

**Learning Orientations of Wisconsin's Postsecondary
Agriculture Teachers Towards In-service Education**

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The purpose of this research was to discern and analyze the motivation underlying participation of postsecondary agriculture teachers in organized in-service education programs. The professional growth of teachers is acknowledged as a vital element in any formula for improving vocational education. True professional development demands that in-service education be a vital part of teachers' careers if they are to keep abreast of the changing conditions, new knowledges, and new techniques (Tyler, 1978), but what motivates teachers to have participation in in-service education a part of their genre? Experience with adults indicates they participate in continuing education because they have certain immediate goals to satisfy (Knowles, 1980). In a like manner, the postsecondary agriculture teacher participates in in-service education to fulfill certain needs. The problem, then, becomes one of discerning these motivational factors.

Theoretical Framework and Review of Literature

Although the area of adult education is replete with studies on the reasons adults participate in life-long learning, most such studies rather than viewing participation as a motivated behavior, have been conducted as an end in themselves. Also in the context of in-service education for postsecondary agriculture teachers, the concept of research on orientations to learning is new.

As of now, no specific theory has been developed to explain and predict the various factors that influence participation of agriculture teachers in in-service education. In examining behavior of adult agriculture teachers one could choose from among the various motivational theories (Weiner, 1972).

If one wishes to look at motivation it is necessary to examine the participant, an orientation to learning emphasis began by Houle (1961). This work has been refined by Sheffield (1964) with the development of the Continuing Learning Orientation Index. Additional refinement has been offered by such persons as Boshier (1971) and Burgess (1972). Boshier (1976) developed an instrument to measure a participant's orientation to learning which has been refined by Haag (1976) as well as by Morstain and Smart (1974). A major conclusion from such refinement is that each group of adult learners associated with a derived motivational pattern exhibited a wide range of demographic characteristics. One cannot in any precise manner identify

motives for participation based on demographic variables or by occupational set. The variance within each group is too great. This study is important in that the typology was drawn on motivational orientation rather than background or demographic data.

Objectives

The following objectives were formulated:

1. To develop a demographic profile of Wisconsin postsecondary agriculture teachers that includes: a) age, b) education background, c) marital status, d) teaching experiences, and e) salary level.
2. To identify the orientations to learning motivating postsecondary agriculture teachers toward participation in in-service education.
3. To examine relationships between learning orientations and selected demographic variables.

Research Design and Methodology

Selection of Population

The population for this investigation comprised the 151 postsecondary agriculture teachers employed by the Wisconsin Board of Vocational, Technical and Adult Education (WBVTAE) teaching in the state at the time this study (based partially on Ayeni, 1982) was conducted in 1982. The subjects were selected based on the following criteria:

1. They must be actively engaged in teaching in one or more area of agriculture such as farm training, production agriculture, and/or agribusiness. Teachers whose duties were primarily administrative in nature, such as district coordinators, were excluded from the study. Technicians were also excluded.
2. They must have participated in one or more organized in-service education programs offered at the district, state, or national level.

The investigation focused exclusively on the postsecondary agriculture teachers because this body of professionals constitutes an entity for whom an integrated in-service education program could be planned and implemented. In Wisconsin, instruction in agriculture at the secondary and postsecondary levels is administered under two separate agencies. From the standpoint of educational practice, high school agriculture teachers' needs and interests are in many respects different from those in the postsecondary institutions.

Instrumentation

The study employed the revised version of the Education Participation Scale (EPS) by Haag (1976). The 40 item version of the EPS instrument was considered suitable for eliciting responses from the postsecondary agriculture teachers on their motives for participating in in-service education activities.

The 40 item version of EPS had a mean item test-retest reliability of .60. The items were cast on a four point scale, and indicated no influence, little influence, moderate influence, and much influence. The scale poles were systematically varied so the "No Influence" or "Much Influence" category was sometimes on the right and sometimes on the left side of the page and items that were expected to load on each of the factors were scattered randomly throughout the instrument.

A personal data sheet was included in the first part of the instrument to collect pertinent demographic information such as age, marital status, level of education, teaching experience, and level of income.

Data Collection

Data collection from the teachers was by mailed questionnaires. One hundred and fifty-one postsecondary agriculture teachers were identified and mailed the questionnaire forms. With two follow-up letters data collection lasted nine weeks at the end of which a total of 122 responses were received representing 81% of the population. Eight questionnaires were not used due to the omission of one or more answers, and one was omitted who reported he did not attend any in-service the past year.

Borg and Gall (1979) suggested that when more than 20% of the questionnaires are not returned, it is desirable to interview a small number of non-responding subjects to determine the reasons for non-responses. In this study, an 81% return rate of the instrument met Borg's and Gall's criterion and therefore was judged adequate to remove any major sampling bias in the population being investigated. No follow-up effort to interview the non-responding subjects was undertaken.

Presentation and Discussion of Data

The teachers had a mean age of 45 years. Eight percent were younger than 30 and 58% were past 40 years of age. Ninety-one percent of the teacher were married. Sixty-one percent held at least a Master's degree. The respondents had an average of 17 years in the classroom. Eighteen percent had more than 25 years of teaching experience and only six percent had less than five. The mean salary was slightly over \$26,000 per year.

Table 1

*Basic Statistics of 40 EPS Items for Wisconsin
Postsecondary Agriculture Teachers (N = 114)*

EPS Items	X	SD
1. To seek knowledge for its own sake	3.10	.860
2. To share a common interest	2.79	.806
3. To secure professional advancement	3.00	1.00
4. To become more effective as a citizen	2.32	.881
5. To get relief from boredom.	1.33	.528
6. To carry out the recommendation of some authority	2.63	.969
7. To satisfy an enquiring mind	2.94	.831
8. To overcome the frustration of day to day living	1.41	.612
9. To be accepted by others.	1.61	.720
10. To give me higher status in my job.	2.27	.949
11. To supplement a narrow previous education	2.14	.897
12. To stop myself becoming a "vegetable"	1.51	.777
13. To acquire knowledge to help with other educational courses	2.94	.926
14. To fulfill need for personal associations and friendships	2.08	.829
15. To keep up with competition	2.47	.898
16. To escape the intellectual narrowness of my occupation	1.78	.865
17. To participate in group activity	2.00	.817
18. To increase my jobs competence	3.40	.771
19. To gain insight into my personal problems	1.66	.772
20. To help me earn a degree, diploma or certificate	2.41	1.140
21. To escape television	1.22	.550
22. To prepare for community service	2.08	.818
23. To gain insight into human relations.	2.20	.847
24. To have a few hours away from responsibilities	1.32	.591
25. To learn just for the joy of learning	2.41	.841
26. To become acquainted with congenial people	1.85	.803
27. To provide a contrast to the rest of my life	1.52	.702
28. To get a break in the routine of homework	1.46	.660
29. To improve my ability to serve mankind	2.61	.992
30. To keep up with others	1.76	.967
31. To improve my social relationships.	1.76	.706
32. To meet formal requirements.	3.00	.928
33. To maintain or improve my social position	1.58	.761
34. To escape an unhappy relationship	1.08	.277
35. To provide a contrast to my previous education	1.81	.844
36. To comply with the suggestions of someone else	2.05	.931
37. To learn just for the sake of learning	2.33	.933
38. To make new friends	1.75	.807
39. To improve my ability to participate in community work	2.09	.867
40. To comply with instructions from someone else	2.37	1.02

The means and standard deviations for the 40-EPS items were calculated and reported in Table 1. Based on the mean scores, the most influential reason for participation was item 18 which was to increase job competence. Items 3 and 32 were also highly influential. Item 34 "to escape an unhappy relationship" with a mean score of 1.08 and the lowest standard deviation was least influential in motivating the teachers to participate in in-service education.

The data were then analyzed using the principle-factor solution. Six principal factors with eigenvalue equal to or greater than 1 were extracted. The first factor accounted for 42.7% and decreased progressively to the sixth factor which accounted for 6.9%. The principal components are orthogonal to one another. The loadings on the first factor were positive while subsequent ones contained both positive and negative loadings.

As all six factors contributed significantly to the total communality, they were retained for rotation in order to be able to make sense out of the initial factors. The factors were rotated by the Kaiser normalization method (oblique method of rotation) and after 22 iterations, six meaningful factors were obtained. Items which loaded .40 or more were included in the respective factors. Some items which had loaded significantly in previous studies utilizing the EPS instrument failed to load on any of the six factors in this study and are listed below with their respective factor loadings:

EPS Item No	Highest Loadings
2 To share a common interest	.22
11 To supplement a narrow previous education	.33
12 To stop myself from becoming a "vegetable"	.25
13 To acquire knowledge to help with other courses	.28
15 To keep up with competition	.30
16 To escape the intellectual narrowness of my occupation	.25
33 To maintain and improve my social position	.35
34 To escape an unhappy relationship	.27
35 To provide a contrast to my previous education	.37

Because these nine EPS items did not load on any of the factors, they were excluded from further analysis in the investigation.

The data in Table 2 indicate that there is a wide range in the strength of intercorrelations among the six factors - Professional Advancement and External Expectations correlated .03 (the lowest) while Social Relationships and Escape Stimulation correlated .36 (the highest).

Inspection of Table 2, which also displays the labels assigned to the six factors, suggests that the first factor is Social Relationships. Items 9, 17, 19, 24, 26, 27, 28, 31, and 38 have high loadings on this factor. Individuals who score high on this dimension state a need for personal association, participation in group activity, making new friends, express being accepted by others, and avoidance of monotony of life and work.

Table 2

Pearson Product-Moment Correlations of Six EPS Factors

	Social relationships	Professional advancement	External expectations	Escape stimulation	Cognitive interest	Social welfare
Social relationships	-	-.12	.07	.36	.12	-.21
Professional advancement		-	.03	-.13	-.19	.27
External expectations			-	.09	-.18	.04
Escape stimulation				-	.07	-.14
Cognitive interest					-	-.27
Social welfare						-

The second factor was labeled Professional Advancement. Items 3, 10, 18, and 20 have high loadings on this dimension. The variables which load on this factor appear to express some concern for advancement within one's profession. Previous studies have characterized high scores on this scale as subjects who perceive their educational preparation as highly oriented to job vocation leading to greater competence and high status in the individual's chosen occupation.

The third factor is External Expectations. Items 6, 32, 36, and 40 have high loadings on this factor. Individuals who score high on this dimension are seeking to fulfill certain needs externally imposed, such as, suggestions and requirements from other individuals or agencies.

The fourth factor is Escape/Stimulation. Items 5, 8, 19, and 21 load highest on this factor. The items appear to reflect a need for stimulation, a desire to get away from a boring situation or an unpleasant environment.

The fifth factor is Cognitive Interest. Items 1, 7, 25, and 37 load highest on this factor. Learning and the pursuit of knowledge for its intrinsic value are the driving force behind this dimension.

Social Welfare is the sixth factor. Motives in this scale reflect broader humanitarian and community service concern. Items 4, 22, 23, 29, 30, and 39 comprise this dimension.

Importance Attached to the Learning Orientations of Wisconsin Postsecondary Agriculture Teachers

The data in Table 3 provide information on the mean scale scores grouped by the EPS motivational typologies for the total sample. For the entire population (N = 114), relatively more importance was placed on those reasons for participation in in-service education that comprise the Professional Advancement and Cognitive Interest dimensions.

With a mean score range of 4 (high) to 1 (low), the mean scores for Professional Advancement and Cognitive Interest dimensions indicated about moderate influence with mean scores of 2.79 and 2.71 respectively. The Escape Stimulation had the least influence with a mean score of 1.41.

Age Differences of Respondents with Respect to Their Learning Orientations

Table 3 also provides information regarding the mean scores and standard deviations for the learning orientations of the postsecondary agriculture teachers by selected age groupings. For the purpose of in-depth analysis, the postsecondary agriculture teachers were classified into six age categories as shown in Table 3. The ta-

Table 3

EPS Scale Score Means and Standard Deviations for the Age Groupings of Respondents

		EPS DIMENSION					
		Social relationships	Professional advancement	External expectations	Escape stimulations	Cognitive interests	Social welfare
Entire pop. (N = 114)	M	1.70	2.79	2.15	1.41	2.71	2.11
	SD	.50	.69	.64	.48	.69	.53
Under 30 years (n = 9)	M	1.84	2.31	2.22	1.58	2.69	1.83
	SD	.39	.67	.68	.40	.50	.70
31-35 years (n = 19)	M	1.71	2.97	1.99	1.46	2.78	2.11
	SD	.50	.60	.57	.57	.84	.43
36-40 years (n = 19)	M	1.60	2.45	1.88	1.37	2.57	2.14
	SD	.51	.61	.75	.46	.61	.50
41-45 years (n = 17)	M	1.60	2.90	2.19	1.38	2.62	1.99
	SD	.42	.57	.59	.41	.70	.58
46-50 years (n = 13)	M	1.51	3.17	2.25	1.92	2.65	1.99
	SD	.60	.60	.59	.42	.93	.62
Over 51 years (n = 37)	M	1.84	2.80	2.30	1.40	2.81	2.25
	SD	.52	.74	.64	.50	.61	.50

Note: Mean Scale scores have a range of 1.0 to 4.0 (high)

ble provides a comparison among the scores for the entire population and the various groupings. The data indicate that within the overall pattern, there is a considerable variation in the mean scores of the EPS dimensions across the groupings.

Professional advancement and cognitive interests dominate all age groupings. While cognitive interest is a strong orientation for those 30 years of age or younger, professional advancement is a strong orientation for the decade beginning at age 41. The most dominant orientation was professional advancement for the age group of 46-50. The learning orientation to meet external expectations was nearly always third in strength. It tended to be more important for both the younger and older teachers than it was for those 31 to 40 years of age.

Learning Orientation of Teachers as Influenced by Educational Level

Professional advancement and cognitive interests continue to be the preferred learning orientations for this group of highly educated teachers. Sixty-one percent of the teachers had attained the master's degree or higher. Professional advancement is always important but cognitive interests seems to decline slightly with educational attainment.

The dimension of social welfare had little influence while those of social relationships and escape stimulation had no influence on the teachers' decision to participate in in-service education. Data were analyzed by marital status, length of teaching, and level of income. Professional advancement and cognitive interests were always the most influential orientation. The data are not displayed.

Implications

Overall, the results indicate the primary motive that influences postsecondary agricultural teachers to participate in in-service education programs is professional advancement. The teachers sought to improve their professional knowledge, aspire to higher job status, and attain professional competency. The teachers appear to be growth motivated, self-actualized persons. They pursue knowledge for its intrinsic value as implied by cognitive interests being a second motive for participation.

While factors such as age and level of education have a slight impact on this overall profile, professional advancement and/or cognitive interest always emerge as a dominant influence. These demographic variables, confirming a view found in a previous research, do not add to a refined understanding of teachers' motivation.

Equally important as implications are the nine items dropped from the analysis because they had little or no influence in their reasons for participation in in-service education programs. They are an

interesting group though they did not load with any of the six factors as they have done in other research studies with other groups of professionals. They probably reflect the belief that teachers of agriculture are a very social and cooperative group that has many opportunities for interaction. It is thought to be a challenging job, which requires broad preparation, and is not monotonous to the teacher who practices it. In short, they have identity as a professional group and are motivated to participate in in-service education by other needs such as professional advancement.

Perhaps it is axiomatic to say this to a group of vocational educators, but before an in-service program is launched, a thorough needs assessment should be conducted. The postsecondary agriculture teachers - their needs, interests and motives - must be the focal point of all curriculum in-service work. Since professional advancement appears to have the strongest influence on teachers' participation, in-service leaders need to stress the practicability and relevance of program content as a marketing strategy. Show the teachers, in other words, how a particular program leads to improved competence.

Though second in overall importance, learning for learning's sake, cognitive interest is an important influence for postsecondary agriculture teachers. As such, they may be willing to undertake and participate in self-directed study. One would anticipate that teachers would respond favorably to video tape material, educational television, individual learning packets, independent study modules, and other types of opportunities to be self-directed learner.

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