

ICT Training to Improve CLC Data Management through Nonformal Education Service Program

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Abstract The COVID-19 pandemic has shifted the habit of face-to-face offline learning to online learning using Information, Communication and Technology (ICT). This happens in all education units, including the Community Learning Centre (CLC). Community learning centre, as nonformal education unit, has flexible characteristics. Nevertheless, it still has the competitiveness to provide learning according to the needs of students during the COVID-19 pandemic. Community activities are voluntary-based, where technology uses are still partial and not optimal. For this reason, community service activities through the training aim to provide knowledge about how information, communication, and technology are used in data management and learning. This community service program approach was carried out qualitatively by conducting in-depth interviews with community samples in each district of Yogyakarta. The offline activity was attended by 20 participants from CLC in Yogyakarta City. With this direct training and workshop, community managers can practice using cloud storage for data management and use online conference and presentation applications to support the creation of learning media.

1. INTRODUCTION

The COVID-19 pandemic has had an effect on accelerating the transformation of education using information, communication and technology (ICT) (Gusti et al., 2020). All aspects of the education unit experience it, including nonformal education, namely CLC. CLC is one of the nonformal education units established by the community for the community in the context of empowering local communities with nonformal education as the main programs. (Kementerian Pendidikan, Kebudayaan, Riset, dan Teknologi, 2014).

The Community Learning Activity Center (CLC) is currently developing quite rapidly, which was initially established in the sub-district and then spread to every village or sub-district (Hiryanto, 2009). It has different management from formal education in many aspects, including content, context, methodology and approach. The equality education approach provides more applied, thematic, inductive, contextual concepts, trains life skills, or tries to be independent (Hardjono et al., 2007). Because the CLCs are institutions, the management of the CLC

formal education unit has the same form as other educational institutions.

However, CLC as an institution or nonformal educational institution follows changes in society based on local culture and potential. In line with the COVID-19 condition and current technological developments, the Ministry of Education and Culture is currently intensively promoting the plan to develop digital-based education in Indonesia (Hermawansyah, 2021). The demand for integrated data management and its implementation for all education systems is a big challenge for CLC independent managers who are not thoroughly familiar with the technology and its associated applications. As a result, the refraction of the use of digital technology media in the education unit management system needs to be done from now on. So nonformal education can continue providing educational services in accordance with the demands of the times and the needs of the community.

In fact, CLC's resources are not optimal yet in utilizing ICT for data management. Therefore, it is difficult to use

education’s primary data (Dapodik) features. This shows that the implementation of the nonformal education program in CLC has not shown independence and sustainability, giving the impression of inconsistency and lack of professionalism in its management (Tohani, 2010).

ICT is one of the competencies that must be mastered in the information age (Elhazzam, 2015). ICT is also an important contributor to the development and the economy (Maryska et al., 2012). The use of ICT in the world of education aims to improve the quality of learning, student satisfaction, income and quality of educational institutions’ services (Gallupe, 2001). With the formulation of an ICT for all sectors, national ICT policy is supposed to be technically rationale for focusing on funding and resources, to a pedagogical rationale stressing pupils’ ICT competencies. Regarding ICT integration, educational institutions must have a decentralized curriculum policy (Vanderlinde & Van Braak, 2010). Communities are given strong autonomy and responsibility in translating the broadly formulated ICT attainment targets into concrete teaching and learning activities. CLC has contributed to providing the latest educational services and technological requirements for learning citizens. So CLC management must be accustomed to using various ICT media that help management and learning for the community.

For this reason, Universitas Negeri Yogyakarta (UNY) Nonformal Education Program, through the community service program, conducted a survey by questionnaires to CLC managers regarding what ICT urgently needs for CLC management. The result is that ICT in CLC data management is very much needed but lacks assistance and training. That’s why UNY Nonformal Education Program provided training and assistance for data management using ICT.

This community service activity aimed to provide knowledge about ICT’s essential. Especially for CLC management being able to manage its ICT-based institutions with professional management (Rizka & Hardiansyah, 2017).

2. METHOD

The program implementation consists of three main steps: preparation; organizing activities; evaluation; and follow-up. There were four organizing sub-activities: analyzing and identifying needs; implementing the results of the analysis through ICT training; facilitating independent practice; strengthening; and developing CLC management.

2.1 Target audience

The target of this training was all CLC management, CLC observers, and CLC tutor. The participants in this community service program were 20 persons, male and female participants. Interested participants would fill in the registration link to participate in this activity. The participated CLCs were CLC Tunas Tirta, CLC Sejahtera, Panca Usaha CLC, CLC Mandiri, CLC An Nur, CLC Bina Karya, CLC Martani, CLC Sekolah Insight, practitioners from Bintang Edu and Smart Education. Those were educational units that were established by, and for the community, so the resources in their management depended on funding from the government. The managers and tutors have various educational backgrounds and are not always in accordance with the fields they are taught in CLC. This includes very diverse age backgrounds, so the ICT mastery skills between CLC managers differ. This is the main target of this training and workshop, to empower CLC components in utilizing ICT.

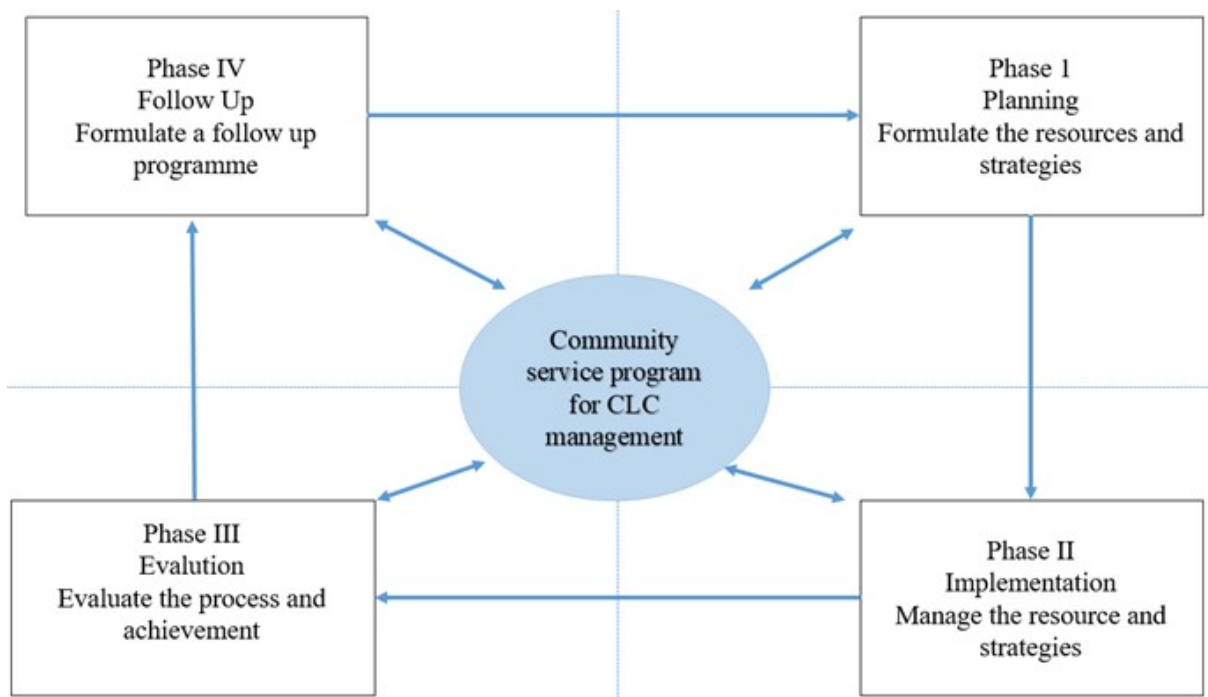


Figure 1 . Process and the implementation of community service programme

2.2 Place and time of activity

The activities were done within a period of two months, starting from September to October 2021. The activities are held at the Coworking space of the Amateur Coffee Condongcatur, Depok, Sleman, D.I. Yogyakarta.

2.3 Activity method

The implementation of the workshops and training will be done in stages according to the opinion of Knowles et al. (2005) regarding adult education, namely: planning, implementation, evaluation, and follow-up, as shown in the Figure 1. Referring to the problem solving framework above, the activities listed as follows.

1. Preparing technical matters and coordination through informal communication,
2. Conducting necessary workshop and training based on preliminary study, providing independent practice as a form of learning by experience for ICT workshops and training activities for CLC, and evaluating the impacts by distributing questionnaire to participants,
3. At the final stage, the community is supervised to do continuous improvement for the program through consultation.

2.4 Evaluation activity

The evaluation was performed by observing the learning activities of the trainees. Learning outcomes were also evaluated using questionnaires and interviews with the target group to be followed up with the creation of social media groups, periodic integrated assistance and ongoing training. The results of the observations showed that the participants were quite enthusiastic about participating in the learning activities. This could be seen from the pleasant learning atmosphere, the desire to practice activities, and the courage to communicate and express opinions.

3. RESULT AND DISCUSSION

Some challenges appeared since the implementation was done during COVID-19 pandemic, such as physical mass activity prohibition and the closure of public space. As solution, the activities were successfully done through the continuous supports and prompt responses from experts. Limited amount of participants also contributed on the success, especially in creating more focus environment.

3.1 Activity planning

The community service program activities in ICT training activities in CLC data management improved the quality of CLC begins with an analysis of the target audience's needs by distributing online questionnaires to related parties, CLC managers and tutors. A needs analysis was also acted by reviewing secondary data published by similar agencies regarding the problems and expectations of the current CLC implementation practice. In addition to needs analysis, planning was also carried out on technical

matters that support the implementation of target group development activities in order to be successful.

3.2 Training

Community service program workshops and ICT training activities for CLC had been done in stages: Analysis and identification of needs, problems and opportunities for CLC development, implementation of ICT workshops and training, providing independent practice opportunities by ICT workshop and training accompanied by expertise and then strengthening and developing CLC management.

At the analysis stage and action, activities for the needs and potential of CLC were achieved with the target group to bring awareness and joint discussions about the importance of the existence of CLC in providing educational facilities for the community in general. The discussion began with the facilitator explaining the purpose of the discussion and giving questions, namely, how the challenges of CLC were during the pandemic and what efforts had been made to adapt to such conditions. The target group shared their views in turn according to their respective experiences. The discussion results showed that the target group realized that CLC had had difficulties adapting to online learning and using ICT in management and learning.

Then the second stage was to identify problems and opportunities for developing CLC. It turned out that the great potential and opportunity were students who remained in a pandemic condition, the management and implementation of CLC that continued to run with the lack of facilities, and diverse human resources remained solid in facing challenges in the pandemic era. All of these potentials needed to be developed because they felt they had limited knowledge and skills in managing this potential. In addition, the target group also had a strong desire to develop CLC management, to be more qualified and survive in providing educational services to the community.

The third stage was the implementation of ICT workshops and training for CLC. The implementation of the training began with the theme of developing ICT-based learning in the world of education and continuing the use of cloud storage for CLC management data. The purpose of this learning was that the learning community had the view that ICT was needed in managing CLC and needed innovative actions or ways so that their CLC could develop optimally. The resource person explained various computer features that are currently being used more often in learning, such as social media groups, a video conferencing platform, an online communication platform, and so on. The resource persons described the knowledge gap between current educators and students, where students are far more skilled at ICT than their educators. The target group also responded to various experiences around learning problems and difficulties in using ICT.

To simplify data management of a system at the micro level, such as CLC, a special email can be created for CLC education units, organizations, or communities. We can proceed with creating a new account by clicking on "create"

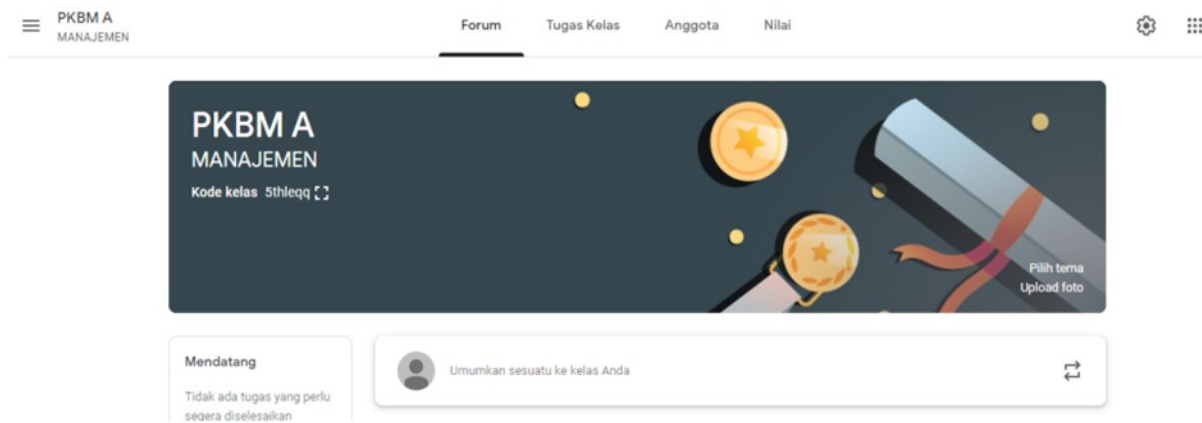


Figure 2 . Online learning management system display

an account and continue charging. After that, for the purposes of organizing data and easy access, we can create online learning management system to create assignments and collect them. Select the online learning management system icon, then create a class.

With this spot formed, the participants can begin organizing the data where each assignment can be read by anyone who accesses this online learning management system by entering the class code to make a class assignment. The next stage is adding links from the search engine's cloud storage service, links, and other files. The participants organized the tutor and student data by full fill the spreadsheet. And also, for the learning process, each tutor can use an online learning management system with subjects they teach individually. Furthermore, various written evaluations can also be stated in the form listed in the online learning management system. All data recaps from forms and spreadsheets provided by the search engine are stored on the cloud storage service, which can be accessed offline when we download them. The display of online learning management system used in this program is shown in Figure 2.

The fourth stage is the provision of independent practice opportunities as a form of learning by experience workshop activities. This activity was carried out independently, guided by an undergraduate student service team companion. This learning was done to get used to the skills of using ICT tools, phones or laptops. The participants obtain the learning mechanism by organizing learning and setting up learning objectives. At the beginning of this learning, the resource person asked the residents to reflect on what abilities they already have or want to have in managing data using cloud storage. Group representatives delivered the results of the reflection. The target group consisting of 20 participants, was divided into four small groups. Five groups gathered and were given the task of following a tutorial on saving data through cloud storage. They made observations that showed that in each group, there were participants who needed assistance in using electronic devices, both phones and laptops, to access the information referred to by the resource persons even though they had been guided through tutorials, so direct assistance was very helpful and necessary.

The next lesson was to develop skills using online learning media to record learning videos through presentation slides and video conferencing meetings. Previously, the resource persons introduced various applications commonly used in online learning with the aim of the target group remembering what applications have been used. After this, the resource persons asked them to return to small groups to formulate learning scenarios and try to follow the tutorial by saving the video recordings they had done. The hope from this learning was that the target group has an effective way of online learning that can be accessed by students and provides clarity with discussion. Because from the previous discussion, most of the target groups said that learning activities were carried out by sending assignments via social media groups, generally, students had difficulty doing these assignments. Small group discussions also went well, where the interaction between learning residents was very communicative. Small group representatives communicate communicatively what the group produces. Giving each other's opinions is seen in the discussion process. The fifth stage was ICT for CLC Rebranding with direct practice accompanied by resource persons and strengthening and developing CLC management. This activity began with sharing the use of ICT by each CLC, conveying the obstacles and difficulties during the COVID-19 pandemic in using ICT, and then writing reflections on a piece of paper that the committee has provided.



Figure 3 . Workshop and guidance to use cloud storage

This activity was followed by evaluation activities that emphasize the principle of mutual reflection. Joint reflection aimed to discover how learning can provide positive learning outcomes. This activity was carried out in a friendly atmosphere and by sitting in small groups. The resource person asked the participants' views on the activities carried out. Representatives of participants gave alternate views on how they felt after participating in this learning session.

3.3 Implementation

CLC managers carried out the implementation of ICT training for CLC data management in their respective education units. From 8 CLC and 2 LKP management practitioners, it was stated that the use of ICT had been applied in managerial activities in a simple scope. For example, CLC in Yogyakarta City and Sleman have used online forms in data collection for prospective new students; CLC in Bantul City and Piyungan District have used Google Classroom for data storage and learning facilities for students in CLC. Meanwhile, participants from CLC in Sleman City said that the ICT features that are often used are instant messaging and a video conferencing platform, while the online learning management system and online forms have not been fully used. The problem is that CLC managers who are varied in terms of educational background, age and socio-economics cause a gap in ICT knowledge.

3.4 Evaluation

The evaluation process was conducted by observing the learning activities of the trainees. Learning outcomes were evaluated using a questionnaire and interviews with the target group. The results of the observations showed that the participants were quite enthusiastic about participating in the learning activities. This could be seen from the pleasant learning atmosphere, such as in small group discussions and simulations of guiding active learners to express opinions and questions to other learning residents or resource persons, the desire to practice activities, and the courage to communicate and express opinions.

The results of the questionnaires and interviews showed

that the target group had the awareness to develop CLC into an empowered CLC with characteristics from, by and for the community but still had quality and provided significant benefits for both managers and students (Table 1). The target group realizes that CLC must be packaged into better, more competitive services. The chairman of CLC An-Nur and CLC Panca Usaha Sleman expressed his readiness to continue participating in mentoring activities that have not been widely carried out so far and was even willing to participate in development programs with certain partners to achieve quality CLC.

3.5 Transformative attitude of CLC management through ICT training and workshop

Changes in society are obtained through a continuous and comprehensive learning process. The learning pattern for CLC through training and workshops focuses on ability through assessment of processes, outputs, and outcomes, which is different from learning which generally prioritizes knowledge achievement through output assessment only. The values that have been owned by CLC managers with new knowledge gained through the learning process will be integrated into attitudes and behavior according to their experiences (Sujarwo, 2020). According to Cranton (1992), there are three types of changes that indicate transformation: changes in assumptions, perspectives and behavior. The first change is the assumption of how the meaning of learning outcomes can be seen from the interaction between resource persons and participants in training activities. This pattern of communicative interaction and giving each other feedback provides reinforcement for negative assumptions about the obstacles faced by CLC managers in applying ICT techniques before participating in the training. The second change is perspective. Perspectives were obtained from the provision of information and experience, so that the perspective of each training participant differed after attending this training. However, through collaborative learning between CLC managers, the results of creative and progressive thinking are shown through a questionnaire. The training participants tried to apply the acquired ICT skills to improve the quality of their CLC.

Table 1. The result of the questionnaire of quantitative evaluation of ICT training

No.	Question	Indicator			
		Strongly Agree	Agree	Disagree	Strongly Disagree
1.	This training provides benefits in better data management in CLC	20			
2.	The material presented in this training is relevant to the current condition of CLC	12	8		
3.	This training needs continuous follow-up and assistance	15	5		
4.	This ICT training needs to be done regularly	11	9		
5.	This ICT training and workshop provides new information related to technological literacy	13	5	2	
6.	This ICT training is applicable to CLC	18	2		
7.	I will apply the ICT management data for my CLC	15	5		

The third is behavior changes and how the results of this training have an impact on the behavior of CLC managers who are more humane and productive following the times.

This activity has an impact on changing assumptions, perspectives and behavior of CLC organizers through adult learning. There are several characteristics of learning in adults, such as voluntary, independent, practical/natural, collaborative participatory based learning, experience based, and diversity.

3.6 The impact of ICT training and workshop for CLC management data

Sompong & Rampang (2015) revealed the importance of ICT for CLC in Thailand. However, the flexibility of education in CLC must show the quality of empowering students and meeting needs in accordance with the times. The position of nonformal education as a reserve for formal education is no longer the time. Nonformal education must be confident of appearing as an alternative education that can be taken by all levels of society and all ages. The shadow of the educational path for the marginalized must be removed to provide quality nonformal education, including educators, students, curriculum, and all other components of education (Wijayanto et al., 2020).

In an open interview with the CLC manager in the city of Yogyakarta, Mr. E, as the head of the CLC manager, regretted how the government demanded that CLC be able to manage tutor and student data through the Dapodik independently. Dapodik is integrated into information management for educational purposes and was trained by Dapodik managers in formal education long before the pandemic. In this situation, it is clearly different from the point of view of data management. It can be said that formal education starts from point 1, but nonformal education starts from a minus point but is required to get results that are equivalent to life skills. From the results of the interview, Mr. E again expressed his hope that the government would give equal attention to various assistance in advancing CLC and other nonformal education institutions so that there would be no inequality in efforts to improve people's welfare.

However, the COVID-19 pandemic has opened up the paradigm of teaching and learning practices and their management systems for education at the micro level, 'technology used to access, collect, manipulate and present or communicate information is very urgent to be applied in the world of education. The use of various digital formats of communication tools expands the range of learning concepts (Mehroliya et al., 2021). Integration of management systems by developing a learning management system can provide instructor-led lessons using both physical and online environments.

When people use computers to complete the tasks they regard as problems, they are likely to have a more positive attitude towards using computers and are likely to look for further tasks which can be completed using a computer. However, if people use a computer to complete what they consider to be an unnecessary task or use the computer,

the task is made more difficult or less satisfying. They are less likely to use computers in the future. One way to bring ICTs to indigenous communities is to develop digital community centers that should be considered in implementing it (Newhouse, 2002).

Meanwhile, in terms of quality control of academic services, it is carried out thoroughly in the form of observation, guidance and supervision of the implementation of the quality mechanism of academic services in the form of online learning management system with the aim that the system runs according to its planning function and ensures the smooth implementation and implementation of the quality of academic services. Controlled monitoring and evaluation were carried out, and they included input, process and output of academic service quality. However, the control of the quality of academic services that were carried out through monitoring and evaluation had not been carried out in a structured or periodic manner (Ali et al., 2020).

4. CONCLUSION

The community service program through ICT training and workshop for CLC showed that the CLC was satisfied with the programme. They could use the knowledge gained from the ICT workshops and training activities to develop the CLC management data by using cloud storage service to manage the data, learning and teaching programme. They could share their ICT capabilities under the CLC plan and peer teaching among CLC members. This may come from the strengthening outcome of CLC human resources internally through their contemplating and learning process. This community service programme leads to building sustainable community education based on the ICT workshop and community needs.

Based on the conclusions above, some suggestions can be put forward. First, a future community service program should have a policy on public relations to build a collaboration with CLC and another network. Second, the CLC learners need to be more committed and better in preparing operation plans for ICT project management, teaching, or learning. Third, the CLC learners need to implement potential-based learning and deep data management. Fourth, a community service team needs to maintain a more regular mentoring mechanism.

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CONFLICT OF INTERESTS

There is no conflict of interest occurred related to this publication. The manuscript is originally come from our

work that has not been published elsewhere. The authors confirm that the manuscript has been read and approved by all named authors. All authors have been notified and approved of the corresponding author as the only contact regarding the submission, revision and approval processes of the manuscript.

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