KENYA INSTITUTE OF CURRICULUM DEVELOPMENT

STANDARDS FOR COMPETENCE BASED DIGITAL COURSE MATERIALS

JANUARY 2018

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Definition of Terms

Active Learning: Any instructional method that engages learners' in the learning process

Animation: Movies with drawings, computer graphics, or photographs of static objects, including all techniques other than the continuous filming of live-action images.

Approved Digital Course Materials: Those that have been curated and approved by KICD in accordance with the specified standards.

Community of Practice (CoP): It is a group of people who share common interest for something that they all do and learn how to do it better through their regular interaction. A CoP, in this case, will come about because members are motivated to share their digitally generated resources which they want to improve through their collective quality assurance process.

Community Service Learning: A teaching and learning approach that incorporates meaningful community service with instruction and reflection to enrich the learning experience.

Competence: The ability to apply appropriate knowledge and skills to successfully perform a function.

Course Content (CC): Course content refers to any information or subject matter that is related to a specific subject taught in Kenyan institutions of learning which is submitted to the KICD Education Cloud Platform (KICD EdCP) for online curation.

Course: An accredited unit of curriculum.

Curriculum Design: An outline of what is to be covered in a given course.

Digital Learning Content: Assembly and aggregation of discreet, digital (or electronic for display on a computing device) learning objects designed to meet intended learning outcomes. Content is a specific package of material for use in an overall curriculum.

Guidelines: Suggested or recommended approaches to performing a task.

Instructional Design: Systematic method of planning, developing, evaluating and managing instruction to ensure competent performance by the learner.

Interactive: allowing a two-way flow of information between a computer and a computer-user; responding to a user's input.

Learning Content: Assembly and aggregation of discreet learning objects designed to meet intended learning outcomes.

Learning Outcomes: They are statements of what learners are expected to do at the end of a learning experience.

Learning resource: A learning asset or assets designed to address an intended learning outcome(s).

Metadata: Information that identifies content during submission.

Multimedia: Multimedia is a computer application which represents information through audio, animation, text, drawings, still and moving images, and any other media where every type of information can be represented, stored, transmitted and processed digitally.

Plug-in: A file containing data used to alter, enhance, or extend the operation of a parent application program.

Revision Material: Materials that provide further practice and review the knowledge, skills and attitudes acquired through activities, assignment and tests. Revision materials involve revision books and workbooks.

Standards: Document descriptions that have received a stamp of approval or accreditation from KICD.

Strand: Specific theme in a learning area.

Supplementary Content: These are materials which assist in the implementation of the curriculum by supporting Course materials in further interpreting the designs.

List of Acronyms and Abbreviations

1. **CBC**- Competence based Curriculum
2. **EYE –** Early Years Education
3. **GIF**- Graphic Interchange format
4. **JPEG** - Joint Photographic Experts Group
5. **KEC -** Kenya Education Cloud
6. **MP3 -** MPEG Audio Layer-3
7. **MP4 -** MPEG Layer-4
8. **MPEG** - Motion Picture Express Group.
9. **OER –** Open Education Resources
10. **PCIs**- Pertinent and Contemporary Issues
11. **PNG**- Portable Network Graphics
12. **TIFF**- Tagged Image File Format
13. **TVET-** Technical Vocational Education and Training

General Information

The standards are intended for the development, curation and approval of CBC digital Course Materials. Early Years Education (EYE) resources should comply with Standards that are in tandem with the Competence Based Curriculum (CBC). These standards are subject to regular review and refinement.

Invitation for submission of CBC Digital Course Materials

Invitation for submission will be availed by KICD through its official website (www.kicd.ac.ke).

Eligibility

Submissions will only be accepted from individuals, groups and publishers who are legally incorporated and registered in Kenya, and who can therefore provide, on request, valid certification of such incorporation/company registration and legal operation.

Content developers who wish to submit materials on behalf of firms that are not locally registered should make available a certified copy of the Agency Agreement or Representation Authority.

Registration

During registration, the developer is required to provide the following:

   i.   KRA Pin registration (Required)
  ii.   Certificate of originality (A declaration of ownership)
 iii.   Evidence of payment of required submission fee.
  iv.   Where necessary, evidence of official registration and incorporation in Kenya.
   v.   Evidence of agency agreement or power of attorney for company's action on behalf of foreigners.
  vi.   Contacts (phone number, email address, physical address)

Submission areas

Eligible content developers may submit CBC digital Course Materials for any of the learning areas in basic education and tertiary levels. Content may also be submitted for these levels

addressing pertinent and contemporary issues in the broad areas of Global Citizenship, Health Education, Life Skills and Values Education, Education for Sustainable Development (ESD), Community Service Learning, Parental Empowerment and Engagement. **(See Appendix 6)**

The choice of education level, subject/learning area and category of material(s) to submit is entirely at the discretion and judgment of the interested/submitting developer. A developer can submit in different learning areas and categories. Each Submission will be curated solely in terms of its relevance and suitability for the requirements of the specific curriculum area and categorization as outlined in the necessary specific standard.

Submission requirements

- Materials submitted for curation and approval should strictly be finished products.
- Any material that a content developer intends to be curated and considered for more than one level should be submitted in the distinct sets for each level, each set constituting a submission.
- Any material that bears information that purports it to have been 'Approved' by MoE or KICD prior to the current Submission, Curation and Approval process, shall still be curated.
- Electronic teaching aids which require operations must be accompanied by an operational manual. The parts and components of such submissions should be in good working condition. Testing to confirm workability of equipment will constitute the curation process.

Technical specifications

All materials presented for curation and approval must satisfy the requirements as outlined in the specific standards.

- The software used to package the content should be supported across various operating systems.
- They should be branded.

Costs of curation and approval

The submission fees will be communicated during invitation.

Schedule for Submission, Curation and Approval of CBC Digital Course Materials

This schedule will provide details on activities in regard to submission, curation and approval of CBC digital Course Materials.

Submission form

This form will be filled by digital content developers who would wish their CBC digital Course Materials to be curated. A duly completed form should be submitted to KICD before uploading the materials for curation. The form contains the content developer's profile.

Specific standards

These have been provided for use when curating the submitted CBC digital Course Materials.

Disclaimer

Any digital material which is awarded 'Approved' status as a result of the curation procedures will be maintained on the approved list for as long as there are no changes in the existing curriculum.

KICD will not accept any responsibility for marketing approved CBC digital Course Materials to the learning institutions. Equally, the Institute will not accept any responsibility if approved CBC digital Course Materials fail to achieve acceptable sales.

Invitation to Submit CBC Digital Course Materials for Curation and Approval

The Kenya Institute of Curriculum Development wishes to invite educational digital content developers represented in Kenya to submit CBC digital Course Materials. This Standard contains details on what to submit and the requirements for submission including assessment details where applicable.

Educational digital content developers should therefore submit CBC digital Course Materials to the Kenya Institute of Curriculum development (KICD) in accordance with the requirements as stipulated in this document.

The **Standards for CBC digital Course Materials** may be downloaded from the KICD website portal www.kicd.ac.ke at no cost. You can access and interact with the standards before submission.

All submissions will be received continuously at the Institute through the portal. All prospective content developers should submit their content online after filling the CBC digital Course Materials submission form as well as the Meta Data.The learning resource (content) will undergo various quality assurance processes:

- To assure quality
- For efficiency of processing
- To place the content in the right context/category

The learning resource must be peer reviewed through communities of practice, publishers, organization or peers before submission for curation to KICD.

The **CBC digital Course Materials** will be used for learning purposes within Kenya and should therefore be appropriate for achievement of learning outcomes **(See Appendix 5)** for the following levels:

a. Early Years Education (Pre-primary, lower primary and Foundation level).
b. Middle school (Upper Primary and Lower Secondary)
c. Senior School
d. Tertiary Level (Teacher Education and TVET)

CBC digital Course Materials are required for all learning and activity areas across the different levels of education for both regular and special needs learners.

Each submission has to be accompanied by a non-refundable curation fee paid online as stated in the invitation for submission.

All enquiries should be directed to:

Director General
Kenya Institute of Curriculum Development
P O Box 30231 – 00100 NAIROBI GPO – Kenya
Tel (254 2) 3749900-9, 3748204, 3747994; (254) 20 – 2053419 Fax (254 2) 3639130
E-Mail: info@kicd.ac.ke

General Standards

Digital materials will be curated on the following broad areas:

- Conformity to the curriculum
- Accuracy and currency of the content in the material
- Language use
- Promotion of positive values and attitudes
- Integration of pertinent and contemporary issues
- Assessment
- Multimedia elements
- Technical design
- User guide
- Cloud content attributes

Specific Standards for CBC Digital Course Materials

Conformity to the competence based Curriculum

The material should;

- Cover strand, sub strands, themes concepts and skills in the curriculum design
- be relevant to the learning areas specific learning outcomes
- develop concepts sufficiently
- develop skills sufficiently
- be correct and accurate.
- be current
- be appropriate to the level of the learner
- develop core competencies
- develop core values
- promote positive altitude
- be organized in a logical sequence

Promotion of Pertinent and Contemporary Issues

The material should stress issues such as Citizenship, Health education, Life Skills and Values Education, Education for Sustainable Development (ESD), Non-formal Learning Programme, Community Service Learning and Parental Empowerment &Engagement

Language

Language used should be correct and accurate

Vocabulary and sentence structures should be appropriate to the level of the learner

Learning experiences

Activities should:

- be learner centred
- be relevant to learning outcomes
- be appropriate to the level of the learner
- be adequate as per the learning outcomes
- be clear and varied

Exercises should:

- be learner centred
- be relevant to learning outcomes
- be appropriate to the level of the learner
- be adequate as per the learning outcomes
- be clear and varied
- have feedback for answers
- provide chances of retrying
- Provide for an exit option at any level
- Provide options to change level of difficulty
- have correct answers

Multimedia Elements (Text, Photographs, Animations, Illustrations, Sound and Video)

Relevance of multi-media elements

- All multi-media elements used in the material should be relevant to the subject matter

Interactivity of the elements

The multi-media elements:

- should have features that make it interesting and interactive
- should contribute to understanding the content
- should not distract the user

Variety and Adequacy of multimedia elements

Multimedia elements used should be varied and adequate

Clarity, Colour and Proportion of elements

- All multimedia elements should be clear
- The colour used in multi-media elements should be appropriate
- All multimedia elements should be correctly proportioned

Captioning and/or Labelling

- Multi – media elements should be well labelled
- Multi – media elements should be well captioned

Sound management

- Sound should be properly synchronized with all the elements
- Sound effects used should be appropriate
- There should be proper pronunciation, articulation, intonation and pace
- Sound should be audible

Adapting Multimedia Elements for Learners with Special Needs

Content meant for learners with special needs should be adapted appropriately

Learners with Visual Impairment

- There should be a compatible platform that allows print to be read.
- Content should be easily navigable using keyboard navigation keys or/and voiced commands.
- Materials that require sight should be provided with accompanying audio
- Content should be scalable to cater for learners with low vision.

- Colour should be enhanced to cater for learners with low vision.

Learners with Hearing Impairment
- Audio should be accompanied with appropriate sign language caption or text.
- Video elements should have accompanying text.

Learners with physical impairment
- Content should have minimum navigation.

Technical Design

Navigation throughout the System
- There should be provision for navigational aids
- The navigational aids should enable the user move easily around the resource and foster independent use
- There should be provision for book marking or saving of position
- Hyperlinks should be useful and functional
- Links and hyperlinks should lead users to appropriate sites
- There should be exit points at any stage

Interface / Layout Architecture
- Screen layout should be logical and consistent
- Page layout should be appropriate to the target level and learning area
- The layout should enhance readability and ease of reference
- Font face use throughout the material in highlighting strands and sub strands should be rational
- Multimedia elements should be correctly positioned in relation to the relevant text
- The screen forms should be scalable

Note: Pre-primary and lower primary materials should have a minimum font size of 14 and appropriate font style. Content should be presented in single columns.

Availability of essential modules

- There should be a functional:
    - Search facility
    - Help facility
    - Glossary facility
- The content should be compliant to universal and open standards

Architectural Quality Attributes

- The system should be totally functional i.e. it should produce the results for which it was designed
- The system should support interoperability i.e. it should work with other applications, systems and technologies
- The system should be robust i.e. it should behave reasonably when it encounters unexpected input
- The system should be portable i.e. it should be capable of running in different environments
- The system should support a reasonably varied range of video resolution

User Guide

- A user guide should be availed
- The user guide should contain information on system specifications required to run the software
- The guide should explain how to load and unload the site with content in the system
- The guide should have a step by step guide on how to use the application
- Information in the user guide should be correct and accurate.

Attributes of Content in the Cloud

- The digital content should stream smoothly
- Downloadable components within the digital content should download with ease

Teacher's Guide

Provision of extra information

The guide should provide extra information that is relevant and appropriate for the teacher. This extra information should include links to other learning areas and suggestions on non-formal activities which support learning.

Accuracy and correctness of content

The content in the guide should be correct and accurate

Pedagogical Approaches

The guide should provide variety of learning methods and approaches that set out:

- practical Activities for teaching each strands / sub strands /activity
- approaches to inculcating Core values
- approaches to integration of Pertinent and Contemporary Issues
- learner centered activities for Inquiry Based Learning to developing Core Competencies
- approaches to developing skills and attitudes
- approaches to presenting the various types of activities
- approaches to integrate ICT tools to explore more knowledge

Suggestions on facilitation for learners with special needs

The guide should provide guidelines for:

- learning resources for learners with special needs
- learning strategies for learners with special needs

The teacher's guide should give adequate directions to a facilitator with special needs on how to use digital content

Suggested Assessment

The guide should have relevant and useful suggestions on appropriate modes of assessment at the strand level

The guide should:

- have suggestions at the strand level on how to develop appropriate assessments
- provide useful suggestions on the approaches to answering questions in the course material

- provide useful suggestions on how the facilitator can come up with other relevant exercises and activities
- provide useful suggestions on how to adapt exercises and activities for learners with special needs

Answers to exercises

The guide should provide correct answers to all exercises

Approaches to activities

The guide should provide appropriate approaches to activities

Clear Cross Referencing to the Course Material

The guide should make clear cross referencing to the Course Material by use of links and hyperlinks

Layout

The layout of the guide should enhance readability and ensure ease of reference.

The guide should make appropriate use of margins

Technical Design

Navigation throughout the System

- There should be provision for navigational aids
- The navigational aids should enable the user move easily around the resource and foster independent use
- There should be provision for book marking or saving of position
- Hyperlinks should be useful and functional
- Links and hyperlinks should lead users to appropriate sites
- There should be exit points at any stage
- The system with the content should have voiced navigation aids which can be maneuvered using the keyboard.

Interface / Layout Architecture

- Screen layout should be logical and consistent
- Page layout should be appropriate to the target level and learning areas
- The layout should enhance readability and ease of reference
- Font face use throughout the material in highlighting strands and sub-strands should be rational

- Multimedia elements should be correctly positioned in relation to the relevant text
- The screen forms should be scalable

Availability of essential modules

- There should be a functional Search facility
- There should be a functionalHelp facility
- There should be a functionalGlossary facility
- The content should be compliant to universal and open standards

Architectural Quality Attributes

- The system should be totally functional i.e. it should produce the results for which it was designed.
- The system should support interoperability i.e. it should work with other applications, systems, and technologies.
- The system should be robust i.e. it should behave reasonably when it encounters unexpected input.
- The system should be portable i.e. it should be capable of running in different environments
- The system should support a reasonably varied range of video resolution

Attributes of Content in the Cloud

Availability of content

- The digital content should stream smoothly
- Downloadable components within the digital content should download with ease

Appendices

Appendix 1: Submission Form

Where applicable, the following information should be provided when submitting digital content in order to generate a tracking number.

KRA PIN Registration: …………………………………….

Declaration of Originality: By agreeing with this statement, I hereby declare that this is my original work and that any additional sources of information have been appropriately acknowledged.

I agree ☐   I disagree ☐

Evidence of official registration and incorporation in Kenya: (Scan and attach copy of registration document): ....

Evidence of agency agreement or representation of Evidence of official registration and incorporation in Kenya (Scan and attach copy of agreement document): ....

Contact (Phone, e-mail and physical address): ………………….

Appendix 2: Meta Data

Meta Data

Subject …………………………………… Level ………………………..……

Class ………………………………

Category of Learners (Regular or SNE)...

Category of Special Need (if Applicable)

For Example, Visually Impaired – VI, Hearing Impaired – HI,

Others (specify)...

Title..

Digital Content ID………………………………………………..………………….....

Content Developer(s)..

Content Developer (s) Credentials……………………………………….....................

Content Provider(s)..

Country………………………………………………………………………………….

Community of Practice (Where Applicable) …………………………………………....

Type of License (Applicable to OERs) ……………………………….……………….

Language ………………………………………………………………………………

Brief Description:

....

....

....

Format (such as e-Pub, Interactive Digital Content) …..

Year of Production...

Edition/Version Number………………….……………………………………………………………….

Rights (Where application) ……………………………………………………………….……

Price...   Date …………................................

Appendix 3: Online Submission, Curation and Approval Schedule

NO	ACTIVITY
1.	Continuous submission of digital content, apps and platforms
2.	Formal alert of the beginning of curation for the digital content, apps and platforms
3.	Digital content developers conference (content, apps and platforms)
4.	Curation process
5.	Formal approval and recommendation
6.	Dissemination of curation report
7.	Uploading the online list of approved content, apps and platforms on KEC

Appendix4: Core Competencies for CBC

1. Communication and Collaboration
2. Critical Thinking and Problem Solving
3. Imagination and Creativity
4. Citizenship
5. Digital Literacy
6. Learning to Learn
7. Self - Efficacy

Appendix 5: Learning Outcomes for Early Years Education

(Pre-Primary and Lower Primary)

By end of Early Years Education, the learner should be able to:

1. Communicate appropriately using verbal and/or non-verbal modes
2. Demonstrate basic literacy and numeracy skills
3. Apply digital literacy skills for learning and enjoyment
4. Apply creative and critical thinking skills in problem solving
5. Practice hygiene, proper sanitation, safety and nutrition to promote health
6. Practice appropriate etiquette for interpersonal relationships
7. Explore the immediate environment for learning and enjoyment
8. Demonstrate acquisition of emotional, physical, spiritual, aesthetic and moral development
9. Demonstrate appreciation of the country and its rich, diverse cultural heritage for harmonious living
10. Exhibit appropriate organizational skills.

Appendix 6: Pertinent and Contemporary Issues

Global Citizenship; Peace Education, Integrity, ethnic and racial relations, social cohesion, patriotism and good governance, child's rights and, child care and protection

Health Education: HIV and AIDS Education, Alcohol and drug abuse prevention, Life style diseases, personal hygiene, Common Communicable and chronic diseases

Life Skills and Values Education: Life Skills, Core Values and Human sexuality,

Education for Sustainable Development (ESD): Environmental Education, Disaster Risk Reduction, Safety and security Education (small arms, human trafficking, Financial Literacy, Poverty eradication, Countering terrorism, extreme violence and radicalization, Gender Issues and Animal Welfare Education.

Learner Support Programmes: Guidance services, Career guidance, counselling services, Peer education, mentorship, learning to Live together, clubs and societies, Sports and games.

Community Service Learning, Parental Empowerment and Engagement: Service learning and community involvement and parental empowerment and engagement.

Broad area	Pertinent and Contemporary issue
1. Global Citizenship	Peace Education, Integrity , ethnic and racial relations, social cohesion, patriotism and good governance, child's rights and, child care and protection
2. Health Education	HIV and AIDS Education, Alcohol and drug abuse prevention, Life style diseases, personal hygiene, Common Communicable and chronic diseases
3.Life Skills and Values Education	Life Skills, Core Values and Human sexuality,

4.Education for Sustainable Development (ESD)	Environmental Education, Disaster Risk Reduction, Safety and security Education (small arms, human trafficking, Financial Literacy, Poverty eradication, Countering terrorism, extreme violence and radicalization, Gender Issues and Animal Welfare Education.
5.Learner Support Programmes	Guidance services, Career guidance, counselling services, Peer education, mentorship, learning to Live together, clubs and societies, Sports and games
6. Community Service Learning, Parental Empowerment and Engagement	Service learning and community involvement, parental empowerment and engagement