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European Journal of Experimental Biology, 2014, 4(3):263-268

ISSN: 2248 –9215
CODEN (USA): EJEBAU

Determine educational-professional needs for extension agents and agricultural experts Tobacco Company in Mazandaran and Golestan provinces with model Burich

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ABSTRACT

With regard to the expansion and development of the agricultural sciences and the introduction of so many innovations and new techniques by the researchers and experts in agricultural sciences for agricultural extension agents to be fully equipped with technical and professional abilities, their undergoing some in-service education is urgent. Basically, the first step and perhaps the most important phase in the planning process of the educational courses for the in- service education of agricultural extension agents is the assessment of their educational-professional needs. mine objective of present research educational-professional needs assessment of agricultural extension agents. This is an applied study based on descriptive-correlation method. Statistical population of this research consisted of 62 extension agents tobacco company of Mazandaran and Golestan provinces. the research instrument was questionnaire and Content validity of the questionnaire was determined by experts and professors' ideas. After doing necessary reforms and preliminary tests, achieved Cronbach's alpha coefficient 81%. for educational-professional needs assessment of agricultural extension agents was used from Burich model a list of 29 educational-professional needs based on the literature review, the nature of the job and the organization's objectives provided And according to the mean weight discrepancy score (MWDS) were rated. According to the Descriptive results, educational-professional needs agricultural extension agents include the English language, how to work with Agricultural Machinery and agrology. The results of the Spearman correlation coefficient, revealed a significant negative correlation between the variable experience as extension agent with the extent of educational-professional needs.

Key words: need assessment, Burich model, agricultural extension agents, Mazandaran and Golestan provinces

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INTRODUCTION

By a glance at the tobacco extension departments in Mazandaran and Golestan, we can easily identify the lack of skillful people and experts in this part, therefore, in order to provide and educate these skillful employees, it seems necessary to reconstruct and update the extension agents' cultivation knowledge and information. Accordingly, there

are some methods such as formal university education, pre-service and in-service training for educators [5] in which in service training has the most crucial role in updating extension agents' knowledge. Dey quoting from Bloom states that in-service training is the most important career step in trainers' and instructors' career development [6]. In this process, the main issue rests on the realistic in-service training planning in which the first step for in-service training programming is determining the extension agents' training needs. The need is the status between what is existed and what is desirable and should be established. Knowles [11] considers the need as the gap between current conditions and the higher levels. Pennington [14] considers the need as a person's feeling lack of desirable condition and Monte [13] considers the need as the person's desire. Educational needs are attributed to poor job performance or lack of skill that can be improved by training [10]. Needs assessment is a process to determine what should be taught to meet the failure and lack of knowledge and skills [7]. There are a variety of models to conduct training needs assessment projects based on which choosing appropriate model will increase the project accuracy. In this study, to determine the respondents' educational needs, the Borich needs assessment model [3] is used. The assessment model includes four stages.

1 - Preparing a list of individuals' career ability.
2 – Evaluating the individuals' career ability.
3 - Ranking the individuals' career ability.
4 – Comparing the content of in-service training programs with individuals' career ability that have been identified as educational needs [15]

Taylor [16] considers the difference between the current situation and accepted norms as the need which is the basis of Borich's model. The Borich's model assumption is that individuals being assessed for their needs can better judge their performance. This model is based on the mean score difference between the educational issue importance and the individuals' career skills. Borich's needs assessment model is superior to the conventional needs assessments models [1,2,17]. Because in this model, the respondents specify their skill levels besides determining the importance of educational issues. Thus, people can be able to estimate the gap between what they are able to do and what they should be able to do [3]. In Borich's model, based on the definition of the need, between the current state and the desired state is obtained by the difference between the importance and skills and the respondents' need will be determined. The needs with the highest priority are those which have the high importance and the individuals' skills are low. In the conventional assessment methods, just the importance of education from the respondents' viewpoint is assessed and the needs are prioritized according to their importance mean. While this is possible, despite the importance of educational issues, the individuals had the required expertise and thus do not require training, so the assessment based on the importance mean may not be accurate estimation of needs. Considering the subject of this research, there have been a number of studies the results of which are mentioned in this section. In a study on "assessing the career training needs of agricultural instructors in Mazandaran and Golestan provinces agricultural centers", the instructors' training needs are prioritized as the familiarity with Internet, familiarity with assessment methods, creating and guiding the learners' motivation in learning and being familiar with problem solving methods [15]. In another study on "evaluating the educational needs of the agricultural product insurance experts", it is shown that among the considered educational needs, awareness of the factors affecting adoption of agricultural insurance had the highest priority with an average of 4 [4]. In a study conducted on "evaluating and assessing the educational-career needs of trainers in agriculture higher education centers" it is shown that the most important educational- career needs include: The familiarity on how to use the Internet to access agricultural education research findings, the ability to determine the educational needs of students in agriculture technical issues and the ability to do researches in agricultural education science [8]. In a study on "training needs of teachers of agricultural education courses in Isfahan", the teachers' training needs have been prioritized as familiarity with methods and techniques of teaching, using psychology in teaching, planning adults' education and Educational Technology [9]. In another research on "training needs of agriculture teachers in South Carolina", it is shown that the trainers' educational needs are prioritized as developing the effective public relations, the writing report process and preparing the local programs of adults' education [12]. Therefore, the overall objective of this study is to prioritize the extension agents' training needs to include the most important strategies in planning the educational courses. To achieve this, the specific objectives, the extension agents' characteristics explanation and their educational need assessment and the relationship between agents' characteristics and the educational needs.

MATERIALS AND METHODS

This is an applied research based on descriptive-correlation method, Statistical population of this research consisted of 62 extension agents tobacco company of Mazandaran and Golestan provinces. The research instrument was questionnaire and Content validity of the questionnaire was determined by experts and professors' ideas. After doing necessary reforms and preliminary tests, achieved Cronbach's alpha coefficient 81%. for educational-professional needs assessment of agricultural extension agents was used from Burich model a list of 29 educational-professional needs at two dimensions, importance and capability levels based on the literature review, the nature of the job and the organization's objectives provided And according to the Mean weight discrepancy score (MWDS) were rated. For this purpose, initially discrepancy score in as individual (equation 1) and then weight discrepancy score for competence in individual will be calculated (equation 2) at the end with sum discrepancy score divided by the number of individuals mean weight discrepancy score will be calculated (equation 3).

$$1 - \text{discrepancy score} = I - C$$
$$2 - \text{weight discrepancy score} = I(I - C)$$
$$3 - \text{Mean weight discrepancy score} = \sum \frac{I(I - C)}{n}$$

(I = Importance. C = capability. n = number of extension agents)

RESULTS AND DISCUSSION

Most extension agents were men (96/6 %), with an average age range of 41/3 being classified in 41-50 age group. Most extension agents had BS degree with a frequency of 55/9. The average work record was about 10 years ranging from 1 to 25 years. The average per week visits from tobacco cultivated area was 2/9 times ranging from 1 to 5 times. The Land covered by extension agents was approximately 114 acres from 30 to 235 acres. Majority of extension agents majored in non-agriculture Extension majors (94/5%) and about 5/5 of them have been educated in the field of Agricultural Extension and Education. The agents were asked to choose the appropriate educational method they needed among four method of:

1. Practical training
2. Training Through Film
3. Discussion sessions
4. Holding short-term courses.

Statistical analysis indicated that they were eager on practical training and short-term courses. Regarding the problems in training courses, extension agents were asked to express their views on the problems associated with in-service training courses. The results showed that the repetitive educational content had the first priority and failure to use educational films and videos to get experience and skills, lack of a comprehensive lesson plan for instructors, the lack of being up-to-date with science in presentations, failure to attend classes on time due to lack of proper classes time, lack of classes and meetings in cultivation departments, failure to attend classes due to instructors' incompetence and failure to attend classes due to distance were in the next ranks. Another objective of this study was to investigate the relationship between the extensions agents' characteristics and the training that they need. In order to determine each individual's different weighted mean scores, each individual's career qualifications is summed with other individuals and is divided with the number of competencies.

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educational-professional needs assessment based on Burich model

for educational-professional needs assessment of agricultural extension agents in tobacco cultivation, was used from Burich model, a list of 29 educational-professional needs based on the literature review, the nature of the job and the organization's objectives provided And according to the mean weight discrepancy score (MWDS) were rated (Table

2). Analysis of the data shows that the highest priority educational-professional needs for agricultural extension agents including the English language, how to work with Agricultural Machinery and agrology

Table 1. Frequency distribution of personal characteristics of respondents

Variable	Variable levels	Frequency	valid Percent	Mean	Sd
Age	20-30	3	5.4	40.70	7.58
	31-40	17	30.4		
	41-50	35	62.5		
	51 and higher	1	1.8		
work record	1-5	14	25.0	10.19	6.46
	6-10	20	35.7		
	15-11	12	21.4		
	16-20	2	3.6		
	21-25	8	14.3		
the number of farmers under cover	20-70	19	45.2	90.42	46.47
	71-120	15	35.7		
	121-170	5	11.9		
	171-220	3	7.1		
per week visits from tobacco cultivated area	1	7	13.5	2.92	1.31
	2	17	32.7		
	3	9	17.3		
	4	11	21.2		
	5	8	15.4		
Land covered by extension agents (acres)	30-80	12	29.3	114	48.4
	81-130	17	41.5		
	131-180	8	19.5		
	181-235	4	9.8		
Education level	Diploma	6	10.2		
	Technician	5	8.5		
	BS degree	33	55.9		
	Master's degree and higher	15	25.4		
field of study	Agricultural Extension	3	5.5		
	non-agriculture Extension	52	94.5		

Table 2. Problems of Training courses

Rank	Items	Mean	Sd	cv
1	repetitive educational content	21.3	1.01	0.316
2	failure to use educational films and videos to get experience and skills	3.08	0.98	0.320
3	lack of a comprehensive lesson plan for instructors	3.16	1.01	0.322
4	the lack of being up-to-date with science in presentations	3.53	1.14	0.323
5	failure to attend classes due to instructors' incompetence	3.09	1.01	0.329
6	lack of classes and meetings in cultivation departments	2.98	0.99	0.335
7	failure to attend classes on time due to lack of proper classes time	2.87	1.12	0.391
8	failure to attend classes due to distance	2.72	1.11	0.408

The effect of independent variables on extent of educational-professional needs

Another objective of this study was investigating the relationship between the characteristics of agricultural extension agents and the extent of educational-professional needs. Hence to determine mean weight discrepancy score professional competence each person is added together and on a number of competencies has been divided. The results of the Spearman correlation coefficient revealed a significant negative correlation between the variable work record with the extent of educational-professional needs.The studies of [9] and [15] confirm this finding. The result of correlation coefficient shows that there was no a significant relationship between agricultural extension agents age and extent of educational-professional needs. Study of Chizari [4] confirms this finding. Also the result of correlation coefficient shows that there was no relationship between the numbers of farmers under cover, Land covered by extension agents and per week visits from tobacco cultivated area variables with extent of educational-professional needs. The result of Kruskal-Wallis test shows that there was no Significant difference between the extent of educational-professional needs and the Education level. The result of Mann White Ney test shows that there was no Significant differences between the extent of educational-professional needs and the field of study.

Table 3 Educational-professional needs agricultural extension agents with Burich model

Rank	Professional competencies	Mean (importance)	Mean (capability)	MWDS
1	English language	3.70	2.24	6.85
2	How Work With Agricultural Machinery	4.16	2.70	6.69
3	geology	4.06	2.66	6.48
4	Occupational health hazards of tobacco cultivation	3.88	2.54	6.20
5	Tobacco Diseases	4.50	3.29	6.17
6	The use of psychology in extension	4.33	3.14	5.90
7	Computer Training	3.91	2.74	5.46
8	Tobacco Pests	4.45	3.38	5.38
9	Methods and techniques of teaching	3.74	2.51	5.33
10	Quality Management	3.85	2.69.	5.08
11	Educational Technology	3.77	2.61	5.064
12	Weed control	4.19	3.12	5.063
13	Management principles of education and extension	3.96	3.01	5.06
14	Agricultural Economics	3.90	2.88	4.88
15	Preparing the ground for the cultivation of tobacco	4.25	3.35	4.85
16	Principles of Adult Education	4.06	3.08	4.79
17	Irrigation Management	4.12	3.12	4.77
18	Curing	4.53	3.67	4.69
19	Communication and Innovation	3.98	3.04	4.61
20	How to Use the Internet	3.85	2.91	4.56
21	Selection of appropriate crop rotation	4.29	3.40	4.516
22	Topping and suckers control	4.33	3.41	4.51
23	Assessment of tobacco	4.37	3.50	4.463
24	Harvesting	4.54	3.64	4.46
25	Principles of Agricultural Extension	4.17	3.25	4.38
26	Grading and Baling	4.51	3.67	4.16
27	seed bed Management	4.40	3.61	3.91
28	Rural Sociology	4.04	3.56	3.25
29	barn Tobacco	4.11	3.29	-2.08

Table 4. The relations between variables

The first variable	The second variable	correlation coefficient	Significant level
extent of educational-professional needs	Age	-0.20	0.12
extent of educational-professional needs	work record	-0.29*	0.02
extent of educational-professional needs	the number of farmers under cover	0.05	0.72
extent of educational-professional needs	Land covered by extension agents	0.39	0.12
extent of educational-professional needs	per week visits from tobacco cultivated area	0.12	0.39

Table 5. Kruskal-Wallis test. the extent of educational-professional needs and the Education level

dependent variable	independent variable	df	X^2	sig
extent of educational-professional needs	Education level	3	2/914	0/4

Table 6. Mann White Ney test the extent of educational-professional needs and the field of study

dependent variable	independent variable	z	u	sig
extent of educational-professional needs	field of study	-1/260	44	0/2

Suggestions

1- It is suggested for in-service training courses of agricultural extension agents, prioritizing of training needs (Table 2) to be considered.

2- It is suggested in training courses, proper educational methods and problems in training courses of extension agent's perspective to be considered.

3- With regard to a significant negative correlation between the variable work record with the extent of educational-professional needs. It is suggested for less-experienced or novice extension agents, Additional training courses to be considered.

REFERENCES

[1] Barrick, K.R., Ladewig, H.W. *The Journal of American Association*. **1983,** 21(1):13 -20.
[2] Barrick, K.R., & Powell, R. P. **1986.** Association of Teacher Education in Agriculture American
[3] Borich, G. D. *The Journal of Teacher Education*, **1980,** 31 (3): 39-42

[4] Chizari, M. Sadeghi, L. Noroozi, O. *Journal Of Agricultural Sciences* Islamic Azad University, **2006,** No. 2,, pp 501-511.
[5] Davies, R. & M. Preston. *British Journal of In-service Education,* **2002,** 28 (2): 231- 239.
[6] Day, C. *British Journal of In-service Education,* **1997,** 23 (1): 39-54.
[7] Fatehi ejarehgah, K. **1993.** Tehran: Sarmad.
[8] Haji Mirrhimi, s, d. zamani, G. *Iranian Journal of Agricultural Sciences*, **2001,** No. 2, Vol 33, pp 254-241
[9] Karbasiyon, M. **1996.** Unpublished Thesis Master, Tarbiyat Modares University.
[10] Kleiman, L.S. **1997.** New York: West Publishing Company.
[11] Knowles, M. Follett Publishing Co., Chicago, **1973,** P.85.
[12] Layfield, D. K. & R. T. Dobbins. *Journal of Agricultural Education,* **2002,** 43 (4): 46-55.
[13] Monette, M. *Adult Education,* **1977,** Vol. II. No2. pp. 116-127
[14]Pennington, F. New Direction for Continuing Education. **1980,** (7):1 -14.
[15] PezeshkiRad, G. *Iranian Research Journal of Agricultural Economics and Development*, **2008,** Volume 39, No 1, pp. 62-55
[16] Tylor, R.W. **1971.** University of Chicago press.
[17] Waters, R.G., & Haskell, L.J. *The Journal of Agricultural Extension*, **1989,** (2): 26-32.