

Multi-sectoral Approach for Continuity of Learning (CoL) through Remote Learning: An Intervention to Prolonged School Closures

Key Findings

- Teachers' perception about and confidence to enact remote teaching affects their ability to support remote learning
- ICT tools (e.g. LMS, devices and internet) in terms of availability, affordability and coverage are a hindrance to effective implementation of remote learning

Kenya, like many other countries in the world, experienced prolonged school closure arising from the emergence of COVID-19 pandemic in March 2020. The Ministry of Education envisioned a continuity of learning (CoL) for all students, especially at Basic Education level, as articulated in the Kenya basic Education COVID-19 Emergency Response Plan (MOE, 2020). This meant that teaching and learning needed to proceed remotely given that the schools were closed. However, it was not clear how teachers would navigate the process of teaching remotely given their preparation and experience that involved teaching through face-to-face interactions with students. Findings from a research show that effective implementation of CoL requires a multi-sectorial approach, which among other factors, should purpose to address (1) teachers' perception about and confidence to enact remote teaching and learning, and (2) access to reliable and cost effective ICT infrastructure to learners and teachers that include learning management systems (LMS), devices and internet.

What is at stake?

Consequent to disruptions of face-to-face interactions between teachers and students and the need to embrace remote learning to support CoL, teachers require further re-skilling to change their mind-sets and build their confidence to support remote learning. Furthermore, lessons from the COVID-19 pandemic period suggest that effective implementation of CoL is hampered by the digital divide characterized by uneven availability and affordability of ICT tools. If these challenges are not adequately addressed,

learners particularly from vulnerable backgrounds are likely to be disenfranchised further as a result of prolonged school closure (Rasmitadila et al., 2020).

The Study

CEMASTE through the Research and Development Knowledge Management (R&D KM) Department conducted a study to understand how the mathematics and science teachers navigated the process of implementing CoL during COVID-19 pandemic. The research

involved 472 Strengthening of Mathematics and Science Education (SMASE) county trainers and 3,718 Secondary school mathematics and science teachers as participants in the 2020 Secondary in-service education and training (INSET) at national and county levels respectively.

This brief shares findings from the study with an aim of informing policy responses by decision-makers in the Ministry of Education, the Teachers Service Commission (TSC), other relevant Ministries, and partners both in the public and private sectors to rally their support towards ensuring successful implementation of CoL when situations arise leading to prolonged school closures

Methodology

The study which adopted a descriptive survey methodology utilized an online questionnaire sent to participants as a link through their email. The 29-item questionnaire captured both quantitative and qualitative data about (1) participants' feelings as well as their actions following the closure of schools due to COVID-19 pandemic, (2) participants' experiences, knowledge and awareness about online platforms and ICT tools and their use in remote teaching and learning, and (3) support to implement remote teaching and learning. Quantitative data were analysed to obtain frequencies and percentages. On the other hand, qualitative data were analysed for emerging themes to support quantitative data.

Findings

Teachers value face-to-face interactions with their students – The findings of this study show that respondents were concerned about students missing face-to-face interactions during prolonged school closure due to COVID-19 pandemic with the concern being greatest for the Form 4 class where 47.5% of respondents showed this concern. Despite the concern, close

to 30% of respondents took more than 4 weeks to reach out to their students and a further close to 35% of participants never reached out to their students.

When asked specifically about those who had conducted lessons with their students a vast majority of respondents averaging nearly 55% of the respondents had not (see Figure 1).

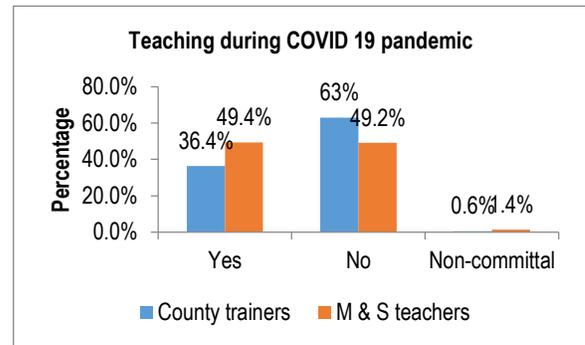


Figure 1: Teaching during COVID-19 Pandemic

Teachers' perception about and confidence to enact remote teaching affects their ability to support remote learning – It emerged that 60% of the respondents believed that the only feasible work that can be done online is revision of work already covered through face-to-face teaching. Nearly the same percentage of respondents (61%) disagreed with the statement, "Students can easily follow lessons involving practical activities demonstrated online" The Multiple Logistic Regression Model applied in this study showed that a teacher who is somehow confident or not confident at all was at least 28% more likely not to conduct lessons with his/her students than the one who is confident. This finding was significant at p-value <0.0001.

ICT tools (e.g., LMS, devices and internet) in terms of availability, affordability and coverage are a hindrance to effective implementation of CoL – Respondents were aware of a variety of ICT tools including

hardware such as mobile phones, laptops/tablets, Television and Radio; LMS and platforms such as Google classroom, Zoom, WhatsApp; and online sources of e-content through search engines such as Google, Firefox and Microsoft edge that can be used in remote learning. However, instances of deployment of the tools in supporting learning during COVID-19 pandemic were low for all of them except WhatsApp. Respondents used WhatsApp, an App associated with Smart mobile telephone mainly to send questions and assignments to students. However, some of them encountered challenges related to availability and cost of ICT tools as exemplified by the following quotes. One respondent noted “No smartphones or computers owned or available for learners” as a challenge to supporting students to learn remotely. Another one observed “Making a choice to feed or buy data [bundles] or smartphones for learners living [in] slum areas, the choice is simple: food.” Furthermore, internet coverage and stability was also noted to be a challenge. For example, one respondent noted, “Virtual learning and zoom require a stable network both for students and teachers. The majority of learners cannot afford a stable network”

Recommendations

1. Teacher quality – Even though this study involved county trainers under the SMASE program and mathematics and science teachers, the findings reported in this brief are reflective of what could have been experienced by teachers in other subjects. Based on the findings of this study, there needs to be sustained and targeted teacher professional development for all teachers to ensure acquisition of adequate skills and confidence to support online and remote learning. Specifically, the role of online/remote learning and how it can be implemented to benefit the learners should be clarified to the teachers. This brief recognises and acknowledges that great

efforts and strides have been made to ensure teachers acquire skills to support remote learning. For example, see Remote Learning Methodologies – Manual for Teachers currently being implemented by the TSC. Also, the 2021, INSET for secondary teachers by CEMASTE with the theme “Enhancing teachers’ competences in remote learning techniques for effective teaching and learning of mathematics and science” focused on the use of ICT tools such as simulations, animations and virtual labs to conduct remote teaching. These efforts need to continue. In addition, teacher programs need to incorporate aspects of online or remote teaching to equip prospective teachers with skills to conduct this kind of teaching. Research (e.g., van der Spoel, Noroozi, Schuurink & van Ginkel., 2020) has shown that integrating technology-supported teaching in teacher training programs positively influences the prospective teachers’ use of technology in their own classrooms.

2. ICT infrastructure – ICT tools including stable internet connectivity are a requisite for remote learning. There is need for a concerted effort by several stakeholders (i.e., BOM, school administration and parents) as well as multi-agency approach, involvement and support through different government ministries (i.e., Education, ICT, Energy etc.) to provide these tools for use by teachers and students.

3. Community-based learning – The Teachers Service Commission (TSC) initiated Community-based learning (CBL) as a way of ensuring CoL during COVID-19 pandemic. Given the limitation of availability and cost of ICT tools including devices and internet for some students, CBL could be adopted as an alternative to covering content as prescribed in the syllabus. It could also be structured to include the use of broadcasted content through large screens mounted at strategic positions for hundreds or even thousands of students to learn at the same

time. This will minimize anxiety for students from marginalised communities with regard to missing critical content in the syllabus meant to be covered during face-to face interactions if the same content is covered through remote learning. The CBL needs to be structured in terms of content, mode of delivery and timetable or program that can be followed by both teachers and students.

4. Parents' role – The parents' role in their children's learning is crucial now more than ever. Besides supporting their children through provision of ICT devices such as Smart phones and laptops as well as internet bundles to access learning and support during prolonged school periods, ways of involving parents especially in guiding their children to gain meaningfully from remote learning experiences need to be explored. The key question here would be, other than provision of supplies to support remote learning, in what ways can parents be involved in their children education especially when school are closed for prolonged periods of time?

Policy Insights

Continuity of learning for all learners especially during prolonged school closures is necessary

Further Readings

- MOE [Ministry of Education] (2020). Kenya basic Education COVID-19 Emergency Response Plan. Ministry of Education, Nairobi: Kenya. Available at https://www.education.go.ke/images/Kenya_basic_Education_COVID-19_Emergency_Response_Plan-compressed.pdf
- Rasmitadila, Aliyyah, R. R., Rachmadtullah, R., Samsudin, A., Syaodih, E., Nurtanto, M., & Tambunan, A. R. S. (2020). The perceptions of primary school teachers of online learning during the COVID-19 pandemic period: A case study in Indonesia. *Journal of Ethnic and Cultural Studies*, 7(2), 90–109. <https://doi.org/10.29333/ejecs/388>
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towards supporting attainment of Sustainable Development Goal # 4 on quality, equity and life-long learning. It is clear that remote learning facilitates CoL and draws both on teachers' competences and confidence to implement it as well as ICT tools that are affordable and reliable. Thus policies that help to address gaps in teachers' knowledge and skills to implement remote learning would contribute towards CoL. In addition, multi-sectorial and multi-agency synergy and partnerships in the provision of affordable and reliable ICT tools would help to mitigate the digital divide that hinders CoL.

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