

Farmers Training through Video Conferencing App in Sub-Himalayan Region of India

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In India majority of the trainings were conducted through conventional training methods. Several limitations were found in conventional training. It was found from the different studies that the majority of Indian people used smart phones and the internet. So, there is a scope of online training through video conferencing app to overcome the limitation. Based on the issue a study was conducted on the effectiveness of online farmers training through video conferencing app. It is found from the study that majority of the trainees' knowledge level was medium followed by low and high after taking training from video conferencing app. It is also shown from the study that online training saves time and resources, experts are easily available from a distance place, low-cost training methods and large numbers of participants were covered in a shorter time.

Keywords: Conventional training, Smartphone, Video conferencing, Farming community, Knowledge

INTRODUCTION

In India majority of the training were conducted through conventional training methods. Krishi Vigyan Kendra under Indian Council of Agricultural Research plays an important role of training programme through on campus and off campus mode with the advance audio-visual technology. But in the last two decades, our world has seen a significant technological advancement, with technology pervading practically every business imaginable. This includes the corporate training business, where technology in the form of eLearning is being favourably embraced by corporate employees. Both conventional training and online training have their own set of advantages and disadvantages. E-resources play a significant role in the dissemination of agricultural knowledge to the farmers (Irifan *et al.*, 2006). It was found from various studies that farmers utilise their mobile phones for the farm information (Singh *et al.*, 2010; Rudroju, 2013). Majority of farm women had access to Whatsapp, Facebook, and YouTube for agricultural information (Das and Chowdhury, 2022). It is also found from their study that majority of farm women had low degrees of e-resource exposure, followed by high and medium degrees of e-resource exposure. An effective online class depends upon well-structured course content well-prepared instructors advanced technologies (Sun and Chen, 2016), and feedback and clear instructions (Gilbert, 2015).

However, several weaknesses related to online learning were also described in the literature. Delay in responses (Hara and Kling, 1999; Petrides, 2002; Vonderwell, 2003) scepticism of their peers' supposed expertise, lack of a sense of community, feelings of isolation (Woods, 2002), problems in collaborating with the co-learners, technical problems (Piccoli *et al.*, 2001; Song *et al.*, 2004), issues related to instructor higher learner

attrition rates (Frankola, 2001), the need for greater discipline, writing skills, and self-motivation and the need for online users to make a time commitment to learning (Golladay *et al.*, 2000; Serwatka, 2003) are considered to be barriers of online learning. Agricultural education in completely online mode may not be possible and need to device a hybrid mode, as the agriculture course contents were more practical than theoretical (Muthuprasad *et al.*, 2021). There's a reason why online training hasn't been able to totally replace the conventional training, and experts believe it will never be able to do so. The reason for this is that trainers began to develop better techniques, methods, learning activities, and advanced training aids in order to create classroom training that is easier to remember, more meaningful comparable to eLearning. Even though recent trends favour eLearning, a large number of training centre still use conventional class room training. Krishi Vigyan Kendras (KVK) under Indian Council of Agricultural Research (ICAR) conducts different types of training programme for the farmers, farm women, rural youth and extension personnel. One of the mandatory activities of the KVK is training. There are two types of training methods such as on campus training and off campus training methods were used in the KVK system which is conventional in nature. Keeping the advantage of the on-line training methods an on-farm trial was conducted on the effectiveness of online agricultural training in sub-Himalayan region of India.

MATERIAL AND METHODS

The study was conducted in Alipurduar and Cooch Behar District of West Bengal, India (sub-Himalayan region) from 2019-2021. Simple random sampling methods were used for selection of three numbers of on campus training, three numbers of off campus training and three numbers of online training. All the trainees of the selected training were taken as sample respondents (n). In this way total 9 numbers of training and 235 numbers of the respondents were selected for the study. The study was conducted due to high cost of conventional training, low number of participations in conventional training, and transportation problem. Experimental research design was followed in the study. Three numbers of training option and three numbers of replication for each training were taken in the study {T1 (R₁, R₂, R₃); T2 (R₄, R₅, R₆); T3 (R₇, R₈, R₉)}. Training Option I: To trained the farmers through on campus training in physical mode (n = 60; R₁ = 25, R₂ = 15, R₃ = 20); Training Option II: To trained the farmers through off campus training in physical mode (n = 60, R₄ = 28, R₅ = 16, R₆ = 16); Training Option III: To trained the farmers through the online mode (n = 115; R₇ = 42, R₈ = 38, R₉ = 35). Major statistical tools were used for analysis of the data are frequency, per cent, range, mean, standard deviation and coefficient of variation. KVK scientist perceptions on different types of the training were noted with some selected parameters.

RESULTS AND DISCUSSION

It is found from the study (Table 1) that after off campus training (village level training) majority of the trainees knowledge level were high (50 %) followed by medium (41.66 %) and low (8.33 %). The coefficient of variation value within the distribution 16.92 % signifies the high consistency level of the distribution for the variable knowledge. It is revealed from the study that after off campus training majority of the trainees' knowledge level were high followed by medium and low. It is found from the study that after on campus training majority of the trainees knowledge level were high (53.33 %) followed by medium (38.33 %) and low (8.33 %). The coefficient of variation value within the distribution 16.31 % signifies the high consistency level of the distribution for the variable knowledge. It is revealed from the study that after on campus training majority of the trainees' knowledge level were high followed by medium and low. It is observed from the study that after online training majority of the trainee's knowledge level were medium (56.52 %) followed by low (22.61 %) and high (20.87 %). The coefficient of variation value within the distribution 34.90 % signifies the medium consistency level of the distribution for the variable knowledge. It is revealed from the studies that after online training majority of the trainees' knowledge level were medium followed by low and high.

Table 1. Knowledge test on different types of training

Category	Score	F	%	Statistics
Off campus training n = 60				
Low	22.0-32.3	05	8.3	Range = 22-53, Mean = 42.25, SD = 7.15, CV = 16.92 %
Medium	32.3- 42.7	25	41.7	
High	42.7-53.0	30	50.0	
On campus training n = 60				
Low	22.0-32.3	05	8.3	Range = 22-53, Mean = 42.65, SD = 6.95, CV = 16.31%
Medium	32.3-42.7	23	38.3	
High	42.7-53.0	32	53.3	
Online training n = 115				
Low	9.0-30.7	26	22.6	Range = 9 to 74, Mean = 40.31, SD = 14.07, CV = 34.90 %
Medium	30.7-52.3	65	56.5	
High	52.3-74.0	24	20.9	

F- Frequency

It is found from the study (Table 2) that average cost of training was high in case of on campus training followed by off campus training and online training.

Table 2. Perceptions of the KVK scientist on different types of training methods

Factors	On campus training	Off campus training	Online training
Average cost	INR ₹ 20,000	INR ₹ 10,000	INR ₹ 1000
Time loss	2 hours	3 hours	30 minutes
Resource required	Required audio visual aids, Training Hall, lodging, food availability	Less required audio-visual aids, training hall and food	Only smartphone with internet connection is required
Hands on training	Easy	Easy	Difficult
Farmers cover	30-40	30-40	More than 100
Monitoring during the training	Monitoring easy	Monitoring easy	Difficult to monitor
Post training monitoring	Very difficult	Moderately difficult	Easy

Average time loss of the training programme was more in case of off campus training, followed by on campus training and online training. It is shown from the study that in on campus training more resources was required followed by off campus training and online training. It is observed from the study that hands on training were easy in case of on campus and off campus training but it is difficult in case of online training. It is found from the study that large numbers of farmers can cover through online training but it is difficult in case of on campus and off campus training. It is observed from the study that monitoring process during the training were easy in case of on campus and off campus training but it is difficult in case of online training. It is found from the

study that post training monitoring was very difficult and moderately difficult in case of on and off campus training but it is easy in case of online training. It is revealed from the study that online training was low cost, time savings, more numbers of farmers cover and post training monitoring were easy. But major problem of online training was difficult to monitoring during the training and very difficult of hands-on training.

CONCLUSION

It is concluded from the study that in case of the on and off campus training majority of the trainee's knowledge level were high followed by medium and low. In case of online training majority of the trainees' knowledge level were medium followed by low and high. It is found from the study that online training was low cost, time savings, more numbers of trainees cover and post training monitoring were easy. The online training may be conducted with the consultation of IT expert because the online training saves the time of trainees and the trainer, save the resources, experts are easily available from long-distance, low-cost training methods and large numbers of participants cover in a shorter time. Major constraints of online training were monitoring process during the training and problem of hands-on training which need to be consideration by the KVK Scientist before planning of online farmers training.

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