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From Learning to Enterprise: Explaining Entrepreneurial Skill Development among Agricultural Students through Protection Motivation Theory and Nudge Theory

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Abstract

The growing concern regarding unemployment among agricultural graduates has highlighted the need for educational approaches that promote entrepreneurship and self-employment. The Agricultural Experiential Learning Programme (AELP), introduced by the Indian Council of Agricultural Research (ICAR), aims to enhance entrepreneurial competencies through experiential and enterprise-based learning. The present study assessed the effectiveness of AELP in developing entrepreneurial skills among students of the University of Agricultural and Horticultural Sciences (UAHS), Shivamogga, Karnataka, and interpreted the findings through Protection Motivation Theory (PMT) and Nudge Theory. An ex-post facto research design was adopted, and data were collected from 120 students who completed AELP across agriculture, horticulture and forestry disciplines. Results revealed that 78.33% of students moderately acquired entrepreneurial skills, while 13.33% completely acquired them. Technical skills (88.33%), professional skills (81.66%), organizing skills (95.83%), planning skills (81.66%) and product promotion skills (75.83%) emerged as major competencies developed through the programme. Laboratory-based learning (32.50%) and professional literature (30.83%) were the primary sources of technical understanding. From a PMT perspective, AELP enhanced self-efficacy and response efficacy, enabling students to perceive entrepreneurship as a viable coping strategy against employment uncertainty. From a Nudge Theory perspective, the programme functioned as a behavioural intervention that subtly influenced entrepreneurial attitudes through experiential exposure, peer learning, enterprise simulations and faculty mentoring. The study concludes that AELP serves as both a protection motivation mechanism and a behavioural nudge, significantly contributing to entrepreneurial skill development among agricultural graduates, and suggests strengthening incubation support, financial literacy, enterprise management training and startup mentoring to further improve its effectiveness.

Key words: *Agricultural Experiential Learning Programme, agripreneurship, entrepreneurial skills, Protection Motivation Theory, Nudge Theory, experiential learning, agricultural education.*

Introduction

Agriculture remains a cornerstone of India's economy, providing livelihoods to a substantial proportion of the population and contributing significantly to food security, rural employment and national income. Agricultural universities have traditionally focused on imparting scientific and technical knowledge; however, shrinking public sector employment opportunities and rising numbers of graduates entering the labour market each year have created a mismatch between educational outcomes and labour market requirements (Anonymous, 2007). Many agricultural graduates continue to seek salaried employment rather than establishing entrepreneurial ventures, despite growing opportunities in value addition, agribusiness and agri-services.

Recognising this challenge, ICAR introduced the Agricultural Experiential Learning Programme (AELP) under the recommendations of the Fourth Dean's Committee to provide hands-on exposure in enterprise management, production systems, marketing, value addition and agribusiness operations (Katyal & Bisht, 2005; Anonymous, 2007). Through "learning by doing", students are expected to develop technical, professional and managerial competencies that enhance employability and encourage self-employment. Empirical work on RAWE and AELP has documented medium to substantial

gains in technical knowledge, communication skills and familiarity with field conditions, but has often stopped at descriptive assessment of skills, with limited attention to the behavioural mechanisms underlying entrepreneurial intentions and behaviour (Reddy, 1985; Ramanjaneyulu, 1992; Sajeev & Gowda, 2013; Verma *et al.,* 2017).

The present study addresses this gap by integrating Protection Motivation Theory (Rogers, 1975, 1983) and Nudge Theory (Thaler & Sunstein, 2008) into the assessment of AELP outcomes. Protection Motivation Theory explains how individuals respond to perceived threats based on threat and coping appraisals, while Nudge Theory explains how subtle changes in the decision environment influence choices without restricting freedom (Rogers, 1975; Thaler & Sunstein, 2008). Drawing on an ex-post facto survey of AELP graduates from UAHS, this study examines the extent of entrepreneurial and managerial skills acquired and interprets the findings through these complementary behavioural lenses. The specific objectives of study the were to interpret entrepreneurial skill development through Protection Motivation Theory and to explain behavioural change among students using Nudge Theory.

Theoretical background

Protection Motivation Theory

Protection Motivation Theory (PMT), proposed by Rogers (1975, 1983), explains behavioural change as a result of two interrelated cognitive processes: threat appraisal and coping appraisal (Rogers, 1975, 1983). Threat appraisal involves evaluating the perceived severity of a threat and one's vulnerability to it, while coping appraisal involves evaluating the effectiveness of the recommended response (response efficacy), one's ability to execute it (self-efficacy) and the costs associated with the response (response costs).

In the context of agricultural education, increasing graduate unemployment, limited government employment, economic uncertainty and competition in labour markets constitute salient threats perceived by students (Soam *et al.,* 2023). AELP can influence coping appraisal by providing technical, professional and managerial competencies that enhance students' confidence in starting and managing agribusinesses (self-efficacy) and their belief that entrepreneurship can effectively mitigate employment risks (response efficacy). Recent applications of PMT in agriculture and higher education have demonstrated its utility in explaining conservation agriculture adoption, green behaviours and technology use, underscoring the importance of self-efficacy and response efficacy in shaping behavioural intentions (Bazrafkan *et al.,* 2022; Wang *et al.,* 2023; Zhang *et al.,* 2022).

Nudge Theory

Nudge Theory, proposed by Thaler and Sunstein (2008), posits that behaviour can be influenced through subtle modifications in the "choice architecture" that alter how options are presented, without changing economic incentives or restricting choice. Nudges include default options, framing effects, peer comparisons, salience of information and feedback mechanisms (Thaler & Sunstein, 2008).

In educational settings, nudges can take the form of mandatory experiential components, structured peer learning, visible success stories and simple decision aids that steer students towards desired behaviours while preserving autonomy. In agriculture, nudges have been used to increase fertilizer adoption, improve technology use and promote participation in extension services (Duflo *et al.,* 2011; Subhashsingh *et al.,* 2010). In the context of AELP, mandatory participation, enterprise simulations, peer learning, faculty mentoring, product development, market interaction and performance feedback collectively create a choice architecture that makes entrepreneurship more visible, attractive and cognitively accessible to students (Bolleboina & Jirli, 2023).

Materials and methods

Research design and locale

An ex-post facto research design was employed, as the AELP had already been implemented and the researcher had no control over the independent variables. The study was conducted at the University of Agricultural and Horticultural Sciences (UAHS), Shivamogga, Karnataka, which offers AELP modules in agriculture, horticulture and forestry.

Sample and data collection

The population comprised students who completed AELP during 2016–17 and 2017–18. A total of 120 respondents were selected from four constituent colleges: College of Agriculture, Shivamogga (40), College of Forestry, Ponnampet (40), College of Horticulture, Mudigere (20) and College of Horticulture, Hiriyur (20). Data were collected using a structured interview schedule covering understandability of AELP, entrepreneurial skills acquired, managerial competencies and constraints and suggestions.

Measurement of variables

Understandability of AELP was assessed both prior to module selection and after completion, including understanding of course content, scope, objectives, credit hours and evaluation procedures. Entrepreneurial skills were measured across dimensions such as communication, technical, professional/occupational, processing, marketing, product promotion, human resource and generic entrepreneurial skills. Managerial skills included planning, organizing, staffing, directing, coordinating, reporting and budgeting. Personal and psychological characteristics such as annual family income, scientific orientation, self-confidence, leadership, innovativeness, risk orientation, achievement motivation, marketing orientation and management orientation were also assessed using standardised or adapted scales.

Statistical analysis

Data were analysed using frequency, percentage, mean and standard deviation to describe distributions of key variables. Somers' D correlation was used to examine the relationship between selected characteristics of students and their level of entrepreneurial skills acquired through AELP.

Results

Understandability of AELP

Prior to selection, 40.00% of students reported that they had completely understood the AELP course content, whereas 30.00% each fell into moderate and low understanding categories. Nearly half (41.66%) selected modules based on information obtained from senior friends, teachers and their own interest, while 33.33% relied on seniors and teachers, 13.33% on seniors alone and 11.67% on teachers alone as information sources. Most respondents (69.16%) reported that they spent only one day understanding the information presented in the module before selection, whereas 20.00% spent about one week (Table 1).

With respect to specific components, all respondents (100%) reported complete understanding of the scope of AELP, while high proportions understood the concept (92.50%), objectives (90.00%) and credit hours (89.16%). However, only about half of the students reported clear understanding of aspects related to evaluation procedures and performance grading, indicating that assessment-related information was relatively less clear (Table 1).

After completion of AELP, 60.00% of students perceived the course content as easy to understand and 24.17% considered it very easy, while 20.83% felt it was difficult and none perceived it as highly difficult. Laboratory-based activities (32.50%) and professional literature (30.83%) emerged as primary sources of technical understanding, followed by group discussion (16.67%), field-based activities (12.50%) and lectures (7.50%) (Table 2).

4.2 Entrepreneurial skills acquired

Overall, 78.33% of AELP students moderately acquired entrepreneurial skills, 13.33% completely acquired them and 8.33% reported low acquisition (Table 3). Dimension-wise, technical skills showed the highest moderate acquisition (88.33%), followed by professional skills (81.66%), product promotion skills (75.83%), processing skills (71.66%), communication skills (67.50%), entrepreneurial skills (65.84%), marketing skills (63.33%), human resource skills (57.50%) and managerial skills (47.50%) (Table 4).

These patterns indicate that AELP particularly strengthened students' technical, professional, processing and product promotion skills, which are critical for enterprise operations such as production, value addition and marketing. At the same time, communication, marketing, entrepreneurial, human resource and managerial skills were acquired predominantly at moderate levels, suggesting room for further enhancement.

Table 1. Understandability of AELP course by the students prior to selection of modules

n=120

Sl.No	Particulars	Category	F	%
1	Extent of understandability of course content	Completely understood	48.00	40.00
		Moderately understood	36.00	30.00
		Less understood	36.00	30.00
2	Source of information to select the module	Only Senior friends	16.00	13.33
		Only Teachers /Faculty	14.00	11.67
		Seniors and teachers/ Faculty	40.00	33.33
		Seniors, teachers and own interest	50.00	41.66
3	Time spent on understanding information on AELP	One hour	24.00	20.00
		One day	83.00	69.16
		One week	13.00	24.00
4	Understandability of different aspects in AELP Manual	Concept of AELP	111.00	92.50
		Objectives of AELP	108.00	90.00
		Scope of AELP	120.00	100.00
		Placements in AELP	111.00	92.50
		Credit hours of AELP	107.00	89.16
		No of trainees and budgeting for learning facilities	63.00	52.50
		Grouping of programme	62.00	51.66
		Evaluation of performance of students and grading	64.00	53.33

Note: F= frequency % = Percentage

Table 2. Understandability of AELP course by the students after AELP

Sl.No	Particulars	Category	F	%
1	Sources of technical information to understand the course	Professional literatures	37.00	30.83
		Lectures	9.00	7.50
		Lab based activity	39.00	32.50
		Field based activity	15.00	12.50
		Group discussion	20.00	16.67
2	Level of understandability of course content	Very Easy	23.00	24.17
		Easy	72.00	60.00
		Difficult	25.00	20.83
		Highly difficult	0.00	0.00

Note: F= frequency % = Percentage

Table 3. Overall entrepreneurial skills acquired by the students of AELP

n=120

Category	Criteria	F	%
Less	(<$\bar{x}$ - SD)	10.00	8.33
Moderately	($\bar{x}$± SD)	94.00	78.33
Completely	(>$\bar{x}$ + SD)	16.00	13.33

Note: F =Frequency, % = Percentage

Table 4. Extent of entrepreneurial skills acquired by the AELP students

n=120

Sl.No	Particulars	Category	Criteria	F	%
1	Communication Skills	Less	(<$\bar{x}$ - SD)	10.00	8.33
		Moderately	($\bar{x}$± SD)	81.00	67.50
		completely	(>$\bar{x}$ + SD)	29.00	24.16
2	Technical Skills	Less	(<$\bar{x}$ - SD)	3.00	2.5
		Moderately	($\bar{x}$± SD)	106.00	88.33
		completely	(>$\bar{x}$ + SD)	16.00	13.33
3	Professional Skills/ Occupational Skills	Less	(<$\bar{x}$ - SD)	12.00	10.00
		Moderately	($\bar{x}$± SD)	98.00	81.66
		completely	(>$\bar{x}$ + SD)	10.00	8.33
4	Processing Skills	Less	(<$\bar{x}$ - SD)	13.00	10.83
		Moderately	($\bar{x}$± SD)	86.00	71.66
		completely	(>$\bar{x}$ + SD)	21.00	17.50
5	Marketing Skills	Less	(<$\bar{x}$ - SD)	23.00	19.16
		Moderately	($\bar{x}$± SD)	76.00	63.33
		completely	(>$\bar{x}$ + SD)	21.00	17.50
6	Product Promotion Skills	Less	(<$\bar{x}$ - SD)	19.00	15.84
		Moderately	($\bar{x}$± SD)	91.00	75.83
		completely	(>$\bar{x}$ + SD)	10.00	8.33
7	Managerial Skills	Less	(<$\bar{x}$ - SD)	41.00	34.16
		Moderately	($\bar{x}$± SD)	57.00	47.50
		completely	(>$\bar{x}$ + SD)	22.00	18.34
8	Entrepreneurial Skills	Less	(<$\bar{x}$ - SD)	31.00	25.83
		Moderately	($\bar{x}$± SD)	79.00	65.84
		completely	(>$\bar{x}$ + SD)	10.00	8.33
9	Human Resource Skills	Less	(<$\bar{x}$ - SD)	31.00	25.83
		Moderately	($\bar{x}$± SD)	69.00	57.50
		completely	(>$\bar{x}$ + SD)	20.00	16.66

Note: F = Frequency P = Percentage

Table 5. Managerial skills acquired by the AELP Students

n=120

Sl.No	Managerial skills	Category	criteria	F	%
1	Planning	Less	(<$\bar{x}$ - SD)	22.00	18.34
		Moderately	($\bar{x}$± SD)	98.00	81.66
		Completely	(>$\bar{x}$ + SD)	0.00	0.00
2	Organizing	Less	(<$\bar{x}$ - SD)	15.00	12.5
		Moderately	($\bar{x}$± SD)	115.00	95.83
		Completely	(>$\bar{x}$ + SD)	0.00	0.00
3	Staffing	Less	(<$\bar{x}$ - SD)	21.00	17.50
		Moderately	($\bar{x}$± SD)	52.00	43.33
		Completely	(>$\bar{x}$ + SD)	47.00	39.16
4	Directing	Less	(<$\bar{x}$ - SD)	44.00	36.66
		Moderately	($\bar{x}$± SD)	30.00	25.00
		Completely	(>$\bar{x}$ + SD)	46.00	38.33
5	Coordinating	Less	(<$\bar{x}$ - SD)	18.00	15.00
		Moderately	($\bar{x}$± SD)	65.00	54.16
		Completely	(>$\bar{x}$ + SD)	37.00	30.83
6	Reporting	Less	(<$\bar{x}$ - SD)	23.00	19.16
		Moderately	($\bar{x}$± SD)	97.00	80.83
		Completely	(>$\bar{x}$ + SD)	0.00	0.00
7	Budgeting	Less	(<$\bar{x}$ - SD)	22.00	18.34
		Moderately	($\bar{x}$± SD)	98.00	81.66
		Completely	(>$\bar{x}$ + SD)	0.00	0.00

Note: F= frequency % = Percentage

Table 6. Personal and psychological characteristics of students undergone AELP

n=120

Sl.No	Characteristics	Category	Criteria	F	%
1	Annual income of family	Low	(Up to 1 lakh)	68	56.70
		Medium	(1 – 2.5 lakh)	50	41.70
		High	(>2.5 lakh)	2	1.70
2	Scientific orientation	Low	(<$\bar{x}$ - SD)	29	24.16
		Medium	($\bar{x}$± SD)	72	60.00
		High	(>$\bar{x}$ + SD)	12	15.84
3	Self confidence	Low	(<$\bar{x}$ - SD)	28	23.33
		Medium	($\bar{x}$± SD)	56	46.66
		High	(>$\bar{x}$ + SD)	36	30.00
4	Leadership quality	Low	(<$\bar{x}$ - SD)	24	20.00
		Medium	($\bar{x}$± SD)	65	54.16
		High	(>$\bar{x}$ + SD)	31	25.83

Note: F =Frequency, % = Percentage

Table 7. Entrepreneurial characteristics of AELP students

n=120

Sl.No	Characteristics	Category	criteria	F	%
1	Innovative proness	Low	(<$\bar{x}$ - SD)	29	24.16
		Medium	($\bar{x}$ ± SD)	74	61.67
		High	(>$\bar{x}$ + SD)	17	14.67
2	Risk orientation	Low	(<$\bar{x}$ - SD)	12	10.00
		Medium	($\bar{x}$ ± SD)	99	82.50
		High	(>$\bar{x}$ + SD)	09	7.50
3	Achievement motivation	Low	(<$\bar{x}$ - SD)	12	10.00
		Medium	($\bar{x}$ ± SD)	98	81.67
		High	(>$\bar{x}$ + SD)	10	8.33
4	Marketing orientation	Low	(<$\bar{x}$ - SD)	31	25.83
		Medium	($\bar{x}$ ± SD)	60	50.00
		High	(>$\bar{x}$ + SD)	29	24.16
5	Management orientation	Low	(<$\bar{x}$ - SD)	15	23.33
		Medium	($\bar{x}$ ± SD)	92	66.67
		High	(>$\bar{x}$ + SD)	13	10.00
6	Decision making ability	Low	(<$\bar{x}$ - SD)	16	13.33
		Medium	($\bar{x}$ ± SD)	76	63.34
		High	(>$\bar{x}$ + SD)	28	23.33

Note: F =Frequency, % = Percentage

Table 8. Relationship between the characteristics of AELP students and their overall entrepreneurial skills

n=120

Sl. No	Independent variables	Somar's D Correlation co- efficient
1.	Annual income of family	-0.208^{NS}
2.	Innovativeness	0.420**
3.	Risk orientation	0.480**
4.	Achievement motivation	0.045^{NS}
5.	Scientific Orientation	0.436**
6.	Self confidence	0.079^{NS}
7.	Marketing orientation	0.093^{NS}
8.	Management orientation	0.040^{NS}
9.	Decision making ability	0.442**
10.	Leadership quality	0.237*

*significant at 5% level of significance
**Significant at 1% level of significance
NS-Non-Significant

Table 9. Relationship between the characteristics of AELP students and their managerial skills

n=120

No.	Independent variables	Somar's D Correlation co- efficient
1.	Annual income of family	-0.208^{NS}
2.	Innovativeness	0.320*
3.	Risk orientation	0.420**
4.	Achievement motivation	0.245*
5.	Scientific Orientation	0.136^{NS}
6.	Self confidence	0.079^{NS}
7.	Marketing orientation	0.393**
8.	Management orientation	0.240*
9.	Decision making ability	0.242*
10.	Leadership quality	0.337**

*significant at 5% level of significance
**Significant at 1% level of significance
NS-Non-Significant

Table 10. Constraints faced by students of AELP

n=120

Sl. No.	Statements	F	%
1	Lack of prior knowledge on AELP Modules	89	74.16
2	Lack of laboratory facilities	106	88.33
3	Non-availability of appropriate technologies	120	100.00
4	Lack of field visits	106	88.33
5	Lack of technical guidance	120	100.00
6	Non-availability of productive labour	71	59.16
7	Non-availability of prepared technical plan, business plan and marketing plan	88	73.33
8	Lack of marketing facilities for processed / value added products	71	59.16

Note: F =Frequency, % = Percentage

Table 11. Suggestions given by students of AELP for the improvement

n=120

Sl. No.	Statements	F	%
1	Conduct of informal review meetings at the end of each week	68	56.67
2	Assign uniform division of work to each and every student	78	65.00
3	Give preference to students interest while choosing an module	94	78.33
4	Need proper training to the students	74	61.67
5	Reduce the work load	75	62.50
6	Need to change the time of implementation of AELP, either in II or III year rather than in final year	60	50.00
7	Last semester should be with course work	82	68.33

Note : F =Frequency, % = Percentage

Managerial competencies

Managerial skills were also largely acquired at moderate levels. Organizing, planning and budgeting were moderately acquired by 95.83%, 81.66% and 81.66% of respondents, respectively, while reporting skills were moderately acquired by 80.83%. Coordinating, staffing and directing showed relatively higher proportions of complete acquisition, with 30.83%, 39.16% and 38.33% of students, respectively, reporting complete acquisition in these domains (Table 5). Nonetheless, there were no cases of complete acquisition in planning, organizing, budgeting or reporting, indicating that students often participated in these activities without bearing full responsibility for strategic decisions or financial control.

Personal, psychological and entrepreneurship characteristics

The analysis of AELP students reveals various personal and psychological characteristics. Most students come from families with low annual income (56.70%) and have medium scientific orientation (60.00%), self-confidence (46.66%), and leadership quality (54.16%). In terms of entrepreneurial traits, a significant number exhibit medium levels of innovativeness (61.67%), risk orientation (82.50%), and achievement motivation (81.67%). Additionally, half have medium marketing orientation (50.00%) and high management orientation (66.67%) (Table 6 and 7).

Consistent with earlier studies, the majority of AELP students' families had low annual income, with smaller proportions in medium and high income categories (Jeevan Kumar, 2013; Sajeev & Gowda, 2013). Most students exhibited medium levels of scientific orientation, self-confidence, leadership qualities, innovativeness, risk orientation, achievement motivation, marketing orientation and management orientation, mirroring patterns reported in studies of farmers, rural women and other agricultural students (Nagesh, 2006; Mehta & Madhuri, 2012; Kiran *et al.,* 2012; Lakshmi *et al.,* 2013; Jeevan Kumar, 2013).

Relationship between the characteristics of students and their overall entrepreneurial skills acquired by them

The data in Table 8 indicates the relationship between characteristics of students with their entrepreneurial skills. It was observed from table that Innovativeness, Risk orientation, scientific orientation, decision making ability and leadership quality were found to have significant relationship with entrepreneurial skills acquired by the AELP students. Whereas achievement motivation, self-confidence, marketing orientation, management

orientation and annual income of family were found non-significant with entrepreneurial skills acquired by AELP students.

Relationship between the characteristics of students with managerial skills acquired by them

The detail about relationship between independent variables and managerial skills of the respondents was presented in table 9 reveals that the variables like innovativeness, achievement motivation, management orientation, decision making ability was found to be significant at five per cent level of significance. Followed by risk orientation, marketing orientation, leadership quality found as significant at one per cent level of significance. Whereas other variables like annual income of family, scientific orientation, self-confidence was showed non-significant with the managerial skills of students. The relationship between these characteristics and entrepreneurial skills shows that innovativeness, risk orientation, scientific orientation, decision-making ability, and leadership quality significantly correlate with entrepreneurial skills, while achievement motivation, self-confidence, marketing orientation, management orientation, and annual income do not. In managerial skills, innovativeness, achievement motivation, management orientation, and decision-making ability are significant.

Constraints and students' suggestions

Students reported several constraints during AELP, including heavy workload, limited trained manpower for practical guidance (100%), inadequate laboratory facilities (88.33%), uneven division of work among group members (59.16%) (Table 10). They suggested giving preference to students' interests while choosing enterprises, shifting or re-phasing AELP to earlier semesters, ensuring uniform work distribution, reducing excessive workload, providing proper training, conducting informal review meetings and strengthening infrastructural support. Nearly three-fourths (78.33%) suggested giving preference to students' interests, 68.33% recommended having the last semester with course work rather than AELP, and 65.00% emphasised the need for uniform division of work (Table 11).

Interpretation through Protection Motivation Theory

Protection Motivation Theory offers an insightful lens for interpreting how AELP influences entrepreneurial behaviour among agricultural students. The growing uncertainty surrounding salaried employment, limited government jobs and rising competition constitute perceived threats that contribute to heightened severity and vulnerability appraisals among graduates (Rogers, 1975, 1983; Soam *et al.,* 2023). In this context, AELP can be viewed as an intervention that strengthens coping appraisal by enhancing self-efficacy and response efficacy.

High acquisition of technical skills (88.33%), professional skills (81.66%), planning skills (81.66%) and organizing skills (95.83%) contributes directly to self-efficacy, as students gain confidence in their ability to undertake production, processing, marketing and enterprise management activities (Bandura, 1997; Reddy *et al.,* 2001). Engagement in real or simulated enterprises, exposure to product development and experience of product sales strengthen response efficacy by demonstrating that agripreneurship can generate income and livelihood opportunities. The predominance of moderate entrepreneurial skill acquisition suggests that, for many students, entrepreneurship has shifted from an abstract, high-risk option to a concrete and manageable coping response to employment uncertainty.

At the same time, incomplete acquisition of core managerial skills such as planning, organizing, budgeting and reporting, along with systemic constraints like limited access to capital and market risks, implies that perceived response costs remain significant (Duflo *et al.,* 2011; Ommani, 2011). To fully realise the protective potential of entrepreneurship, AELP needs to further reduce perceived response costs through structured incubation support, credit facilitation, mentoring and post-programme follow-up, while continuing to build self-efficacy and response efficacy in line with PMT principles.

Interpretation through Nudge Theory

From a Nudge Theory perspective, AELP can be understood as a structured modification of students' choice architecture that steers them toward entrepreneurship

without coercing them into self-employment (Thaler & Sunstein, 2008). Mandatory experiential exposure functions as a default option, ensuring that all students engage in enterprise-related activities such as production, processing, marketing and budgeting. Default participation increases the salience of entrepreneurship and reduces passive avoidance, a key nudge mechanism (Thaler & Sunstein, 2008; Duflo *et al.,* 2011).

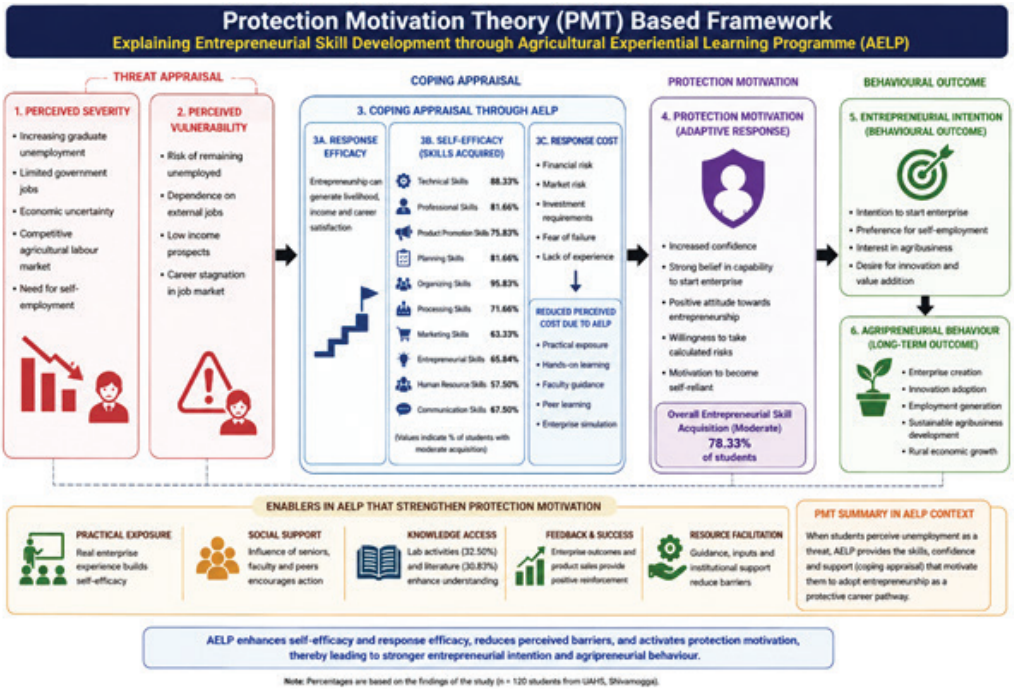

Fig. 1: Protection Motivation Theory Based Framework

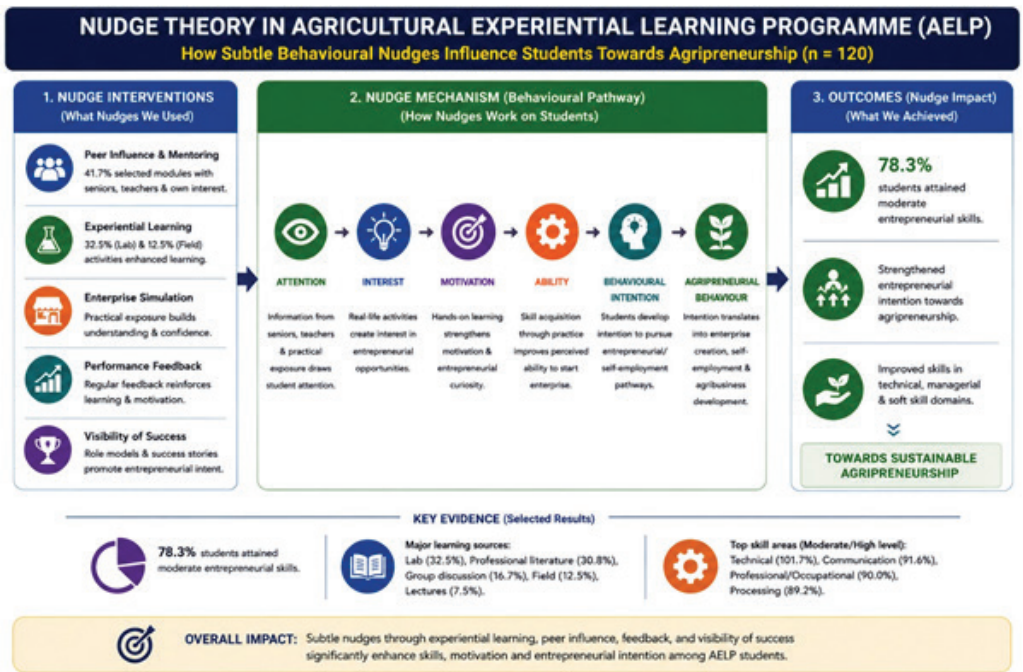

Fig. 2: Nudge Theory in Agricultural Experiential Learning Programme

Enterprise simulations and real enterprise operations provide repeated, hands-on opportunities to practice entrepreneurial tasks, effectively reframing entrepreneurship as a familiar and learnable pathway rather than a distant or risky choice (Gundry *et al*., 2014). Peer influence and mentoring (41.66%), experiential learning through laboratory and field-based activities (32.50%), enterprise simulation, performance feedback, and exposure to successful enterprise models acted as key nudges that shaped students' learning experiences (Bandyopadhyay & Kar, 2001; Uduak & Oswald, 2011).

The outcomes of these nudges were reflected in the acquisition of entrepreneurial competencies, with 78.33 per cent of students attaining a moderate level of overall entrepreneurial skills. Technical skills (88.33%), professional skills (81.66%), communication skills (67.50%), and organizing skills (95.83%) emerged as major areas of competence development. Visibility of successful student enterprises and products, feedback from sales and recognition within the university community serve as salient cues that agripreneurship is achievable and socially valued (Bolleboina & Jirli, 2023). These cues work alongside internal changes in attitudes and self-efficacy to gradually shift students' career preferences towards entrepreneurship. Thus, AELP embodies a set of low-cost, behaviourally informed nudges that complement the cognitive processes described by PMT.

Discussion

The findings demonstrate that AELP at UAHS substantially contributes to the development of entrepreneurial and managerial competencies, while also revealing important gaps in pre-programme understanding, depth of managerial responsibility and enabling conditions for enterprise creation. Interpreting these results through PMT and Nudge Theory clarifies how experiential learning functions simultaneously as a coping mechanism in the face of employment uncertainty and as a behavioural intervention that reshapes students' choice architecture in favour of agripreneurship.

Before enrolment, many students had only moderate or low understanding of AELP, relying heavily on informal information channels such as seniors and teachers, and spending limited time studying module details. This pattern is consistent with earlier RAWE studies that reported medium satisfaction with curriculum and persistent problems relating to guidance, instructional materials and supervision (Srinivasa Reddy, 1985; Gogoi, 2001; Borthakur & Bortamuly, 2013). After completion, however, most students perceived the course as easy to understand and credited laboratory-based activities and professional literature as primary sources of technical understanding, underscoring the superiority of experiential and practice-oriented pedagogies over conventional classroom teaching (Mahadik *et al.,* 2011; Sajeev & Gowda, 2013).

Overall entrepreneurial skill acquisition being predominantly moderate aligns with earlier evidence that experiential programmes generally move the majority of participants into medium categories of entrepreneurial behaviour, with smaller proportions reaching high levels (Meenaben & Chauhan, 2009; Tamilselvi & Sudhakar, 2010; Aparna & Patel, 2012; Mehta & Madhuri, 2012; Kiran *et al.,* 2012; Ram *et al.,* 2013). The particularly strong development of technical, professional, processing and product promotion skills indicates that AELP effectively prepares students for core enterprise functions, whereas the moderate acquisition of communication, marketing, human resource and general entrepreneurial skills suggests the need for more structured training in these areas.

The managerial skills profile, with high moderate acquisition but limited complete acquisition in planning, organizing, budgeting and reporting, reflects a pattern where students participate in but do not fully lead managerial processes. Similar observations have been made in previous evaluations of RAWE and AELP, where institutional control over finances and strategic decisions limited opportunities for students to practice higher-order management skills (Ramanjaneyulu, 1992; Sajeev, 2003; Verma *et al.,* 2017). To move students from moderate to high levels of managerial competence, universities need to gradually increase student autonomy and responsibility in enterprise decision-making within a well-designed supervisory framework.

The personal and psychological profile of AELP students, characterised by medium levels of innovativeness, risk orientation, achievement motivation, scientific orientation, self-confidence and management orientation, is consistent with a wide range of studies on agricultural students and rural entrepreneurs (Nagesh, 2006; Mehta & Madhuri, 2012; Lakshmi *et al.,* 2013; Sajeev & Gowda, 2013; Jeevan Kumar, 2013). This medium-level profile implies that students are well positioned for growth: they are neither highly risk-averse nor already fully entrepreneurial, making them responsive to interventions that enhance self-efficacy, opportunity recognition and willingness to take calculated risks. AELP, by providing sustained hands-on exposure and visible success experiences, appears to leverage this readiness and nudge students toward more entrepreneurial orientations.

The constraints and suggestions voiced by students point to structural and programmatic weaknesses that can blunt the agripreneurial impact of AELP. Heavy workload, limited trained manpower, inadequate laboratories, uneven work distribution and the timing of AELP in the final year are likely to generate stress, reduce reflective learning and constrain deep engagement with enterprise tasks (Gogoi, 2001; Borthakur & Bortamuly, 2013). Students' recommendations—giving preference to their interests while choosing enterprises, re-phasing AELP, rationalising workload, strengthening training inputs and improving infrastructural support—are directly connected to enhancing both threat and coping appraisals (under PMT) and optimising choice architecture (under Nudge Theory). Aligning enterprises with students' interests can increase intrinsic motivation and engagement, while improved training and support can reduce perceived response costs and increase self-efficacy, thereby raising the likelihood of entrepreneurial behaviour.

In summary, the study confirms that AELP functions as both a protection-motivation mechanism and a set of behavioural nudges that collectively enhance entrepreneurial skill development among agricultural graduates. However, the predominance of moderate skill acquisition and medium entrepreneurial traits indicates that more intensive and targeted interventions are needed to translate these gains into sustained agripreneurial careers.

Conclusions

The Agricultural Experiential Learning Programme at UAHS has emerged as an effective educational intervention for developing entrepreneurial and managerial competencies among agricultural students. Most students acquired entrepreneurial skills at moderate levels, with particularly strong gains in technical, professional, processing and product promotion skills. Managerial skills such as organizing, planning, budgeting and reporting were also mainly acquired at moderate levels, indicating the need for greater student involvement in higher-order decision-making. Experiential learning significantly enhanced self-efficacy and response efficacy, positioning entrepreneurship as a realistic coping response to employment uncertainty. AELP also functioned as a set of behavioural nudges—through mandatory exposure, peer learning, enterprise simulations and visible success stories—that gradually reshaped students' attitudes and preferences towards agripreneurship.

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References

Anonymous. (2007). *Report of the Fourth Dean's Committee on Agricultural Education in India*. Indian Council of Agricultural Research (ICAR).

Aparna, J., & Patel, M. M. (2012). Entrepreneurial behaviour of rural women. *Indian Research Journal of Extension Education, 12*(1), 55–59.

Bandura, A. (1997). *Self-efficacy: The exercise of control*. W. H. Freeman.

Bandyopadhyay, A. K., & Kar, S. (2001). Teachers' and students' perception about RAWE programme. *Research Journal of Extension Education, 2*, 38–43.

Bazrafkan, K., et al. (2022). What drives farmers to use conservation agriculture? Application of protection motivation theory. *Frontiers in Psychology, 13*, 979268.

Bolleboina, S., & Jirli, B. (2023). Documentation and analysis of ICT initiatives of agricultural research institutions in Telangana: Application of nudge theory. *Indian Journal of Extension Education, 59*(2), 88–92.

Borthakur, S., & Bortamuly, D. (2013). Perceived utility of RAWEP in gaining knowledge on communication skills, farm resource management and socio-economic aspects under AAU. *Journal of Academia and Industrial Research, 2*(6), 382–385.

Duflo, E., Kremer, M., & Robinson, J. (2011). Nudging farmers to use fertilizer: Theory and experimental evidence from Kenya. *American Economic Review, 101*(6), 2350–2390.

Gogoi, D. (2001). *Problems faced by the students of College of Agriculture, AAU, Jorhat, during RAWE programme* (Master's thesis). Assam Agricultural University, Jorhat.

Gundry, L. K., Ofstein, L. F., & Kickul, J. R. (2014). Seeing around corners: How creativity skills in entrepreneurship education influence innovation in business. *International Journal of Management Education, 12*(3), 529–538.

Jeevan Kumar, K. (2013). *A study on Agricultural Experiential Learning Programme (AELP) at Agricultural College, Bapatla* (Master's thesis). Acharya N. G. Ranga Agricultural University, Hyderabad.

Katyal, J. C., & Bisht, B. S. (2005). *Guidelines for experiential learning: Setting up of facilities for hands-on training*. Indian Council of Agricultural Research (ICAR).

Kiran, D., Depak, D., Gupta, B. K., & Pandey, D. K. (2012). Entrepreneurial behaviour of rural women of Sultanpur district of Uttar Pradesh. *Indian Research Journal of Extension Education, 12*(2), 29–33.

Lakshmi, T., Kalyan, N. V., & Prasad, S. V. (2013). Career preferences of undergraduate agricultural students of S. V. Agricultural College, Tirupati. *The Andhra Agricultural Journal, 60*(1), 213–219.

Mahadik, R. P., Mehta, P. G., & Sawant, P. A. (2011). Attitude of students towards Rural Work Experience Programme (RWEP). *Rajasthan Journal of Extension Education, 19*, 148–151.

Meenaben, C. P., & Chauhan, N. B. (2009). Entrepreneurial attitude of youth. *Agricultural Science Digest, 29*(3), 212–214.

Mehta, B. M., & Madhuri, S. (2012). Entrepreneurial behaviour of mango growers of Valsad district of Gujarat State. *Indian Research Journal of Extension Education, 12*(1), 78–82.

Nagesh. (2006). *Study on entrepreneurial behaviour of pomegranate growers in Bagalkot district of Karnataka* (Master's thesis). University of Agricultural Sciences, Dharwad.

Ommani, A. R. (2011). Strengths, weaknesses, opportunities and threats (SWOT) analysis for farming system business management: Case of wheat farmers of Shadervan District, Shoushtar Township, Iran. *African Journal of Business Management, 5*(22), 9448–9454.

Ram, D., Singh, M. K., Chaudhary, K. P., & Jayarani, L. (2013). Entrepreneurial behaviour of women entrepreneurs in Imphal of Manipur. *Indian Research Journal of Extension Education, 13*(2), 31–35.

Ramanjaneyulu, R. (1992). *A critical evaluation of Rural Agricultural Work Experience Programme (RAWEP) under Agricultural College, Bapatla* (Master's thesis). Acharya N. G. Ranga Agricultural University, Hyderabad.

Reddy, D. S. (1985). *A study on effectiveness of RAWE programme of Andhra Pradesh Agricultural University* (Master's thesis). Acharya N. G. Ranga Agricultural University, Hyderabad.

Reddy, Y. T., Murthy, K. R. V., & Rani, S. V. (2001). *Agricultural experiential learning programme manual*. Acharya N. G. Ranga Agricultural University, Hyderabad.

Rogers, R. W. (1975). A protection motivation theory of fear appeals and attitude change. *Journal of Psychology, 91*(1), 93–114.

Rogers, R. W. (1983). Cognitive and physiological processes in fear appeals and attitude change. In *Social psychophysiology* (pp. 153–176). Guilford Press.

Sajeev, M. V., & Gowda, N. K. (2013). Perceptions on experiential learning: A study of agriculture students. *Indian Research Journal of Extension Education, 13*(1), 48–55.

Soam, S. K., et al. (2023). Career preferences and entrepreneurial inclination of agricultural students in India. [Journal details to be completed].

Subhashsingh, P., Bharat, M., & Rai, D. P. (2010). Sustainable models of information technology for agriculture and rural development. *Indian Research Journal of Extension Education, 10*(1), 20–23.

Thaler, R. H., & Sunstein, C. R. (2008). *Nudge: Improving decisions about health, wealth and happiness*. Yale University Press.

Verma, M., Naberia, S., & Pyasi, V. K. (2017). Perception of agriculture students towards the Rural Agricultural Work Experience (RAWE) programme. *International Journal of Current Microbiology and Applied Sciences, 6*(10), 3420–3423.

Wang, Y., Li, X., Zhang, L., Chen, M., Wu, J., & Liu, Y. (2023). What makes students of green universities act green: Application of protection motivation theory. *International Journal of Sustainability in Higher Education, 25*(4), 838–855.

Zhang, Y., Lu, X., Zou, Y., & Lv, T. (2022). What drives farmers to use conservation agriculture? Application of protection motivation theory. *Frontiers in Psychology, 13*, 979268.

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