

An evaluation of Online Training Effectiveness and Pre-Service and In-Service Teacher Satisfaction: A Case Study from Nigeria

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Abstract: This study evaluates the perceptions of 122 pre-service and in-service Nigerian teachers on adopting an online training module during the COVID-19 pandemic, a period marked by significant educational challenges and shifts. Employing a qualitative approach through open-ended online questions, it delves into the factors critical to enhancing online training effectiveness. Key findings highlight the importance of training in imparting theoretical knowledge and practical skills, the quality and relevance of content, interactivity, practical examples, and appropriate video length. These align with existing literature, underscoring the effectiveness of online training in challenging times. Significantly, nearly all participants expressed satisfaction with the training. This research not only sheds light on effective online teaching strategies but also offers practical recommendations for the continuous improvement of teacher training in Nigeria.

Keywords: Teacher Development, Online Training, Youtube, Nigeria, Professional Development, Long Life Learning

INTRODUCTION

COVID-19 profoundly altered the global landscape, particularly in education and training. As technology became a lifeline for maintaining daily routines during the pandemic (Mukhtar et al., 2020), educational institutions worldwide, including Nigeria, shifted to online modes. However, Nigerian teachers faced unique challenges, such as limited access to technology and infrastructural deficiencies, exacerbating existing issues like inadequate teacher training and poor working conditions (Akinduyo, 2014; Ogunyinka et al., 2015).

In response, there has been a significant shift from traditional to online education over the past decade (Bates, 2015; Comas-Quinn, 2011). While the integration of ICT in teacher education presents opportunities for flexible and cost-effective learning (Guri-Rosenblit & Gros, 2011), the effectiveness and teacher satisfaction of these online programs remain debatable (Bolliger & Martin, 2018; Means et al., 2010). Although studies have shown online training can be effective (Dede, 2006; Johnson et al., 2000), success factors such as course design and technological infrastructure are crucial (Swan, 2003; Tallent-Runnels et al., 2006).

Teacher satisfaction, a key determinant of engagement and professional development (Richardson, 2001), is influenced by interaction quality, flexibility, and resource accessibility (Bolliger & Halupa, 2012). Despite the growing adoption of online training for Nigerian teachers, consensus on its effectiveness and factors influencing satisfaction is lacking.

This study fills this gap by evaluating online training effectiveness and factors contributing to teacher satisfaction in Nigeria. It aims to provide insights into the benefits and challenges of

online teacher training, informing the design and implementation of future programs. Specifically, this research explores:

1. The satisfaction of pre-service and in-service Nigerian teachers with online training modules.
2. The perceptions of these teachers regarding the benefits and learning outcomes of online training.
3. The critical success factors identified by teachers for effective online training.

LITERATURE REVIEW

Teacher Training in Nigeria

The government of Nigeria has recognized the training of teachers as crucial for the quality improvement of its educational system. As such, several government initiatives in the country target quality training to improve teachers' skills. More prominently, the government's National Teachers' Institute or NTI provides distance learning to in-service teachers where they can attain degrees, diplomas, and certificates (Ololube et al., 2008). The government also operates the Teachers Professional Development or the TPD program, which is centrally operated and managed. The main programs of TPD target skill upgradation of teachers through seminars, workshops, and several advanced courses. At the state level, Nigeria has the SUBEBs, or the State University Basic Education Boards, that monitor and train primary teachers within each state (Mormah & Bassey, 2021). Additionally, NITE, or the Nigerian Institute of Teacher Education, provides training and development for tertiary-level teachers through diploma and degree courses and certificates for in-service teachers (Eduwen & Osagie-Obazee, 2016). In addition to the governmental initiatives, Nigeria has several private companies and Non-Governmental Agencies vested in providing teacher training and development programs. Teach for Nigeria Fellowship is a non-profit Program that trains pre-service teachers. In contrast, the Bridge International Academies Teacher Training program is another social organization focusing on developing high-quality teachers. Also, the country has the Teachers Network Training program, the Young Educators' Foundation, and the Edusko Africa Teacher Training Program, which aim to impart practical skills for classroom management (Asiyai, 2015).

Challenges to Teacher Training in Nigeria

Teacher training has been identified as a leading unfulfilled need in the Nigerian educational system. Lack of funding is a prominent barrier that leads to inadequate training of teachers (Zakari & Sani, 2021) despite the country's government being committed to improving the Nigerian educational system. A major barrier is the lack of well-trained teachers who can teach the trainee-teachers and share their knowledge and best practices. Low wage structure for teachers (Issac, 2022), brain-drain to more affluent countries, and lucrative work opportunities (Ikechukwu, 2023), as well as a lack of career growth opportunities, make the country poor in high-quality mentors and teachers (Ssh & Jacob, 2020). Further, several studies have pointed out the low morale and lack of motivation exhibited by the teachers in Nigeria, which can be traced to discontentment with the working conditions and the wage structure (Zakari & Sani, 2021).

Further, the educational system in the country needs mechanisms for instilling transparency and accountability, which manifests in inadequate supervision of any training and development courses available to trainee teachers (Sutiah et al., 2020). Further, there needs to be more standardization in teacher training methods, leading to variability in the quality of learning (Mutende, 2015). Zakari & Sani (2021) have reported a lack of adequate curriculum development and pedagogical issues that restrict the effective training of teachers. Also, infrastructural issues create barriers to developing effective teacher training programs. A unique feature of the Nigerian

educational system is the frequent strikes and breakdowns that hamper any development (Ogunode & Agwor, 2020). There is a strong influence of unions, which often disrupt regular operations, including training and development of pre-service and in-service teachers (Ssh & Jacob, 2020). The country also lacks ICT Infrastructure capacity and capabilities, which makes it challenging to use the latest educational technology tools in education, including teacher training (Zakari & Sani, 2021).

A review of studies, therefore, underscores several problems faced in Nigeria for the effective development of teachers and the quality of teacher training available in the country (Kadir, 2019). Since the lack of infrastructure and lack of quality teacher mentors has been cited as a problem in Nigeria, the scope of using online training videos needs to be explored to fill the gaps in the literature (Ogunode & Agwor, 2020). Table 1 highlights all challenges from Nigeria.

Table 1. The Challenges to Teacher Training in Nigeria

Challenge	Source
Inadequate funding	Zakari & Sani (2021)
Lack of well-trained teachers and mentors	Issac (2022); Ikechukwu (2023); Ssh & Jacob (2020)
Low wage structure for teachers	Issac (2022)
Brain-drain to more affluent countries	Ikechukwu (2023)
Lack of career growth opportunities	Ssh & Jacob (2020)
Low morale and lack of motivation	Zakari & Sani (2021)
Inadequate supervision of training programs	Sutiah et al. (2020)
Variability in teacher training methods	Mutende (2015)
Inadequate curriculum development and pedagogy	Zakari & Sani (2021)
Infrastructural issues	Zakari & Sani (2021)
Frequent strikes and breakdowns	Ogunode & Agwor (2020)
Strong influence of unions	Ssh & Jacob (2020)
Lack of ICT infrastructure and capabilities	Zakari & Sani (2021)

Online Teacher Training - Benefits and Limitations

Benefits of Online Teacher Training

While online teacher training has been introduced as a mainstream approach only during the pandemic, online training modules and sessions have been in use ever since the advent of digital technology. However, online teacher training has yet to be the focus of researcher attention, as awareness about its relevance or utility and scope has only recently emerged. Nevertheless, some studies have evaluated online teacher training in the context of its benefits, both for trainee teachers and educational institutes. For example, online teacher training is cost-effective and time-saving as it allows the learners to get trained at their own pace and location of convenience. This flexibility is more pronounced when online training can be undertaken asynchronously (Dhawan, 2020). Further, many trainee teachers may be already working and studying only part-time to enhance their career prospects; online training modules work well with such teachers (Dhawan, 2020). Moreover, according to Almahasees et al. (2021), online training may be more trainee-focused or trainee-centered if the content allows the trainees to learn at their levels and pace. Further, the asynchronous training mode may provide students a greater sense of autonomy and control,

which has been found to enhance self-efficacy and positively impact academic outcomes (Böttcher-Oschmann et al., 2021).

Limitations of Online Teacher Training

There are, however, several limitations of online training, as discussed by other scholars. The online training mode may lead to a non-personal training environment where the trainees may feel disconnected from their trainers and colleagues. Unless the training allows for group interaction, it may add to social isolation and lack of peer interaction (Garzon et al., 2020). Several scholars have found the positive benefits of interpersonal interactions between students and teachers and between students, and these benefits may be lost in the online training mode (Gorozidis et al., 2020). Also, when conducted in an asynchronous mode, the training is non-interactive and may not encourage students to ask questions or get feedback in real-time (Dhawan, 2020). Even when the online training is being undertaken in real-time, it may not be able to replace the benefits obtained from the non-verbal and body language cues that face-to-face training may make available for both the teachers and the students. The most significant criticism of the online training mode is the loss of the personal touch that students can benefit from personal mentoring in a classroom setting (Burquel & Busch, 2020). This also translates into the teachers' inability to obtain cues from the students about their learning or engage them in interactive questions and answers due to time limitations and non-familiarity with students' learning styles. Personal bonding is necessary for the instructor to fully understand the requirements of all online students, which again results in a non-customized approach to teaching (Gathumbi et al., 2013). The lack of peer-to-peer interactions further limits the students' opportunities to collaborate or work in teams and benefit from knowledge-sharing with each other (Llerena-Izquierdo & Ayala-Carabajo, 2021). The online training may also need more accountability for the trainees and instructors. Both may rely on structured quizzes not undertaken in real time to assess the learning progression. It is for this reason that some authors have contended to limit the scope of online training to be supplementary to the offline mode rather than attempt to replace it (Sutiah et al., 2020).

The above issues may be inherent with the non-personal mode, but online training may be difficult if there are issues related to technology access or technical capabilities. For example, learners and instructors must have access to a high-speed internet connection and digital devices to access the training content. In digitally divided countries, the lack of access to technology and technological devices may hinder practical online training. Further, the overall ICT infrastructure of the region and the educational institutions' access to high-quality training content and technology may act as a barrier (Gumede & Badrisparsad, 2022).

Critical Success Factors for Online Teacher Training Success

Because online training provides substantial scope for enabling trainee teachers who may not be able to access offline training for time, costs, or other barriers, there is a need to identify the factors that may improve online training effectiveness and overcome the limitations identified in the literature. Only a few studies have exclusively focused on teachers' online training, but the available literature indicates that most trainee teachers prefer offline and face-to-face training (Muthanje et al., 2019). According to Sutiah et al. (2020), online training leaves the trainees in doubt about their learning acquisition, as they do not interact with or observe their instructors in a classroom setting (Ferdig & Kennedy, 2014). The challenge may include making the online training delivery realistic and life-like so that the trainees experience the same level of engagement, interaction, and connection as they do in a face-to-face learning environment. This also points out

that the online training content quality, content delivery, and structure may be critical in creating perceptions of the effectiveness of training in the minds of the trainees (Bailey & Lee, 2020).

Another critical success factor related to the effectiveness of online training is that the training content should adequately fill the needs of the learners and help them attain the learning objectives (Mohebi, 2018). Since teachers' core job is to apply their theoretical knowledge in a practical setting, the online training modules should be equipped to provide both theoretical underpinnings and impart practical and applicable skills. Online training has often been criticized for lacking practical utility to learners. Since there is little scope for role-modeling or experimentation in an online mode, as opposed to the offline classroom-based learning mode, the learners may not grasp the complete practical skill sets via the online training. As such, a crucial factor for the success of online training is that it should include exercises, sessions, and assignments that deliver usable skills to the learners (Phan & Dang, 2021).

Additionally, it should succeed in delivering learning aligned with not just the current needs but also with the career growth needs of the trainees (Ratheeswari, 2018). The utility of the training, therefore, should extend beyond the current benefits and enable the trainee to grow and develop further. Another critical factor impacting how online training is perceived related to the authenticity or credibility of the source or the deliverer of the training (Jung, 2001). An educational institute's reputation or the video developers' credentials may impact how the trainees perceive online training (Mohebi, 2021). The credibility ensues from the past image of the developer or the delivery institute, past testimonials from the previous trainees, and the quality of the audio-visual content (Collins & Mitchell, 2019). Table 2 also highlights all critical success factors.

Table 2. Critical Success Factors for Online Teacher Training Modules

Critical Success Factors	Outcomes	Impacts	Sources
Realistic and life-like training delivery	Enhanced engagement and interaction	Improved perceptions of training effectiveness	Bailey & Lee (2020), Ferdig & Kennedy (2014)
Quality content and structure	Better learning acquisition	Increased training effectiveness	Muthanje et al. (2019), Sutiah et al. (2020)
Addressing learner needs and objectives	Attainment of learning objectives	Improved practical application of skills	Mohebi (2018)
Practical and applicable skills delivery	Usable skills development	Enhanced career growth and development	Phan & Dang (2021), Ratheeswari (2018)
Credibility of the source or deliverer	Trust in the training content	Positive perception of online training	Jung (2001), Mohebi (2021), Collins & Mitchell (2019)

METHOD

Research Approach

The current study uses a qualitative research methodology based on the understanding that the research subjects are knowledgeable and can provide the information desired for answering the current research. In effect, the research employed the constructionist paradigm that allows reality to be constructed by the participants (Gupta & Gupta, 2022). This approach is most suited to a qualitative data collection method, and as such, a qualitative questionnaire was used to collect online data from the selected respondents (FitzPatrick, 2019).

Data Collection Procedure and Sample Size

The research was conducted with pre-service and in-service teachers from Nigeria, and the sample was selected in a purposive sampling method. The sample selection was made in this non-random manner to ensure that only those potential candidates were targeted that were available and were willing to give in-depth and honest information (Refai et al., 2015). To ensure this, the researcher contacted acquaintances in the teaching profession in Nigeria and enlisted them to recommend more respondents from their professional circles. Once the respondents were identified, the online survey questionnaire was sent as a link. In this manner, 122 respondents were selected, out of which 103 were females and 19 were males. The questionnaire was hosted at SurveyMonkey software, and qualitative data was downloaded, coded, and analyzed using thematic content analysis (FitzPatrick, 2019). The participants were provided with links to the training and requested to survey at the end of their training.

Ethical Considerations and Permissions

It needs to be noted that the research was undertaken by emphasizing ethical considerations and a code of conduct. Informed consent was obtained from all participants, and they were assured that they were free to withdraw their participation at any time they deemed necessary without any fear of repercussions. Also, all responses were kept anonymous. None of the participants were directly or individually identified in the report, nor was any of their data shared with any third party. As such, the current study-maintained confidentiality and privacy. Additionally, the participants' safety, security, and comfort were assured as they could provide their responses from the location and at the time of their choosing.

Data Analysis

I chose to familiarize myself with the data better to understand its context, content, and patterns, enabling a more accurate and meaningful thematic analysis (). I generated initial codes to systematically identify and label significant features within the data, providing a foundation for building a structured and organized analysis. I searched for themes by collating codes to identify broader patterns, which allowed me to develop a more comprehensive understanding of the data and its implications. I reviewed the themes to ensure they accurately represented the data, refining and reorganizing them as necessary to provide a clear and coherent representation of the findings. I defined and named the themes to clearly articulate their essence and convey their significance, ensuring that my analysis was transparent, accessible, and easily understood by others. I produced a report to share the results of my thematic analysis, highlighting the key findings, their implications, and any potential limitations, ultimately providing valuable insights and contributing to the broader understanding of the topic.

1. *Familiarizing with the Data:* Initially, the researchers immersed in the data to identify key patterns.
2. *Generating Initial Codes:* Systematic coding was performed to label significant features within the data.
3. *Searching for Themes:* Codes were grouped to form potential themes.
4. *Reviewing Themes:* Themes were reviewed and refined to ensure they accurately represented the data.
5. *Defining and Naming Themes:* Each theme was defined and named to articulate its essence.
6. *Producing the Report:* The analysis was compiled into a report, highlighting key findings and their implications.

RESULTS

One of the aims of the study was to evaluate the satisfaction of pre-service and in-service Nigerian teachers with the online training, and as such, a theme was formulated around the perceptions of effectiveness and satisfaction.

Satisfaction with Online Training Effectiveness

The research found that most teachers found online training useful and effective in providing them with skills to manage their students. For example, Participant 10 stated, *“I learned a lot. The video content was informative and fun at the same time.”* Several other participants found the online videos successful and effective in helping them learn more about their profession. This is evident from the following excerpts from the participants:

“I learned various ways of teaching students in order to achieve maximum results,”
(Participant 21)

“I learned how best to teach, and also found lots of examples of motivations,”
(Participant 27)

“Wow... Can't say but it was a lot, especially in the flexible classroom, never knew about that....”

“I can't pinpoint a specific thing. Every topic is loaded and it's an eye-opener for me. Thank you.” (Participant 91)

Some of the respondents went ahead to accept that the online training would help them in the future, as is seen from the excerpt from Participant 110, *“As all these will go a long way in my practice.”*

The above findings formed a trend from almost all the participants and indicate that the majority of them were satisfied with the online training. The second aim of the study was to evaluate the perception of pre-service and in-service teachers about the benefits and learning obtained through the online training module. As such, the data was analyzed to collate and categorize the benefits and learnings that were mentioned by the research participants, as discussed below.

Benefits and Learning with Online Training

Theoretical Knowledge

One of the learning themes that emerged from the data was related to the development of a better understanding of theories that underpin teaching. For example, Participant 21 stated that,

“I learned the eight multiple intelligence theories, cognitive development, differentiation, Emotions.”

Other participants also shared similar expansion in their theoretical knowledge:

“...learned about MI (multiple intelligence), learning through play and a whole lot more!” (Participant 33)

“I found out how to cope with the learning needs of children. And how each child has a different learning need. No child is the same with regards to learning need and children should not be treated as if they all have the same learning need,”

(Participant 61)

“Piaget’s Cognitive Development Theory was interesting and new to me, about how children learn new things,” (Participant 29)

Theory acquisition is essential for understanding the concepts and later in their practical application. However, earlier research has found that theory can be taught equally well online and offline (Gumede & Badrisparsad, 2022). However, by the realistic depiction of theories in an audio-visual format, the online training was perceived as more precise and effective in enabling the trainees to understand the concepts. The trainees unanimously mentioned that they learned both theoretical underpinnings of the pedagogical approaches and acquired practical insights about managing their students’ learning. Some of the practical skills mentioned explicitly by the participants are discussed below.

Practical Skills

Classroom Integration, Engagement, and Individual Attention

One of the benefits mentioned by the participants was related to learning the skills for integrated classroom management and providing focused attention to the needs of individual students. For example, Participant 29 shared that, *“How to individually attend to my pupils’ needs while teaching,”* and Participant 48 stated that:

“I learned the different ways to help and carry each learner along.”

Another participant realized that the approach that they had been using was not effective:

“I have used a one size fits all approach for my students for a long time, I think it’s time to try and implement Gardner’s approach. Thank you,” (Participant 19)

Student Motivation

Another learning related to the inter-personal skills, where the trainees were able to learn motivating and engaging students by building a relationship with them. For example, Participant 19 reported that:

“As a teacher I need to build relationship with students for better understanding”

Flexible Classroom Management

Several respondents mentioned that they learned how to manage a diverse classroom practically. In the words of Participant 47, *“I learned that a conducive environment helps the children learn fast, and it gives them the flexibility to grab fast the knowledge being passed.”* Also, *“I understood from the video the essence of creating a flexible classroom which is a requisite to passing knowledge effectively. I will sure get that implemented,”* Participant 39. One of the criticisms against online training is that it fails to provide a practical skill set as the learning occurs in a virtual environment (Kebritchi et al., 2017; Mahyoob, 2020; Mahmood, 2021). However, the current study has found that the participants benefited from the online training in practical and applicable ways. They were confident they could apply their learning in their classrooms while teaching.

Awareness of Their Roles as Teachers

Another important learning mentioned was the generation of awareness of their roles and responsibilities as teachers.

“I learned that it is our duty as educators to engage all our learners and understand the different approaches to teaching for learning to take place,” (Participant 89)

Also, it was noted that a theme emerged around the factors that made online training effective for the pre-service and in-service teachers. Some of them highlighted the things that worked for them, while others pointed out the factors that could be improved. Overall, the findings indicate that there may be certain critical factors that are important to ensure that online training is effective.

Factors that Impact Online Training Effectiveness

Some of the factors that the participants mentioned to have contributed to their satisfaction included the quality of the content, relevance of the content to their jobs, practical information provided, and the quality of the video, engagement with the video, and the length. Several participants liked that:

“Video was engaging,” (Participant 121)

“It was educational and informative,” (Participant 79)

However, other participants also suggested that the online training could *“include more specific examples,”* (Participant 92) so that trainees can get a clear idea of how to deal in real life. Similar opinion was voiced by other participants as well:

“I don't have any recommendations so far though I think some of the topics should come with some examples of contents under the curriculum to help with implementation,” (Participant 105)

The online training was applauded for blending both *“Theory and Practical Learning,”* (Participant 87), and for *“being interactive,”* (Participant 73).

The other critical factors that impacted upon the satisfaction of the participants were the length of the content:

“The length of the videos is very okay and I love that, it doesn't let me get bored or lose interest,” (Participant 67)

The above findings conform with what has already been found in previous studies on critical success factors for online training, which included the quality of the content (Refai et al., 2015; Gorozidis et al., 2020), its ability to deliver training on the need basis (Mutende, 2015), provide both theoretical and practical knowledge, and encourage trainees to apply their learning in real classroom settings (Yemini et al., 2019).

DISCUSSION

Online training can be helpful and effective in providing teachers with the skills necessary to manage their students. Most participants were satisfied with the online training, and many found the online videos successful and effective in helping them learn more about their profession. The study's second aim was to evaluate the perception of pre-service and in-service teachers about the

benefits and learning obtained through the online training module. The data analysis showed that the online training helped develop theoretical knowledge and practical skills necessary for effective classroom management. The development of theoretical knowledge was an essential theme of the data. Participants learned about theories that underpin teaching, such as multiple intelligence, cognitive development, differentiation, and emotions. The online training was perceived as more precise and effective in enabling the trainees to understand the concepts by presenting them in an audio-visual format. Additionally, the trainees unanimously mentioned that they learned both theoretical underpinnings of the pedagogical approaches and acquired practical insights about managing their students' learning.

The study also found that online training was beneficial in developing practical skills for teachers. Participants learned classroom integration, engagement, individual attention, student motivation, and flexible classroom management skills. The online training effectively taught practical skills that could be applied to real classroom settings. The trainees were confident they could apply their learning in their classrooms while teaching. Furthermore, the study revealed that online training generated awareness of the roles and responsibilities of teachers. Participants learned that it is their duty as educators to engage all learners and understand different teaching approaches for learning.

The study also found critical factors that impacted the effectiveness of online training. Participants were satisfied with the quality and relevance of the content, the practical information provided, and the engagement level of the video. However, some participants suggested that the online training could include more specific examples to help them deal with real-life situations. The length of the videos was also mentioned as a critical factor in the effectiveness of online training. Overall, the findings of this study suggest that online training can be an effective tool for pre-service and in-service teachers in developing theoretical knowledge and practical skills for effective classroom management. The critical factors that impacted the effectiveness of online training were identified, which could help educators and training providers to design and deliver effective online training programs.

CONCLUSION

The study's findings provide robust evidence that pre-service and in-service Nigerian teachers were highly satisfied with the online training they received. This satisfaction stems from the training's ability to impart both theoretical knowledge and practical skills, which are vital for enhancing their teaching quality. Critical factors contributing to this satisfaction included the quality and relevance of the content, a well-balanced integration of theory and practical skill development, engaging delivery, and the provision of practical, usable examples. Moreover, the length of the training videos was found to be a significant factor in creating perceptions of effectiveness.

These findings have important implications for the future of teacher training in Nigeria, particularly in the context of ongoing challenges in the educational sector. The study underscores the potential of online training as a viable and effective method for teacher development, offering flexibility and accessibility, especially in times of crisis such as the COVID-19 pandemic.

Future research should explore further the long-term impact of online training on teaching quality and student outcomes in Nigeria. It would also be beneficial to investigate the scalability of online training models and their effectiveness across different regions and educational levels. This research contributes to the broader understanding of online education's role in teacher training and development, highlighting its significance in the evolving educational landscape.

PRACTICAL IMPLICATIONS AND RECOMMENDATIONS

The findings of this study have several practical implications for training providers, educators, and policymakers. The following recommendations can be drawn from the study:

1. *Incorporate theoretical and practical knowledge:* The study showed that trainees benefited from online training when it included both theoretical and practical knowledge. Therefore, training providers and educators should design and deliver training programs incorporating

theoretical and practical knowledge to ensure trainees are adequately equipped with the necessary skills for effective classroom management.

2. *Include specific examples:* Some participants suggested that the online training could include more specific examples to help them deal with real-life situations. Therefore, training providers and educators should consider including specific examples relevant to the trainees' context to help them apply their learning in real-life situations.
3. *Deliver training on a need basis:* The study found that the ability to deliver training on a need basis was a critical success factor for online training. Therefore, training providers should consider delivering training on a need basis to ensure that trainees receive training relevant to their needs and context.
4. *Provide engaging and high-quality content:* The study found that the quality and engagement level of the content impacted the effectiveness of online training. Therefore, training providers and educators should provide engaging, high-quality content relevant to the trainees' context.
5. *Ensure the appropriate length of the videos:* The study found that the length impacted the effectiveness of online training. Therefore, training providers and educators should consider the appropriate length of the videos to ensure that trainees stay energized and energized.

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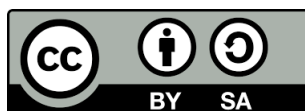
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