REPUBLIC OF KENYA

Centre for Mathematics, Science and Technology Education in Africa (CEMASTEA)

# General Operating Procedures

# TRAINING DIRECTORATE PROCEDURE MANUAL

**Revision No. 12**

**Copy No……**

| | Signature | Date |
|---|---|---|
| **Prepared by: Director STEM Training** | | **05 /09/2026** |
| **Controlled by: Quality Management Representative** | | 05/09/2026 |
| **Approved by : The Chief Executive Officer** | | 05/09/2026 |

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## GENERAL

### 1.0 Purpose

This procedure provides guidelines for training activities offered by CEMASTEA. The purpose of this procedure is to ensure that activities in Academic Departments and Training Programmes of CEMASTEA are carried out in a timely, effective, and efficient manner in accordance to CEMASTEA Quality Manual and ISO 9001:2015 Standard requirements.

### 2.0 Scope

This procedure applies to **all** CEMASTEA training activities related to planning, design and development, implementation, monitoring and evaluation, and controls in Academic Departments and Training Programmes.

### 3.0 Reference

- CEMASTEA Quality Manual
- ISO 9001:2015 Standard
- CEMASTEA Strategic Plan 2023-2027
- Handbook for Management of Teacher Professional Development Programmes in Kenya-2nd Edition
- TSC Code of Regulations for Teachers
- CEMASTEA Code of Conduct and Ethics
- CEMASTEA Performance contract
- Basic Education Act 2013
- TSC Act 2012
- Sessional Paper No. 1 of 2005: A Policy Framework for Education, Training and Research
- Sessional Paper No. 1 of 2019: A Policy Framework for Reforming Education and Training for Sustainable Development in Kenya
- National Education Sector Strategic Plan 2023-2027
- Handbook on the Implementation Junior Secondary Education-January 2023

- Fourth Medium Term Plan 2023-2027: Bottom-Up Economic Transformation Agenda for Inclusive Growth
- Ministry of Education Guidelines for Implementation of Senior School Education-October 2025

## 4.0 Definition of Terms, Abbreviations and Acronyms

In addition to the relevant common definitions of terms given in ISO 9000, the following specific definitions shall apply:

**General Operating Procedures** is a written document / instruction detailing all steps and activities of a process or procedure. The procedure should be carried out without any deviation or modification to guarantee the expected outcome. They should be the basis for the routine training program of each employee. Procedures should be regularly updated to assure compliance to the regulatory requirements and the working practice.

**CCo:** Course Coordinator

**CEO** Chief Executive Officer

**CT:** County Trainer

**CTCDC:** County Teacher Capacity Development Committee

**DST:** Director STEM Training

**DOS**: Dean of Studies

**PCo:** Programme Coordinator

**R&D:** Research and Development

**Academic Advisory Committee:** The body appointed by the CEO CEMASTEA to provide non-binding strategic advice to the Centre on the effective implementation of training programmes

**Cohort:** A group of participants attending the same training at the same time

**County Trainer:** Any person designated by CEMASTEA to conduct training at the county level

**Course Coordinator:** Any person assigned by CEMASTEA the responsibility for organizing the different activities and people involved in a particular training course so that it works effectively

**Dean of Studies:** An officer heading an academic department comprising members of staff working towards achieving given goals.

**Liaison Officer**: A member of the teaching staff who coordinates of a particular county on behalf of the Director

**Online Training:** The use of a computer or an electronic device such as a mobile phone in some way to provide training or educational/learning material with the help of the internet

**In-person Training:** Training where participants attend a face-to-face training at designated venues

**Programme**: An entity charged with the responsibility of coordinating training and associated activities targeting a specific group of clients (i.e., primary school teachers, secondary school teachers, college tutors, education stakeholders or international educators)

**Programme Coordinator**: The officer in charge of a programme.

**Reflection workshop**: A workshop held to discuss a training that has been conducted or M&E exercise that has been concluded

**Tools**: Data collection instruments

**Non-conforming outputs**: These are outputs that do not meet the training requirements and include modules, facilitator's guides, facilitation schedules and programmes with errors and trainers who do not qualify

**Blended Learning**: Combination of face-to-face training and online or digital learning.

## 5.0 Principal Responsibility

The Director STEM Training has the principal responsibility for ensuring that this procedure remains adequate for its intended purposes and implementation. The Programme Coordinators, Deans of Studies ensure that these procedures are followed, effectively implemented and maintained.

## 6.0 Method

The process interaction maps are summarized in Annex II

## 6.1 Planning for Training

6.1.1 DST ensures Programme Coordinators and Deans prepare annual training plan integrating actions arising from risk assessment not later than one month after receiving the printed estimates from Finance Department.

6.1.2 The Programme Coordinator ensures R&D identifies training needs before a course outline is developed. Where a previously implemented training is being repeated with a different target group within a period of two years of the previous training, the training needs of the previous training shall still be considered valid.

6.1.3 The PCo ensures a course outline is developed based on training needs at most three weeks after identification of the training needs.

6.1.4 PCo shares the proposed course outline with CEMASTEA teaching staff for inputs/feedback at most two weeks after the development of the course outline

6.1.5 PCo submits refined course outline to the DST for approval at most one week after the feedback workshop.

6.1.6 DST ensures that letters are sent to relevant office requesting for invitation of participants to attend training not less than one week before training commences.

6.1.7 For any training mounted on special request by a customer, the areas requested for by the customer or agreed upon with the customer shall constitute the course outline. The timelines in section 6.1 may not apply

6.1.8 Where training is initiated in response to a new policy directive by the Ministry of Education (MOE) or the Teachers' Service Commission (TSC), the planning for training shall be within timelines to deliver the training as required by MOE or TSC. The timelines in 6.1 may not apply

6.1.9 Where a training is rescheduled/suspended at any stage of planning, the timelines may not apply

6.2 **Development of Training Modules**

6.2.1 The DST sends the approved course outline to DOS/PCo at most one week after approval

6.2.2 DOS/PCo ensures draft course content is developed and quality controlled within five weeks of receiving the course outline from the DST.

6.2.3 Where the draft course content is developed by the subject departments, the DOS submits the draft course content to the PCo within one week after completion.

6.2.4 PCo convenes a workshop with staff to compile the training/workshop module at most two weeks after receiving the drafts

6.2.5 PCo convenes a stakeholders' workshop to validate the module at most 2weeks after receiving the compiled module. Where a training module is sponsored by a development partner, the PCo submits the module to the development partner for validation

6.2.6 PCO ensures the module is revised based on stakeholders' feedback and common facilitation slides, as well as list of materials are developed within three weeks after the validation and submitted to the DST

6.2.7 DST approves and distributes the approved module to the Staff not later than 2weeks after submission

6.2.8 For an in-person training, PCo requisitions training materials from Supply Chain Department at least 2 weeks before training commences

6.2.9 For online training, PCo ensures the learning management system/training platform is ready not later than 3 days before training commences

6.2.10 For any training mounted on special request by a customer, the module development process shall be within timelines agreed upon with the customer. The timelines in section 6.2 may not apply

6.2.11 Where training is initiated in response to a new policy directive by the MOE and TSC, the development of training modules shall be within timelines to deliver the training as directed. The timelines in 6.2 may not apply

6.2.12 Where a training is rescheduled/suspended at any stage of development, the timelines may not apply

6.3 **Implementing training**

6.3.1 DST receives a facilitation schedule from PCO at least four days before training and releases it to facilitators atleast three days before training. Where there is a delay in approval of training involving teachers under the TSC the training shall be implemented within timelines stipulated by the Commission in the approval letter. This timeline may not apply

6.3.2 The facilitators conduct training as per the approved training schedule.

6.3.3 The facilitators and the Course Coordinator compile the cohort report and submit to PCo within four weeks after training

6.3.4 The PCo compiles the overall training report and organizes a reflection meeting within a week after receiving the training report. This is applicable to trainings at National level

6.3.5 The PCo submits the overall report to DST within 1 week after compilation

6.3.6 For any training mounted on special request by a customer, the training shall be implemented within timelines agreed upon with the customer. The timelines in section 6.3 may not apply

6.3.7 Where a training is rescheduled/suspended at any stage of implementation, the timelines may not apply

6.4 **Control of Training**

6.4.1 The DST ensures that training is facilitated by qualified personnel only (See Annex IV)

6.4.2 The training will be monitored and evaluated as per R & D KM procedures (refer to R & D and KM procedures)

6.5 **Control of externally provided training**

6.5.1 DST provides the criteria for selecting CTs to the CTCDCs (See Annex III and the Handbook on Management of SMASE TPD)

6.5.2 CTCDCs select and send CTs to attend INSET at National level

6.5.3 The DST ensures that only CTs who qualify for certification at National INSET cascade training at the county level. A list of qualified CTs will be shared with counties at least 1week before county level training

6.5.4 DST ensures that for in-person training, the PCo provides approved training materials to CTs at least one week before county training

6.5.5 For online training, DST ensure that the PCo provides the content of the training module in the online platform and also uploads a copy of the module in the online platform

6.5.6 Where there is a delay in approval of training involving teachers the training shall be implemented within timelines stipulated the approval letter/memo. The timelines in 6.5 may not apply

6.5.7 Where training is initiated in response to a new policy directive by the MOE, the TSC or a partner, the training shall be within timelines to deliver the training as directed. The timelines in 6.5 may not apply

6.5.8 The DST ensures the quality of sessions and management of training through monitoring and evaluation of INSET (Refer to R&D procedures)

6.6 **Control of non-conforming outputs**

6.6.1 DST ensures that CTs who do not meet set criteria on certification are not certified.

6.6.2 Where a training module is printed, PCo ensures random checks to identify non-conforming ones in terms of specifications

6.6.3 In the event that a non-conforming module is identified, the PCo withdraws it. Documented information relating to the nonconforming output shall be retained

6.7 **Monitoring, evaluation and analysis (Refer to R&D KM Procedures)**

The PCo will determine what needs to be monitored and evaluated from Annex V and communicate to R&D KM.

6.8 **Certification of participants**

6.8.1 Participants will be issued with e-certificates for all CEMASTEA training .

6.8.2 For in-person training conducted at National level, qualification data will be verified by the PCo not later than 21 days after training is completed. Authorization to issue certificates to qualifiers will be given by the DST not later than 7 days after verification is completed.

6.8.3 For online training conducted at National level, qualification data will be verified by the PCo not later than two months after training is completed. Authorization to issue certificates to qualifiers will be given by the DST not later than 7 days after verification is completed.

6.8.4 For in-person training conducted at county level, the CTCDC submits the list of certificate qualifiers to CEMASTEA not later than two weeks after training is completed.

6.8.5 For online training conducted at county level, the CTCDC prepares a list of participants who have qualified for certification and submits to CEMASTEA within one month after training is completed.

6.8.6 PCo ensures the lists of qualifiers are verified and submitted to DST for certification within three weeks after receiving it

6.8.7 The DST authorises issuance of certificate to qualifiers within one week after receiving the list.

6.8.8 Programme Coordinator E-Learning coordinates issuance of e-certificates with ICT Department (Refer to ICT Procedures) and the PCo responsible for the training

6.8.9 For any training mounted on special request by a customer, the certification of participants will be done as agreed upon with the customer. The requirements and timelines in section 6.8 may not apply

## 7.0 Key Performance Indicators

| Indicator | Sub-process | Activities | Target |
|---|---|---|---|
| 1. No. of teachers trained | 1) Planning for training<br>2) Development of training materials<br>3) Implement training | 1) Conduct training | Training quality index improved by 0.01 for each training conducted |
| 2. Timely issuance of certificates to qualifiers | 1) Preparation and verification of lists of certificate qualifiers<br>2) Printing and dispatch of certificates | 1) Prepare list of qualifiers<br>2) Verify qualifiers registers<br>3) Print and dispatch certificates | 1) For in person training at National level, authority to print issued not later than 30 days after completion of the training<br>2) For online training at National level, authority to print issued not later than 10 weeks after completion of the training<br>3) For online training at County level authority to print certificates issued within three months of completing the training. |
| 3. Customer satisfaction improved | 1) Planning for training<br>2) Development of modules and implementation guidelines<br>3) Implement training | Respond to participants concerns and complaints during and after training in a timely manner | Training service delivery index improved by 0.01 for each training conducted |

## 8.0 Retained Documented Information

1. Training programmes
2. Attendance registers
3. Training/workshop reports
4. INSET Centre reports
5. M&E of County INSET reports
6. TNA reports
7. Training modules
8. Training implementation guide
9. List of participants
10. Facilitation schedules
11. Plan of operations
12. Monitoring and evaluation tools
13. Qualifiers registers
14. Certificate dispatch/issuance registers/logs

## 9.0 Annexes

### 9.1 **Annex I: Training process matrix**

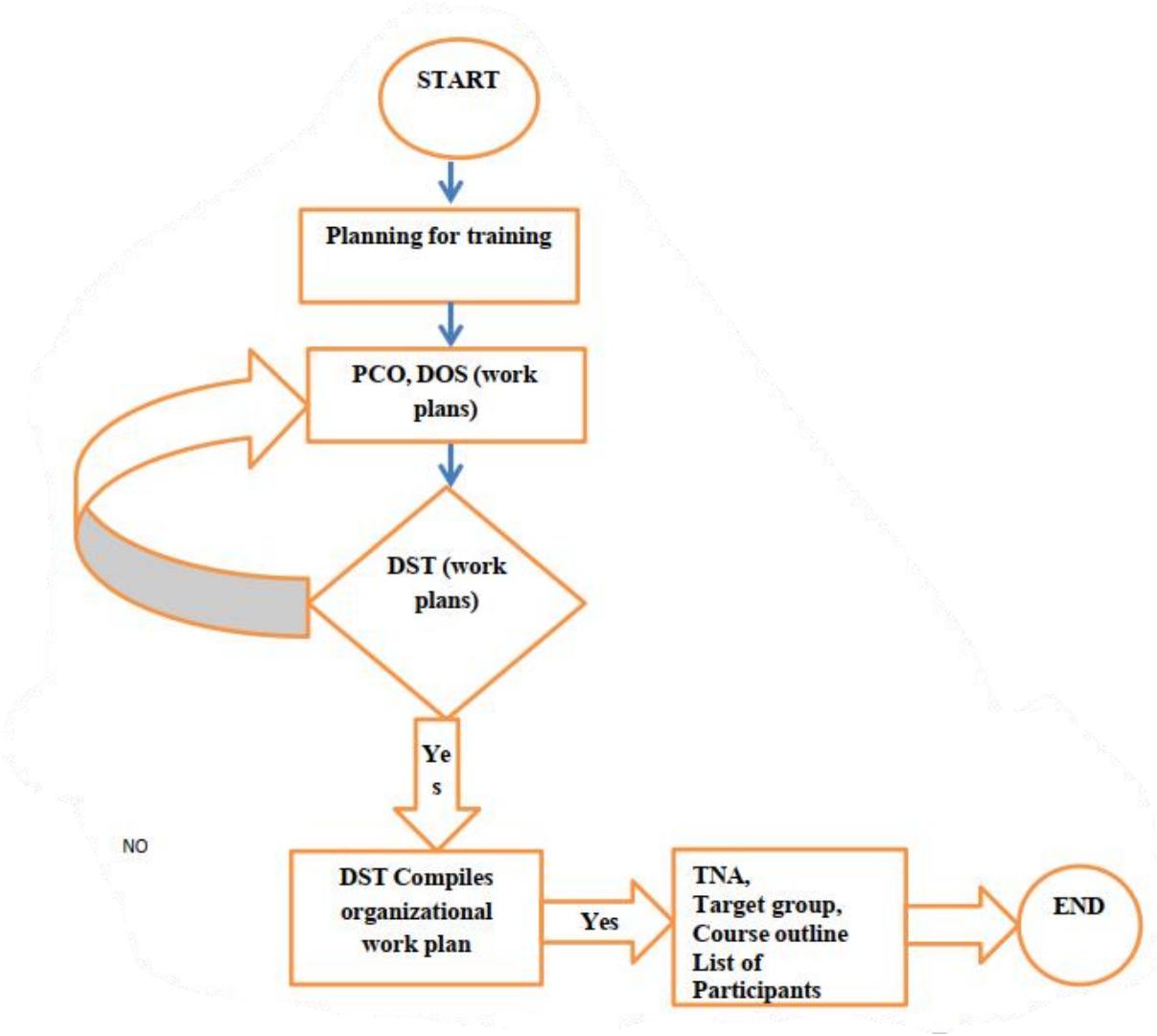
| Planning for training | | | | |
|---|---|---|---|---|
| **Suppliers** | **Inputs** | **Activities** | **Outputs** | **Customers** |
| FO,<br>R&D-KM,<br>P&L,<br>PCos, | 1. Budget allocation<br>2. Schedule of activities from process owners<br>3. Training Needs<br>4. Requirements from partners | 1.Develop plan of Operation<br>2. Develop course outline | 1. Plan of operations<br>2. Course outline | All teaching staff |
| Development of Training Modules, facilitation guides and training programme | | | | |
| **Suppliers** | **Inputs** | **Activities** | **Outputs** | **Customers** |
| DST,<br>DOS,<br>PCos | 1. Course Outline<br>2. Schedule for staff task allocation for | 1. Developing module content, facilitation guide | 3. Modules<br>4. Facilitators guides | 1. Trainers<br>2. Lab technicians |

| | | | | |
|---|---|---|---|---|
| | content development<br>3. List of training requirements | and training programme<br>2. Procuring of training materials | 5. Training Programme<br>6. Training materials | 3. SCMO |
| Implementation and control of training | | | | |
| **Suppliers** | **Inputs** | **Activities** | **Outputs** | **Customers** |
| DST<br>SCMO,<br>R&D coordinator<br>DOS<br>CTCDC | 1. Approved Training module<br>2. Approved Facilitators guide<br>3. Approved Training Programme<br>4. Training materials<br>5. Approved facilitation schedule<br>6. Evaluation Tools<br>7. Qualified personnel<br>8. Suitable infrastructure | 1. Preparation of presentations<br>2. Facilitation of sessions<br>3. M&E<br>4. Issuing certificates | 1. Trained county trainers<br>2. List of qualified trainers<br>3. List of certificate issuance<br>4. Sensitized stakeholders<br>5. Training report<br>6. Stakeholders sensitization report<br>7. Harmonized training<br>8. Evaluation data<br>9. Certificate | 1. Director<br>2. Trainees<br>3. Trainers<br>4. Stakeholders<br>5. R&D |
| Control of externally provided training | | | | |
| **Suppliers** | **Inputs** | **Activities** | **Outputs** | **Customers** |
| County Trainer<br>CTCDC<br>CEMASTEA<br>Stakeholders | 1. Criterion for selection of trainers<br>2. List of county trainers<br>3. Training of county trainers<br>4. Circulation of approved Modules, | 1. Updating list of county trainers<br>2. M&E of county Training | 1. Trained teachers<br>2. Harmonized county training<br>3. M&E Report | 1. Trainees |

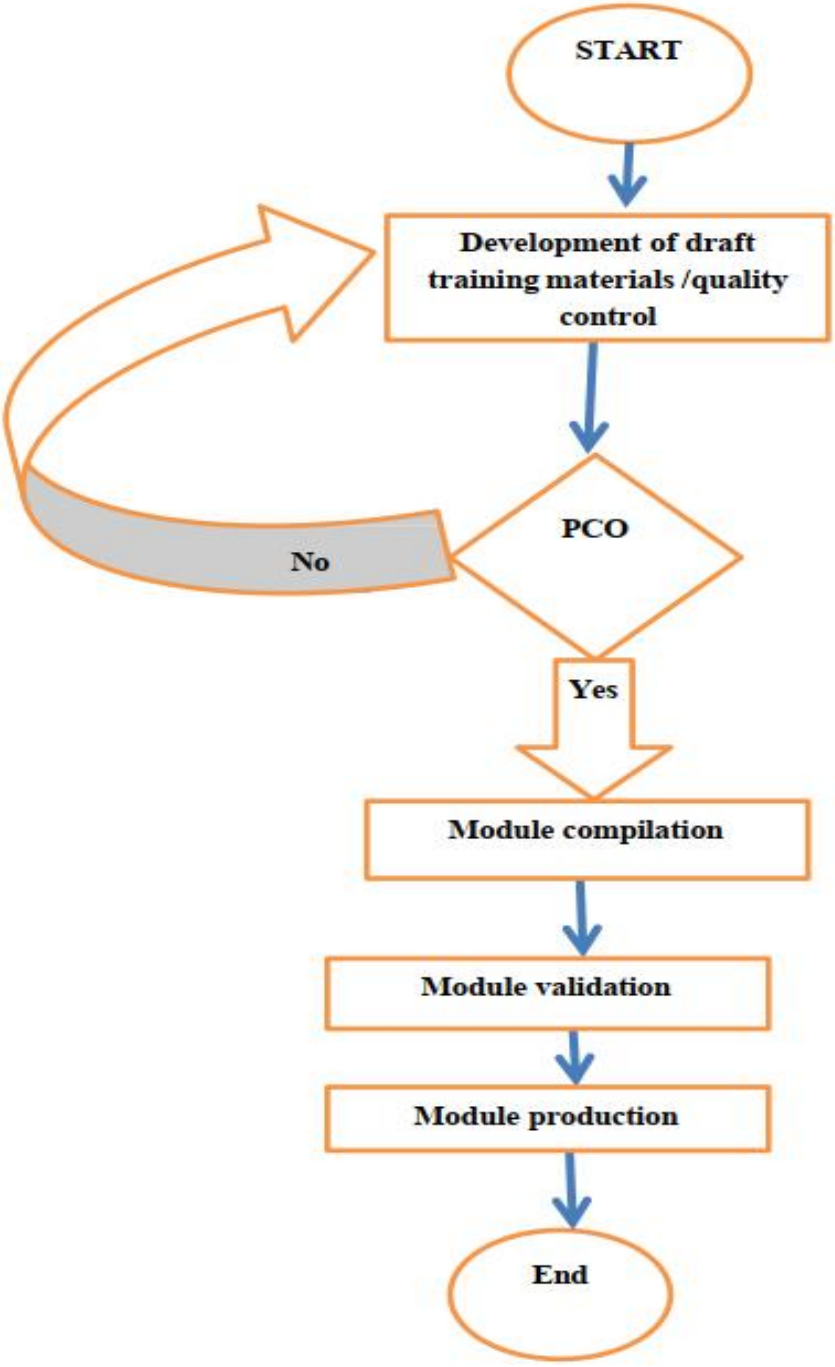
| | | | | |
|---|---|---|---|---|
| | facilitation guides & Training materials | | | |
| Control of non-conforming Outputs | | | | |
| **Suppliers** | **Inputs** | **Activities** | **Outputs** | **Customers** |
| Staff CTCDC | Information about non-conforming outputs | 1. Assessing<br>2. Reviewing<br>3. Recording<br>4. Recommending | Report of NC | Director |
| Monitoring evaluation and analysis | | | | |
| **Suppliers** | **Inputs** | **Activities** | **Outputs** | **Customers** |
| R&D coordinator<br>PCos | 1. Training programmes<br>2. INSET dates<br>3. Venues<br>4. M&E Tools<br>5. Filled tools | 1. Conduct monitoring and evaluation<br>2. Analysis of data<br>3. Report writing | 1. Training reports<br>2. M&E reports<br>3. Training indices | 1. PCos<br>2. DST<br>3. DOS<br>4. Staff |

## 9.2 **Annex II: Process Interaction Maps**

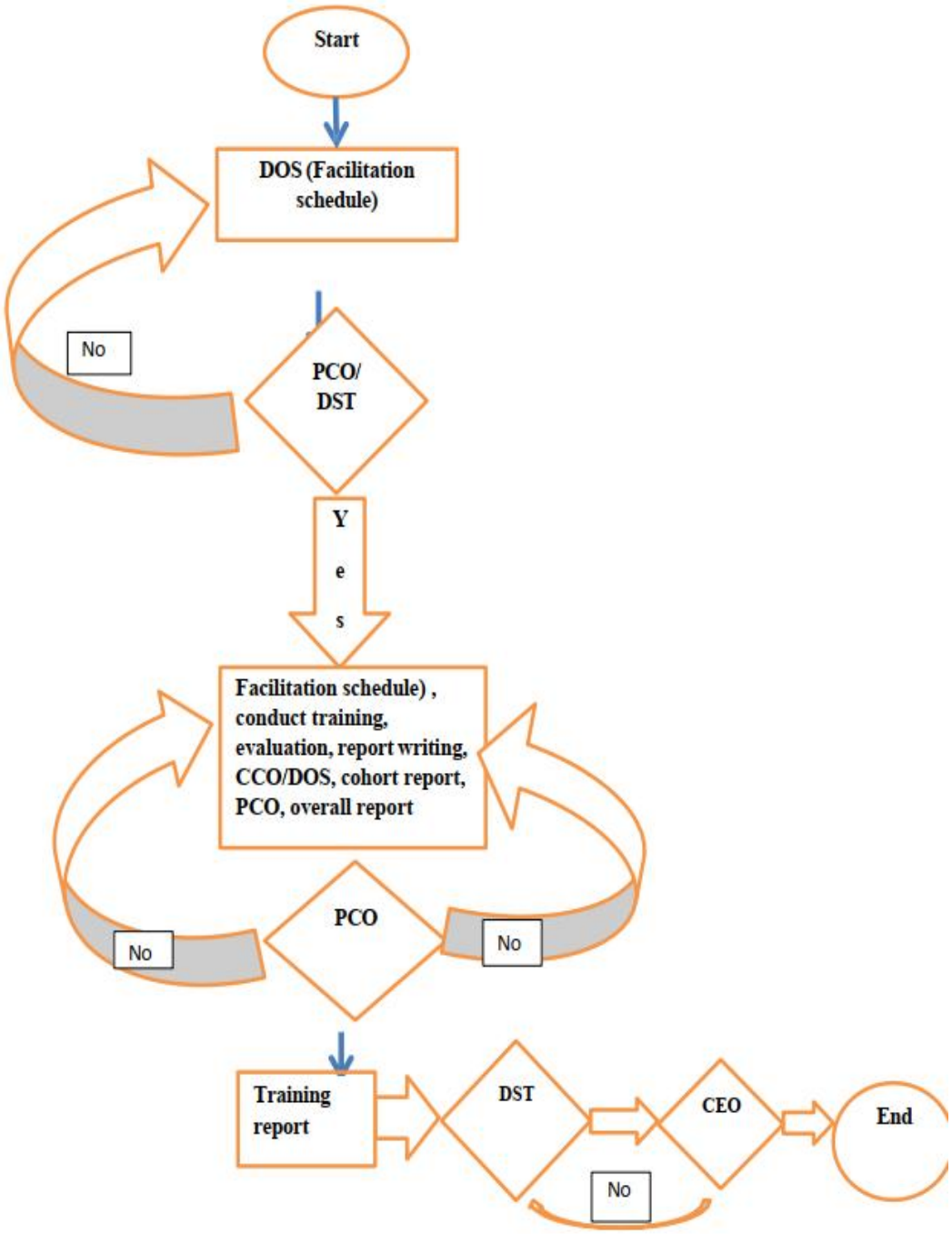
### 6.1 Planning for Training



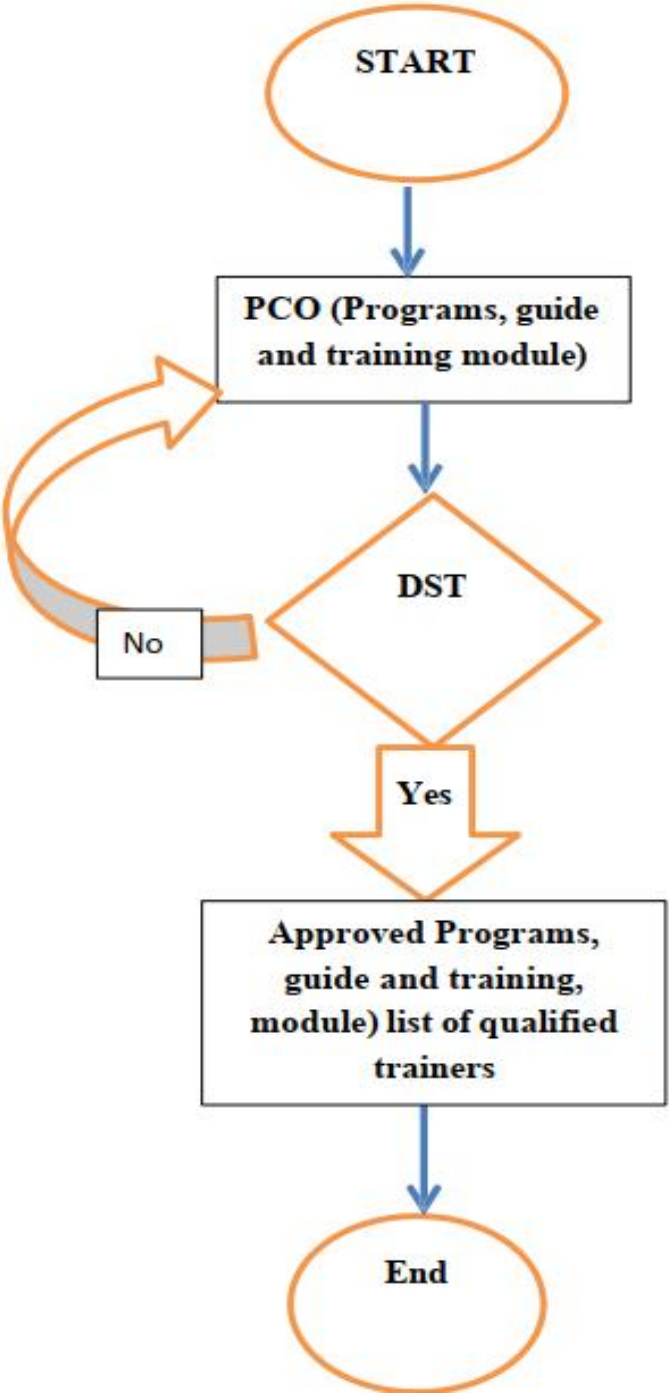
## 6.2 Development of training modules and Implementation guide



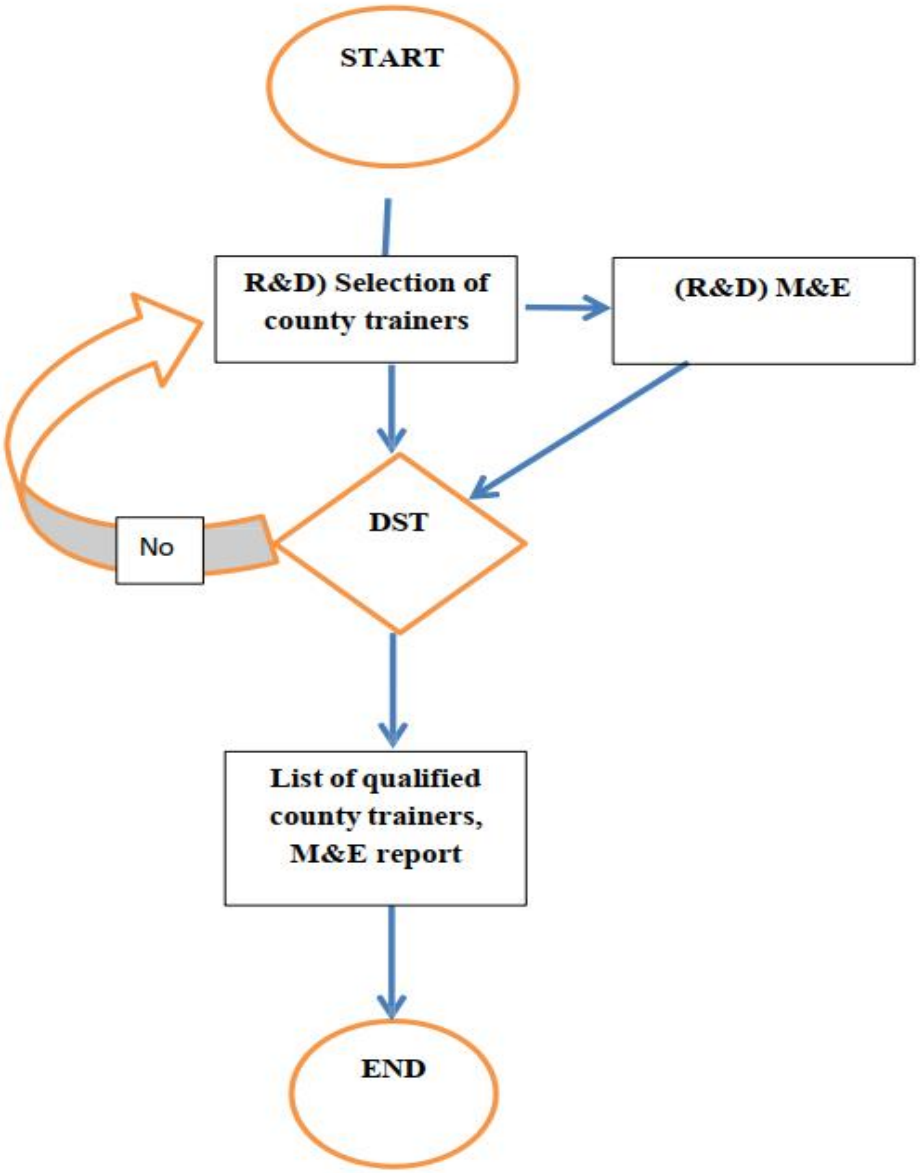
## 6.3 Implementing the training



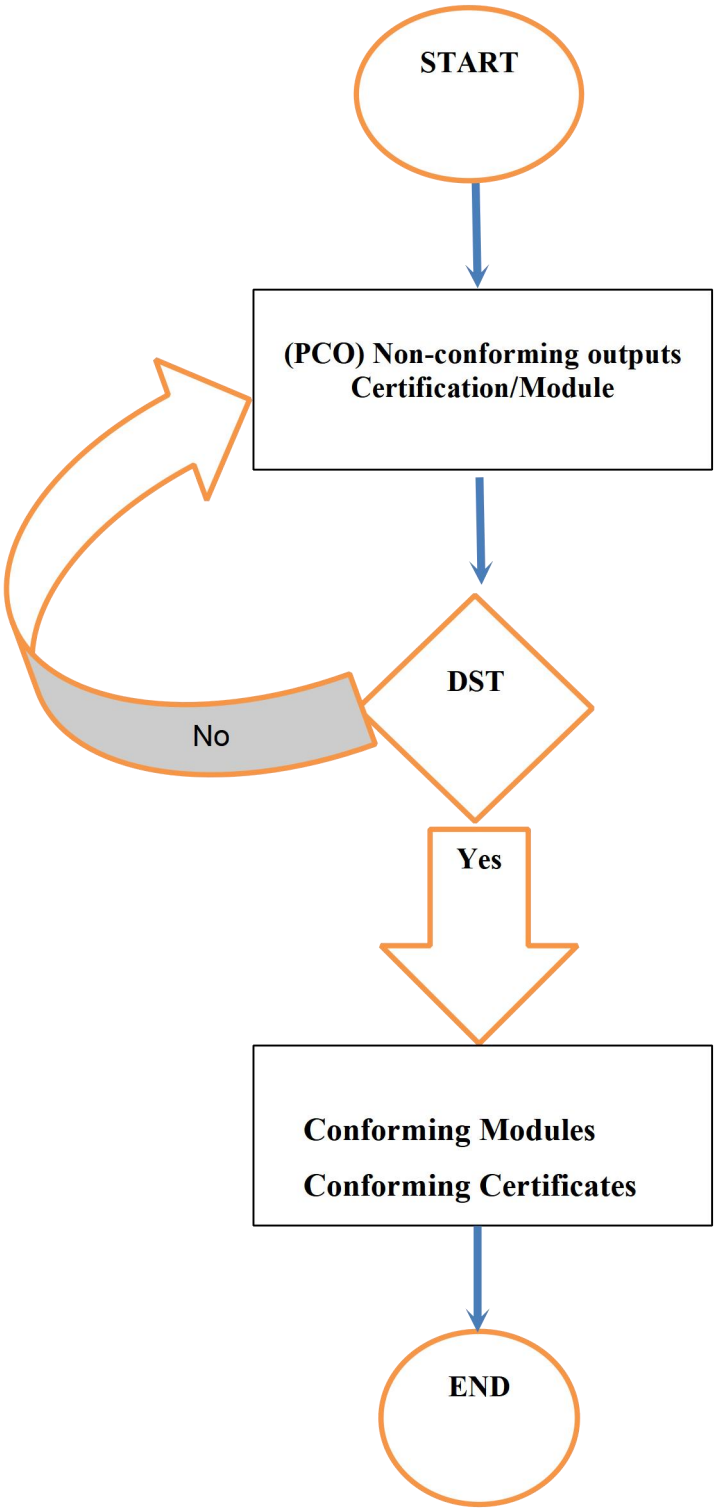
## 6.4 Control of Training



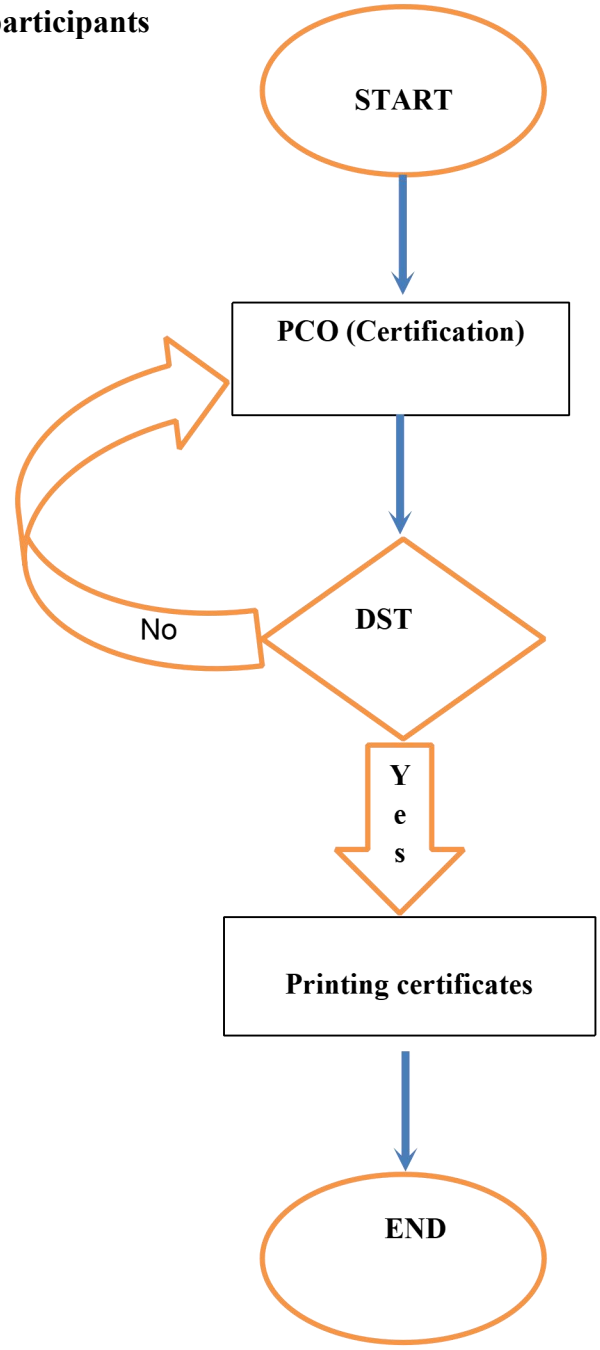
## 6.5 Control of externally provided training



## 6.6 Control of non-conforming output



## 6.8 Certification of participants



**Annex III: Selection of Trainers**

Selection of trainers at all levels shall be done competitively to achieve competent officers to facilitate and manage INSET and workshop activities. Key competencies to consider entail; knowledge in pedagogy, subject matter and emerging issues relevant to classroom practices, competence in developing training programmes and adapting modules to local needs. The number of County Trainers per subject should be at most three per training centre.

***Primary programme***

Training for primary school teachers is done through a two tier cascade system; National and County. The national trainers train county trainers who in turn train teachers at the county INSET centers.

**i) Criteria for selecting County Trainers – Primary Level**

To qualify as a County Trainer –primary level, a teacher must satisfy the following basic requirements:

a) Minimum, Bachelor's Degree in Education or P1 certificate in Primary Teacher Education with a major in the area of specialization or its equivalent qualification from a recognized institution.
b) Exemplary professional competence as a teacher demonstrated by learners' performance.
c) Served as a teacher for at least five (5) years in either a PTTC or primary school.
d) Demonstrated proficiency in computer use and applications.
e) **Must not** be a serving head or deputy head teacher

**Added advantage**

a) Masters / Bachelors degree in education.
b) Active member in subject association activities.
c) Involvement in pupils' science fairs.
d) Trainer of Trainers certificate.

e) Resourcefulness in terms of publication of academic papers, books & periodicals in a relevant subject area.
f) KNEC examiner.
g) **Must** have attended SMASE INSET.

***Note:*** *Priority is given to a teacher who has effectively served as a County Trainer in another county if available*

**ii) Criteria for selecting County Trainers – Junior School Level**

Training for Junior School (JS) teachers is done through a two tier cascade system namely; National and County. The National Trainers train the JS County Trainers who in turn cascade the training to JS teachers at county level. To qualify to be a Junior School County Trainer, a teacher must satisfy the following basic requirements:

a) Must be a registered teacher with the Teachers Service Commission
b) Minimum qualification of a Diploma in Education from a recognised institution
c) Must be employed by the Teachers' Service Commission
d) Must have at least five years of teaching experience
e) Demonstrated proficiency in computer use and applications.
f) Must have attended previous continuous capacity development courses e.g. SMASE.

**Added advantage**

The following will be an added advantage:

a) Bachelor's degree in education or equivalent
b) An active member in subject association activities.
c) Being either a primary or secondary SMASE County Trainer
d) Involvement in offering training in other programmes other than SMASE
e) Being a CBC Champion teacher
f) Being a Subject panelist with KICD
g) Being an ICT Champion teacher

**iii) Criteria for selecting County Trainers – Secondary/Senior School Level**

Training in Secondary/Senior School level programme is done through a two tier cascade system namely; National and County. The National Trainers train the County Trainers – Secondary/Senior School who in turn cascade the training to teachers at county level. To qualify to be recruited as County Trainer – Secondary/Senior School, a teacher must satisfy the following basic requirements:

To qualify to be recruited as a Secondary/Senior School-level County Trainer, a teacher must satisfy the following requirements:

a) Must be a registered teacher with the Teachers Service Commission.
b) Minimum qualification of a Bachelors in Education or Bachelor of Science with Post Graduate Diploma in Education from a recognised University.
c) Served as a teacher for at least five (5) years either in secondary school or a relevant teacher training college.
d) Exemplary professional teacher competence demonstrated by subject performance and leadership abilities.
e) Demonstrated proficiency in computer use and applications.
f) Must have attended previous continuous capacity development courses e.g. SMASE.

**Added advantage**

The following will be an added advantage:

a) Masters degree in education or equivalent.
b) An active member in subject association activities.
c) Involvement in students' engineering and science fairs.
d) Published or written works such as academic papers, books
e) An examiner with the Kenya National Examination Council.
f) Involvement in offering training in other programmes other than SMASE
g) Being a Subject panelist with KICD
h) Being an ICT Champion teacher

***Note:*** *Priority is given to a teacher who has effectively served as a County Trainer in another county if available*

### 9.3 **Annex IV: Criteria for Qualification to Facilitate Training at National Level**

1) Current or retired National Trainer who has participated in the development/quality control of training materials to be used for the training OR has been inducted on the planned training
2) A consultant competent in his/her area that has been hired to facilitate a special session

### 9.4 **Annex V: Parameters to be Monitored and Evaluated**

1) Quality of facilitation
2) Usefulness of sessions
3) Training Organization and Implementation
4) Training Service Delivery
5) Pre- and Post-Training Evaluation
6) Areas for Future Training
7) Training Quality
8) Ability of County Trainers
9) Management by CTCDC
10) Attendance