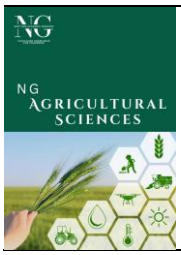

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Student Attitudes and Constraints Towards Experiential Learning Programme in Agricultural Education

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HIGHLIGHTS

- Majority of students demonstrated a favourable attitude towards ELP, with significant positive associations found for achievement motivation and participation in co-curricular activities.
- Inadequate laboratory facilities and limited industry exposure emerged as major constraints during ELP.
- Students emphasised the need for interest-based enterprise selection, more field visits, and better resource allocation to improve ELP outcomes.

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ABSTRACT

The study evaluated the attitudes of undergraduate students towards the Experiential Learning Programme (ELP) at two colleges of Dr. Panjabrao Deshmukh Krishi Vidyapeeth, Akola during the 2019–2020 academic year. An exploratory research design was adopted, and data were collected from 120 final-year students using a structured questionnaire. Results revealed that 72.5% of respondents exhibited a favourable attitude towards ELP, with significant positive correlations observed for achievement motivation, participation in co-curricular activities, self-confidence, and skill acquisition. The main constraints identified were lack of sufficient laboratory facilities (62.5%) and limited exposure to industry and field visits (59.2%), along with inadequate technical guidance and low motivation due to limited employment opportunities. Students suggested giving preference to their interests while selecting enterprises, increasing practical exposure, and ensuring a fair distribution of tasks for effective programme implementation. The study highlights the importance of addressing infrastructural and motivational barriers to optimise the impact of ELP and promote skill development and employability among agriculture graduates.

1. INTRODUCTION

Agricultural education plays a pivotal role in equipping students with the theoretical knowledge and practical skills necessary for innovation and employment in the sector. Over recent years, experiential learning approaches emphasised by academic institutions like the Indian Council of Agricultural Research have gained prominence as instructional models that bridge the gap between

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classroom teaching and real-world application (Knobloch & Smith, 2024). The Experiential Learning Programme (ELP) is one of a kind project that was instituted at Dr. Panjabrao Deshmukh Krishi Vidyapeeth in the year 2006 to provide final-year undergraduate students with practical training in enterprise operation, technical skills, and agricultural entrepreneurship. The ELP also functions in modules such as the seed technology, mushroom farming and the horticulture and this exposes the students to the entire process of input acquisition, bottleneck production as well as marketing. Such a model fits the theory of experiential learning developed by Kolb, which points to the stage of reflection as one of the pivotal steps of a learning process (Coleman et al., 2024).

Although the framework of ELP is promising, its results do depend on the attitude of the students and the availability of positive infrastructure. The studies done on similar learning environments regarding experience emphasise the close relationship between attitudes and perceived constraints and student engagement with the learning process and the acquisition of skills. Sagario and Versano (2023) described boosted performance in agronomic skills and attitudes after systematic experience-based learning in crop production. The results can be compared to ones found in international research that proved an increase in performance in cases where practical modules complement theoretical study (Baker & Robinson, 2016). The attitudes that are likely to define the receptiveness of students to undertaking experiential programs have been established as attitudinal issues, including achievement motivation, self-confidence, and involvement in co-curricular activities (Bradford et al., 2019). At the same time, such limitations as the lack of sufficient laboratory facilities, connections to industry and the reflection mechanism frequently undermine the potential of experiential learning in agricultural settings (Sagario & Versano, 2023).

2. MATERIALS AND METHODS

The research was conducted in 2019-2020 at two constituent colleges of Dr. Panjabrao Deshmukh Krishi Vidyapeeth (PDKV), Akola, Maharashtra, India. The exploratory research design was utilised purposefully to evaluate the attitude of undergraduate students towards the Experiential Learning Programme (ELP) and the most significant limitations that arose during its implementation. The population used in the study was all third year undergraduate students undertaking B.Sc. (Agriculture) program at the sampled colleges. Specifically, a simple random sampling method was used to target 120 students to act as respondents and the sampling was representative of different academic, socio-economic, and demographic backgrounds.

The questionnaire was designed following a thorough study of the literature and discussion with the subject-matter experts and has a comprehensive structure. The questionnaire had three parts: (i) demographic and academic information about the students, (ii) attitude towards ELP and (iii) perceived limitations and propositions of improvement of the programme. In order to measure the attitude of students, a Likert-type scale was formed with four statements about ELP with both positive and negative statements on a five-point continuum scale, which was in the format of strongly agree to strongly disagree. A pilot test of this questionnaire was done on a few number of non-sampled students in order to determine the level of clarity, reliability, and validity of the content. According to the expert advice and pre-test, changes were introduced. The process of data gathering was carried out face-to-face in the concluding semester and included the opportunity to gather information both through group meetings and individual interviews to have the maximum number of respondents and coverage. Respondents were informed of the study objectives, assured of confidentiality, and written informed consent was obtained before participation.

Collected data were systematically coded and tabulated. Descriptive statistics, including frequencies, percentages, means, and standard deviations, were employed to summarise student profiles and attitudes. Pearson's correlation coefficient was calculated to examine the association between students' attitudes towards ELP and selected independent variables such as achievement motivation, participation in co-curricular activities, and self-confidence. Constraint analysis was performed by ranking reported constraints based on frequency and mean scores. Statistical analyses were conducted using SPSS software.

3. RESULTS

A total of 120 final-year undergraduate students participated in the study. Among the respondents, males comprised 67.5% and females accounted for 32.5% (Figure 1a). Nuclear families were predominant, with 71.7% of students belonging to this family type, while 28.3% came from joint families (Figure 1b). Analysis of academic performance revealed that the majority of students (62.5%) achieved a CGPA in the range of 7.0 to 8.0. A smaller proportion (20.8%) had a CGPA above 8.0, and 16.7% of students had a CGPA below 7.0 (Figure 1c). Parental occupation was mainly agriculture for 53.3%

of the respondents, whereas 24.2% reported service, 15.0% business, and 7.5% other occupations as the main source of family income (Figure 1d). The distribution of annual family income indicated that 40.8% of students belonged to families earning less than ₹1,00,000 per year. An income between ₹1,00,000 and ₹2,00,000 was reported by 37.5% of the respondents, while 21.7% indicated an annual family income above ₹2,00,000 (Figure 1e).

Regular participation in co-curricular and extra-curricular activities was reported by 60.8% of students, whereas 39.2% participated only occasionally or not at all (Figure 2a). High levels of aspiration for entrepreneurial or professional advancement were observed in 55.0% of the respondents, while 32.5% reported moderate aspirations and 12.5% had low aspiration levels (Figure 2b). A high level of achievement motivation was found among 47.5% of students; 38.3% exhibited moderate achievement motivation, and 14.2% were classified as having low achievement motivation (Figure 2c). Self-confidence was rated as high by 45.8% of respondents, with 35.0% reporting moderate self-confidence and 19.2% indicating low self-confidence (Figure 2d). Decision-making ability was reported as high by 42.5% of students, moderate by 40.8%, and low by 16.7% (Figure 2e). Substantial improvement in practical and managerial skills as a result of the Experiential Learning Programme was perceived by 57.5% of students, while 31.7% reported moderate skill acquisition and 10.8% indicated minimal improvement (Figure 2f).

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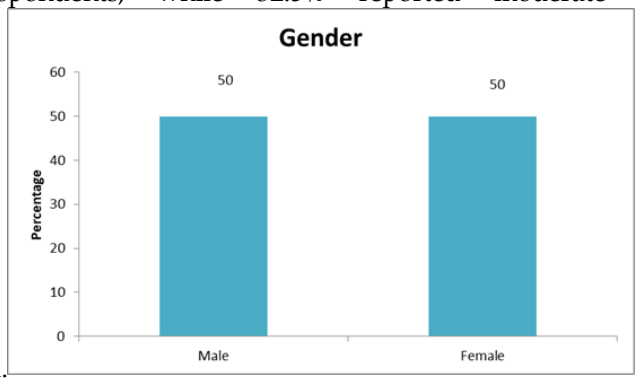

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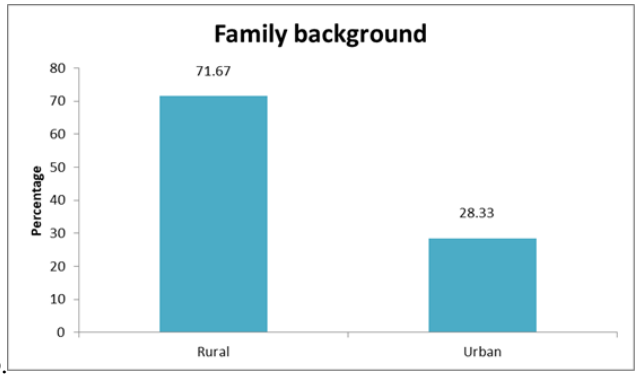

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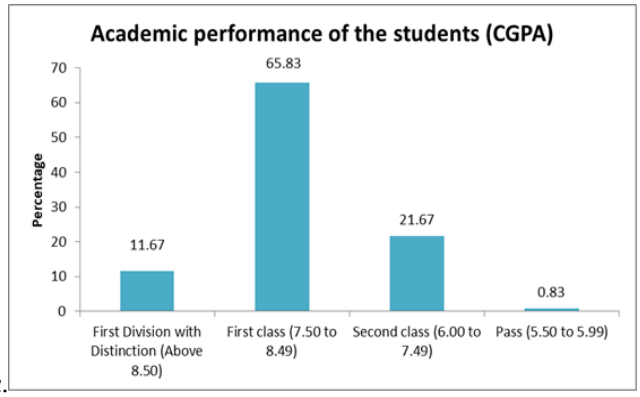

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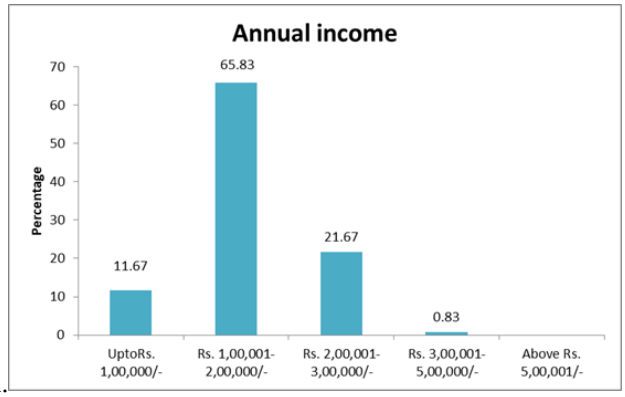

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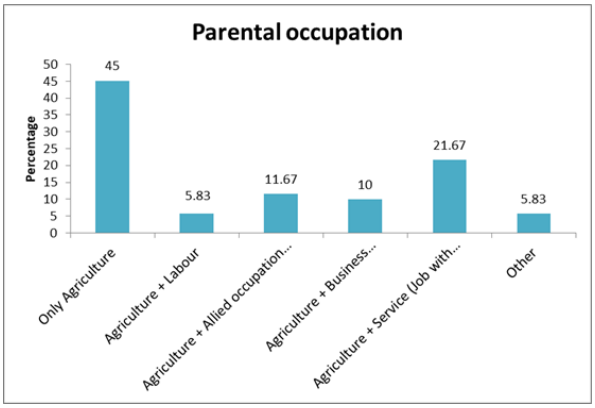

Figure 1. Socio-Demographic Profile of Students Participating in the Experiential Learning Programme (a. Gender-wise distribution of respondents; b. Family background of respondents; c. Academic performance of respondents (CGPA); d. Parental occupation of respondents; e. Annual income of respondents' families)

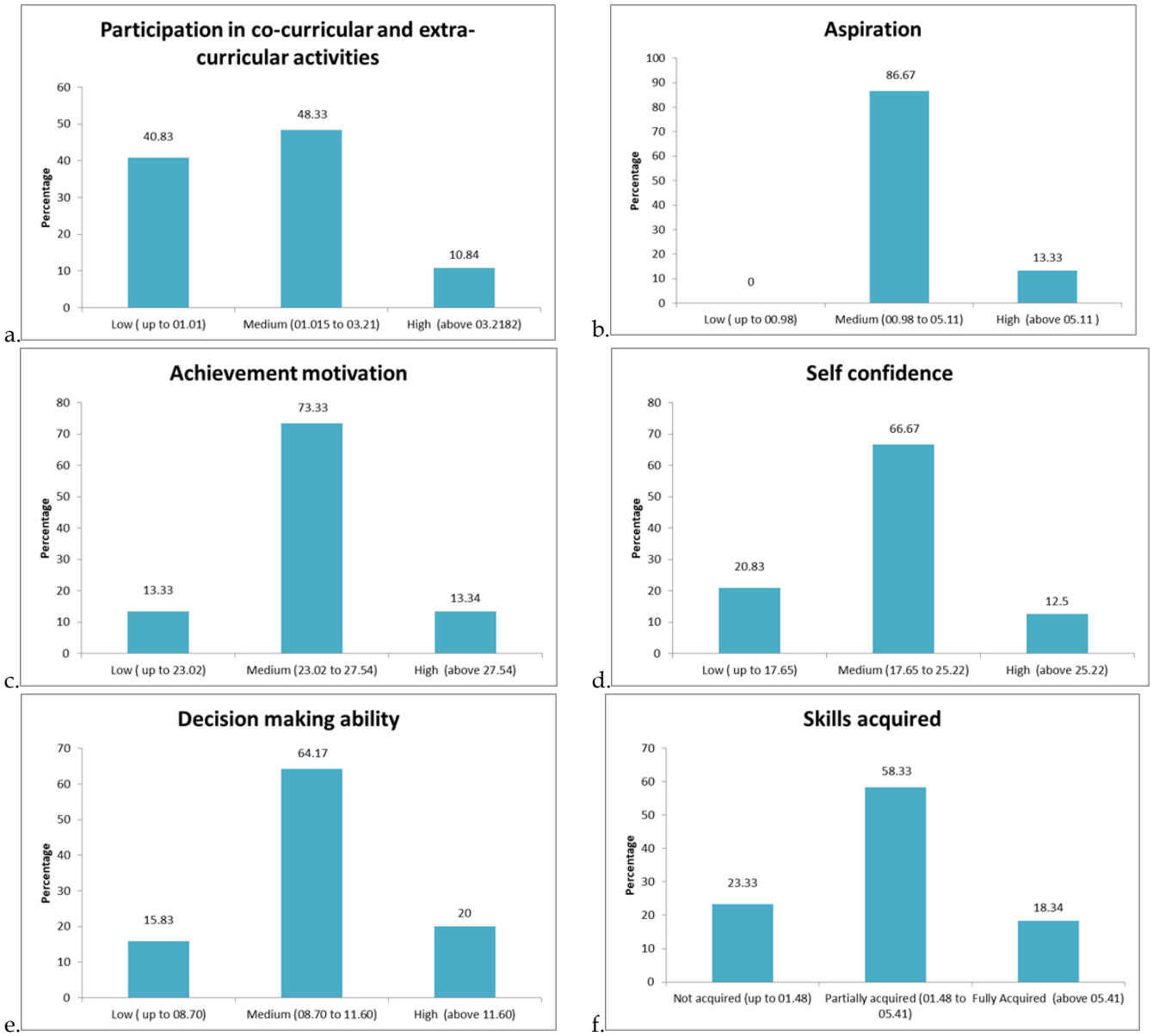

Figure 2. Psychosocial and Participation Attributes of Students in the Experiential Learning Programme (a. Participation in co-curricular and extra-curricular activities; b. Aspiration levels among respondents; c. Achievement motivation among respondents; d. Self-confidence levels among respondents; e. Decision-making ability of respondents; f. Skills acquired by respondents)

The attitude of undergraduate students towards the Experiential Learning Programme (ELP) was assessed using a set of 24 statements (Table 1). An overwhelming majority of respondents either strongly agreed or agreed that ELP contributed positively to their educational experience across various dimensions. Most students acknowledged that ELP was helpful in improving practical work experience, with 97.5% responding affirmatively. Technical competence and planning skills were also reported as enhanced by ELP, as indicated by 95.8% and 89.2% of respondents, respectively, selecting 'strongly agree' or 'agree.' Team building skills, public speaking, and evaluation skills were reported to have improved by 85.8%, 92.5%, and 90% of students, respectively. The majority of students also recognized the value of ELP in helping them understand their own learning style (94.2%) and in practicing the principle of learning by doing (97.5%). Furthermore, ELP was widely seen as providing relevant knowledge for entrepreneurship (88.3%) and applicable learning for real-world scenarios (87.5%).

Negative statements regarding ELP, such as its ineffectiveness in improving leadership, listening, or reporting skills, were largely disagreed with, further reinforcing the positive perception. For instance, 72.5% disagreed or strongly disagreed that ELP was not helpful in developing professional leadership skills, and 65.8% rejected the idea that ELP did not improve listening skills. Likewise, 58.3% of

respondents disagreed with the statement that ELP was not helpful in reporting skills. Most respondents felt active and involved in the course (94.2%), and a substantial majority agreed that the ELP course challenged them and brought internal changes in their confidence and knowledge (85.0% and 94.2%, respectively). Additionally, 90% agreed that experiential activities helped integrate course material, and 90.8% indicated that they learned things they did not know earlier.

Table 1. Distribution of respondents according to their level of attitude towards ELP

S. No.	Statements	SA	A	UD	DA	SDA
1	ELP is helpful in improving practical work experience	48 (40.00)	69 (57.50)	00 (00.00)	02 (01.67)	01 (00.83)
2	ELP is helpful in improving technical competence	35 (29.16)	80 (66.67)	02 (01.67)	02 (01.67)	01 (00.83)
3	ELP is helpful in improving planning skills	52 (43.33)	55 (45.83)	09 (07.50)	02 (01.67)	02 (01.67)
4	ELP is not helpful in improving the professional leadership skills	07 (05.83)	17 (14.17)	09 (07.50)	50 (41.67)	37 (30.83)
5	ELP is helpful in improving team building skills	40 (33.33)	63 (52.50)	11 (09.17)	06 (05.00)	00 (00.00)
6	ELP is not helpful in improving the listening skills	13 (10.83)	22 (18.33)	06 (05.00)	40 (33.34)	39 (32.50)
7	ELP is helpful in improving public speaking skills	47 (39.17)	64 (53.33)	08 (06.67)	01 (00.83)	00 (00.00)
8	ELP is helpful in improving evaluation skills	42 (35.00)	66 (55.00)	11 (09.17)	01 (00.83)	00 (00.00)
9	ELP is not helpful in improving reporting skills	7 (05.83)	19 (15.84)	24 (20.00)	52 (43.33)	18 (15.00)
10	ELP is helpful in knowing one's own learning style	37 (30.83)	76 (63.33)	05 (04.17)	02 (01.67)	00 (00.00)
11	ELP is not helpful in learning through observation	11 (09.17)	18 (15.00)	24 (20.00)	47 (39.17)	20 (16.16)
12	ELP is helpful in practicing the principle of learning by doing	49 (40.83)	68 (56.67)	02 (01.67)	01 (00.83)	00 (00.00)
13	ELP is not helpful in providing required preparation for career	10 (08.33)	17 (14.17)	32 (26.67)	42 (35.00)	19 (15.83)
14	ELP is helps understand of commercial perspective of agricultural technologies	39 (32.50)	71 (59.17)	06 (05.00)	03 (02.50)	01 (00.83)
15	ELP is not helpful in knowing and grabbing the opportunities in private/public sector	11 (09.17)	16 (13.33)	19 (15.83)	53 (44.17)	21 (17.50)
16	ELP is helpful in exploring self-employment opportunities	40 (33.33)	67 (55.83)	08 (06.66)	03 (02.50)	02 (01.67)
17	ELP is informative, obtained pertinent knowledge in entrepreneurship	44 (36.67)	62 (51.67)	10 (08.33)	03 (02.50)	01 (00.83)
18	ELP is applicable for the real world and in my own life	42 (35.00)	63 (52.50)	13 (10.84)	01 (00.83)	01 (00.83)
19	I felt active and involved	53 (44.17)	60 (50.00)	06 (05.00)	01 (00.83)	00 (00.00)
20	I felt the ELP course challenged me	38 (31.68)	64 (53.33)	13 (10.83)	04 (03.33)	01 (00.83)
21	I observed internal changes in confidence level and knowledge	50 (41.67)	63 (52.50)	06 (05.00)	01 (00.83)	00 (00.00)
22	Experiential activities helped in integrating course material	48 (40.00)	60 (50.00)	09 (07.50)	03 (02.50)	00 (00.00)
23	I felt the course required me to use independent judgement to evaluate theories	40 (33.34)	69 (57.50)	03 (02.50)	07 (05.83)	01 (00.83)
24	I learned things from this activities that I did not know earlier	54 (45.00)	60 (50.00)	04 (03.33)	02 (01.67)	00 (00.00)

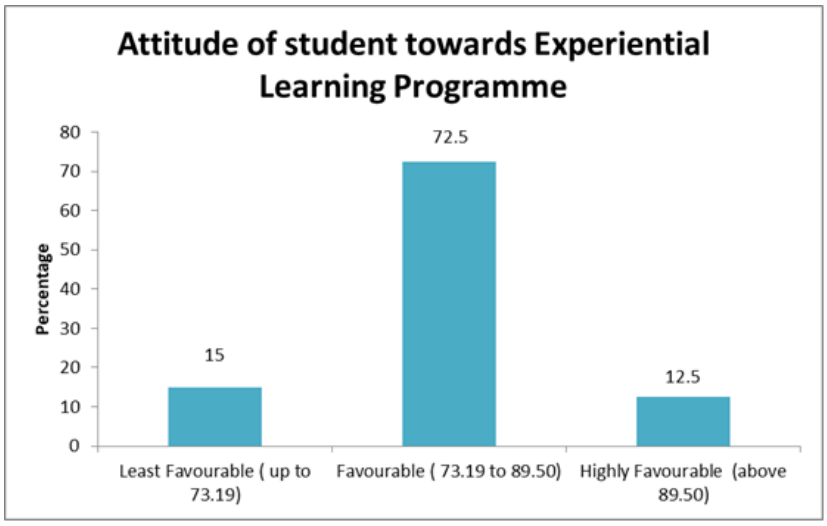

Figure 3. Distribution of respondents according to their attitude towards ELP

The overall attitude distribution, as illustrated in Figure 3, revealed that a significant proportion of students exhibited a favourable attitude towards ELP. The graphical representation shows that 72.5% of respondents fell into the favourable category, 17.5% demonstrated a highly favourable attitude, while only 10% exhibited a less favourable attitude towards the programme (Figure 3). This distribution underscores a predominantly positive perception of ELP among undergraduate students.

The relationship between selected profile characteristics of students and their attitude towards the Experiential Learning Programme was examined using correlation analysis (Table 2). Participation in co-curricular and extra-curricular activities (r = 0.2677**), achievement motivation (r = 0.2830**), self-confidence (r = 0.4257**), decision-making ability (r = 0.2129*), and skills acquired (r = 0.2362**) all showed significant positive correlations with attitude towards ELP. These findings indicate that students who were more engaged in extra-curricular activities, had higher motivation and self-confidence, better decision-making ability, and perceived greater skill acquisition, also tended to hold a more favourable attitude towards the programme.

Conversely, academic performance (CGPA) (r = -0.2240*), parental occupation (r = -0.2200*), and annual income (r = -0.2278*) were found to be significantly but negatively correlated with attitude, suggesting that students with higher academic performance, those whose parents were in certain occupations, or those from higher income families, had less favourable attitudes towards ELP. No significant association was observed between attitude and gender (r = 0.0479NS), family background (r = -0.0284NS), or aspiration (r = 0.1748NS).

Table 2. Relationship between profile of students and their attitude towards ELP

Sl. No.	Independent Variables	Correlation coefficient (r)
1	Gender	0.0479^{NS}
2	Family background	-0.0284^{NS}
3	Academic performance of students (CGPA)	-0.2240*
4	Parental occupation	-0.2200*
5	Annual income	-0.2278*
6	Participation in co-curricular and extra-curricular activities	0.2677**
7	Aspiration	0.1748^{NS}
8	Achievement motivation	0.2830**
9	Self confidence	0.4257**
10	Decision making ability	0.2129*
11	Skills acquired	0.2362**

Note: ** = Significant at 0.01 per cent level of probability; * = Significant at 0.05 per cent level of probability; NS = Non-significant

The major constraints encountered by students during the Experiential Learning Programme are presented in Table 3. The most frequently reported constraint was lack of sufficient laboratory facilities, with an MPS of 62.5, ranking first among all identified constraints. Limited exposure to industry or field visits was the second most prominent constraint, with an MPS of 59.2. Both lack of technical guidance and low motivation due to limited employment opportunities after graduation were reported equally,

each with an MPS of 41.7 and ranked third. Limited content of learning skills in practical courses and unwillingness to do physical work during practical training were noted as constraints by students, both with an MPS of 28.3 and ranked fifth. Concentrating on passing the practical course was the least reported constraint, with an MPS of 22.5, ranking seventh (Table 3).

Suggestions offered by students for the effective implementation of the ELP are summarised in Table 4. The most common suggestion, ranked first with an MPS of 75.0, was giving preference to students' interests while choosing an enterprise. Emphasis on more tours and visits was the second most common suggestion (MPS 53.3), followed by the need for uniform distribution of work among all students (MPS 50.8), ranked third. Arranging proper marketing facilities was suggested by students with an MPS of 33.3, ranking fourth. Provision of adequate land, inputs, and timely funding was the least cited suggestion, with an MPS of 27.5 and ranked fifth (Table 4).

Table 3. Constraints Experienced by Students During the Experiential Learning Programme (ELP)

Sr. No.	Constraint	MPS	Rank
1	Lack of sufficient laboratory facilities	62.5	I
2	Concentrating on passing the practical course	22.5	VII
3	Limited exposure to the industry/field visits	59.2	II
4	Lack of technical guidance	41.7	III
5	Limited content of learning skills in practical courses	28.3	V
6	Low motivation due to limited employment opportunities	41.7	III
7	Unwillingness to do physical work during practical training	28.3	V

Table 4. Suggestions Offered by Students for Effective Implementation of ELP

Sr. No.	Suggestion	MPS	Rank
1	Giving preference to students' interest while choosing enterprise	75.0	I
2	Uniform distribution of work among all students	50.8	III
3	Arranging proper marketing facilities	33.3	IV
4	More emphasis on tours and visits	53.3	II
5	Provision of adequate land, inputs, and timely funding	27.5	V

4. DISCUSSION

The present study assessed the attitudes of undergraduate students towards the Experiential Learning Programme (ELP), identified key constraints, captured student suggestions for improvement, and examined the profile correlates associated with a positive attitude. The findings provide valuable insights for the optimisation of experiential learning in agricultural education. The majority of students exhibited a favourable or highly favourable attitude towards the ELP, indicating widespread acceptance of the programme and its relevance in the undergraduate agricultural curriculum. Such mean scores on statements like improvement in practical skills, technical competence, planning, building team and public speaking speak of the multidimensional advantages perceived by students (Coleman et al., 2024). The fact that the ELP best reflects the principles of learning by doing besides developing knowledge and self-assurance in entrepreneurship and its practical validity make it successful more strongly (Taneja et al., 2024). The results of the study correspond to the previous works by Sagario and Versano (2023) and Knobloch and Smith (2024), who tracked considerable positive changes in student competencies, motivation and employability after the realization of structured experiential interventions in agricultural education. Positive effects similar to those in the international settings have been observed where hands-on modules combine with instruction held in classrooms to make the theory practicable in the field (Baker & Robinson, 2016).

Although the perceptions were positive, there were a number of challenges that were conspicuous. The biggest deficit that arose was a shortage of adequate laboratory facilities, the second most prominent limitation was a lack of industry exposure as well as field trips (Lasrado et al., 2024). Inadequate technical supervising and lack of motivation because of perceived lack of employment opportunities was also common (Penman et al., 2024; Saha et al., 2024; Sai et al., 2024). Such structural and motivational constraints reflect what was cited in previous literature that poor infrastructure, weak associations with the industry and a shortage of highly trained facilitators may inhibit the success of any given experiential learning (Patel, 2009; Dahake, 2009;

Shingare, 2005). There is also a degree of credentialism, with the primary focus being on the completion of practical subjects, instead of actual acquisition of hands-on skills, further weakening the desired result of any experiential subjects (Labib et al., 2025).

Improving the ELP as proposed by the students focused on improved alignment to personal interest of enterprises, greater exposure to practical and industry environment and equitable division of work among participants (Adesina et al., 2023). Choice of enterprise was found to be the best advice, and this reflects the necessity to be more student centred and taking the student goals and abilities into consideration (Muth et al., 2024). The demand of additional tours, visits, and improved marketing facilities is indicative of the need to obtain greater exposure to the real world and to entrepreneurship (Badavath et al., 2024). These recommendations correspond to the suggestions that have recently been provided in the literature on the need to implement more collaboration in the industry, as well as an expansion of enterprise modules and integration of resources that can increase the impact of experiential programmes.

Correlation analysis showed that a positive and significant correlation had existed between the variables of participation in co-curricular activities, achievement motivation, self-confidence, decision-making ability and perceived gaining of skills and positive attitude towards ELP. This implies that environment-learning engagements and satisfaction-experiential learning are majorly stimulated by psychosocial facilitation and participatory enhancement. Peculiarly, the negative correlations with grade point, parents profession and family income were detected, which means there are chances of having dissimilar anticipations or motivations towards ELP by those students who graduate with a higher CGPA or belong to definite socio-economic backgrounds. These trends are also in line with the opinion that the results of practicing experiential learning are influenced not only by cognition, but also: social, motivational, or contextual factors.

The results indicate that there is a necessity of specific interventions to deal with reported infrastructural and motivational hindrances. The growth of the number of laboratories, increased cooperation with industry, and the implementation of career counselling might address most of the limitations discussed (Ho & Nguyen, 2022; Suman et al., 2025). Also, the adjustment of enterprise options and realistic tasks to the interests of the learners and a systematic mentoring may enhance the motivation and performance results. The fact that co-curricular involvement, motivation and self-confidence are critical also implies that the holistic student development programmes including the curricular and extra-curricular sectors are central to the full utilization of experiential learning experience in agricultural learning.

5. CONCLUSIONS

This study concluded that the Experiential Learning Programme (ELP) is highly valuable and well received by undergraduate students for developing practical, technical, and entrepreneurial skills. Most students had positive attitudes towards the programme, especially those heavily involved in co-curricular activities, who are highly motivated and possess a high level of self-confidence. Several critical issues, such as limited laboratory facilities, industry exposure, and inadequate technical mentoring, were identified as barriers to optimal learning. Students emphasised the need to align enterprise activities with their interests, increase practical session exposure, and ensure fair share of responsibilities. The findings underscore the importance of targeted improvements in infrastructure, mentoring, and programme design to enhance the success of the ELP. Strengthening these areas will not only maximise student learning but also contribute to producing a more skilled and employable agricultural workforce.

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