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Constraints Perceived in Using Online Platform for Agricultural Certificate Courses

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ABSTRACT

The online platform is an important dimension of Agricultural education being focused by the Open and Distance learning centre established by Acharya N.G. Ranga Agricultural University in the year 2018. The study focused on the constraints perceived by the participants of the courses in using the online medium of learning for all the skill-oriented certificate courses – Organic Farming, Bee Keeping, Mushroom Cultivation and Terrace Gardening. The present study was conducted with 240 randomly selected participants of four courses (60 farmers, 60 students,60 employees and 60 Others), each of 2 months duration. The findings of the study showed that the overall perception of the respondents about the online courses to be effective (49.58%) followed by highly effective (45.42%) while a meagre number (5%) perceived the online course as less effective. The constraint analysis of the respondents in utilizing the online platform revealed that among Technical constraints, Lack of adequate scope for hands-on experience was the major constraint, among personal constraints, online course certificate has no value was the major constraint and among attitudinal constraints, personal anxiety in use of technology was the major constraint expressed. Chi-square test revealed thatAge, Education, Computer literacy and online training experience had significantly influenced respondents' constraints to online learning courses. The study implied addressing these areas to improve the course effectiveness.

***Key words**: Distance learning; Zoom pro; online certificate courses; Perceived effectiveness.*

Distance Education is a fast emerging, cost-effective and is flexible medium to cater to the needs of many who could not pursue a conventional system of learning. In the last two decades, many universities that offer distance learning in several countries have been established. The government of India is also encouraging distance learning to make the masses educated. At present more than 200 universities/institutions, 15 Open Universities and some private institutions recognized by UGC are offering correspondence/open and distance courses in the country (*Gaba, 2015*).

During the COVID pandemic, ODLC has organized four certificate courses using the online platform for the first time. Different categories of respondents-farmers, employees, students, housewives and others (Self-employed and Housewives) enrolled for the courses and completed the courses. The study aims to assess the effectiveness of online certificate courses offered by ODLC and also study the constraints in learning through the online medium as perceived by the respondents. The present study was undertaken with the following objectives.

i. To study the profile of the respondents pursuing online certificate courses at ANGRAU,
ii. To analyse the constraints perceived by the respondents in utilizing online medium for learning

METHODOLOGY

The ex-post facto design was followed for the

study. The study was conducted in Andhra Pradesh. Out of the total 1108 enrolled number, 240 participants who completed any one of the four certificate courses organized in the year 2020 (60 farmers, 60 students, 60 employees and 60 Others) were selected randomly for the study. Pre-tested Google forms were used to collect data from the respondents. Selected characteristics of the respondents' viz. age, gender, education, occupation, computer literacy, previous online training undergone, information-seeking behaviour, innovativeness, and higher aspiration were considered as independent variables of the study.

The overall effectiveness of online learning courses was measured based on an index computed using 10 parameters such as course content, resource person expertise, course coordination, course duration, practical exposure, ease of online learning, interaction and feedback, online grading and assessment, new learnings gained and certification. The scores on all the parameters were summated and the Effectiveness of the online courses as perceived by the different categories of respondents was assessed. The respondents were further categorized into three groups based on their perceived effectiveness viz., highly effective, effective and less effective. Further, a constraint analysis was conducted to study the constraints perceived by the respondents in learning through online mediums. An interview schedule (Google form) with 24 statements about 3 categories of constraints viz., technical constraints, personal constraints and attitudinal constraints, was administered to the respondents. A Chi-square test was employed to study the association between the profile characteristics of the four categories of respondents.

RESULTS AND DISCUSSION

Personal profile of the respondents : It is evident from Table 1 that the majority of the respondents were young (45.00%), the majority were male respondents (60%) and completed graduation (89.00%). The majority of them had basic computer literacy (43.34%). It is also observed from the table that the majority of the respondents had no previous online training (85.00%) or no farming experience (75.00%). It could also be seen from Table 1 that the majority scored medium about innovativeness (52.50%) and information-seeking behaviour (47.92%) and scored high on higher aspirations (83.00%). The results are in congruence with those of *Spandana (2016).*

Table 1. Personal profile of the respondents (N=240)

Characteristic	Category	No.	%
Age	Young (18-35)	108	45.00
	Middle (35-50)	87	36.25
	Old (50)	45	18.75
Gender	Male	144	60.00
	Female	96	40.00
Computer literacy	No literacy	84	35.00
	Basic literacy	104	43.34
	Intermediate	27	11.24
	Advanced	25	10.42
Education	Below Matriculation	18	7.50
	Matriculation	97	40.41
	Graduate	103	42.92
	Post graduate	22	9.167
Farming experience	Short term (up to 5yrs)	24	10.00
	Medium term (6-10 years)	32	13.33
	Long term (> 10 years)	04	1.67
	No Experience	180	75.00
Previous online training undergone	No training	204	85.00
	Short term training (less than 10 days)	25	10.42
	Long term training (2 weeks and above)	11	4.58
Occupation	Student	60	25.00
	Farmer	60	25.00
	Service (Govt/Private)	41	17.08
	Self Employed	19	7.92
	Others	60	25.00
Innovativeness	Low	59	24.58
	Medium	126	52.50
	High	55	22.92
Information seeking behavior	Low	43	17.92
	Medium	115	47.92
	High	82	34.16

It could be inferred from the results that distance online education is being aspired by young and middle groups who are graduates with basic computer knowledge, who have had less online training and less farming experience but who have a high aspiration to take up new ventures/tasks to learn new skills and techniques

Table 2. Distribution of the respondents based on perceived effectiveness of online skill-oriented courses (N=240)

Category	Farmers (n=60)		Students Cultivation(n=60)		Employees (n=60)		Others (n=60)	
	No.	%	No.	%	No.	%	No.	%
Less Effective (<70)	06	10.00	02	3.33	-	-	04	6.67
Effective (71-142)	35	58.00	32	53.33	27	45.00	25	41.66
Highly Effective (>142)	19	32.00	26	43.34%	33	55.00	31	51.67

related to agriculture. Distance education is also an opportunity for weaker sections to learn new knowledge and skills and become innovative in their area of interest but there is a scope to include more female participants in the certificate courses as their participation was found to be comparatively less.

Perceived effectiveness of the online skill-oriented courses by different categories of respondents : It is observed from Table 2 that 58.00 per cent of the farmers perceived the online certificate courses to be effectively followed by 32.00 per cent as highly effective while a meagre 10.00 per cent perceived the courses to be less effective. The result is following that of Filiz and Mustafa (2012). The majority of the farmers who enrolled for the organic farming course were exposed to various concepts of organic farming and got an opportunity to interact with others in the field. Thus, they have expressed positively to the course.

In the case of Students also, the majority (53.33%) have perceived the course to be effective while 43.34 per cent perceived a high level of effectiveness of the course. A meagre 3.33 per cent alone have expressed the course to be less effective again because of limited practical exposure and hands-on experience

Regarding the employees, the results indicated that 55 per cent of the respondents have rated the course to be highly effective and 45.00 per cent as Effective. None have rated the course as less effective. This may be because the employees who are otherwise involved in their job had got an opportunity to pursue new knowledge and skills. As most of the employees were already practising terrace gardening, they were exposed to modern skills and techniques in gardening. Thus, were much satisfied. The same was the case of 'Others' who were mostly housewives and self-employed participants. Most of them enrolled for beekeeping and mushroom cultivation and were looking towards starting their ventures (*Shukla, 2010*).

The findings also indicate 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, Beehive management techniques, processing and value addition in Mushroom, Home composting etc. which was taught during the course but needed hands-on experience and skill development to start small scale enterprises. The findings are in line with that of *Purnima et al (2020).*

Constraints perceived by respondents in utilizing the online platform for learning : The constraints perceived by different categories of respondents in utilizing the online platform for learning was categorized into three subheads. Table 3 indicated that among the technological constraints major constraint expressed by farmers was poor network connectivity at their end (88.33%) followed by lack of technical guidance from experts after sessions (85.00%). Among the personal constraints felt by farmers unawareness about online technology (90.00%) ranked first followed by lack of feedback and interactions (86.66%). Among the Attitudinal constraints. Personal anxiety in the use of technology (93.33%) ranked first followed by a reluctance to accept new skills (88.33%). Regarding constraints faced by students, lack of adequate scope for hands-on learning (73.33%) was the top constraint followed by less scope for social interaction and feedback (70.00%). Among personal constraints, majority felt online course certificate has less value for job (88.33%) followed by unable to adjust personal time with class schedule (86.66%). Lack of motivation and appreciation (78.33%) followed by unable to adjust personal time with class schedule (75.00%) were the major attitudinal constraints for students.

The table also showed that among constraints faced by employees, the top technological constraint was perceived to be a lack of adequate scope for hands-on learning (71.66%) and less scope for social interaction

Table 3. Constraints perceived by different categories of respondents in utilizing online platform for learning (N=240)

Constraint	Farmers (n=60)	Students (n=60)	Employees (n=60)	Others (n=60)
	No. (%)	No. (%)	No. (%)	No. (%)
Technological constraints				
Lack of adequate scope for hands on learning	46 (76.66)	44 (73.33)	43 (71.66)	51 (85.00)
Frequent technology failures	33 (55.00)	21 (35.00)	29 (48.33)	32 (53.33)
Lack of technical guidance from experts after sessions	51 (85.00)	28 (46.66)	32 (53.33)	36 (60.00)
Complex procedural formalities in online examination	28 (46.66)	09 (15.00)	11 (18.33)	18 (30.00)
Poor network connectivity	53 (88.33)	21 (35.00)	21 (35.00)	37 (61.66)
Unsteady power supply	33 (55.00)	36 (60.00)	24 (40.00)	39 (65.00)
Less scope for social interaction and feed back	49 (81.66)	42 (70.00)	43 (71.66)	40 (66.66)
Lack of Knowledge about the online technology	49 (81.66)	14 (23.33)	11 (18.33)	21 (35.00)
Personal constraints				
Unawareness of online technology	54 (90.00)	12 (20.00)	23 (38.33)	26 (43.33)
Unable to adjust personal time to class schedule of online sessions	16 (26.66)	52 (86.66)	53 (88.33)	16 (26.66)
Insufficient classes/No repeat sessions	28 (46.66)	34 (56.66)	23 (38.33)	19 (31.66)
Poor coordination by experts	06 (10.00)	11 (18.33)	07 (11.66)	05 (8.33)
Inadequate social interaction	44 (73.33)	43 (71.66)	34 (56.66)	36 (60.00)
Inadequate practical learning	49 (81.66)	41 (68.33)	41 (68.33)	46 (76.66)
Online course certificate has less value for promotion/job/Assessment etc	48 (80.00)	53 (88.33)	47 (78.33)	49 (81.66)
Inadequate feedback and clarifications	52 (86.66)	34 (56.66)	37 (61.66)	31 (51.66)
Attitudinal constraints				
Personal anxiety in the use of technology	56 (93.33)	22 (36.66)	38 (63.33)	47 (78.33)
Reluctance to equip new skills	53 (88.33)	17 (28.33)	27 (45.00)	52 (86.66)
Preference to class room teaching	41 (68.33)	33 (55.00)	26 (43.33)	32 (53.33)
Anxiety about additional work load	49 (81.66)	45 (75.00)	36 (60.00)	24 (40.00)
Fear about decreased free time	47 (78.33)	38 (63.33)	31 (51.66)	22 (36.66)
No visual cues from peers	43 (71.66)	36 (60.00)	33 (55.00)	21 (35.00)
Inhibition for online interaction	48 (80.00)	39 (65.00)	41 (68.33)	33 (55.00)
Lack of motivation and appreciation	38 (63.33)	47 (78.33)	22 (36.66)	19 (31.66)

and feedback (71.66%). Among personal constraints Unable to adjust personal time with class schedule (86.66%) was ranked first followed by online course certificate has less value for the job (88.33%). Inhibition for online interaction (68.33%) followed by fear of additional workload (60.00%) were the top attitudinal constraints. The findings are in line with that of *Rostislav Fojtik (2018)*.

Regarding the 'Others' category, a major technological constraint was lack of adequate scope for hands-on learning (85.00%) followed by Less scope for social interaction and feedback (66.66%). Among personal constraints, online course certificate has less value (81.66%) was ranked first followed by inadequate practical training (76.66%). Reluctance to equip new skills (86.66%) followed by personal anxiety in the use of online technology (78.33%) were the major attitudinal constraints for students. The findings are in agreement with that of *Ohanu (2018)*.

The findings in Table 3 threw light on the overall constraints felt by the majority of the four groups of respondents. Overall result depicted that students faced comparatively fewer constraints in the adoption of online technology when compared to other groups while

farmers were facing more issues in online learning. Lack of hands-on practical training, less scope for social interaction and feedback and less value for online course certificates were highlighted.

The association between dependent and independent variables was studied using the Chi-square test. The results presented in Table 4 showed that among all the 10 variables studied only Age, computer literacy, education and occupation were significantly associated with the constraints expressed by farmers. The remaining variables were non-significant. About Students, Computer literacy and previous training have undergone showed high positive significance. Among the Employees group, the significantly associated variables with constraints were age, computer literacy, education, previous online training and information-seeking behaviour. Lastly, for the other group the highly significant variables were again age, computer literacy, education, previous training has undergone and occupation, others were non-significant.

CONCLUSION

The study thus concludes that different categories of individuals are aspiring for agricultural education through online mediums as it is an emerging technology and is becoming widely used in universities and institutions around the globe making education more personalized and accessible. The constraint analysis of the respondents for utilizing online mediums also highlighted the key areas to be focused on in the certificate courses. In future, the introduction of more courses through the online medium will help many aspirants to seek skills for self-employment and entrepreneurship. Moreover, the online mode can be accessed easily by different age groups at their own time and convenience. Thus, must be encouraged in all SAUs.

CONFLICTS OF INTEREST

The authors declare that they have no conflicts of interest.

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