SOCIETY OF EXTENSION EDUCATION

RESEARCH ARTICLE

Perception and Preferences of Online Learners of Certificate Courses in Agriculture

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ABSTRACT

COVID-19 has jeopardized the academic calendars of majority of the educational institutes across the world. In this study, we focus on understanding the perception and preferences of participants of distance learning Agricultural courses of ANGRAU (Acharya N.G. Ranga Agricultural University) through online platform. The present study is conducted through an online survey of 400 randomly selected participants of the four online certificate courses - Organic Farming, Bee Keeping, Mushroom Cultivation and Terrace Gardening in telugu offered by ANGRAU in 2020-21 which would be helpful in designing an effective online learning environment. The study explores the effectiveness of online learning, perception and preferences of participants for various attributes of online classes. The results indicated that majority of the participants preferred online classes during the pandemic. The respondents who have completed the courses perceived high level of effectiveness (67.50%) about the two distance learning courses while 23.50 percent expressed medium level of effectiveness and a meagre 9 percent perceived the courses to be less effective. The findings of this study provide insights to academicians to redesign the courses to a hybrid mode complementing theory and practicals without shifting completely to online education as more number are interested to enroll for online classes rather than contact classes.

***Key words**: Distance learning; Online education; Certificate courses*

Distance Education is cost effective, learner centric medium of education and provides with the benefits of reaching large-scale economy. Learning through distance mode has widened the scope and reach of education to institutions imparting education in various spheres. Government of India is also promoting distance learning by establishing open universities across the country with the objective to make education open and accessible to all. At present more than 220 universities/institutions, 15 Open Universities and some private institutions recognized by UGC are offering correspondence/open and distance courses in the country (*Gaba, 2015*).

Acharya N.G.Ranga Agricultural University one imparting agricultural education is expanding its wings to extend agricultural education beyond class rooms. The Centre of Open and Distance Learning (ODLC) was established in 2018 for imparting agricultural education to large number of aspirants throughout the globe. The major aim of ODLC is to hone entrepreneurial skills for self-employment and income generation by extending its technologies to large numbers in the state.

The present study was conducted through an online survey of 400 randomly selected participants of the four online certificate courses - organic farming, bee keeping, mushroom cultivation and terrace gardening in telugu offered by ANGRAU in 2020-21 which would be helpful in designing an effective online learning environment. The study explores the effectiveness of online learning in agriculture, perception and preferences of participants for various attributes of online classes such as course content, contact sessions, resource person expertise, duration of course, communication pattern, exposure visits / practicals, new learnings gained and course objectives

achieved. The study was undertaken to assess the perceived effectiveness of certificate courses with the following objectives.

• To study the effectiveness of online agricultural certificate courses, and

• To analyse the perception and preferences of the participants of online certificate courses.

METHODOLOGY

The study adopted Ex-post facto research design. The study was conducted in Andhra Pradesh with a total number of 400 randomly selected respondents who completed the online certificate courses offered in the year 2020, 100 from Organic Farming course, 100 from Mushroom cultivation, 100 from bee keeping and 100 from Terrace Gardening course throughout Andhra Pradesh state. A pre-tested Google forms was used to collect data from the respondents through existing WhatsApp groups. Eight parameters of online education such as course content, contact sessions, Resource person expertise, Duration of course, Communication received, Course duration, Exposure visits / Practicals Course objectives achieved and new learnings gained were studied to measure the Course effectiveness.

The effectiveness of the courses was measured using Likert scale of summated rating for 8 selected parameters. A total of 45 statements regarding 8 parameters were selected with the scale interval of 5: Strongly Agree to 1: Strongly Disagree regarding each of the courses separately. These were presented to the respondents with 5 possible answers for each statement scored on a continuum 5 to 1. Based on the total score obtained by the respondents on the 8 parameters of effectiveness, the effectiveness Index was measured by using the following formula.

$$EI = \frac{\text{Total Scores obtained}}{\text{Obtainable scores}} \times 100$$

Based on the Effectiveness index (EI) scores of the participants, they were further categorized into Less Effective, Moderately Effective, Highly Effective based on mean and standard deviation. Further perception of respondents to online learning was analyzed using 10 statements that were rated on a five-point continuum scale (five being most effective and 1 being least effective). Frequency and percentages were calculated to summarize the data. Further, each statement regarding perception of respondents based on effectiveness of online learning in comparison to classroom teaching was ranked based on mean rank

obtained by Friedman's test is as follows.

$$cons\,(x) = 1 + \sum_{i=1}^{n} pi \log_2 (1 - (|\,xi - \mu\,|/dx)$$

Pi=probability or frequency associated with each Likert attribute Xi; i ranges from 1 to 5

Dx=width of x and μ=mean of x

Further each statement regarding perception of respondents based on effectiveness of online learning in comparison to classroom teaching was ranked based on mean rank obtained by Friedman's teat as follows.

$$\text{Mean rank} = \frac{12}{n_r k(k+1)} \sum R^2_i - 3n_r(k+1) \quad A = \pi r^2$$

Where,

k= number of columns(treatments);

n_r = number of rows(blocks); Ri =Sum of the ranks

RESULTS AND DISCUSSION

Perceived effectiveness (Effectiveness index-EI) : The Perceived Effectiveness of the courses was assessed on the basis of 8 parameters such as course content, contact sessions, resource person expertise, duration of course, communication received, course duration, exposure visits / practicals, course objectives achieved and new learnings gained. The results revealed that out of the 8 parameters listed, the respondents scored well on Effectiveness index for parameters in the order- Resource person expertise (EI=92), Contact lectures (EI=87), New learnings gained (EI=82), Course content (EI=80), course Objectives achieved (EI=76) and Communication pattern (EI=72). The EI scores were found comparatively less for the parameters Exposure visits (EI=58), and Course Duration (EI=29).

The findings thus indicated that the course was developed based on the needs and interests of the aspirants, yet more emphasis on skill-oriented aspects that can provide hands on experience to inculcate skills in the respondents for effective learning. Also, as majority expressed less satisfaction over course duration of one session per week for 8 weeks, possibility for including one practical class could be explored for more interaction and learning.

Effectiveness index of distance learning courses : The effectiveness of the courses on selected parameters was scored and Effectiveness index was tabulated.

Table 1 indicated that the perceived effectiveness was highest in case of Resource faculty expertise (EI = 92) with mean score 4.40 because experts working

Table 1. Rank order of the parameters of perceived effectiveness of the respondents

Parameter	Effectiveness index	Mean	Rank order
Course content	80	3.89	3
Course duration	87	4.10	2
Resource faculty expertise	92	4.40	1
Interaction and discussion	29	1.44	8
Communication pattern	72	3.50	5
Exposure visits/Practicals	58	2.88	7
New learnings gained	82	3.90	4
Connectivity	76	3.69	6

Table 2, Overall Perceived Effectiveness of the Certificate courses (N=400)

Category	Overall Effectiveness	
	No.	%
Less Effective (<70)	54	13.50
Effective (71-142)	148	37.00
Highly Effective (>142)	198	49.50

in the specific in the University, experienced farmers, home terrace garden consultants, Organic Certification experts, Organic input dealers, Entrepreneurs have been identified as resource persons. This was followed by Course contact lectures (EI = 87) with mean score 4.10, New learnings gained (EI = 82) with mean score 3.90 and Course contact lectures (EI = 80) with mean score 3.89, Course objectives achieved (EI = 76) with mean score 3.69 and communication pattern (EI = 87) with mean score 3.50. (*Purnima et al., 2020*) This was because of the planned design and execution of the course covering all fundamentals with equal emphasis on theory and practicals. The Distance learning centre is in continuous communication with its participants regarding minute details of course till its completion after issue of certificates to eligible candidates. Post course follow up is also being taken up.

The Effectiveness score was comparatively less for two parameters i.e., Exposure visits/Practicals (EI = 58) with mean score 2.88 and Course Duration (EI = 29) with mean score 1.44. (*Nguyen,2015*). Though exposure visits to model units, established farms, Demonstrations, FPOs, and farmer interactions are organized in the courses, most of the participants are seeking hands on experience for skill upgradation for establishing small scale units. This could be considered while conducting skill-oriented courses in future with increased course duration and more focus on practicals than theory.

The respondents who have completed the courses perceived high level of effectiveness (67.50%) about the two distance learning courses while 23.50 per cent expressed medium level of effectiveness and a meagre 9 per cent perceived the courses to be less effective (Table 2). The result is in accordance with that of *Filiz and Mustafa (2012)*.

The results implied that majority of the respondents were satisfied with the course content, lectures, faculty and conduct of the course but have expressed to have more practical exposure in establishing small balcony gardens, Vermicompost units, preparation of organic mixtures, home composting etc. which they learnt during the course but need hands on experience and skill development to start small scale enterprises.

Perception towards online learning : The frequency and percentage were calculated for each of the 10 statements rated on a scale of five-point continuum as shown in Table 3.

Results suggested that, there was not much difference in the perception of respondents of all the four courses towards online learning. Around 50 percent of the respondents agree with the statement that online learning improves their technical skills as compared to face to face classes. It is also evident that around 60 per cent of the respondents are in agreement with the statement that online classes are less effective when it comes to communicate with the instructor as compared to face-to-face classes. On an average 20-30 per cent of the respondents perceive that online and face to face classes are equally good when it come to the above criteria (*Muthuprasad et al, 2019*).

It should also be noted that the consensus varied between 0.44 to 0.56 implying that there was perfect disagreement nor perfect agreement between the respondents regarding the effectiveness of online learning. Difference in perception among the respondents could be attributed to lack of equity in internet availability, poor teaching skills or poor learning environment. Mean value of each statement was used to rank the statements related to the perceived effectiveness of online classes in comparison with classroom teaching. The results revealed that flexibility of online sessions; Improvement of technical skills in computer usage, and Recordings provided after every online session helps to reinforce learning were ranked first, second and third respectively. The test statistic also is presented in Table 3 and its level of significance indicated that the differences were highly significant.

Table 3. Perception towards online learning (N=400)

Statements	1 (%)	2 (%)	3 (%)	4 (%)	5 (%)	Consensus	Mean rank*
I prefer online classes as the classes are well structured and time bound	21.00	22.35	28.0	17.26	9.75	0.52	7.38
Course material is provided in advance to online class. So I comprehend more in online class	26.30	25.73	21.50	19.22	7.17	0.50	6.54
I feel more at ease to communicate with the instructor during online sessions.	31.40	30.27	14.33	8.47	14.33	0.49	4.03
Recordings provided after every online session helps to reinforce my learning.	31.70	31.27	14.33	9.47	31.37	0.54	7.00
Online environment has given me more time for discussion and interpretation	26.38	15.96	19.22	21.50	16.94	0.44	6.25
Flexibility in online sessions and self-responsibility is an added attraction	12.35	14.66	23.45	31.60	19.30	0.56	4.23
Duration of online classes of 2hrs in day followed by interaction is optimum.	15.64	20.85	25.73	22.48	15.31	0.48	5.22
The ppts and video content supplied after every online class is useful for effective learning	26.38	15.96	19.22	21.50	16.94	0.44	5.18
Frequent quizzes and online tests have made learning more enjoyable and interesting	14.98	20.85	30.62	21.82	11.73	0.45	4.28
My technical skills with regard to usage of computer have improved considerably	30.70	32.27	14.33	9.47	30.37	0.54	5.50
Chi - Square				138.88**			
df				6			

1-online is less effective; 2-online is somewhat less effective; 3-online is equally effective; 4-online is somewhat more effective; 5-online is much more effective, *Friedman rank test, ** Highly significant

CONCLUSION

The study revealed that majority of the respondents have a positive attitude towards online learning in the wake of Covid-19. The flexibility of online classes, Well-structured content with videos uploaded on different platforms made learning convenient and interesting. However, the technological constraints of online education such as power failure, internet connectivity and speed and delayed feed-back are some of the constraints that could not be ignored.

Therefore, all these factors considered while developing an online course while developing an online course to make it more convenient to the learner. In future, we may see a considerable jump in the usage of online platforms in a hybrid mode in combination with contact classes.

CONFLICTS OF INTEREST

The authors have no conflicts of interest.

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