Quality Improvement Program –Draft Design -3 February 2017

E.g. Rivkin, Steven G., Hanushek, Eric A., Kain, John F, (2005), Teachers, Schools, and Academic Achievement, in: Econometrica, Vol. 73, No. 2. (Mar., 2005)

Han, Min Min, (2019), Assessment of Equity and Inclusion in Pre-service Teacher Education in Myanmar: At the Education College Level

Kirkpatrick, J.D., (2016). Kirkpatrick's Four Levels of Training Evaluation Paperback

Myanmar Government (2014) - Comprehensive Education Sector Review (CESR): <http://www.cesrmm.org/documents>

Myanmar Government, Ministry of Education (2016), National Education Strategic Plan 2016-21 Summary; foreword Daw Aung San Suu Kyi; State Counsellor The Republic of the Union of Myanmar

Myanmar Government, Ministry of Education, Australian Aid, UNESCO (2020), Teacher Competency Standards Framework (TCSF): Validation study report May 2020.

Myanmar Government, Ministry of Education, e-library - <https://edc.moe.edu.mm/en/elibrary>

Nielsen MMRD (2020), - Summative Report - Monitoring the Implementation of the Semester 1, Year 1 of the New 4-year Degree Program in Education College.

Rick Davies, April 2012: Blog post on the criteria for assessing the evaluability of a theory of change <http://mandenews.blogspot.co.uk/2012/04/criteria-for-assessing-evaluablity-of.html>

UNESCO Project Office in Myanmar (2019), Midterm evaluation of the Strengthening Pre-service Teacher Education in Myanmar (STEM) project, Evaluation Report

UNESCO Project Office in Myanmar (2020), SISTER Reporting Jan - June 2020

UNESCO Project Office in Myanmar, STEM Project Documentation

World Bank, March 3 Press Release, Myanmar: New Project Aims to Improve Education Quality and Access Across Country - <https://www.worldbank.org/en/news/press-release/2020/03/03/myanmar-new-project-aims-to-improve-education-quality-and-access-across-country>

Annex 7: Data collection templates

Interview Protocols

Preparation

Previous to the interview the evaluators should make sure they have carried out preliminary preparation work: each evaluator should get deeply acquainted with the formulation of the assumptions and indicators in the Evaluation Matrix so as to incorporate them in the specific questions that are asked to interviewees as deemed relevant. Before the interview, evaluators should also be familiar with both the interview protocol and with the background information on the stakeholders they are about to interview. For the latter, it is recommended to integrate both the information gathered in the desk review with the information already shared by UNESCO.

Objectives

The main objective of an individual interview is to gather relevant information on main and complementary aspects related to Evaluation Matrix questions. Each interview protocol highlights the main aspects that should be necessarily addressed in the interview. They are aspects for which the informants have particularly useful information given their roles and functions. When the interviewee has very limited availability / time for the interview, the evaluator should focus solely on main aspects. Complementary aspects are aspects for which the interviewee may provide relevant information, but they are less crucial than main aspects given the roles and functions of the informant and his/her position in relation to such aspects (usually an indirect position).

Interview

The interview protocols include pre-established questions that should be covered during the interview. As shown in the interview protocols below, all questions refer to entire evaluation questions or to parts of questions, that is, to specific assumptions within each question.

The evaluator should listen attentively to the interviewees' answer, and make use of follow-up questions in order to receive additional/more explanatory answers (how? why?). The evaluator should take notes and draft an interview report in which the topics of the checklist are clearly recognizable. Key quotes should be reported word-for-word.

Depending on the nature/process of the interview, the evaluator can change the order of questions. Additionally, not all questions will be similarly relevant for all interviewees of each category.

Moreover, there might be aspects emerging during the interview with a particular stakeholder that are not reflected in the protocol. If there is something that the interviewed informant wishes to clarify, add, or discuss, the evaluator should allow the time and attention to let her/him do so.

In any case, the evaluator must guide the respondent to make sure that the main aspects are all covered and covered first.

In order to strike the balance between maintaining control over the interview and opening up spaces for unrequested feedback, after following the protocol the evaluator can also choose to add the following closing question to the interview protocol.

CLOSING QUESTION

Before finalizing the interview, I would like to ask you on what aspects do you think there was/is room for improvement and how. Do you have any recommendations you would like to share with us for the future? In any case, please feel free to comment on any other aspects we have not covered during the interview.

End of the interview

To conclude, evaluator should thank the interviewee for his/her time and contributions and tell him/her when the Final Evaluation Report will be available. Evaluators should provide his/her contact details in case the interviewee wants to contact the team for more contributions or questions/clarifications about the evaluation. Before ending the interview, the evaluator will make sure she/he has the contact details of the interviewee.

Conceptual clarifications

In order to collect and analyze data on inclusiveness, it is important for the evaluation to adopt a common understanding of the specific concepts related to inclusiveness. The following table identifies a definition for these concepts and contextualizes them in the perspective of key evaluation stakeholders' environments.

Concept	Definition (source)	Implications for each stakeholder context			
		EC institutional context	Development of teacher curriculum	Teacher educators	Student teachers
Social inclusion	Inclusion is seen as a process of addressing and responding to the diversity of needs of all learners through increasing participation in learning, cultures and communities, and reducing exclusion within and from education. It involves changes and modifications in content, approaches, structures and strategies, with a common vision which covers all children of the appropriate age range and a conviction that it is the responsibility of the regular system to educate all children. (UNESCO, 2005, Guidelines for inclusion: Ensuring Access to Education for All)	EC becomes the institution which manages to accept and train diverse student teachers (ethnic youths and those with some impairments) who are eligible and wish to become primary or middle school teachers	Teacher curricula take into account diverse educational needs and provides necessary arrangements to serve all kinds of teachers and all kinds of children	Teacher educators are aware of provision of equal learning opportunity to student teachers with diverse background without discrimination (intentional or unintentional) and prepare them to work back at school for promoting equal learning opportunity among children with diverse background	Student teachers with diverse background have equal learning opportunity in EC without intentional or unintentional discrimination
Inclusive education	Inclusive education means that all children - no matter who they are - can learn together in the same school. This entails reaching out to all learners and removing all barriers that could limit participation and achievement. Disability is one of the main causes of exclusion; however, there are also other social, institutional, physical, and attitudinal barriers to inclusive education. (IIEP, http://www.iiep.unesco.org/en/inclusive-education)		Teacher education curriculum and pedagogy are designed to develop student teachers regarding instructional knowledge and practice of how to promote learning of varied and diverse children (those with learning difficulty; early grade ethnic children with mother tongue-based literacy learning; those with different religion, ethnicity and cultural		They are aware of provision of equal learning opportunity to children with diverse background without discrimination (intentional or unintentional) Student teachers are prepared to apply back their instructional knowledge and skills learned from EC in enhancing learning varied and diverse children in classroom when they

Concept	Definition (source)	Implications for each stakeholder context			
		EC institutional context	Development of teacher curriculum	Teacher educators	Student teachers
			background; those with some impairment)		become primary or middle school teachers
Gender equality (in education)	This ensures that female and male learners are treated equally, have equal access to learning opportunities and benefit from education equally. They become empowered and can fulfil their potential so that they may contribute to and benefit from social, cultural, political and economic development equally. Special treatment/action can be taken to reverse the historical and social disadvantages that prevent female and male learners from accessing and benefiting from education on equal grounds. (UNESCO, 2015 - A Guide for gender equality in teacher education policy and practices)	ECs are able to take into account the specific needs of women and men and enable both to reach their full potential, including by eliminating harassment and gender-based violence.	Teacher curricula address the need to transform social norms and values that hinder women's empowerment	Teacher educators are aware of gender issues and are able to transform their pedagogical methods to share insights, techniques and content to student teachers	Student teachers are prepared and able to effectively transmit transformative behaviours in the classroom

Table 10: Conceptual clarifications

Interview guide – Project stakeholders

The checklist below is indicative of the issues that are of interest to the evaluation. The actual interview will focus primarily on the main area of expertise and experience of that respondent. Interviews are expected to last between 40-60 minutes, and not all questions will be asked to all respondents in this category. The respondent will receive the checklist in advance.

Introduction

- Please introduce the department/unit you represent
- Please describe your role in relation to the implementation of STEM II. In which activities where you involved?

Project description and characterization

The evaluation formulated the following line of reasoning of the project: The STEM project aims to increase the number of qualified school teachers in Myanmar through capacitating national and institutional stakeholders to improve the policies, management of institutions, teacher education curriculum and its roll-out, with particular attention to inclusiveness.

- How well does this line of the reasoning represent the logic behind the STEM project? What would you add?

Effectiveness in Implementation

- How do the activities link to the expected outcomes to be attained by 2022? Is it likely that these activities actually contribute to the expected outcomes? (Q1.1)
- Have changes been implemented on the Result matrix? Why? (Q1.1)
- Which activities have /have not been conducted? Why? (Q1.1)

<ul style="list-style-type: none"> • Strengthen capacity to review, develop and implement comprehensive teacher policies • Technical support to set up policy forum • Technical support for establishing certification system for teachers • Policy Seminars
<ul style="list-style-type: none"> • Upgrade specialized programs with competency-based teacher education curriculum • Establish a curriculum core team of EC personnel • Support drafting and piloting of syllabus, textbook and educator guides • Training of teacher educators knowledge, capacity and resources (ICT)
<ul style="list-style-type: none"> • Strengthened management and administration of Education Colleges • Support MoE master planning in teacher needs, enrolment and cost projections • Develop and implement a CPD Framework and training modules for EC management (incl. ICT)
<ul style="list-style-type: none"> • Mainstream inclusiveness in teacher policies, teacher education curriculum and CPD • Conduct baseline assessment on inequalities in teacher education • Develop localized training manual on gender mainstreaming • Training of curriculum team on inclusiveness

- What were the recommendations in the mid-term evaluation 2019? (mid-term evaluation)
- To what extent were the recommendations followed-up? What was achieved by the follow-up? See annex to checklist. (mid-term evaluation)
- What were the key underlying assumptions and risks in the project implementation? Did some of the identified risk occur during implementation? (Q1.3; Q1.4)

- Which implementation challenges did the project encounter? (Q1.3; Q1.4)
- Which mitigation strategies were foreseen? How effective were the mitigation strategies? How were these challenges approached and which solutions were found? (Q1.3; Q1.4)
- What was the negative impact of the constraints and how is this impact mitigated? (Q1.3; Q1.4)
- To what extent did the key assumptions for project implementation remain generally valid? (Q1.3; Q1.4)
- What is the quality of the M&E system in terms of links between indicators and outcomes, ability of disaggregate data, and reporting? (Q1.5)
- What data collection tools are used in monitoring? To what extent are beneficiaries' perspectives taken into account? (Q1.5)

Relevance of Project Results and Governance

- To what extent are the topics addressed by STEM considered relevant by beneficiaries within the institutional context? (Q2.1)
- To what extent did STEM lead to change at beneficiary level in terms of change of behaviour on STEM specific aspects such as inclusive education? (Q2.1)
- To what extent did the stakeholders fully understand and were able to work with the governance framework and coordination mechanism? (Q2.3)
- To what extent did the governance framework and coordination lead to challenges, or avoided challenges to occur? (Q2.3)

Efficiency of Implementation

- What financial and human resources were invested in STEM Phase II? What is the absorption/ implementation rate of the project? (Q3.1)
- Are the costs per activity or result justified and in line with similar projects? (Q3.1)
- To what extent did the project mobilize time and resources at MoE, UNESCO and donors? (Q3.2)
- To what extent was the cooperation in the project implementation effective? (Q3.2)
- Which other national, regional and international actors work on the areas covered by STEM? (Q3.3)
- To what extent are synergies sought with these other actors/projects? (Q3.3)
- Is there a communication policy in place to transmit lessons learned about STEM? (Q3.4)
- To what extent are stakeholders aware of the project and its lessons learned? (Q3.4)

Impact and sustainability

- To what extent did STEM reach its envisaged target groups? (Q5.1)
- To what extent did STEM lead to learning and change of individual professional behaviour and actions? To what extent was this related to gender equality and social inclusion? (Q5.1)
- To what extent are capacity building approaches integrated in the project activities so that the project effectively developed the capacities of those involved? (Q4.3)
- To what extent institutional and organizational environment has been encouraging and supporting the individual's application of capacities improved by STEM in respect of changes in individual behaviour and organizational change? (Q4.3)
- To what extent do final beneficiaries record any contributions of STEM on the long-term (also unintended)? (Q5.5)
- To what extent did STEM reach the teacher colleges and engaged them in active participation? (Q5.2)
- To what extent did STEM lead to institutional change? (Q5.2)

- To what extent are the results of the STEM institutionalized and incorporated in existing structures? (Q4.1)
- What factors affect the sustainability (positive and negative)? (Q4.1)
- How are the project results supported after the project duration by national stakeholders, other sources? (Q4.2)
- What development at teacher college and national level took place in the recent years? (Q5.3)
- To what extent can these changes be attributed to STEM phase II? To what extent did STEM contribute to the teacher education reform? (Q5.3)
- How do different vulnerable groups experience the changes? (Q5.3)
- To what extent is the current state of implementation a predictor to achieve the outcomes by 2022? (Q5.4)

Lessons learned

- What are the main lessons learned in STEM Phase II?
- What recommendation would you give for the future related to the implementation, coordination, communication, monitoring, achieving results etc.?

Annex: Mid-term evaluation recommendations

1. STEM to support the MoE to generate and use a working version of the TCSF, as it pertains to the beginning teacher emerging from the new EC degree program
 - 2a. Urgently discuss with the DDG of DHE the possibility of providing additional units of resource in her office, based in NPT, to assist work planning and prepare for the EC degree program
 - 2b. Appoint a STEM/MoE Communications Officer to support EC preparations and roll out of the new degree course – a Myanmar language speaker
 - 2c. STEM supports MoE to co-ordinate each EC's creation and delivery of an action plan covering the next six months of preparation for the new program.
 3. Strengthen STEM's senior-level engagement, for example with the appointment of a senior education adviser.
 4. STEM/MoE to recognize the important skill-set of the Core Curriculum Team (CCT) cadre in the new EC program, identifying developmental roles for them within each EC, and reflect the intended outcomes of STEM's support to the CCT in the Results Matrix
 5. STEM/MoE to ensure implementation of the comprehensive professional development plan for all teacher educators in ECs receives sufficient priority, so that teacher educators' capacity to deliver the new course is not left neglected in favour of the more visible aspects of EC preparation
 - 6a. STEM to ensure the Years 2-4 curriculum development process includes consultation with basic education subject authors and other actors in curriculum before developing first drafts
 - 6b. Further clarify roles and lines of communication between all actors in curriculum development, particularly for curriculum development contractor(s)
 - 6c. Clarify role and required use of CREATE's Teacher Education materials
 7. Identify STEM's intended changes (outcomes), reflect these in results matrix (with an appropriate measurement plan). Develop an operational MEL plan
 8. Define and agree Value for Money indicators
- Inclusive Education Recommendations: Disability**
- a. STEM to support inclusion of explicit mention of disability inclusion in the TCSF
 - b. Develop Special Education Needs/disability awareness training for EC management
 - c. Provide pathways & learning opportunities for educators wishing to specialize in SEN
 - d. STEM to support greater emphasis on SEN in the curriculum
- Inclusive Education Recommendations: Ethno-Linguistic Inclusion**

- a. Develop practical strategies in the curriculum for teaching students whose mother tongue is not Myanmar language, such as introductions to speech/second language acquisition among children and on speech impediments
- b. Strengthen institutional capacity to support language diversity

Inclusive Education Recommendations: Gender

Expand and coordinate gender mainstreaming

Inclusive Education Recommendations: Communications

Create a coordinated communication strategy between CCT and ECs to influence transfer of knowledge and attitudes

Interview guide – National project stakeholders

The checklist below is indicative of the issues that are of interest to the evaluation. The actual interview will focus primarily on the main area of expertise and experience of that respondent. Interviews are expected to last between 40-60 minutes, and not all questions will be asked to all respondents in this category. The respondent will receive the checklist in advance.

Introduction

- Please introduce the department/unit you represent
- Please describe your role in relation to the implementation of STEM II.
- In which activities were you involved? How do you assess the activity you were involved in?

Project description and characterization

The evaluation formulated the following line of reasoning of the project: The STEM project aims to increase the number of qualified school teachers in Myanmar through capacitating national and institutional stakeholders to improve the policies, management of institutions, teacher education curriculum and its roll-out, with particular attention to inclusiveness.

- How well does this line of the reasoning represent the logic behind the STEM project? What would you add?

Effectiveness in Implementation

- Which implementation challenges did the project encounter? (Q1.4)
- How were these challenges approached and which solutions were found? (Q1.4)
- What was the negative impact of the constraints and how is this impact mitigated? (Q1.4)

Relevance of Project Results and Governance

- To what extent are the topics addressed by STEM considered relevant by beneficiaries within the institutional context? (Q2.1)
- To what extent did STEM lead to change at beneficiary level in terms of change of behaviour on STEM specific aspects (such as inclusive education)? (Q2.1)
- What are the main national development objectives (incl. NESP)? (Q2.2)
- How are the links between STEM and national objectives substantiated? To what extent can a contribution of STEM to the national objectives be expected? (Q2.2)
- To what extent did the stakeholders fully understand and were able to work with the governance framework and coordination mechanism? (Q2.3)
- To what extent did the governance framework and coordination lead to challenges, or avoided challenges to occur? (Q2.3)

Efficiency of Implementation

- To what extent did the project mobilize time and resources at MoE, UNESCO and donors? (Q3.2)
- To what extent was the cooperation in the project implementation effective? (Q3.2)
- Which other national, regional and international actors work on the areas covered by STEM? (Q3.3)
- To what extent are synergies sought with these other actors/projects? (Q3.3)
- Is there a communication policy in place to transmit lessons learned about STEM? (Q3.4)
- To what extent are stakeholders aware of the project and its lessons learned? (Q3.4)

Impact and sustainability

- To what extent did STEM reach its envisaged target groups? (Q5.1)
- To what extent did STEM lead to learning and change of individual professional behaviour and actions? To what extent was this related to gender equality and social inclusion? (Q5.1)
- To what extent are capacity building approaches integrated in the project activities so that the project effectively developed the capacities of those involved? (Q4.3)
- To what extent institutional and organizational environment has been encouraging and supporting the individual's application of capacities improved by STEM in respect of changes in individual behaviour and organizational change? (Q4.3)
- To what extent do final beneficiaries record any contributions of STEM on the long-term (also unintended)? (Q5.5)
- To what extent did STEM reach the teacher colleges and engaged them in active participation? (Q5.2)
- To what extent did STEM lead to institutional change? (Q5.2)
- To what extent are the results of the STEM institutionalized and incorporated in existing structures? (Q4.1)
- What factors affect the sustainability (positive and negative)? (Q4.1)
- How are the project results supported after the project duration by national stakeholders, other sources? (Q4.2)
- What development at teacher college and national level took place in the recent years? (Q5.3)
- To what extent can these changes be attributed to STEM phase II? To what extent did STEM contribute to the teacher education reform? (Q5.3)
- How do different vulnerable groups experience the changes? (Q5.3)
- To what extent is the current state of implementation a predictor to achieve the outcomes by 2022? (Q5.4)

Lessons learned

- What are the main lessons learned in STEM Phase II?
- What recommendation would you give for the future related to the implementation, coordination, communication, monitoring, achieving results etc.?

Interview guide – Representatives of the Donors

The checklist below is indicative of the issues that are of interest to the evaluation. The actual interview will focus primarily on the main area of expertise and experience of that respondent. Interviews are expected to last between 40-60 minutes, and not all questions will be asked to all respondents in this category. The respondent will receive the checklist in advance.

Introduction

- Please introduce the department/unit you represent
- Please describe your role in relation to the implementation of STEM II.

Project description and characterization

The evaluation formulated the following line of reasoning of the project: The STEM project aims to increase the number of qualified school teachers in Myanmar through capacitating national and institutional stakeholders to improve the policies, management of institutions, teacher education curriculum and its roll-out, with particular attention to inclusiveness.

- How well does this line of the reasoning represent the logic behind the STEM project? What would you add?

Effectiveness in Implementation

- Which implementation challenges did the project encounter? (Q1.4)
- How were these challenges approached and which solutions were found? (Q1.4)
- What was the negative impact of the constraints and how is this impact mitigated? (Q1.4)
- For how many constraints solutions were found that minimized negative impact? (Q1.4)

Relevance of Project Results and Governance

- To what extent are the topics addressed by STEM considered relevant by beneficiaries (Education Colleges, principals, teacher educators and student teachers) within the institutional context? (Q2.1)
- To what extent did STEM lead to change at beneficiary level in terms of change of behaviour on STEM specific aspects (such as inclusive education)? (Q2.1)
- To what extent did the stakeholders fully understood and were able to work with the governance framework and coordination mechanism? (Q2.3)
- To what extent did the governance framework and coordination led to challenges, or avoided challenges to occur? (Q2.3)

Efficiency of Implementation

- To what extent did the project mobilize time and resources at MoE, UNESCO and donors? (Q3.2)
- To what extent was the cooperation in the project implementation effective? (Q3.2)

Lessons learned

- What are the main lessons learned in STEM Phase II?
- What recommendation would you give for the future related to the implementation, coordination, communication, monitoring, achieving results etc.?

Interview guide – Representatives of other stakeholders

The checklist below is indicative of the issues that are of interest to the evaluation. The actual interview will focus primarily on the main area of expertise and experience of that respondent. Interviews are expected to last between 40-60 minutes, and not all questions will be asked to all respondents in this category. The respondent will receive the checklist in advance.

Introduction

- Please introduce the department/unit you represent
- Please describe your role in relation to the implementation of STEM II.

Relevance of Project Results and Governance

- To what extent are the topics addressed by STEM considered relevant by beneficiaries (Education Colleges, principals, teacher educators and student teachers) within the institutional context? (Q2.1)
- To what extent did STEM lead to change at beneficiary level in terms of change of behaviour on STEM specific aspects (such as inclusive education)? (Q2.1)
- What are the main national development objectives (incl. NESP)? (Q2.2)
- How are the links between STEM and national objectives substantiated? To what extent can a contribution of STEM to the national objectives be expected? (Q2.2)

Efficiency of Implementation

- Which other national, regional and international actors work on the areas covered by STEM? (Q3.3)
- To what extent are synergies sought with these other actors/projects? (Q3.3)
- Is there a communication policy in place to transmit lessons learned about STEM? (Q3.4)
- To what extent are stakeholders aware of the project and its lessons learned? (Q3.4)

Sustainability

- How are the project results supported after the project duration by national stakeholders, other sources? (Q4.2)

Impact

- To what extent did STEM reach its envisaged target groups? (Q5.1)
- To what extent did STEM lead to learning and change of individual professional behaviour and actions? To what extent was this related to gender equality and social inclusion? (Q5.1)
- To what extent are capacity building approaches integrated in the project activities so that the project effectively developed the capacities of those involved? (Q4.3)
- To what extent institutional and organizational environment has been encouraging and supporting the individual's application of capacities improved by STEM in respect of changes in individual behaviour and organizational change? (Q4.3)
- To what extent do final beneficiaries record any contributions of STEM on the long-term (also unintended)? (Q5.5)
- What development at teacher college and national level took place in the recent years? (Q5.3)
- To what extent can these changes be attributed to STEM phase II? (Q5.3)
- How do different vulnerable groups experience the changes? (Q5.3)

Lessons learned

- What are the main lessons learned in STEM Phase II?

-
- What recommendation would you give for the future related to the implementation, coordination, communication, monitoring, achieving results etc.?

Interview guide – EC Principals

The checklist below is indicative of the issues that are of interest to the evaluation. The actual interview will focus primarily on the main area of expertise and experience of that respondent. Interviews are expected to last between 40-60 minutes, and not all questions will be asked to all respondents in this category. The respondent will receive the checklist in advance.

Introduction

- Please introduce the department/unit you represent
- Do you know about the STEM project (Phase II) overall? Please describe your role in relation to the implementation of STEM II.
- In which activities were you involved? How do you assess the activity you were involved in?

Relevance of Project Results and Governance

1. To what extent are the topics addressed by STEM considered relevant for you and your EC? (Q2.1)
2. How do you understand inclusive education, social inclusion, equity and gender equality? (2.1)
3. To what extent did STEM lead to learning and change of professional behaviour and actions of you, vice principal and teacher educators at your EC on STEM specific aspects – inclusive education, social inclusion, equity and gender equality? (Q2.1; Q5.1))
4. How are inclusive education, social inclusion, equity and gender equality mainstreamed in your EC management and administration; the EC teacher curriculum; teacher educators and student teachers? (+ Q2.1)
5. Based on your experience with STEM, how do you think of the extent STEM can contribute to National Education Strategic Plan (NESP) and other national development objectives, including related to inclusive education be expected? (Q2.2)

Impact and sustainability

6. What developments at education college and national level took place in the recent years? (Q5.3)
7. To what extent can these changes be attributed to STEM phase II? To what extent did STEM contribute to the teacher education reform? (Q5.3)
8. To what extent did STEM engage the teacher colleges in active participation? (Q5.2)
9. To what extent did STEM lead to change at EC level (institutional change)? (Q5.2)
10. To what extent are capacity building approaches integrated in the project activities so that the project effectively developed the capacities of EC principals and teacher educators? (Q4.3)
11. To what extent are the results of the STEM institutionalized and incorporated in your EC? (Q4.1)
12. Among EC principals and teacher educators, to what extent has the institutional (EC) and organizational (Department of Teacher Education & Training - DTET) environment been encouraging and supporting the individual's application of capacities improved by STEM in respect of changes in individual behaviour and organizational change? (Q4.3)
13. To what extent do you record any contributions of STEM on the long-term (also unintended)? (Q5.5)
14. What factors affect the sustainability of results in your EC (positive and negative)? (Q4.1)
15. How are the project results in your EC supported after the project duration (after 2022) (by national stakeholders, other sources)? (Q4.2)

16. What do you think of how STEM is likely to enable pre-service teacher education reform that is sustainable and how it could evolve to further secure its sustainability? (+ Q4.1)

Lessons learned

- What are the challenges and main lessons learned in STEM Phase II (2017 Jan – 2020 June)?
- What were strengths and weaknesses of the STEM project?
- What recommendation would you give for the future related to the implementation, coordination, communication, monitoring, achieving results etc. in respect of teacher education reform, EC reform and/or engagement with STEM?

Interview guide – Teacher educators

The checklist below is indicative of the issues that are of interest to the evaluation. The actual interview will focus primarily on the main area of expertise and experience of that respondent. Interviews are expected to last between 40-60 minutes, and not all questions will be asked to all respondents in this category. The respondent will receive the checklist in advance.

Introduction

- Please introduce the department/unit you represent
- Do you know about the STEM project (Phase II) overall? Please describe your role in relation to the implementation of STEM II.
- In which activities were you involved? How do you assess the activity you were involved in?

Relevance of Project Results and Governance

17. To what extent are the topics addressed by STEM considered relevant for you and teacher educators at your EC? (Q2.1)
18. How do you understand inclusive education, social inclusion, equity and gender equality? (2.1)
19. To what extent did STEM lead to learning and change of professional behaviour and actions of you and teacher educators at your EC on STEM specific aspects – inclusive education, social inclusion, equity and gender equality? (Q2.1; Q5.1))
20. How are inclusive education, social inclusion, equity and gender equality mainstreamed in the EC management and administration; the EC teacher curriculum; teacher educators and student teachers? (+ Q2.1)
21. Based on your experience with STEM, how do you think of the extent STEM can contribute to National Education Strategic Plan (NESP) and other national development objectives, including related to inclusive education be expected? (Q2.2)

Impact and sustainability

22. What developments at education college and national level took place in the recent years? (Q5.3)
23. To what extent can these changes be attributed to STEM phase II? To what extent did STEM contribute to the teacher education reform? (Q5.3)
24. To what extent did STEM engage the teacher colleges in active participation? (Q5.2)
25. To what extent did STEM lead to change at EC level (institutional change)? (Q5.2)
26. To what extent are capacity building approaches integrated in the project activities so that the project effectively developed the capacities of teacher educators? (Q4.3)
27. To what extent are the results of the STEM institutionalized and incorporated in your EC? (Q4.1)
28. Among teacher educators, to what extent has the institutional (EC) and organizational (Department of Teacher Education & Training - DTET) environment been encouraging and supporting the individual's application of capacities improved by STEM in respect of changes in individual behaviour and organizational change? (Q4.3)
29. To what extent do you record any contributions of STEM on the long-term (also unintended)? (Q5.5)
30. What factors affect the sustainability of results in your EC (positive and negative)? (Q4.1)
31. How are the project results in your EC supported after the project duration (after 2022) (by national stakeholders, other sources)? (Q4.2)
32. What do you think of how STEM is likely to enable pre-service teacher education reform that is sustainable and how it could evolve to further secure its sustainability? (+ Q4.1)

Lessons learned

- What are the challenges and main lessons learned in STEM Phase II (2017 Jan – 2020 June)?
- What were strengths and weaknesses of the STEM project?
- What recommendation would you give for the future related to the implementation, coordination, communication, monitoring, achieving results etc. in respect of teacher education reform, EC reform and/or engagement with STEM?

Survey EC Principals, Teacher Educators and Student Teachers

The following table provides an overview of the survey topics and some phrased questions and the link with the evaluation questions as presented in the evaluation framework.

Topic	EC principals	Teacher Educators	Student teachers	Evaluation questions
Introduction	<p>This survey is for Education College Principals involved in the STEM project.</p> <p>Since 2014 UNESCO has been implementing the STEM project (Strengthening Pre-Service Teacher Education in Myanmar), which is supporting the Ministry of Education to reform pre-service teacher education through development of teacher policies, competency-based teacher education curriculum, Education College management including ICT, and inclusive education.</p> <p>We understand that you have already been engaged in STEM project activities, as part of developing and implementing of competency-based teacher curriculum; strengthening management of Education Colleges; and mainstreaming inclusiveness in education.</p> <p>The survey contains @ questions concerning the UNESCO-STEM project and it should not take longer than @ minutes to complete. It is available in English and Myanmar.</p> <p>Please note that all responses given will be kept strictly confidential. Your individual responses will not be disclosed to anyone outside the evaluation team.</p>	<p>This survey for is Teacher educators involved in the STEM project.</p> <p>Since 2014 UNESCO has been implementing the STEM project (Strengthening Pre-Service Teacher Education in Myanmar), which is supporting the Ministry of Education to reform pre-service teacher education through development of teacher policies, competency-based teacher education curriculum, Education College management including ICT, and inclusive education.</p> <p>We understand that you have already been engaged in STEM project activities, as part of developing and implementing of competency-based teacher curriculum; strengthening management of Education Colleges; and mainstreaming inclusiveness in education.</p> <p>The survey contains @ questions concerning the UNESCO-STEM project and it should not take longer than @ minutes to complete. It is available in English and Myanmar.</p> <p>Please note that all responses given will be kept strictly confidential. Your individual responses will not be disclosed to anyone outside the evaluation team.</p>	<p>This survey is for student teachers enrolled in the new Teacher Education Curriculum that is developed with support of the STEM project.</p> <p>Since 2014 UNESCO has been implementing the STEM project (Strengthening Pre-Service Teacher Education in Myanmar), which is supporting the Ministry of Education to reform pre-service teacher education through development of teacher policies, competency-based teacher education curriculum, Education College management including ICT, and inclusive education.</p> <p>We understand that you are enrolled in the new curriculum and we would like to learn from your experiences with this curriculum.</p> <p>The survey contains @ questions concerning the UNESCO-STEM project and it should not take longer than @ minutes to complete. It is available in English and Myanmar.</p> <p>Please note that all responses given will be kept strictly confidential. Your individual responses will not be disclosed to anyone outside the evaluation team.</p> <p>Thank you very much in advance for your participation!</p>	

Topic	EC principals	Teacher Educators	Student teachers	Evaluation questions
	Thank you very much in advance for your participation!	Thank you very much in advance for your participation!		
Background questions	<p>Which Education College do you work at?</p> <p>Gender M <input type="checkbox"/> F <input type="checkbox"/> Other identity <input type="checkbox"/></p> <p>Age</p> <p>How many years have you been an Education College Principal? years</p> <p>Student numbers Present Year:</p> <p>Female: Male:</p> <p>Teaching staff numbers Present Year:</p> <p>Female: Male:</p>	<p>Which Education College do you work at?</p> <p>Your experience.</p> <p>a. How many years teaching in basic education schools do you have?</p> <p>b. How many years working as a teacher educator at an Education College/University of Education?</p> <p>Your gender: M <input type="checkbox"/> F <input type="checkbox"/> Other identity <input type="checkbox"/></p> <p>Age</p> <p>Job title: Tutor <input type="checkbox"/> Assistant Lecturer <input type="checkbox"/> Lecturer <input type="checkbox"/> Head of Department <input type="checkbox"/> Vice Principal <input type="checkbox"/> Principal <input type="checkbox"/> Other _____</p>	<p>In which Education College do you study?</p> <p>In which Year are you enrolled?</p> <p>Your gender: M <input type="checkbox"/> F <input type="checkbox"/> Other identity <input type="checkbox"/></p> <p>Age</p>	
Involvement in STEM activities	<p>STEM activities you participated in (multiple choices)</p> <p>To what extent is the content of the reform known in the EC?</p> <p>How is the knowledge about the reform communicated?</p> <p>What percentage of the teacher educators knows about the reform?</p> <p>What percentage of the teacher educators actively participated in STEM activities?</p>	<p>STEM activities you participated in (multiple choices) PROVISIONAL LIST</p> <p>a. CCT workshops</p> <p>b. TCSF workshops</p> <p>c. Annual ICT training</p> <p>d. ICT Competency Standards Development</p> <p>e. Workshop on education for peace</p> <p>f. Workshop on education for sustainable development</p> <p>g. Pilot testing of Year 1 curriculum</p> <p>h. Gender review of curriculum</p> <p>i. Development of gender mainstreaming manual</p>		Questions on overall achievements (Q1.1)

Topic	EC principals	Teacher Educators	Student teachers	Evaluation questions
		To what extent are you informed about the reform? How did you learn about the reform?		
Relevance of STEM	To what extent are the topics addressed by STEM considered relevant? (multiple choices)	To what extent are the topics addressed by STEM considered relevant? (multiple choices)	To what extent are the topics addressed by STEM considered relevant? (multiple choices)	Questions on relevance of results (Q2.1)
Assessment of STEM activities	How do you assessment the quality of the STEM activities? <ul style="list-style-type: none"> Planning and timely implementation of the activity Provision of information on the activity Division of roles and responsibilities Clarity of expected outputs and outcomes The level of knowledge and understanding of the organizations involved 	How do you assessment the quality of the STEM activities? <ul style="list-style-type: none"> Planning and timely implementation of the activity Provision of information on the activity Division of roles and responsibilities Clarity of expected outputs and outcomes The level of knowledge and understanding of the organizations involved 		Questions on overall achievements (Q1.1)
Outcomes of STEM activities	Contribution of STEM activities to personal development and capacity building Contribution of STEM activities to personal change of behaviour (confidence) Contribution to social inclusive behaviour	Contribution of STEM activities to personal development and capacity building Contribution of STEM activities to personal change of behaviour (confidence) Contribution to social inclusive behaviour	Experiences with the new curriculum	Questions on impact on the different beneficiaries or target groups, including contribution to gender equality and inclusion (Q5.1) Questions on relevance of results (Q2.1):
	Contribution of STEM activities to changes in the organization Institutionalization of change in the EC	Contribution of STEM activities to changes in the organization Institutionalization of change in the EC	Contribution of STEM activities to changes in the organization Institutionalization of change in the EC	Questions on impact at institutional level (Q5.2) Questions on sustainability of benefits (Q4.1)

Topic	EC principals	Teacher Educators	Student teachers	Evaluation questions
	Contribution of STEM activities to broader topics such as inclusiveness of the teacher education	Contribution of STEM activities to broader topics such as inclusiveness of the teacher education	Contribution of STEM activities to broader topics such as inclusiveness of the teacher education	Questions on changes be attributed to the interventions of STEM Phase II (Q5.3)
Overall assessment	What is your overall assessment of the STEM activities? What could be improved in the design and implementation of STEM activities?	What is your overall assessment of the STEM activities? What could be improved in the design and implementation of STEM activities?	Overall assessment on the new curriculum and its implementation What could be improved?	Lessons learned

Table 11: Surveys overview

Annex 8: Data from the surveys

Survey for Education College Principals

This survey is for **Education College Principals** involved in the STEM project.

Since 2014, UNESCO has been implementing the STEM project (Strengthening Pre-Service Teacher Education in Myanmar), which is supporting the Ministry of Education to reform pre-service teacher education through the development of teacher policies, competency-based teacher education curriculum, Education College management including ICT, and inclusive education. The Phase II of the STEM project ran from January 2017 to June 2020.

We understand that you have already been engaged in STEM project activities, as part of developing and implementing of competency-based teacher curriculum; strengthening management of Education Colleges; and mainstreaming inclusiveness in education.

The survey contains 28 questions concerning the UNESCO-STEM project and it should not take longer than 30 minutes to complete.

Please note that all responses given will be kept strictly confidential and that results will only be presented as aggregations. Your individual responses will not be disclosed to anyone outside the evaluation team.

Thank you very much in advance for your participation!

1. Background questions

Q1.1 Which Education College (EC) do you currently work at?

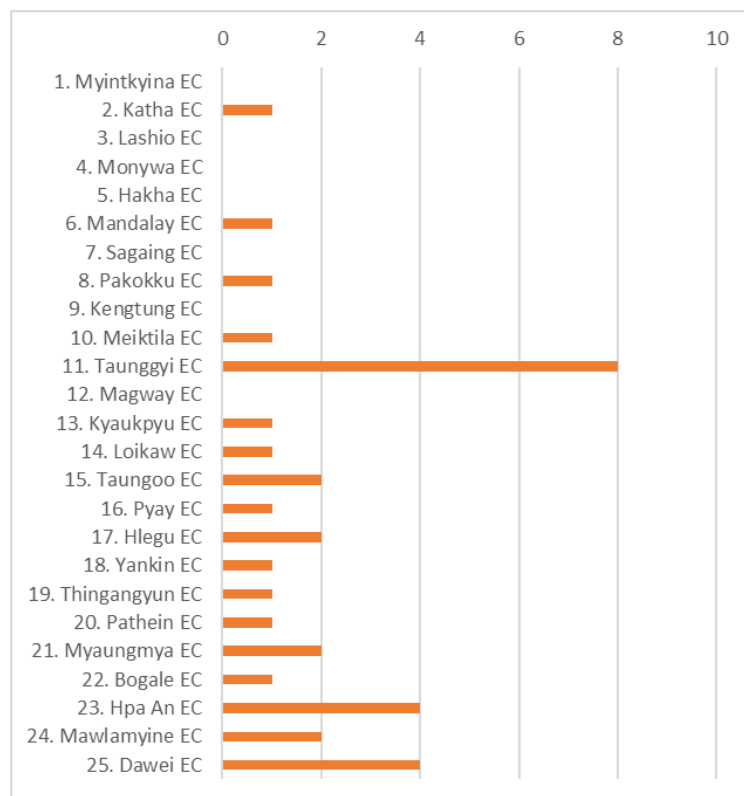


Figure 25: Answers to Q1.1

Q1.2 How many years have you been an Education College Principal? [drop-down list 1-50]

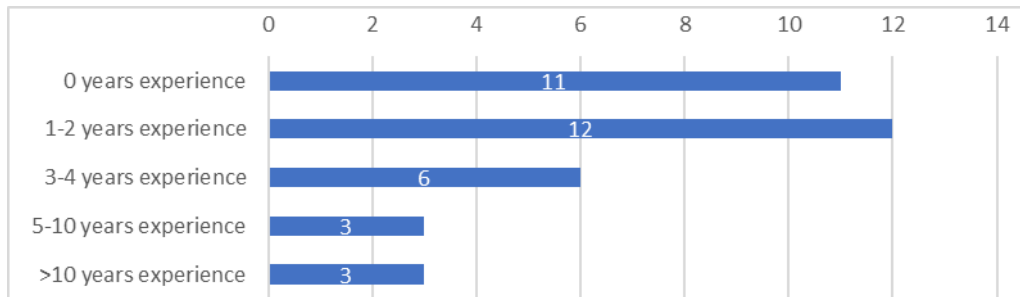


Figure 26: Answers to Q1.2

Q1.3 Your gender: [drop-down list M, F, Other identity]

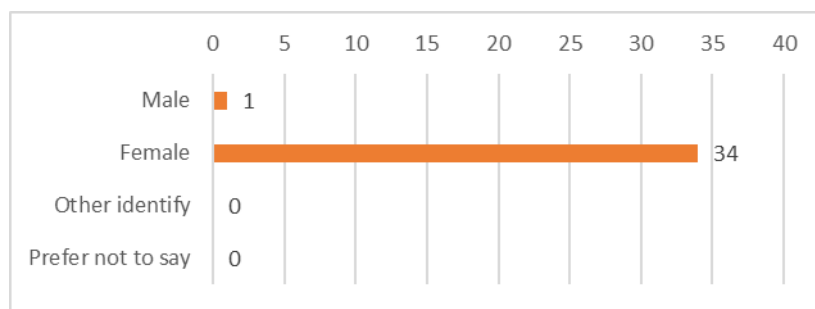


Figure 27: Answers to Q1.3

Q1.4 What is your age? [drop-down list 18-75]

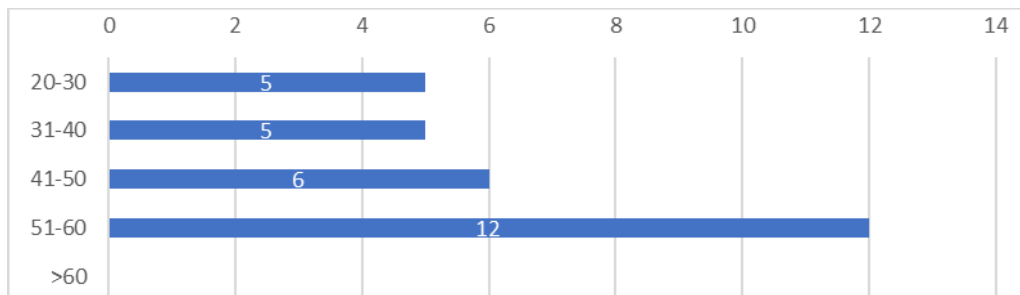


Figure 28: Answers to Q1.4

2. Experience with the teacher reform supported by the STEM Phase II project

Q2.1 To what extent are you informed about the Teacher Education Reform? [1-5: 1=not at all; 5 to a very large extent; don't know]

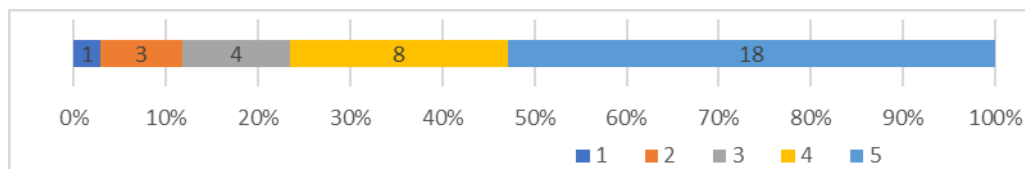


Figure 29: Answers to Q2.1

Q2.2 In which STEM Phase II activities did you participate? (multiple choices)

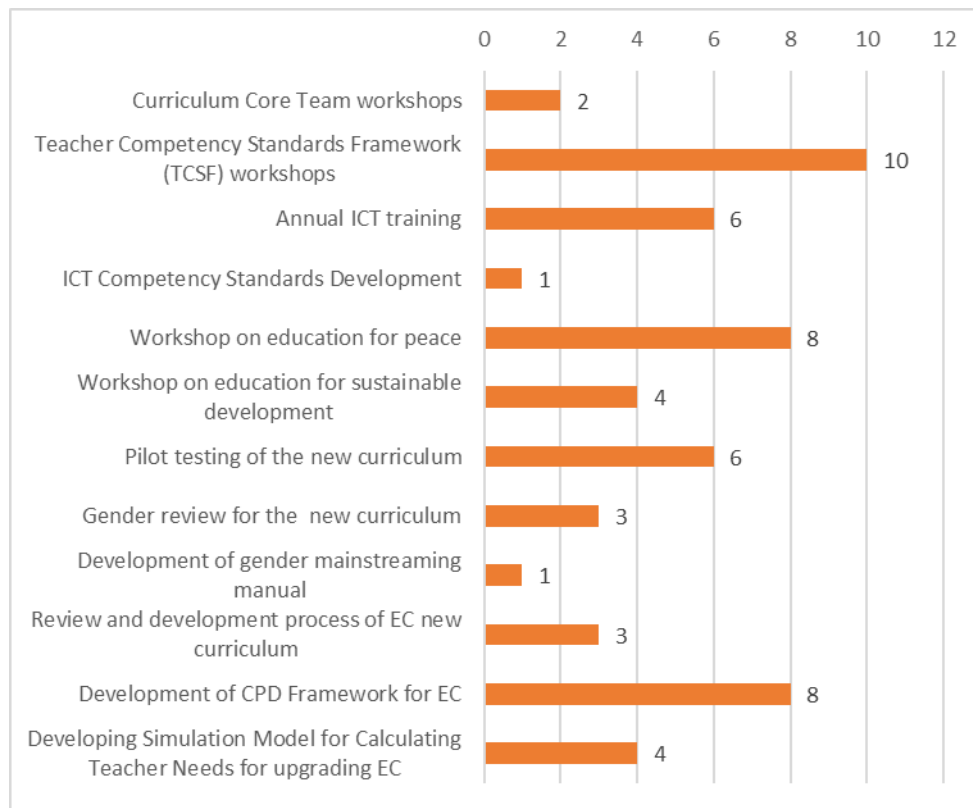


Figure 30: Answers to Q2.2

Q2.3 What percentage of the teacher educators in your EC know about the reform? [numerical 1-100]

- Average 72.86

Q2.4 What percentage of the teacher educators in your EC actively participated in STEM Phase II activities? [numerical 1-100]

- Average 57.71

Q2.5 Please assess the quality of the STEM workshops you participated in [1-5: 1 of low quality; 5 high quality, don't know]

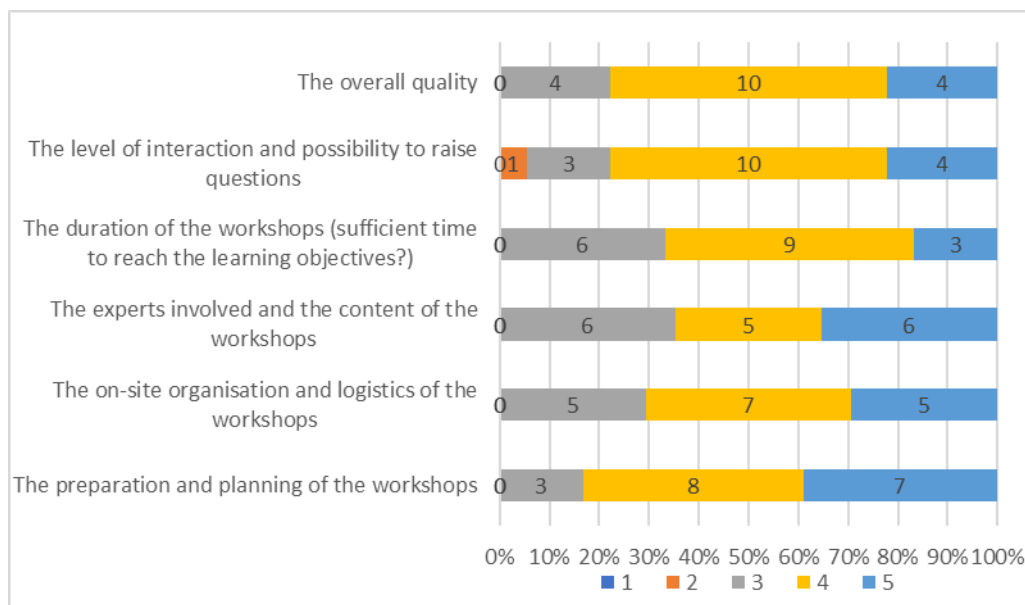


Figure 31: Answers to Q2.5

Q2.6 Please explain your answer [text box]

3. Topics addressed in the Teacher Education Reform supported by STEM Phase II

Q3.1 Please assess whether you see the need to reform the teacher education system on the following aspects [1-5: 1=not needed; 5 very much needed; don't know]

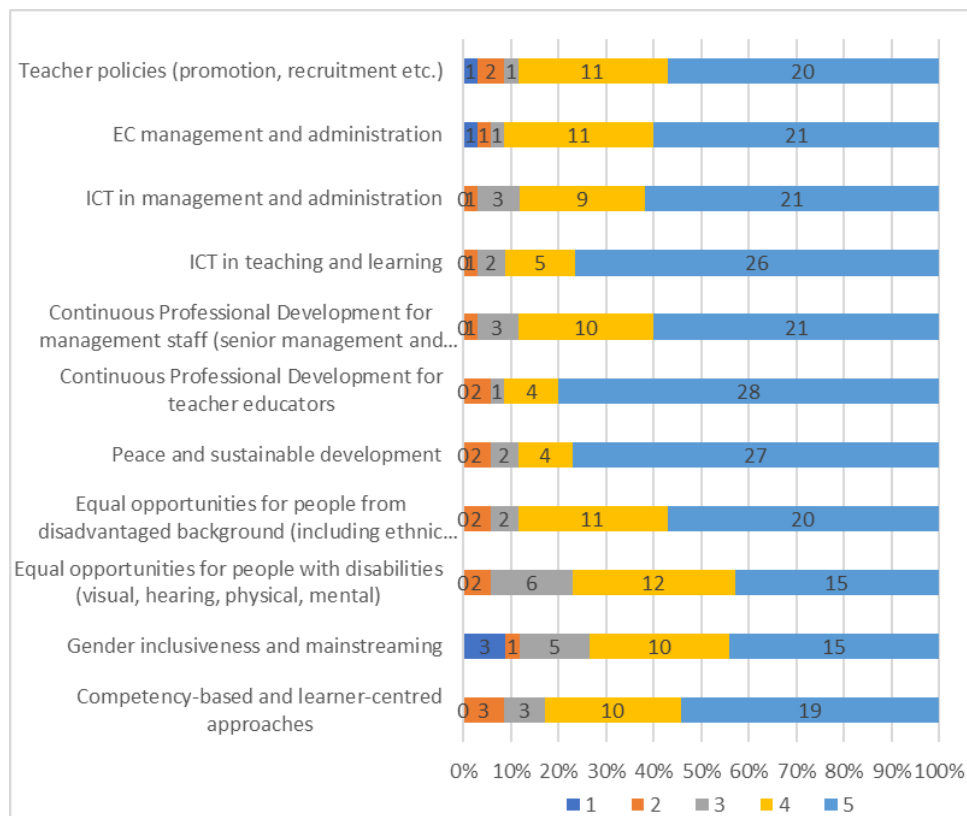


Figure 32: Answers to Q3.1

4. Outcomes of the Teacher Education Reform supported by STEM Phase II

Q4.1 Please indicate to what extent the STEM project increased **your understanding** on the following areas
[1-5: 1=not at all; 5 to a very large extent; don't know]

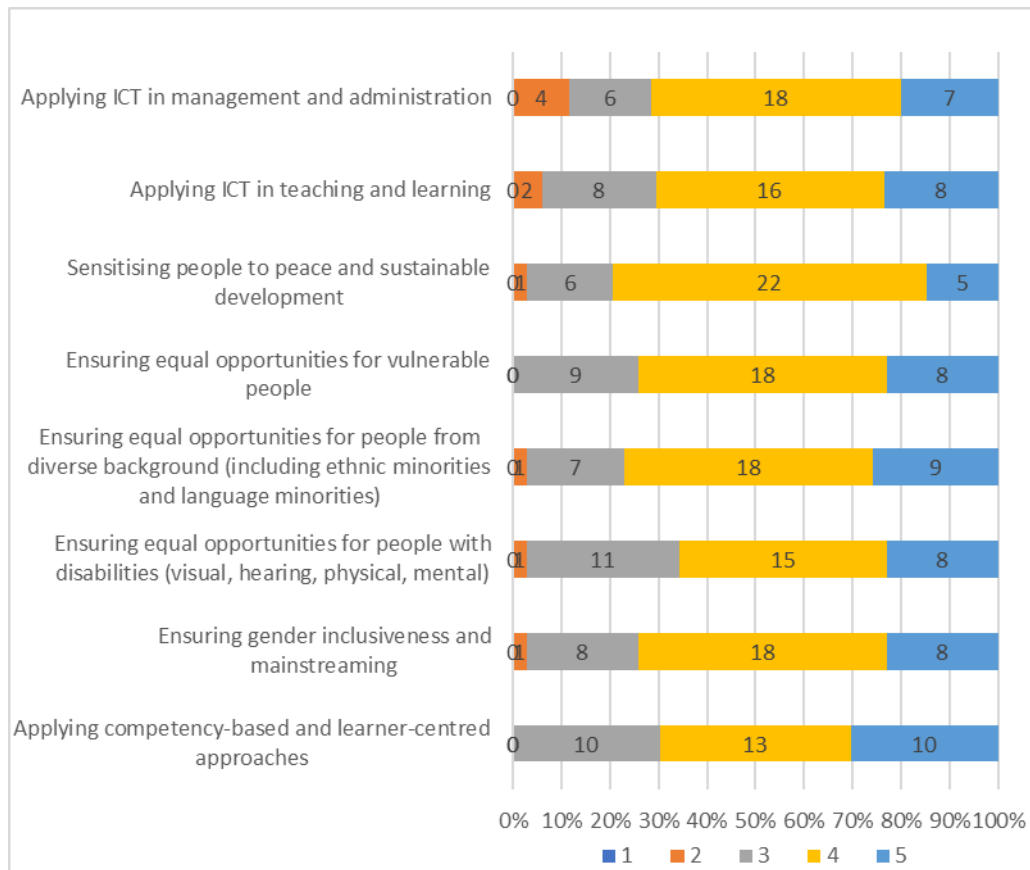


Figure 33: Answers to Q4.1

Q4.2 Please indicate to what extent **you are doing things differently** in teacher education, compared to before the Teacher Education Reform [1-5: 1=not at all; 5 to a very large extent; don't know]

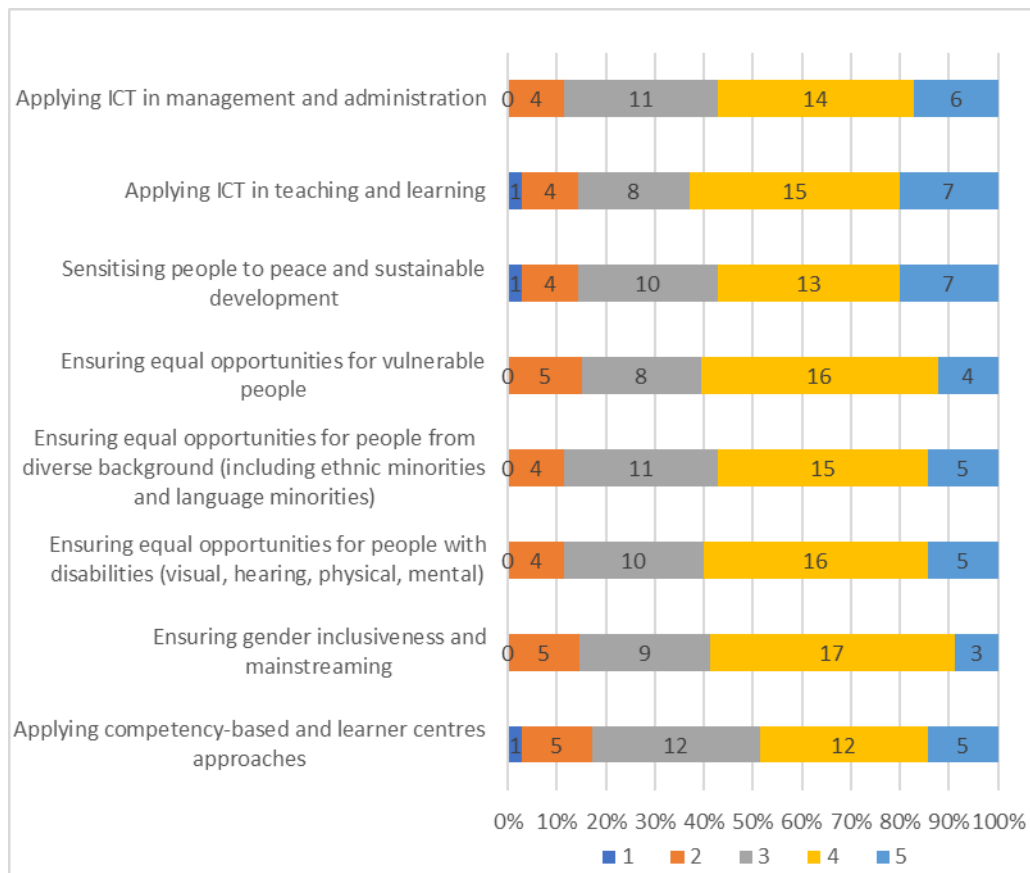


Figure 34: Answers to Q4.2

Q4.3 Please indicate to what extent the STEM project increased the understanding **of the staff in your EC** on the following areas [1-5: 1=not at all; 5 to a very large extent; don't know]

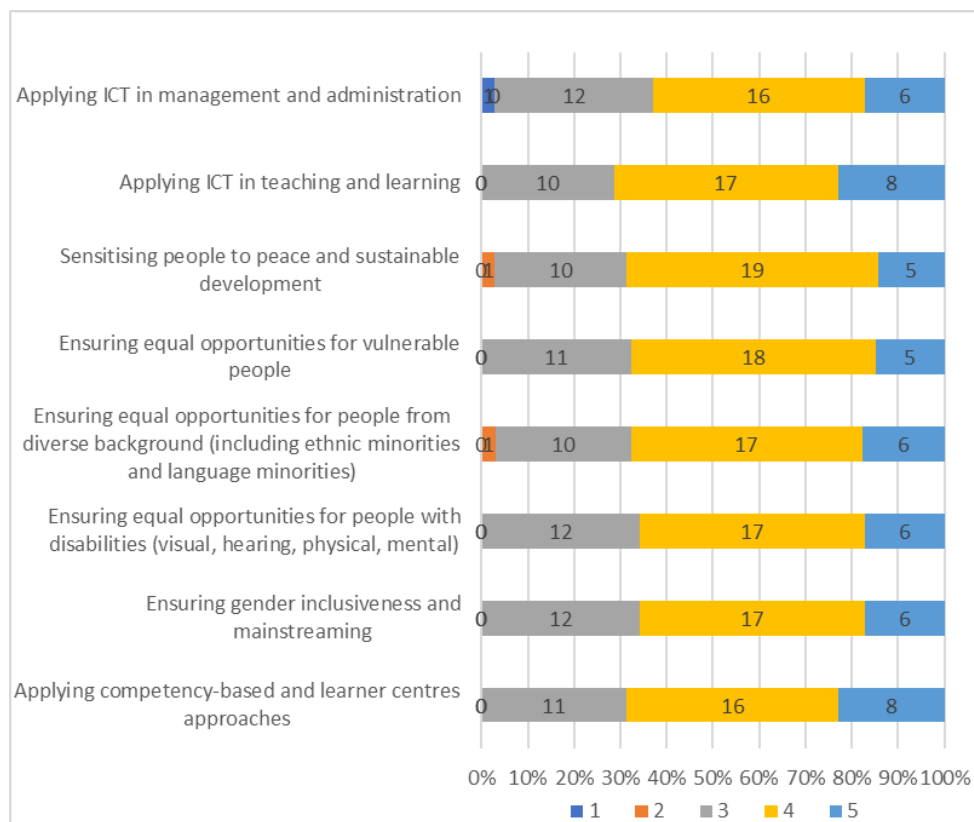


Figure 35: Answers to Q4.3

Q4.4 Please indicate to what extent **the staff in your EC is doing things differently** in teacher education, compared to before the Teacher Education Reform [1-5: 1=not at all; 5 to a very large extent; don't know]

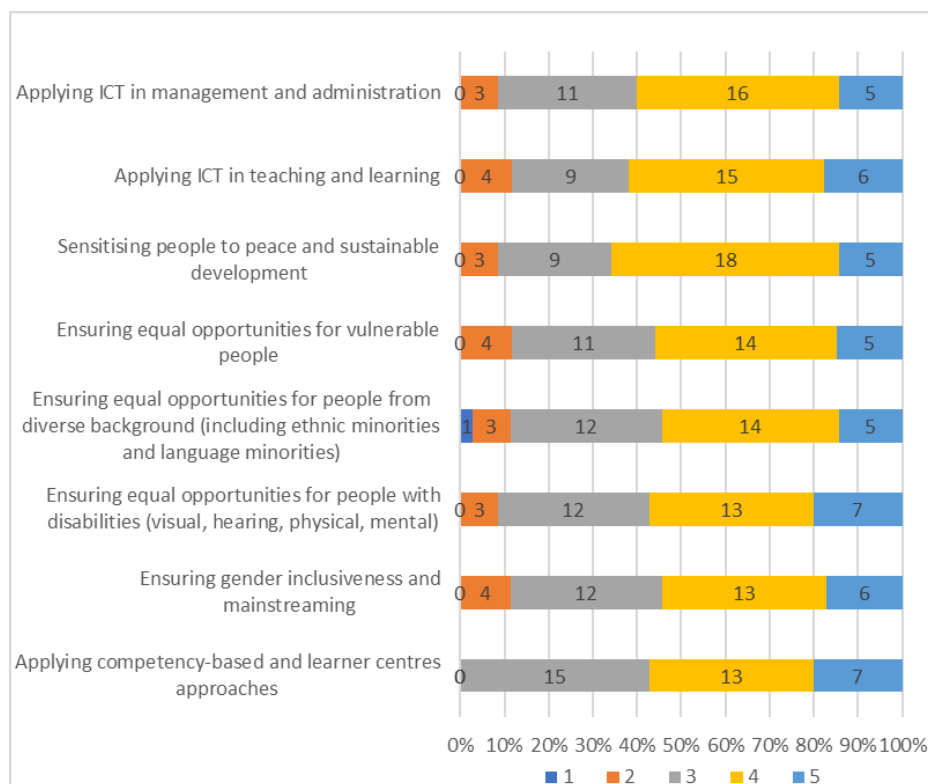


Figure 36: Answers to Q4.1

Q4.5 Please rate your degree of confidence in implementing the new curriculum in your EC [1-5: 1= not at all; 5=complete; don't know]

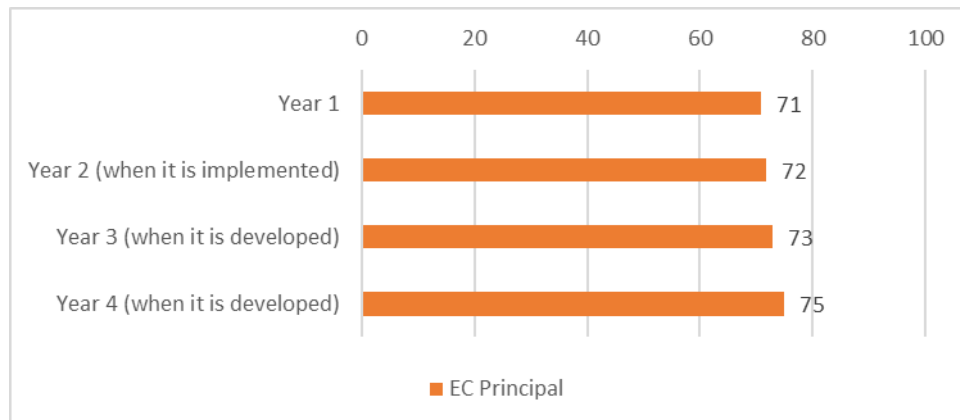


Figure 37: Answers to Q4.5

Q4.6 Please indicate factors that currently hamper doing things differently in your EC (multiple answers possible)

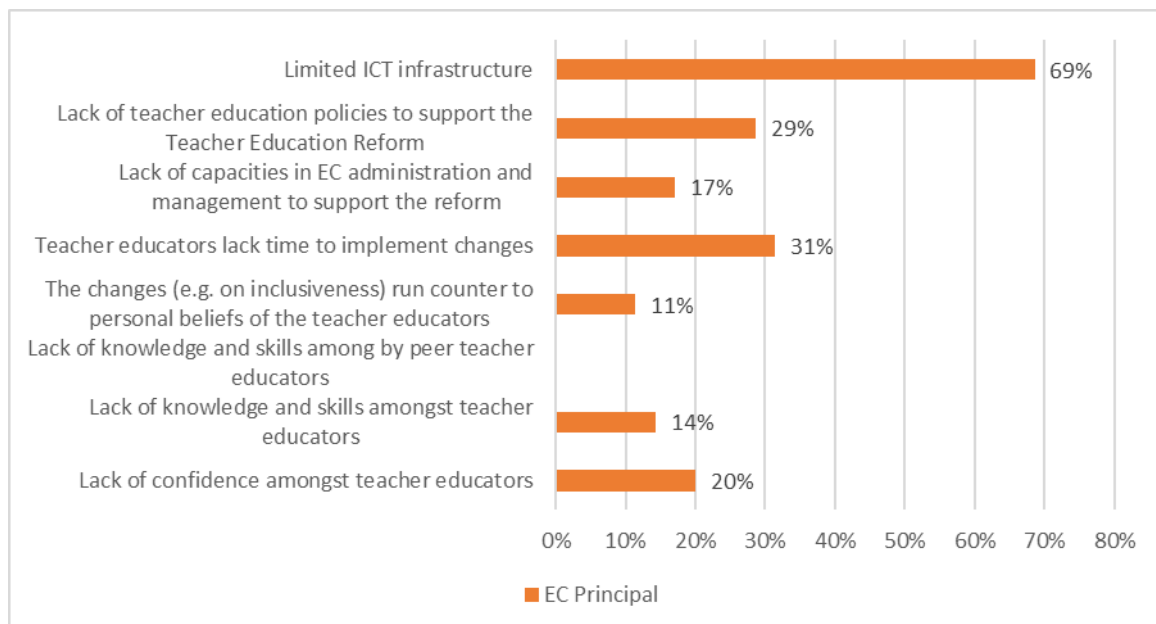


Figure 38: Answers to Q4.6

5. Impact of the Teacher Education Reform supported by STEM Phase II

Q5.1 Please indicate to what extent the teacher education reform supported by STEM Phase II contributed on **a personal level** to [1-5: 1=not at all; 5 to a very large extent; don't know]

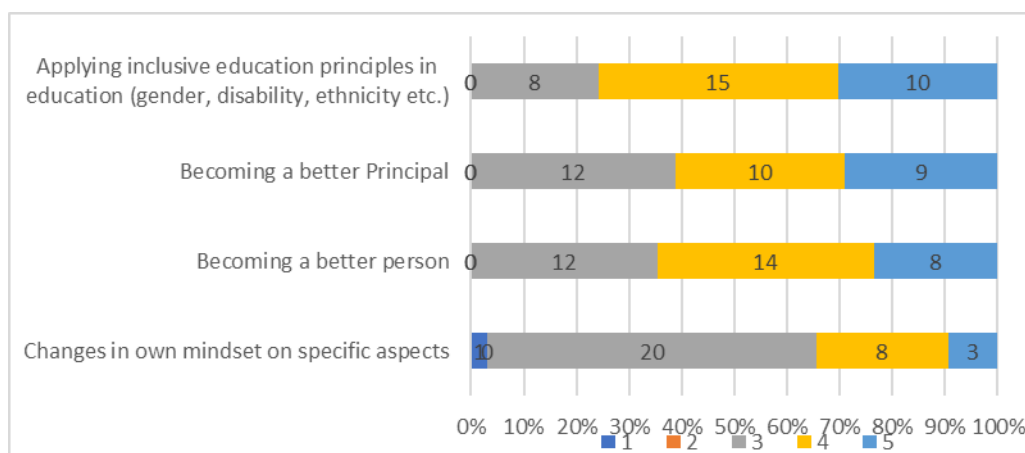


Figure 39: Answers to Q5.1

Q5.2 Please indicate to what extent the Teacher Education Reform supported by STEM Phase II contributed on **the institutional level (EC)** to [1-5: 1=not at all; 5 to a very large extent; don't know]

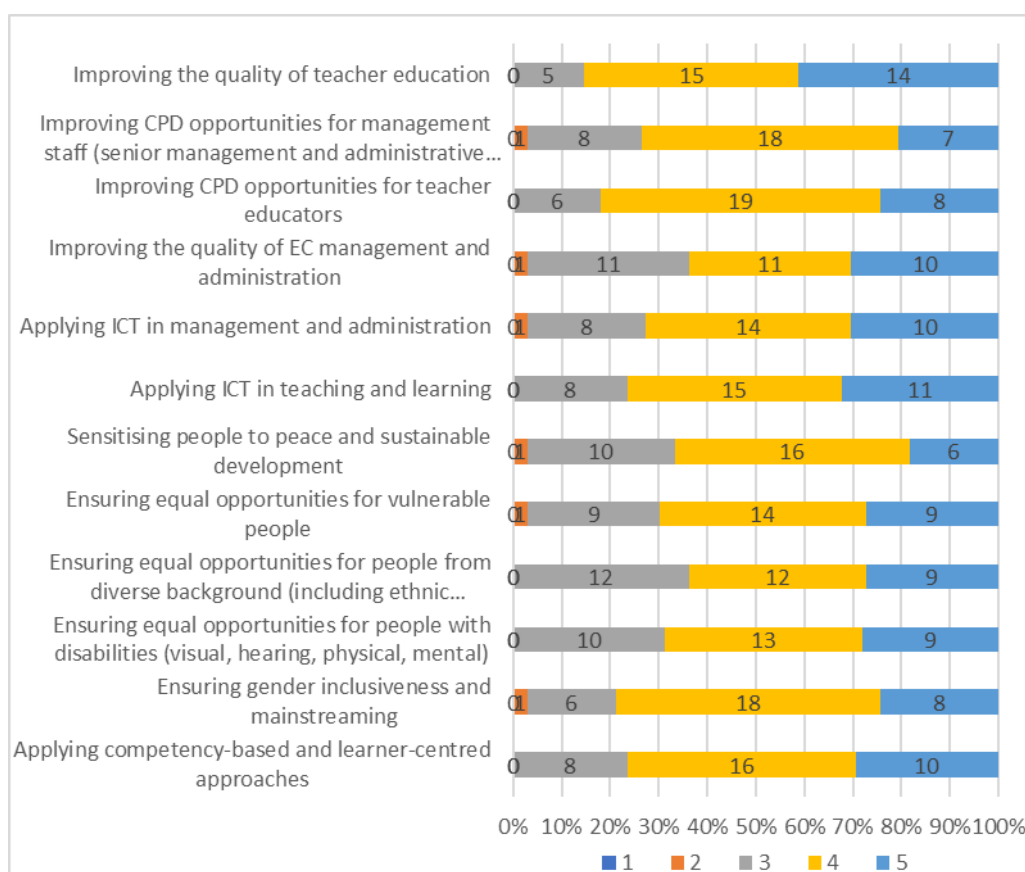


Figure 40: Answers to Q5.2

Q5.3 Please indicate to what extent the Teacher Education Reform supported by STEM Phase II will likely contribute **by 2022 on system level** to [1-5: 1=not at all; 5 to a very large extent; don't know]

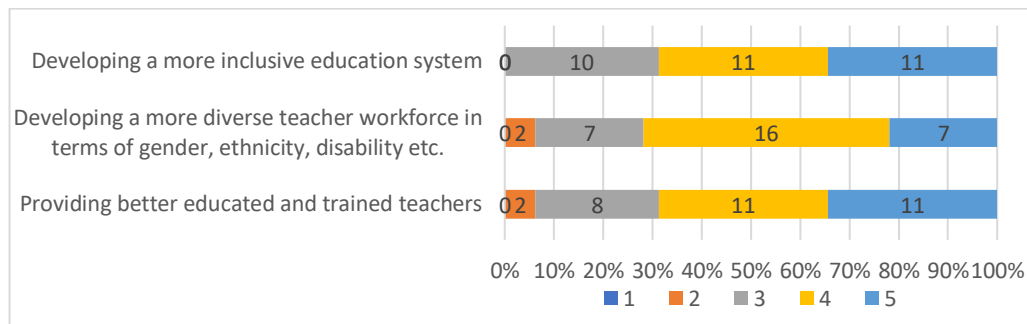


Figure 41: Answers to Q5.3

6. Overall assessment and recommendations

Q6.1 Please indicate the extent to which you consider the new curriculum an improvement compared to the old curriculum [1-5: 1=not at all; 5 to a very large extent; don't know]

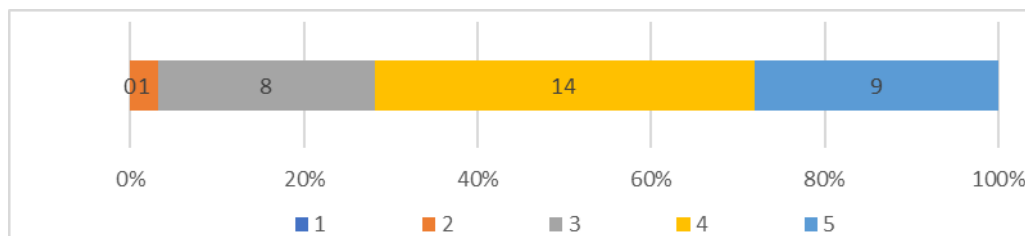


Figure 42: Answers to Q6.1

Q6.2 Please provide your overall assessment on the STEM Phase II project in supporting the Teacher Education Reform [1-5: very poor, poor, fair, good, excellent]

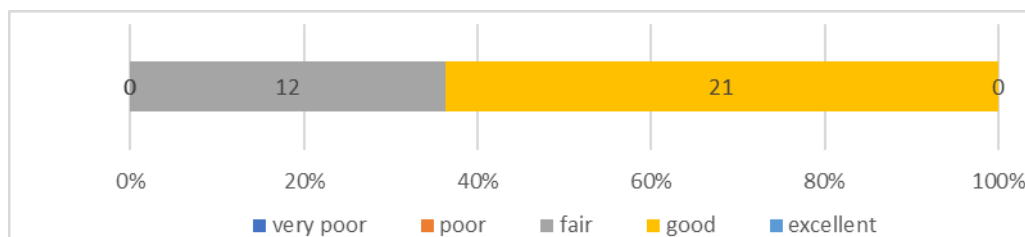


Figure 43: Answers to Q6.2

Q6.3 Could you describe in a few words how the STEM project impacted you and your work? (this question is optional) [text box]

Q6.4 Do you have any recommendations for the implementation of the Teacher Education Reform in the future and how UNESCO could support this? [text box]

This was the final question

Thank you for your participation!

Survey for Education College Teacher Educators

This survey for is **Teacher educators** involved in the STEM project.

Since 2014, UNESCO has been implementing the STEM project (Strengthening Pre-Service Teacher Education in Myanmar), which is supporting the Ministry of Education to reform pre-service teacher education through the development of teacher policies; the development of the competency-based teacher education curriculum; improving Education College management including strengthening the use of ICT, and stimulating inclusive education. The Phase II of the STEM project ran from January 2017 to June 2020.

We understand that you have already been engaged in STEM project activities, as part of developing and implementing of competency-based teacher curriculum; strengthening management of Education Colleges; and mainstreaming inclusiveness in education.

The survey contains 25 questions concerning the UNESCO-STEM project and it should not take longer than 30 minutes to complete.

Please note that all responses given will be kept strictly confidential and that results will only be presented as aggregations. Your individual responses will not be disclosed to anyone outside the evaluation team.

Thank you very much in advance for your participation!

1. Background questions

Q1.1 Which Education College (EC) do you currently work at? [drop-down list of ECs]

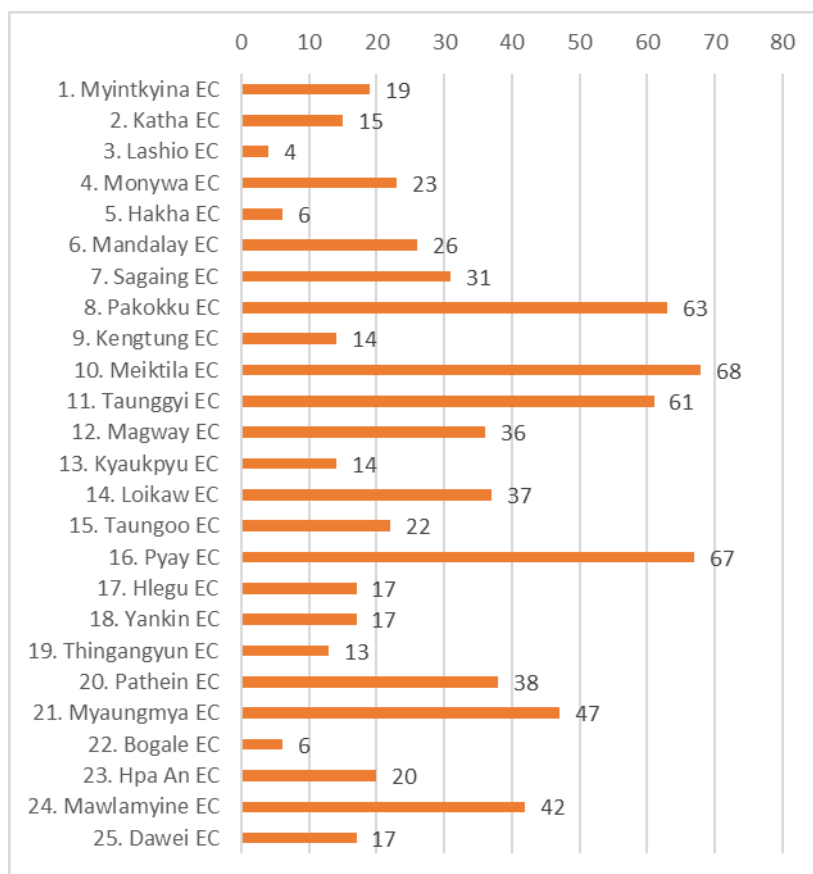


Figure 44: Answers to Q1.1

Q1.2 How many years teaching in basic education schools do you have? [drop-down list 1-50]

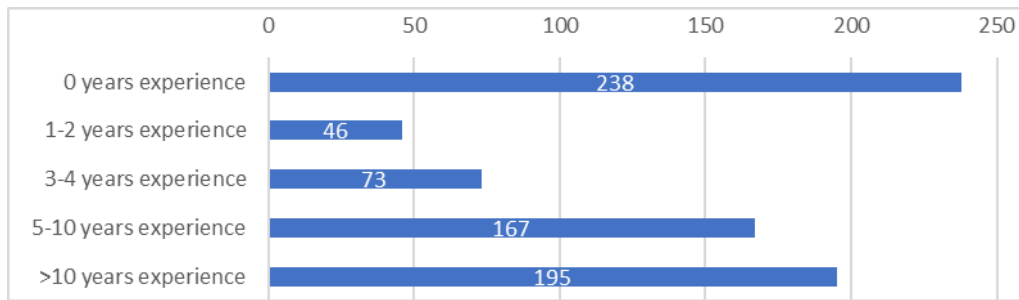


Figure 45: Answers to Q1.2

Q1.3 How many years working as a teacher educator at an Education College do you have? [drop-down list 1-50]

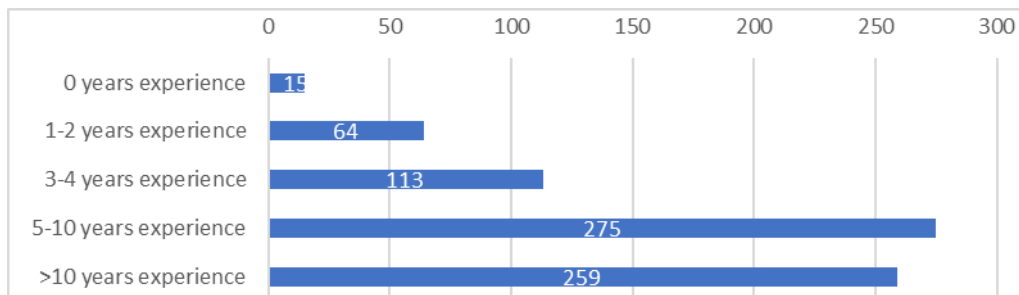


Figure 46: Answers to Q1.3

Q1.4 Your gender: [drop-down list M, F, Other identity]

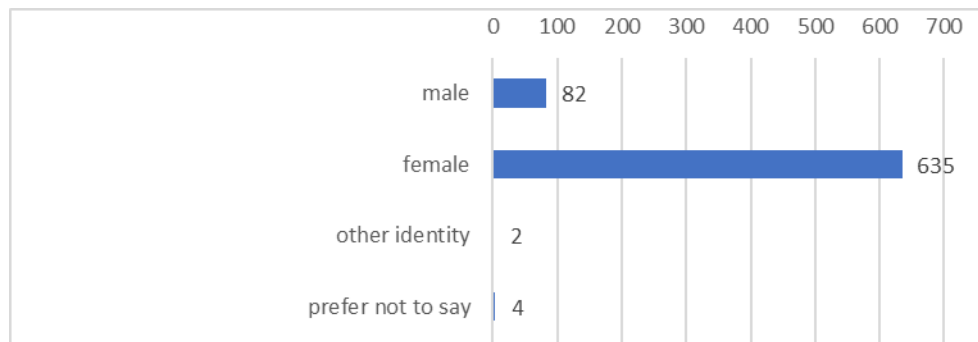


Figure 47: Answers to Q1.4

Q1.5 What is your age? [drop-down list 18-65]

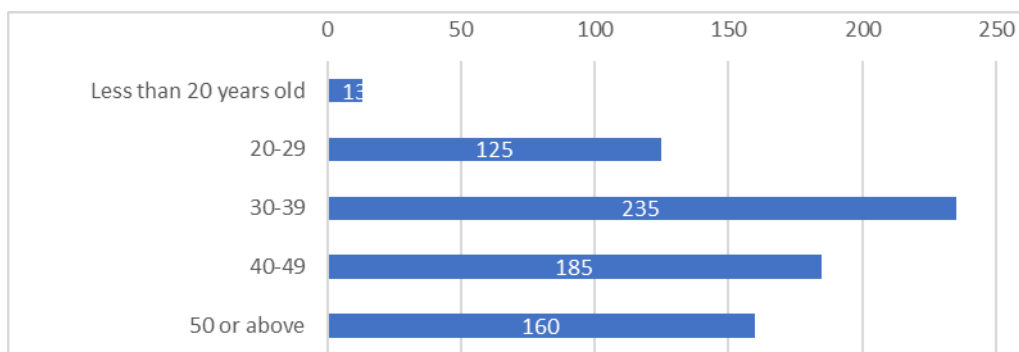


Figure 48: Answers to Q1.5

2. Experience with the teacher reform supported by the STEM Phase II project

Q2.1 Are you involved in the new Teacher Education curriculum (Year 1)? [yes, no, don't know]

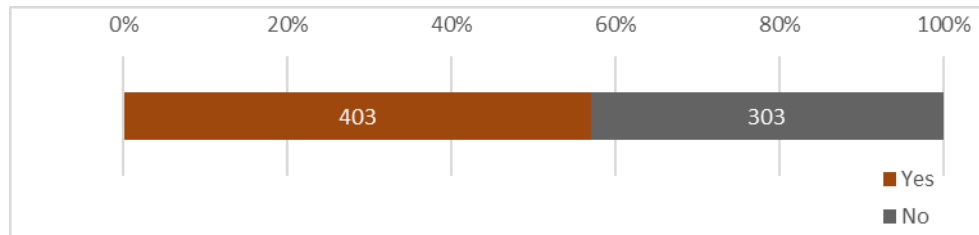


Figure 49: Answers to Q2.1

Q2.2 To what extent are you informed about the Teacher Education Reform? [1-5: 1=not at all; 5 to a very large extent; don't know]

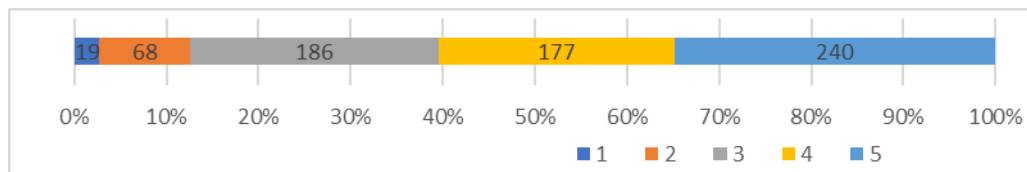


Figure 50: Answers to Q2.2

Q2.3 How did you learn about the reform? Select the most important source of information. [multiple answers possible]

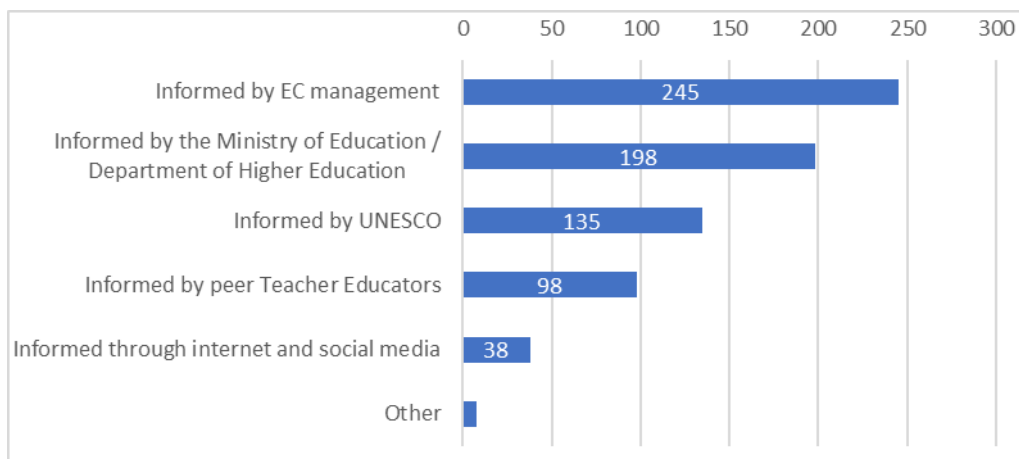


Figure 51: Answers to Q2.3

Q2.4 The Teacher Education Reform is supported by the UNESCO STEM Phase II project. To what extent are you aware of the UNESCO STEM Phase II project supporting the Teacher Education Reform?

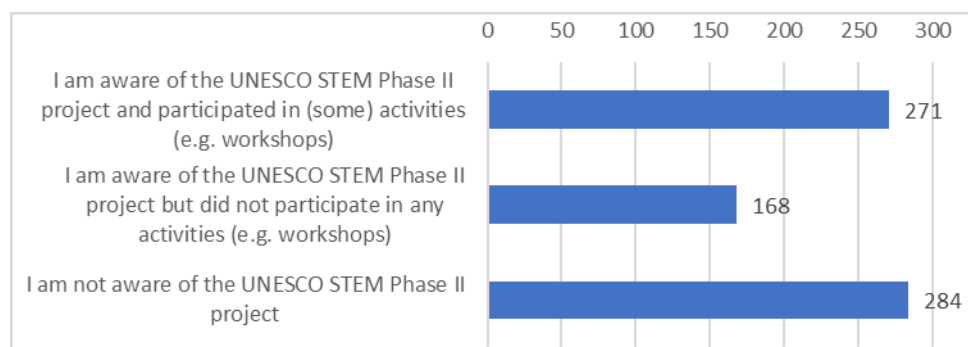


Figure 52: Answers to Q2.4

Q2.5 In which STEM Phase II activities did you participate? (multiple choices)

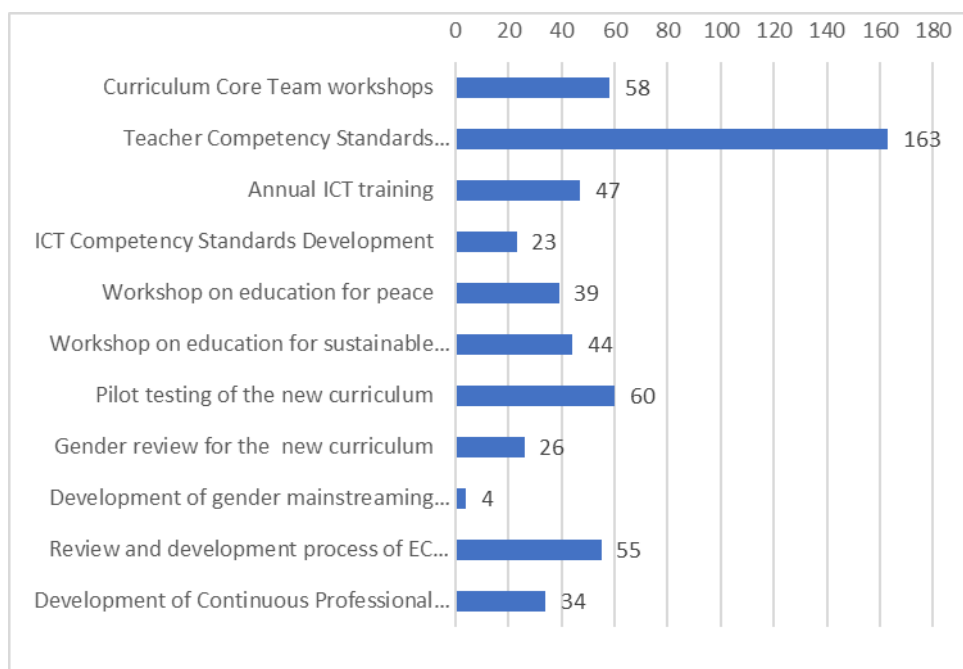


Figure 53: Answers to Q2.5

Q2.5 Please assess the quality of the STEM workshops you participated in [1-5: 1 of low quality; 5 high quality, don't know]

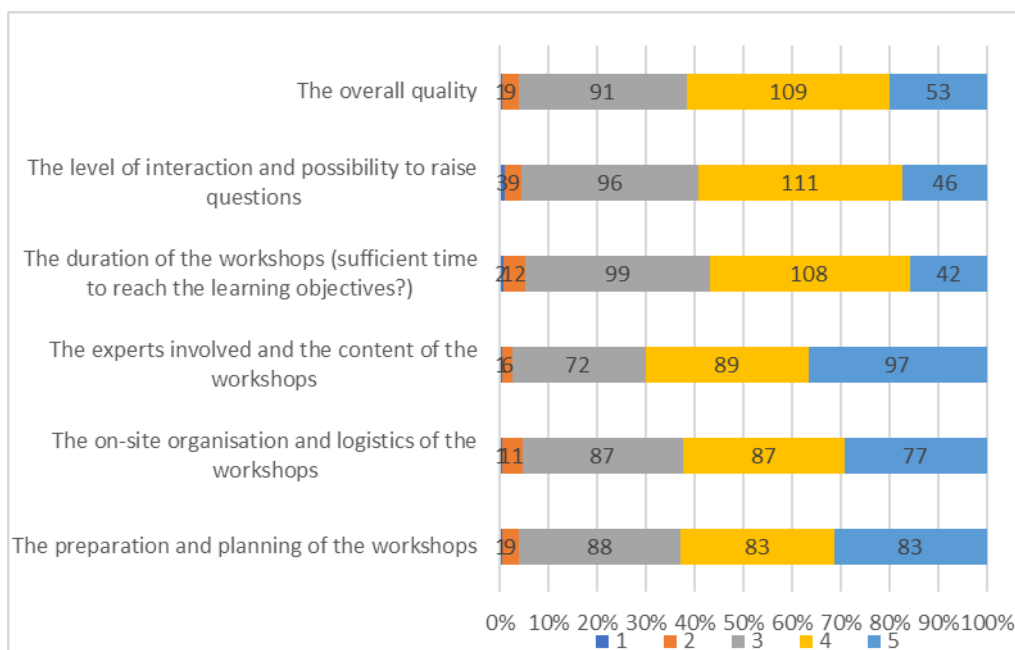


Figure 54: Answers to Q2.5

3. Topics addressed in the Teacher Education Reform supported by STEM Phase II

Q3.1 To what extent do you feel reforms are needed in the teacher education system on the following aspects [1-5: 1=not needed; 5 very much needed; don't know]

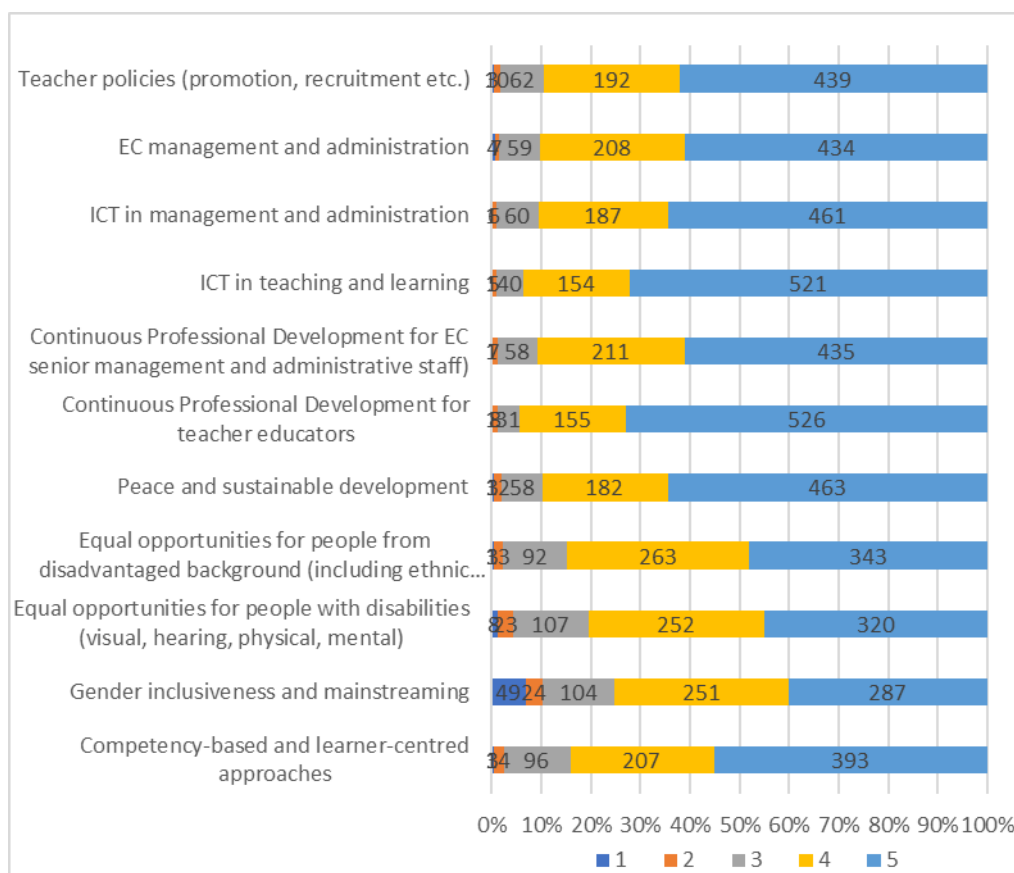


Figure 55: Answers to Q3.1

4. Outcomes of the Teacher Education Reform supported by STEM Phase II [Questions on impact on the different beneficiaries or target groups, including contribution to gender equality and inclusion (Q5.1) Questions on relevance of results (Q2.1)]

Q4.1 Please indicate to what extent the Teacher Education Reform supported by STEM Phase II increased your understanding on the following areas [1-5: 1=not at all; 5 to a very large extent; don't know]

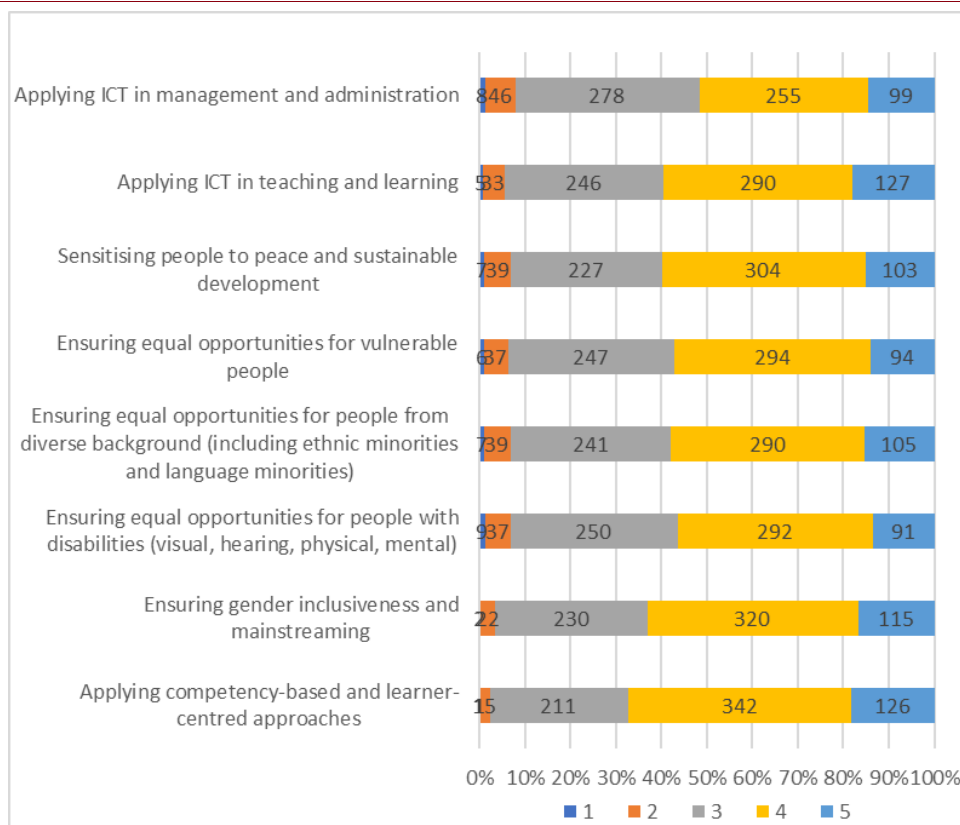


Figure 56: Answers to Q4.1

Q4.2 Please indicate to what extent you are doing things differently in teacher education, compared to before the Teacher Education Reform [1-5: 1=not at all; 5 to a very large extent; don't know]

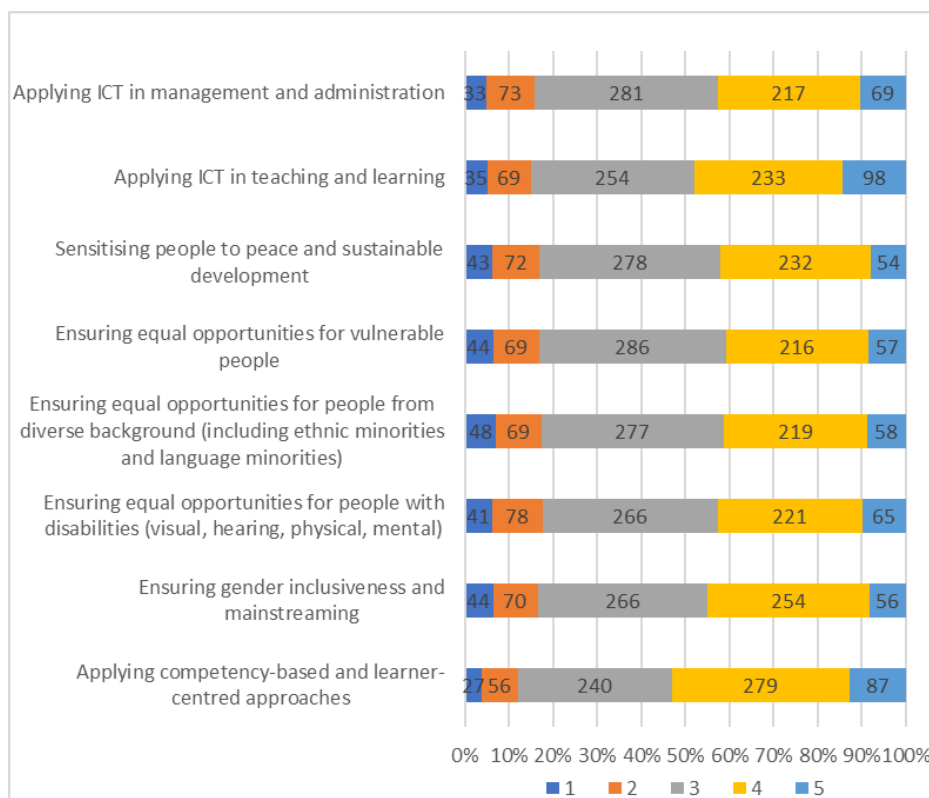


Figure 57: Answers to Q4.2

Q4.4 Please rate your degree of confidence in implementing the new curriculum [0-100]

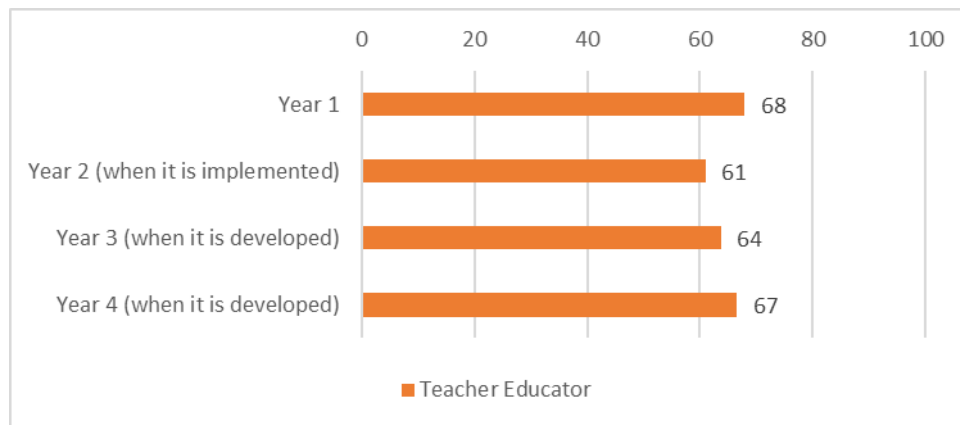


Figure 58: Answers to Q4.4

Q4.5 Please indicate factors that currently hamper doing things differently (multiple answers possible)

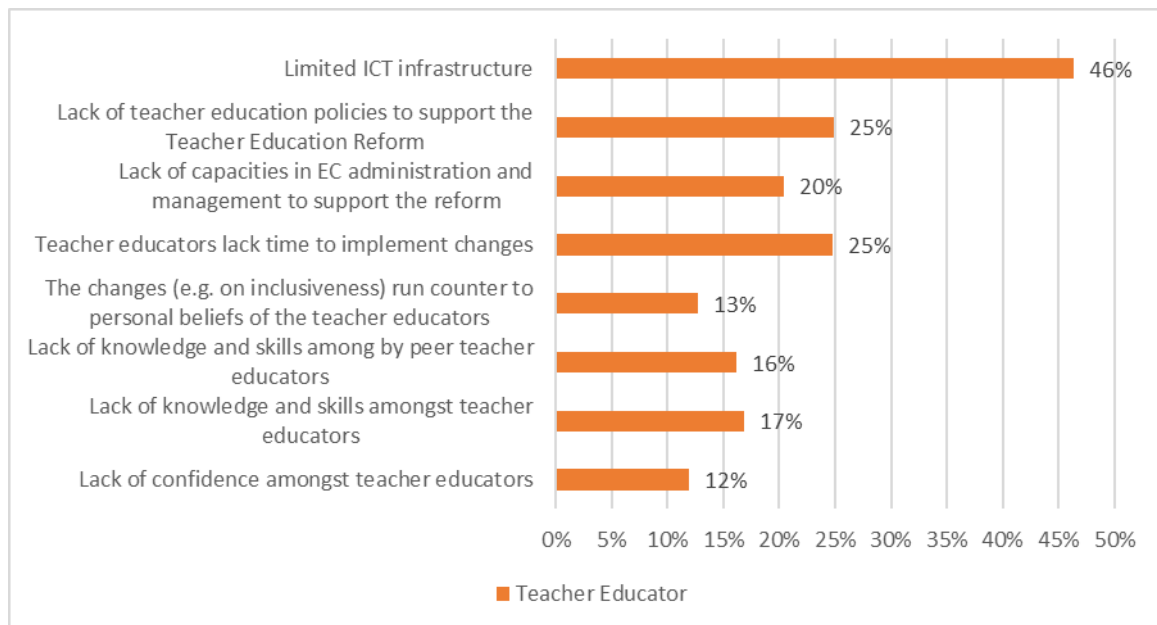


Figure 59: Answers to Q4.5

5. Impact of the Teacher Education Reform supported by STEM Phase II

Q5.1 Please indicate to what extent the Teacher Education Reform supported by STEM Phase II contributed on a **personal level** to [1-5: 1=not at all; 5 to a very large extent; don't know]

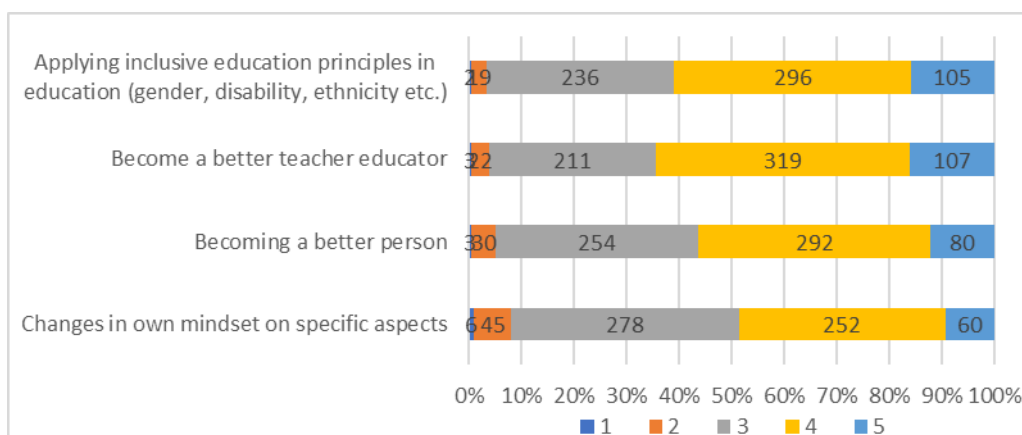


Figure 60: Answers to Q5.1

Q5.2 Please indicate to what extent the Teacher Education Reform supported by STEM Phase II contributed to changes on **the institutional level (EC)** on the following aspects [1-5: 1=not at all; 5 to a very large extent; don't know]

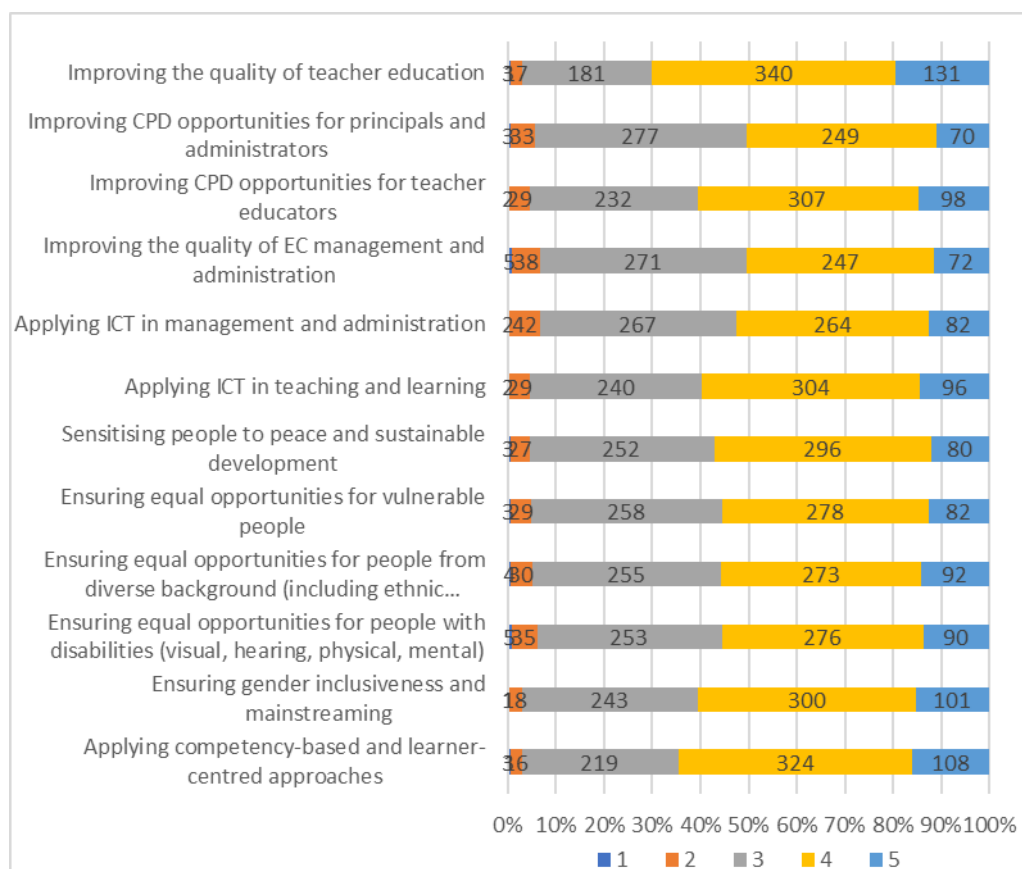


Figure 61: Answers to Q5.2

Q5.3 Please indicate to what extent the Teacher Education Reform supported by STEM Phase II will likely contribute **by 2022 on national level** to [1-5: 1=not at all; 5 to a very large extent; don't know]

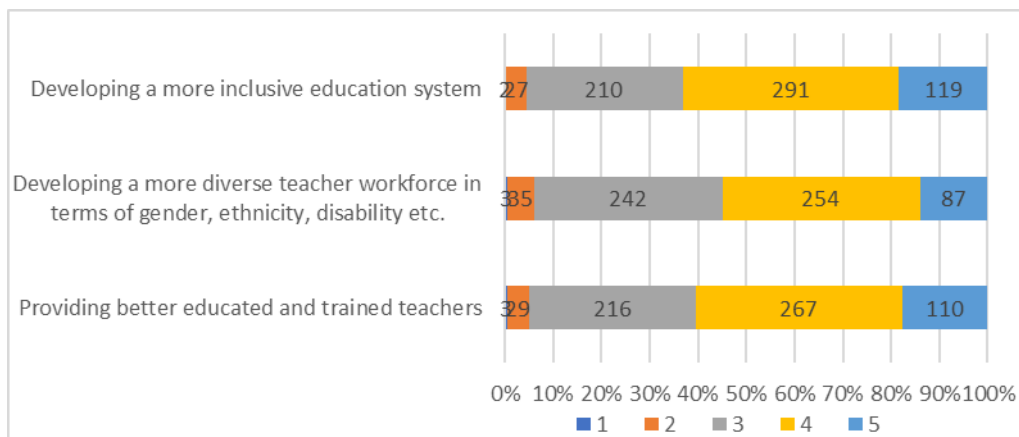


Figure 62: Answers to Q5.3

6. Overall assessment and recommendations

Q6.1 Please indicate the extent to which you consider the new curriculum an improvement compared to the old curriculum [1-5: 1=not at all; 5 to a very large extent; don't know]

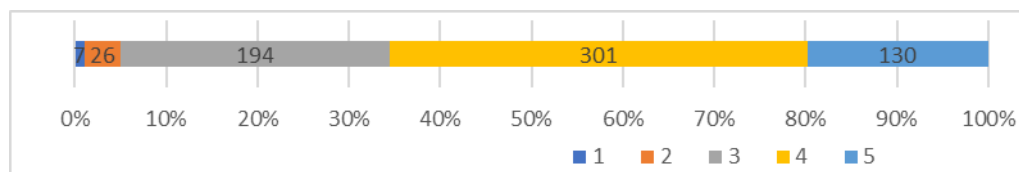


Figure 63: Answers to Q6.1

Q6.2 Please provide your overall assessment on the STEM Phase II project in supporting the Teacher Education Reform [1-5: very poor, poor, fair, good, excellent]

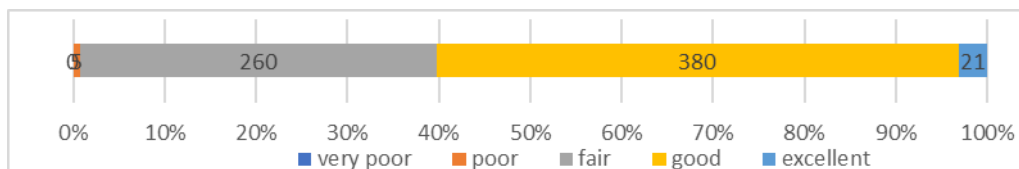


Figure 64: Answers to Q6.2

Q6.3 Could you describe in a few words how the STEM project impacted you and your work? (this question is optional) [text box]

Q6.4 Do you have any recommendations for the implementation of the Teacher Education Reform in the future and how UNESCO could support this? [text box]

This was the final question

Thank you for your participation!

Survey for Student teachers

This survey is for **student teachers** enrolled in the new Teacher Education Curriculum that is developed with support of the STEM project.

Since 2014, UNESCO has been implementing the STEM project (Strengthening Pre-Service Teacher Education in Myanmar), which is supporting the Ministry of Education to reform pre-service teacher education through the development of teacher policies; the development of the competency-based teacher education curriculum; improving Education College management including strengthening the use of ICT, and stimulating inclusive education. The Phase II of the STEM project ran from January 2017 to June 2020.

We understand that you are enrolled in the new curriculum and we would like to learn from your experiences with this curriculum.

The survey contains 12 questions concerning the UNESCO-STEM project and it should not take longer than 15 minutes to complete.

Please note that all responses given will be kept strictly confidential and that results will only be presented as aggregations. Your individual responses will not be disclosed to anyone outside the evaluation team.

Thank you very much in advance for your participation!

1. Background questions

Q1.1 In which Education College (EC) do you study? [drop-down list of ECs]

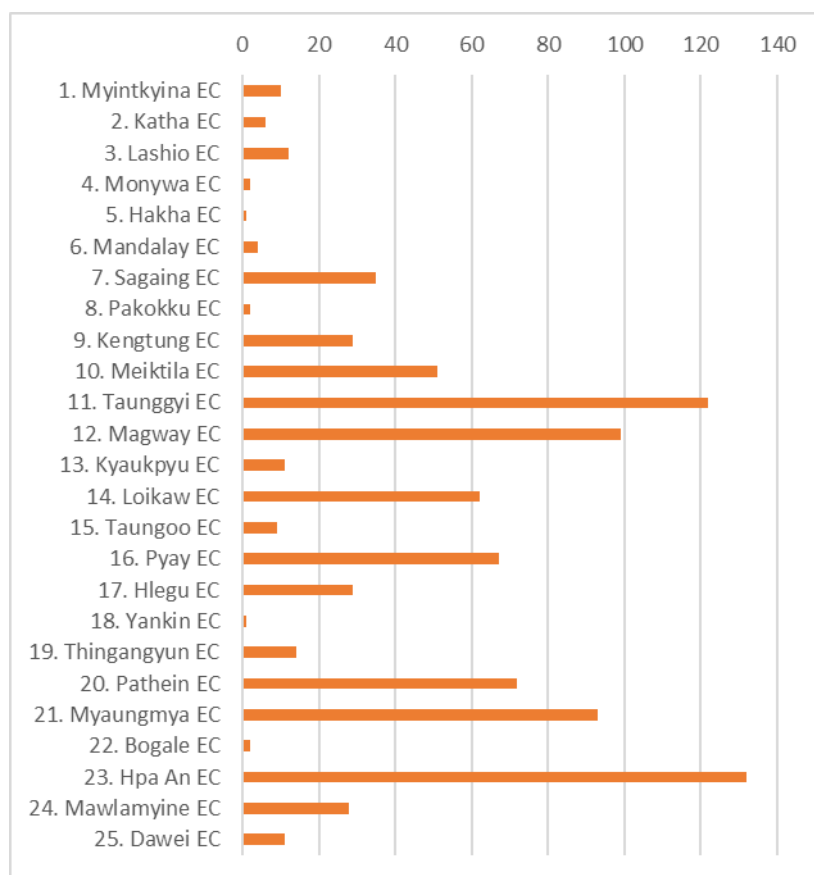


Figure 65: Answers to Q1.1

Q1.2 Your gender: [drop-down list M, F, Other identity]

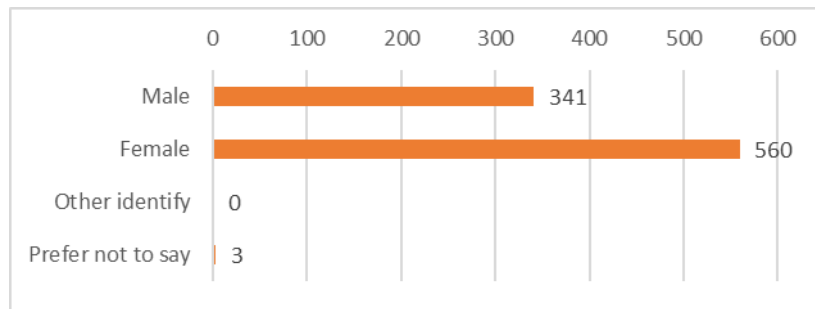


Figure 66: Answers to Q1.2

Q1.3 What is your age? [drop-down list 15-75]

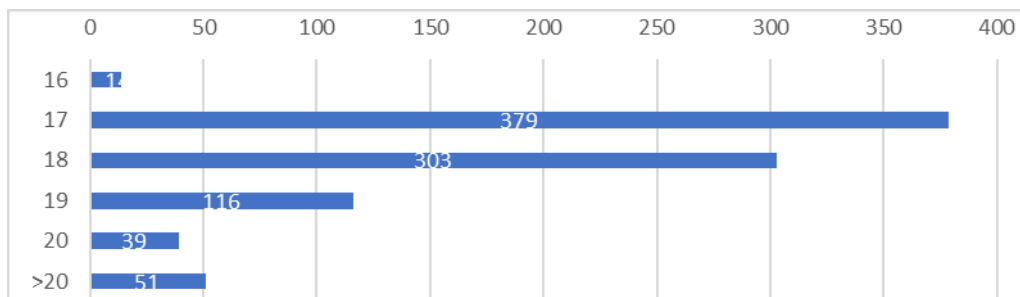


Figure 67: Answers to Q1.3

Q1.4 What is your ethnic background?

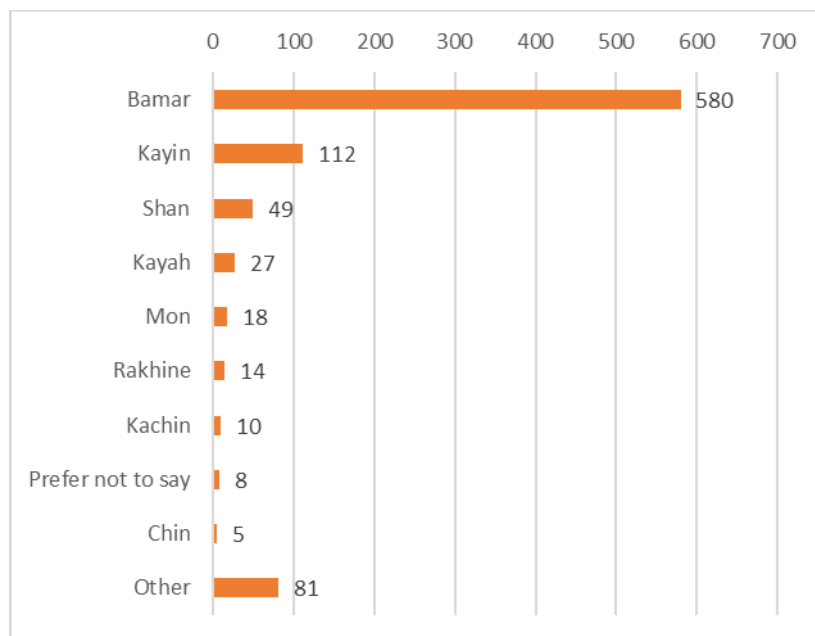


Figure 68: Answers to Q1.4

2. Experience with the teacher reform supported by the STEM Phase II project

Q2.1 To what extent are you informed about the Teacher Education Reform? [1-5: 1=not at all; 5 to a very large extent; don't know]

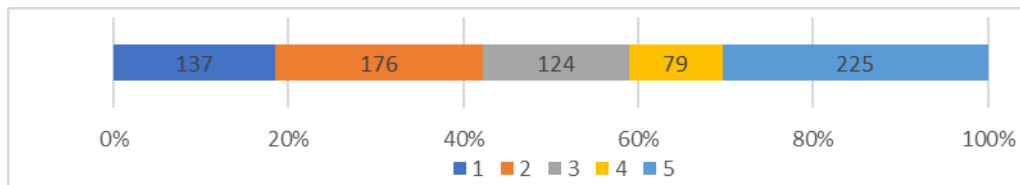


Figure 69: Answers to Q2.1

Q2.2 How did you learn about the reform? Select the most important source of information.

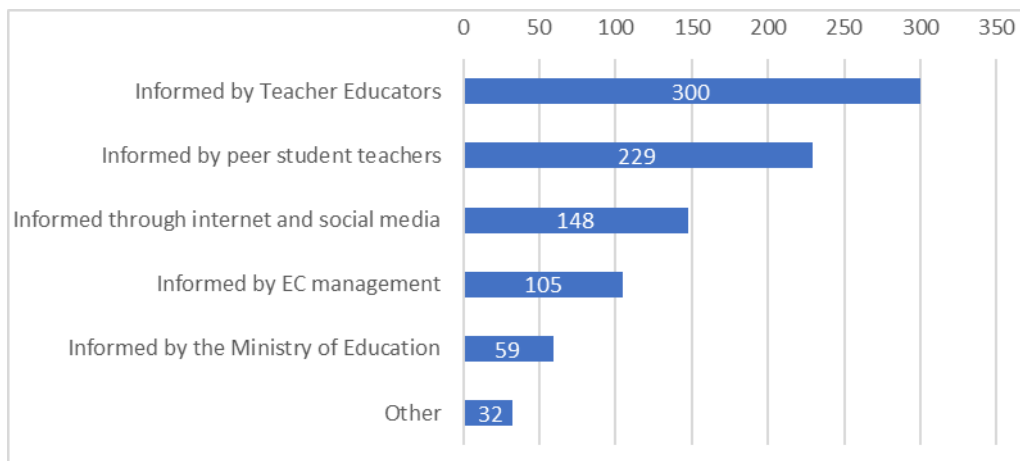


Figure 70: Answers to Q2.2

3. Topics addressed in the Teacher Education Reform supported by STEM Phase II

Q3.1 To what extent do you feel reforms are needed in the teacher education system on the following aspects
[1-5: 1=not needed; 5 very much needed; don't know]

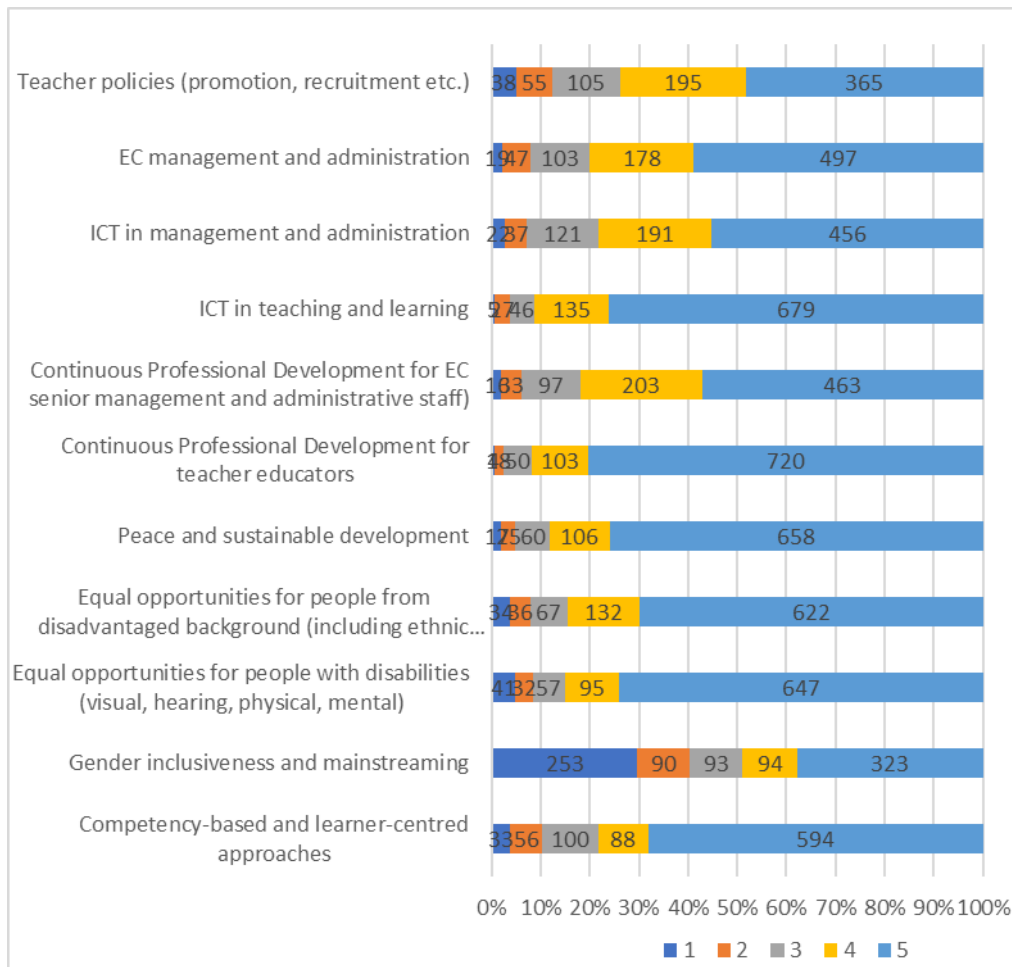


Figure 71: Answers to Q3.1

4. Outcomes of the Teacher Education Reform supported by STEM Phase II

Q4.1 Please indicate to what extent the new curriculum pays attention to the following topics [1-5: 1=not at all; 5 to a very large extent; don't know]

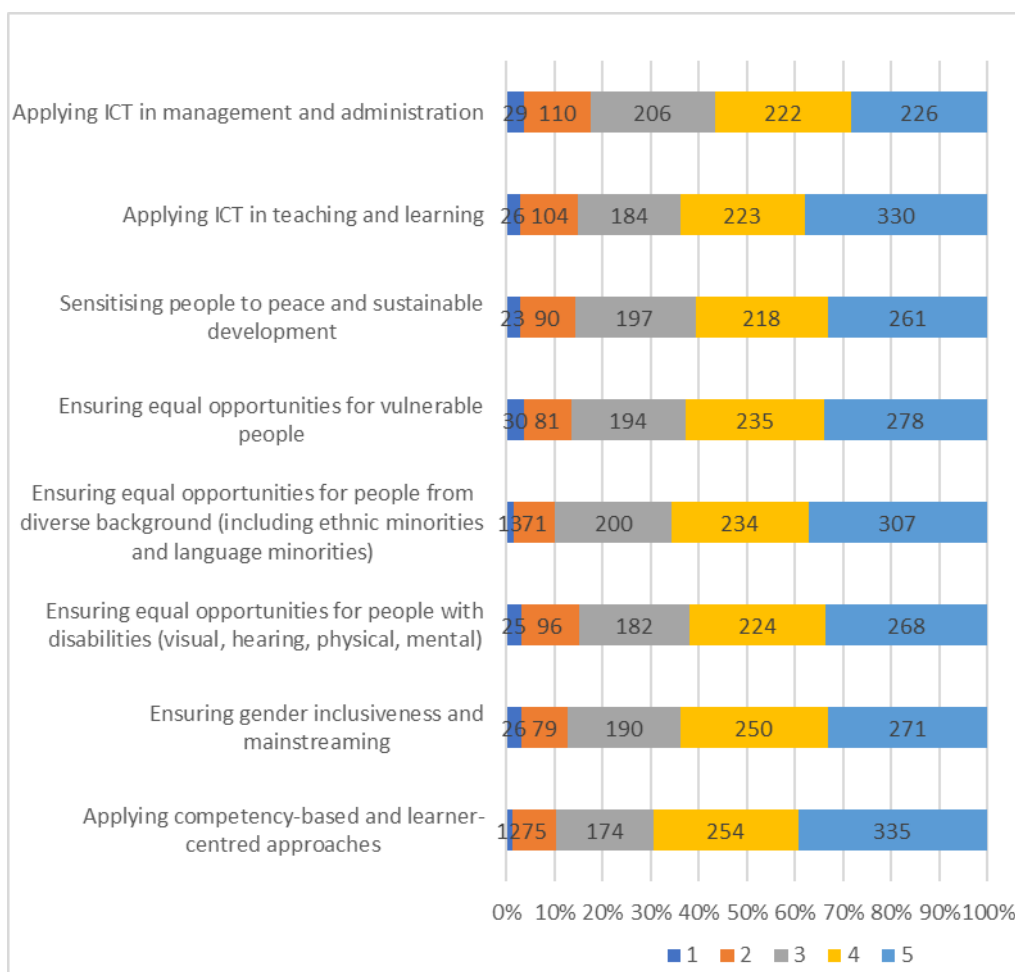


Figure 72: Answers to Q4.1

Q4.2 What is your overall assessment of the quality of the new curriculum? [1-5: very poor, poor, fair, good, excellent]

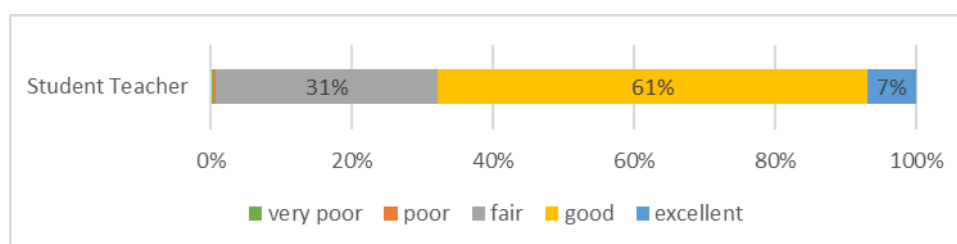


Figure 73: Answers to Q4.2

Q4.4 Do you have access to internet to support your studies? / Q4.5 Is the quality of the internet connection sufficient to support your studies

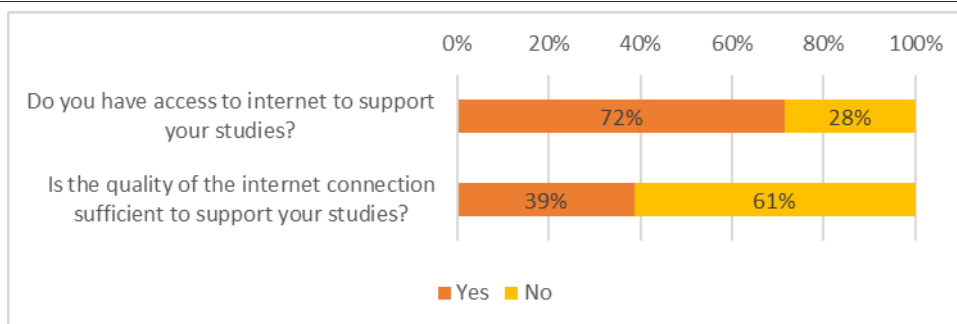


Figure 74: Answers to Q4.4 /Q4.5

Q4.6 What needs to be improved in terms of internet connectivity? [text box]

5. Impact of the Teacher Education Reform supported by STEM Phase II

Q5.1 Please indicate to what extent the Teacher Education Reform supported by STEM Phase II contributed to changes in the EC on the following aspects [1-5: 1=not at all; 5 to a very large extent; don't know]

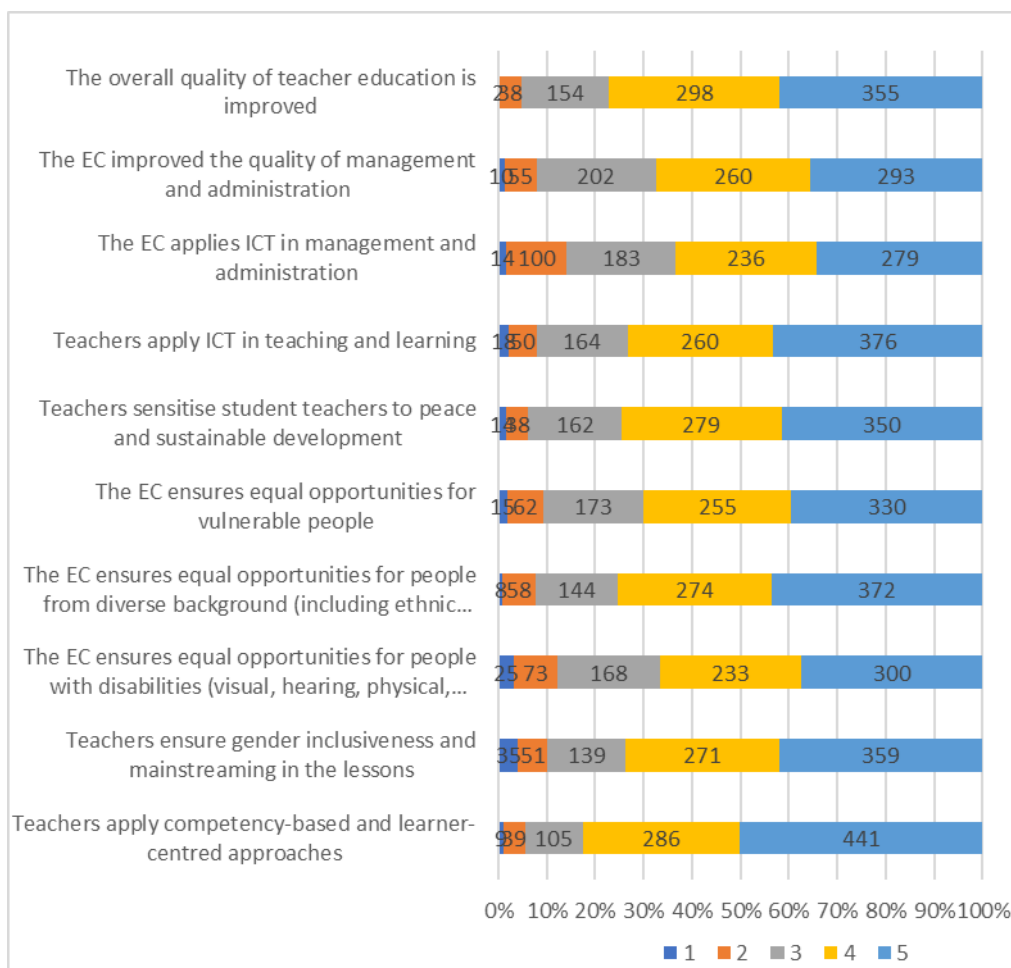


Figure 75: Answers to Q5.1

Q5.2 Please indicate to what extent the Teacher Education Reform supported by STEM Phase II will likely contribute **by 2022 on national level** to [1-5: 1=not at all; 5 to a very large extent; don't know]

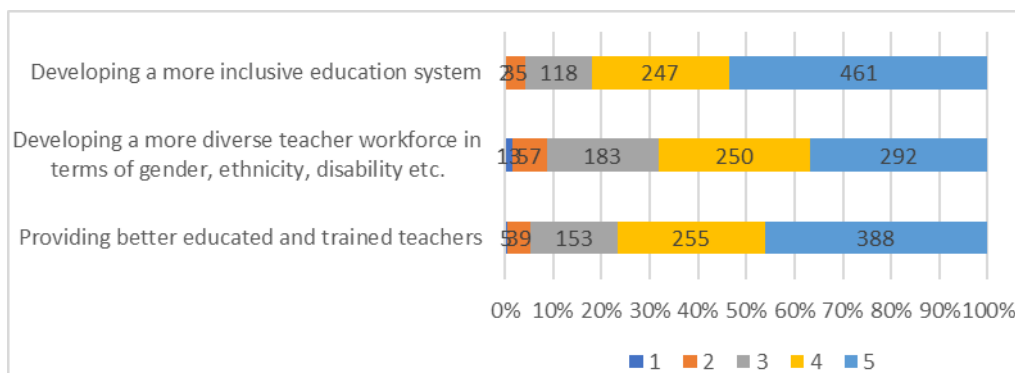


Figure 76: Answers to Q5.2

6. Overall assessment and recommendations

Q6.1 From your understanding (also maybe from speaking with second-year student teachers), to what extent do you consider the new curriculum an improvement compared to the old curriculum?

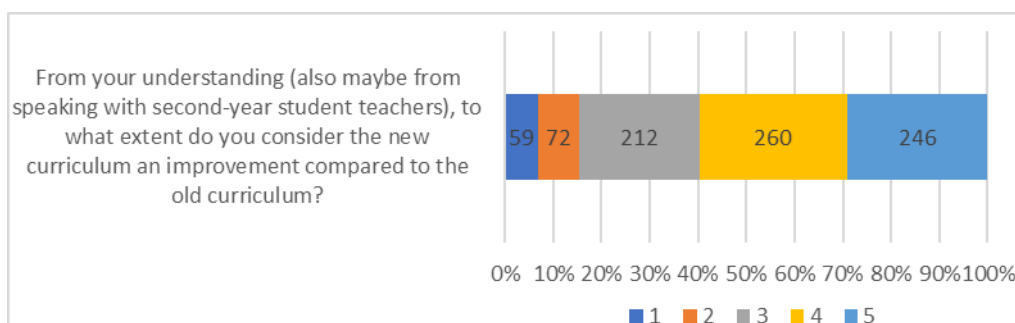


Figure 77: Answers to Q6.1

Q6.2 Could you describe in a few words how the new curriculum impacted you and your studies? (this question is optional) [text box]

Q6.3 Do you have any recommendations for the implementation of the Teacher Education Reform in the future and how UNESCO could support this? [text box]

This was the final question

Thank you for your participation!

Annex 9: Terms of Reference

Background

Through the ‘Strengthening Pre-Service Teacher Education in Myanmar’ (STEM) project, funded by the Governments of Australia, Finland, and the United Kingdom, UNESCO has been supporting the Myanmar Ministry of Education (MoE) in its reform of the Myanmar pre-service teacher education system. The STEM project (funded at over \$9 million for 5 years) will help the MoE, and particularly the Department of Higher Education (DHE), in upgrading Myanmar’s 25 Education Colleges (ECs), spread throughout the country, from 2-year diplomas to 4-year specialized programmes, with a focus on a new competency-based curriculum in line with international standards, human rights, gender equality and teacher rights. STEM includes support to complementary reforms to policy as well as EC management and technology infrastructure. The reform is in response to and aligned with the Myanmar Ministry of Education’s National Education Strategic Plan (NESP) 2016-21.

Phase I of the STEM project began in 2015, and Phase II began in January 2017. Phase II aims at the attainment of four (4) outcomes incrementally from 2017 to 2022, namely:

- **Outcome 1:** Comprehensive teacher policies informed by international standards are adopted, enabling implementation of the updated competency-based EC degree;
- **Outcome 2:** EC two-year diploma upgraded to specialized programs with competency-based teacher education curriculum;
- **Outcome 3:** Strengthened management and administration of ECs; and
- **Outcome 4:** An inclusive education approach mainstreamed through teacher policies, teacher education curriculum, and EC Continuous Professional Development (CPD) programmes.

According to the plan developed for Phase II of the STEM project, the above outcomes are expected to be attained by 2022. The Phase II Results Matrix was reviewed to set annual targets from 2017 to 2022 and this was approved at the project’s Steering Committee meeting in 2018.

Since inception, the STEM project, in close collaboration with the MoE, has contributed to both the upstream and downstream work of improving pre-service teacher education in Myanmar. As of March 2020, the STEM project achieved the major milestone of completing the development and production of EC Year 1 curriculum (student teacher textbooks and teacher educator guides for the 14 subjects/learning areas) and preparing teacher educators from all ECs to deliver the new curriculum. In addition, the EC curriculum framework and the EC Year 1 curriculum materials were approved by the Board of Studies, the Teacher Task Force was established, the formulation of the national costed resource plan for the upgrade of ECs was finalized and the e-library for ECs was launched. Progress was also seen in promoting inclusion, particularly with the assessment of inclusion and equity in teacher education.

Additionally, a mid-term evaluation of Phase II of the project was completed in June 2019, which highlighted key recommendations to improve and sustain performance against key outcomes. However, with Phase II of the project coming to an end in 2020, and in preparation for Phase III, a final evaluation of Phase II of the project is to be conducted in the form of an external evaluation. The evaluation report will be reviewed by the STEM Steering Committee, its core members consisting of the Ministry of Education and the three donors, with UNESCO providing the Secretariat, to inform decisions as necessary to adjust or refine project priorities, costed annual work plans and deliverables. An overview of the project outcomes, outputs and activities can be found in the Results Framework in ANNEX A.

Purpose of the Final Evaluation

The evaluation will focus on the entire implementation period for Phase II (January 2017 – June 2020). The purpose of the evaluation is to assess the extent to which the four (4) outcomes, expected to be attained by 2022, and annual targets have so far been achieved by Phase II of the STEM project and the project’s overall effectiveness in supporting the realization of the teacher education reform agenda in Myanmar.

Specifically, the findings of the evaluation shall be used to:

- Outline the achievements attained during Phase II against the Results Matrix and the extent to which these have so far contributed to Phase II's expected outcomes to be attained by 2022;
- Enhance the project's efficiency and effectiveness, providing key recommendations to reorient aspects of the project towards improvements and greater impact as it moves into the next Phase;
- Assess how effectively STEM is contributing to gender mainstreaming, equity and social inclusion;
- Analyse the extent to which the project is likely to enable a pre-service teacher education reform that is sustainable and how it could evolve to further secure its sustainability;
- Determine the factors for the observed performance and draw lessons that could be used in future interventions, including more broadly in the teacher education reform agenda beyond 2021;
- Assess progress against the recommendations highlighted in the Mid -Term Evaluation Report and the challenges encountered in implementing these recommendations;
- Assess partnerships, governance mechanisms and level of collaboration with the MoE and other local partners to ensure quality control, as well as the contribution to strengthening impact and the effectiveness of such collaboration; and
- Document the project's progress so far, highlighting challenges, lessons learnt, and areas that need to be addressed in Phase III.

Intended users of the Evaluation

While this final evaluation of Phase II will seek to address a set of relevant evaluation questions, the findings of the evaluation will be used for promoting accountability and organizational learning among the various stakeholders identified below.

- Myanmar Ministry of Education
- The Donors (Australia, Finland and the United Kingdom)
- UNESCO Project Office in Myanmar
- STEM Project team

Scope of the Evaluation

The scope of the evaluation is to assess the impact that STEM Phase II has had against its Results Matrix and the progress made along the project's broader theory of change. It shall identify key outputs that have led to the attainment of outcomes (intended and unintended), analyse the enabling factors and obstacles, and scrutinize the challenges encountered and their causes. The intended outcomes of Phase II were set to be attained by 2022; as such, the evaluation should assess the progress as well as the challenges and lessons learnt so far towards achieving the intended outcomes by 2022. The evaluation will further assess to what extent the monitoring and evaluation tools are able to effectively identify achievements and challenges, as well as what remedial actions have been or can possibly be taken to address challenges moving forward. The STEM project would be assessed against the following standard assessment criteria and should focus on the subsequent indicative questions,

Effectiveness in Implementation:

- To what extent can the activities and outputs realized as part of STEM Phase II lead to the achievement of the expected outcomes (expected to be attained by 2022), as outlined in the STEM Phase II Results Matrix? Why/Why not?
- To what extent did STEM Phase II attain the annual targets in the Results Matrix? Why/Why not?
- What impact did STEM have on the different beneficiaries or target groups, including contribution to gender equality and equity and social inclusion in teacher education?
- What constraints were encountered in implementing project activities? How were they addressed and what was the impact on the achievement of project outcomes?
- To what extent were the identified risks and key assumptions relevant? To what extent the mitigation strategies were effective in addressing the risks during the implementation of the project?
- Did the M&E system in place allow for the collection of sex-disaggregated data, monitoring of results and preparation of regular progress reports

Relevance of Project Results and Governance:

- To what extent did STEM Phase II produce results that are relevant to and resulted in benefits to beneficiaries such as Education Colleges, principals, teacher educators and student teachers?

- To what extent did the STEM Phase II contribute to the objectives and priorities of National Education Strategic Plan (NESP) and other national development objectives?
- How effective was STEM Phase II's governance framework and coordination mechanisms with the MoE, donors and UNESCO?

Efficiency of Implementation:

- Was STEM Phase II implemented in the most efficient way vis -à-vis its financial and human resources? Do the results justify the resources invested into the project?
- Did STEM Phase II make appropriate use of the time and resources of the MoE, UNESCO and the donors to achieve its expected outcomes? How effective was cooperation among the various stakeholders?
- Are STEM Phase II's activities aligned to the work of other national, regional and international actors involved in Myanmar's teacher education reform initiatives?

Sustainability:

- To what extent are the benefits/impact of STEM Phase II likely to continue? What are the major factors that will affect continuity?
- What evidence can be found of organizational, social and financial structures that will support sustaining the results achieved by STEM?
- What measures have been undertaken to strengthen capacity at the individual and organizational level to sustain results?

Impact:

- What changes did STEM Phase II bring about at an institutional and individual level? To what extent did the project contribute to the broader and longer term response to teacher education reform in Myanmar?
- To what extent can observed changes be attributed to the interventions of STEM Phase II? How have women, men and vulnerable groups experienced these changes?
- Considering the progress made in Phase II, to what extent does the evidence demonstrate the likelihood of achieving the final outcomes (expected to be attained by 2022)?
- What evidence, or in the absence of strong evidence, "weak signals" of impact, positive or negative, intended or unintended, can be found of STEM's contributions to the final beneficiaries in the long-term?
- Are results, good practices, lessons learnt and challenges being communicated in an effective manner to all stakeholders?

Scope of Work

1. Activities

The evaluators' activities should include, but not be limited to:

- Desk study of all relevant documents including the reports of the project, documents, guidelines and templates that were published or issued in the course of project implementation. The Mid-Term Evaluation Report and the management response to the recommendations should also be considered;
- Interviews of key stakeholders and participants, as well as possible other sources of relevant information, such as consultation through online surveys. Information should be gathered from the following stakeholders:
 - The Ministry of Education, particularly the Deputy Director-Generals responsible for teacher education in Department of Higher Education, and representatives from Departments of Basic Education; Education Research, Planning and Training; and Monitoring and Evaluation.
 - Representatives of the National Education Policy Commission (at minimum 1-2 representatives)
 - Members of the Teacher Competency Standards Framework Working Group (at minimum 2-3 members)
 - Members of the Curriculum Core Team, a group of teacher educators leading development of the new EC curriculum (at minimum 3-5 members)
 - Principals and others involved in management of ECs (at minimum 3-4 ECs)
 - Members of the gender working group for teacher education (at minimum 1-2 members)
 - Representatives from STEM project donors
 - Representatives from relevant development partners as well as civil society
 - Representatives of vulnerable and disadvantaged groups
- Field visits should be undertaken to visit 3-4 Education Colleges. Analysis of the STEM project approach against relevant trends and conditions for capacity development in teacher education globally.

- Analysis of the recommendations outlined in the Mid-Term Evaluation Report against notable changes to project delivery and implementation.

The firm shall present the methodology and evaluation approach they intend to use in their proposals; this will form part of the selection criteria. Firms are encouraged to use a methodology which combines breadth in data review and analysis with in-depth understanding of key stakeholders' experiences along the assessment criteria outlined in III. Scope of Evaluation. Innovative approaches in the presentation of evaluation results are welcome.

Owing to the COVID-19 situation, a degree of flexibility is needed to allow for the completion of the above activities. In the technical proposal, please be sure to indicate the risks and mitigation measures in case COVID -19 may affect the activities that are foreseen.

2. Deliverables

- Deliverable 1: A draft inception report which contains a summary of the theory of change of the project and synopsis of the project's operational context drawn from the desk study, an evaluation design matrix, a framework for assessing the impact of STEM Phase II, a list of stakeholders to be consulted, and a list of reviewed documents. The evaluation design should contain the proposed data collection methods and data sources to be used for answering each evaluation question and a plan for their validation. The evaluation design should also contain a timeline and key deadlines.
- Deliverable 2: Revised inception report following stakeholder feedback and, based on proposed data collection methods, draft data collection instruments
- Deliverable 3: Half day workshop for presenting the findings and recommendations to present the draft evaluation report to the STEM Steering Committee.
- Deliverable 4: Draft evaluation report of no more than 35 pages, excluding annexes.
- Deliverable 5: Final evaluation report of no more than 35 pages excluding annexes which should be structured as follows:
 - Executive Summary
 - Program Description
 - Evaluation purpose
 - Evaluation methodology
 - Key Findings
 - Progress against recommendations contained in the Mid-Term Evaluation Report
 - Lessons learnt
 - Key Recommendations and the Way Forward for the next phase
 - Annexes (including interview list, data collection instruments, key documents consulted, Terms of Reference)

The deliverables must be written in English. The report should focus on highlighting key findings, progress against the mid-term recommendations and the key recommendations and way forward of the final evaluation, so that stakeholders can take forward learnings and re-orient the project as appropriate. The annexes should provide an adequate level of evidence to sustain the findings and recommendations. Multimedia presentation of evidence and findings is a welcome addition to the evaluation report.

3. Timeframe

The evaluation is expected to start in May 2020 with an initial planning and inception phase followed by desk review, consultations, interviews and assessments. A presentation of preliminary findings should be provided to the STEM Steering Committee in June 2020. The final evaluation report should be delivered by August 2020.

- Draft Inception Report: mid-May 2020
- Revised Inception Report and Data Collection Instruments: late May 2020
- Presentation of Preliminary Findings: mid-June to late June 2020
- Draft Evaluation Report: mid-July 2020
- Final Evaluation Report: mid-August 2020

4. Proposed payment arrangements

The fee is payable in the following proposed payment instalments upon certification by UNESCO of satisfactory performance by the contractor of the work corresponding to each payment. All payments shall be effected by bank transfer. UNESCO shall be responsible for its own banking fees but any possible intermediary banking fees, as well

as the beneficiary's own banking fees, shall be the responsibility of the contractor. As such, please take these banking fees into account when preparing the financial proposal/price schedule.

Payment no.	Upon submission to and approval by UNESCO of the following work	Latest date of submission	Percentage of the payment instalment of the total contract amount
1	Deliverable 1. Draft Inception Report	18 May 2020	20%
2	Deliverable 4. Draft Evaluation Report	17 July 2020	40%
3	Deliverable 5. Final Evaluation Report	17 August 2020	40%

Qualifications and Requirements:

The firm/entity

It is **mandatory** to have:

- A minimum of 7 years of international experience in project/programme evaluation;
- A minimum of 5 evaluations and/or projects successfully implemented in support of education in developing countries, including in teacher education;
- A minimum of 5 evaluations and/or projects successfully implemented with UNESCO and/or the UN System including World Bank Group; and
- Demonstrated experience in evaluation methodologies and techniques, both qualitative and quantitative, and experience in evaluation of capacity development projects.

The personnel: Team Leader

It is **mandatory** for the team leader to have the following qualifications:

- Advanced university degrees in specialized fields of social sciences, humanities, public policy, or related fields;
- A minimum of 10 years of experience in applying qualitative and quantitative evaluation methods;
- Experience as a Team Leader for a minimum of 3 previous project evaluations;
- Experience as part of an evaluation team for a minimum of 2 project evaluations focused on capacity development in education;
- Demonstrated experience with human-rights based approach, including a focus on gender equality; and
- Excellent knowledge (written and spoken) of English language.

It is **desirable** for the team leader to have:

- Experience as part of an evaluation team in evaluating projects with activities taking place in Myanmar;
- Experience as part of an evaluation team evaluating projects focused on teacher education; and
- Experience as part of an evaluation team evaluating projects implemented by UNESCO and/ or the UN System including World Bank Group.

The personnel: Team Members

It is **mandatory** that team members have the following qualifications:

- The total number of team members, including the Team Leader, is at least three. It is not expected that more than five team members are required to complete the scope of work;
- University degrees in specialized fields of social sciences, humanities, public policy, or related fields;
- Proficiency in English language (written and spoken);
- At least one team member with a minimum of 3 years of experience in applying qualitative and quantitative evaluation methods, including excellent data analysis skills;
- At least one team member with a minimum of 3 years of experience in gender equality and social inclusion programming, particularly in the area of social development;
- At least one team member with a minimum of 5 years of experience in support of education in developing countries; and
- At least one team member with excellent knowledge (written and spoken) of Myanmar language, with preference for multiple team members with excellent knowledge of Myanmar language.

It is **desirable** that team members have the following qualifications:

- At least 5 years combined experience with the education sector in Myanmar;
- At least one team member with a minimum of 3 years developing multimedia presentations; and
- At least one team member with a minimum of 3 years of experience working in post-conflict and/or conflict-affected contexts.

Preference will be given to multicultural evaluation teams with appropriate gender balance and geographic representation.

It is mandatory that the team members have no previous involvement in any of the project activities under review.

Conditions for the Evaluation

The evaluation is external. The deliverables of the evaluation will be published and made available as a public document. The STEM Steering Committee will be the reference group for this evaluation, and will be responsible for overseeing and advising on the evaluation process and methodology. It is expected that all deliverables will be reviewed by the members of the Steering Committee, and they will provide feedback to the evaluators as appropriate. The STEM Steering Committee comprises the representatives from the Myanmar Ministry of Education, UNESCO, and the Governments of Australia, Finland, and the United Kingdom.

6.1 Responsibilities of the evaluators include but are not limited to:

- Treating documents in a confidential manner;
- Returning all documents to UNESCO;
- Asking for permission before giving any information on the evaluation to third parties;
- Providing all logistics such as office space, telecommunication, printing of documentation, etc.
- Ensuring availability for a briefing via teleconference with STEM Steering Committee members prior to in-country data collection;
- Ensuring availability for team members to partake in in-country mission of sufficient duration for all needed data collection;
- Situating the mid-term evaluation of the project within a holistic understanding of the context in which it operates;
- Maintaining positive relationships during all stakeholder interactions;
- Ensuring that the mid-term evaluation and all interactions are grounded in cultural sensitivity; and
- Responding to STEM Steering Committee feedback, as appropriate to an external evaluation.

6.2 Responsibilities of UNESCO include but are not limited to:

- Providing key documents for desk review, as well as during data collection as needed;
- Providing contact information and facilitating participation of stakeholders during data collection;
- Ensuring availability of staff to cooperate with the evaluation team;
- Arranging field visits for the evaluation team;
- Liaising with STEM Steering Committee members to provide updates on evaluation progress;
- Liaising with both the evaluation team and STEM Steering Committee members to schedule meetings as required; and
- As part of the STEM Steering Committee, providing feedback on the inception report, data collection tools, preliminary findings, and draft evaluation report.

6.3. Responsibilities of MoE include but are not limited to:

- Ensuring availability of key stakeholders and representatives for both data collection and feedback to evaluation deliverables;
- Facilitating processes to allow for meetings and field visits with MoE and EC representatives;
- Providing any further information which may not be available from UNESCO and which serves the purpose of the evaluation; and
- As part of the STEM Steering Committee, providing feedback on the inception report, data collection tools, preliminary findings, and draft evaluation report.

6.4. Responsibilities of the donors – include but are not limited to:

- Ensuring availability of representatives from the Embassy of Finland, DFAT, and DFID for both data collection and feedback to evaluation deliverables; and
- As part of the STEM Steering Committee, providing feedback on the inception report, data collection tools, preliminary findings, and draft evaluation report.

Reference documents

- http://www.unesco.org/new/fileadmin/MULTIMEDIA/HQ/IOS/images/UNEG_G_2010_2_Quality_Checklist_for_Evaluation_Reports.pdf
- UNESCO's evaluation policy: <http://unesdoc.unesco.org/images/0023/002322/232246e.pdf>
- UNEG Norms and Standards for Evaluation