

# RELATIONSHIP BETWEEN THE IMPACT OF LEADERSHIP STYLES OF AGRICULTURAL SUPPORT CENTRE SPECIALISTS AND EFFICIENCY OF CONSULTATIONS WITH FARMERS IN THE AGRARIAN SECTOR OF THE REPUBLIC OF ARMENIA

## ODNOS IZMEĐU UTICAJA LIDERSKIH STILOVA CENTRA ZA PODRŠKU POLJOPRIVREDI I EFIKASNOSTI KONSULTACIJA U POLJOPRIVREDNOM SEKTORU

Harutyun GEVORGYAN\*, Hrachik JAVADYAN\*\*, Ashot VOSKANYAN\*\*\*

\* PhD Student of the Ruse University, Bulgaria and Armenian State Agrarian University, Armenia,

\*\* Dean of Faculty of Agribusiness and Marketing at the Armenian State Agrarian University,

\*\*\* Head of the department of the Agrarian Policy and Consultation at the Armenian State Agrarian University  
e-mail: h\_gevorkyan@yahoo.com

### ABSTRACT

The article shows the changing of efficiency of consultation process from Agriculture Support Center's (ASC's) of Republic of Armenia during of various types of Leadership styles. We have sorted four different types of groups during our experiments. In the first group we included farmers taught by ASC with the directing leadership style. The second group consisted of farmers taught by ASC with the coaching leadership style, In the third group consisted of farmers taught by ASC with the supporting leadership style and the last group under the same conditions was instructed by a ASC with the delegating leadership style. In all the groups the teaching period took two days. The ASC's were classified via a special scale. The selection of the farmers was based on their social conditions and their level of knowledge. In all groups farmers were in equal levels. The research was done for the purpose of identifying the best leadership style of adult teaching, during which the farmers' comprehension is higher. Immediately after the teaching process and then two weeks after we observed the residual knowledge, which farmers acquired during the training process via questionnaires and individual inquiries. The residual knowledge was evaluated on a scale, where 10 was the maximum level and 1 was the minimum. The results showed that during the directing leadership style, when high task and low relationship focus exists, and the communication in one way, the residual knowledge was minimal compared to sessions conducted by a coaching and supporting leadership styles, when the relationship is higher and the communication is two-way. Initially this caused a comfort situation, farmer thought, that the lecture care about their problem and wants to help them. And during this situation the interest of the subject increased considerably. The article suggests what kind of leadership style can be used during adult teaching for the purpose of increasing the comprehension of farmers.

**Key words:** consultancy, leadership style, residual knowledge, directing, coaching, supporting, delegating.

### REZIME

Rad prikazuje promenu efikasnosti procesa konsultacija iz Centra za podršku poljoprivredi (ASC-a) Republike Jermenije tokom različitih tipova liderskih stilova. Formirane su četiri različite grupe tokom eksperimenata. U prvoj grupi su poljoprivrednici podučavani od strane ASC direktnim liderski stilom. Druga grupa se sastojala od poljoprivrednika podučavanih od strane ASC trenerskim stilom liderstva. U trećoj grupi su poljoprivrednici podučavani sa stilom podrške i u poslednjoj grupi pod istim uslovima su podučavani sa delegirajućim liderskim stilom. U svim grupama period učenja bio je dva dana. ASC-a obavila je klasifikaciju preko posebne skale. Izbor poljoprivrednika zasnovan je na njihovim društvenim uslovima i njihovom nivou znanja. U svim grupama poljoprivrednici su u jednakim nivoima. Istraživanje je urađeno u cilju identifikovanja najboljeg liderskog stila podučavanja odraslih, tokom kojeg je razumevanje poljoprivrednika veće. Odmah nakon nastavnog procesa, a zatim dve nedelje posle, posmatrano je rezidualno znanje koje su poljoprivrednici stekli tokom procesa obuke putem upitnika i pojedinačnih pitanja. Rezidualno znanje je ocenjeno na skali od 1 do 10. Rezultati su pokazali da je tokom direktnog liderskog stila komunikacija u jednom smeru, zaostalo znanje je minimalno u odnosu na predavanja obavljena trenerski i stilom podrške, kada je međusobni odnos bolji i komunikacija je u dva smera. U početku je to izazvalo opuštenu situaciju, poljoprivrednici su shvatili da se predavanje odnosi na njihov problem i može da im pomogne. I tokom ove situacije interes subjekta znatno je povećan. Članak sugeriše kakav stil vođstva može da se koristi tokom podučavanja odraslih u cilju povećanja razumevanja poljoprivrednika.

**Ključne reči:** konsultacije, liderski stil, zaostalo znanje, direktni, trenerski, podržavajući, delegirajući.

### INTRODUCTION

Most communities, rural or urban, are in need of effective leaders who would aid reaching their goals and meeting their needs. There is an increasing demand for effective community leaders in today's complex and rapidly changing society (Agbam, 2000; Hooper et al., 2010). A problem facing rural communities is the fact that the number of individuals who are able to provide effective leadership is considerably smaller than the number of such experts in urban areas. Although agricultural

leadership programs have at least 80 years of history in the United States (Kaufman, 2010), they are completely new for the Republic of Armenia, and more research has to be done in order to understand the principles and mechanisms of effective leadership. Leadership has been defined as "the means by which one or more people aid a group in setting and attaining desirable goals" (Khalli, 2008; Kelsey and Wall, 2003; Marta et al., 2005). In 2010, Hooper defined a leader as a person who has the ability to get others to act in a certain and defined way. There are some differences between leaders and managers. In 2005, Marta indi-

cated that being a leader of a group does not necessarily make a person an effective leader. The leader has to gain acceptance and have an influence on the behavior of the group. Agriculture is one of the largest industries of the Republic of Armenia. During the period between 2004 and 2010, the gross domestic product of agriculture was 25.3 % in total. Therefore, it is important for the agricultural sector to have strong leadership. This leadership should be established by agricultural support center (ASC) specialists in all 10 regions of the Republic of Armenia. According to *Dubrin (2007)*, rural communities and agriculture are only as strong as their leadership.

Agricultural support centers have been created in the Republic of Armenia in order to teach farmers and transfer the knowledge from scientific organizations, such as the University of Agriculture to the farming industry. In other words, the function of ASCs is to conduct leadership public affairs throughout rural areas. They are teaching farmers how to manage their farming systems, and creating artificial experimental fields to show farmers new technologies. ASC specialists, as leaders of current regions, guide the extension education activities for farmers, as groups or individuals, towards achieving the predetermined objectives within a particular situation and with particular extension communication methods.

The conducted monitoring and evaluation (*Yehgiazaryan and Gevorgyan, 2007; Gevorgyan and Javadyan, 2011*) show that after the seminars and field trips the residual knowledge of farmers is different. Of course, it is connected to many factors, verbal and non-verbal communications, farmers' comprehensiveness, social and educational level, situation of training and so on [*Gevorgyan and Javadyan, 2011, Sims et al., 2009; Sivakami and Karthikeyan, 2009*], but one of the important factors is the leadership style of ASC specialists, because in many cases the efficiency of training depends on how the extension specialists uses their leadership ability to produce maximum efficiency dur-

ing the seminars. This study is an attempt to answer some of these questions.

**MATERIAL AND METHOD**

In order to observe the acquired and residual knowledge of farmers during and after the training process, this paper is based on face-to-face interviews, original survey data collections with open-ended questionnaires, and observations and evaluations of residual knowledge of farmers immediately after the teaching process. The study was conducted in Armavir, Kotayk, Ararat and Aragatsotn regions, where small field trips have been organized for farmers in 2010. There were 4 field trips organized in each region. The subjects of field trips were water resource management and surface irrigation techniques. We have created four different types of groups during our experiments. In the first group we included farmers taught by ASC with directing leadership style. The second group consisted of farmers taught by ASC with the coaching leadership style. The third group consisted of farmers taught by ASC with the supporting leadership style and the last group under the same conditions was instructed by an ASC with the delegating leadership style. In each group the number of farmers was 5 (N=80) (Table 1). The particular farmers were selected from a group of 132 farmers via initial observation for creating four groups. The main criteria for selection of individuals were the level of knowledge and the farmer's maturity level, when the person is very capable and confident to do his job. We have rejected all the farmers, who were capable but unwilling or, by contrast, unable but willing.

The teaching period in all other groups took two days. The ASCs were classified by a special scale, according to their leadership style. All the data have been analyzed by software program STATISTICA.

Table 1. The qualification of specialists via leadership styles, and the number of farmers via groups in four regions of the Republic of Armenia

No	Leadership style	Explanation of style	Number of farmers via region				Total
			Armavir	Ararat	Kotayq	Aragatsotn	
1.	Directing	The extension specialist has been characterized by one-way communication in which he defined the roles of the farmers and provided what, how, why, when, and where to do the surface irrigation.	5	5	5	5	20
2.	Supporting	While the extension specialist provided the direction, he had used the two-way communication and provided his socially-emotional support, which allowed the farmers to be influenced. He taught farmers with respect.	5	5	5	5	20
3.	Coaching	The extension specialist shared his experience about water resource management and surface irrigation and specifically showed how to do the technique. He was provided with fewer behavior tasks while maintaining high relationship conduct.	5	5	5	5	20
4.	Delegating	The extension specialist did not teach by demonstrating, but he debated with farmers about surface irrigation technique. They had a discussion about pros and cons regarding water resource management. And also he monitored the progress of farmers without influencing directly.	5	5	5	5	20
Total			20	20	20	20	80

**RESULTS AND DISCUSSION**

According to the situational leadership theory, 4 types of leadership styles are distinguished, and are characterized by the task behavior and the relationship behavior. Depending on the situation and listener's maturity level, the style could be changed

with different influence, and therefore the learning outcomes could be different.

Our research, based on learning outcomes and the residual knowledge of farmers under different types of leadership styles, provided the following results.

The table above shows that whenever teaching process is followed by directing, during which an extension specialist gives

instructions on what, when and how farmer should do, the residual knowledge is minimal. For example, only 5% or 25% within the group of 20 farmers have had sufficient knowledge about new technologies in water resources management.

Table 2. Interrelation between learning outcomes with success (S) and different types of leadership styles

No	Leadership style	Initial number of farmers	Regions								TOTAL	
			Armavir, a1		Ararat, a2		Kotayk, a3		Aragatsotn, a4		S	%
			S	%	S	%	S	%	S	%		
1.	Directing, b1	20	3	15	-	-	1	5	1	5	5	25
2.	Supporting, b2	20	5	25	3	15	3	15	2	10	13	65
3.	Coaching, b3	20	5	25	5	25	5	25	5	25	20	100
4.	Delegating, b4	20	6	30	2	10	5	25	4	20	17	85

By contrast, when the extension specialists use the coaching leadership style and work with farmers during the field trips, sharing their experience and teaching them, the residual knowledge of farmers is maximal. Our observation showed that in 100% of the cases farmer's comprehension level was higher.

The following Figure describes our research outcome.

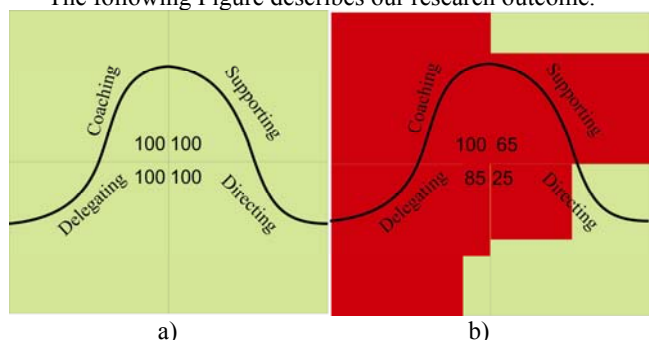


Fig. 1. The level of residual knowledge in percentages during the different leadership styles (a) Normality, (b) Our observation

As we can see from the Figure, the general situational leadership model is represented as a grid with equal squares. In our case it shows the importance of required leadership styles during the special activity. When working with farmers, it is very important to assess the maturity of candidates that is whether they are capable and confident to study and implement new technologies in their farms. And we have to change our leadership style when we are teaching the farmers, who are immature, which means, that there are capable but unwilling or, by contrast, unable but willing. With capable, but unwilling farmers we have to use the supporting leadership style, and for unable but willing farmers the directing leadership style. Otherwise, the evaluation of agricultural extension system will show negative results.

Throughout our research we wanted to find whether different leadership styles indeed influenced the residual knowledge of farmers and whether there were any differences between different regions. We have also done an analysis of variance (ANOVA) test.

Table 4. The analysis of variance (ANOVA) of the groups in different regions and different leadership styles.

Effect	Univariate Tests of Significance for Sigma-restricted parameterization Effective hypothesis decomposition				
	SS	Degr. of Freedom	MS	F	p
Intercept	189.0625	1	189.0625	240.9292	0.000000
A	11.1875	3	3.7292	4.7522	0.029810
B	31.6875	3	10.5625	13.4602	0.001124
Error	7.0625	9	0.7847		

Table 3. Creation groups for ANOVA

	Regions			Y
	1 A	2 B	3 Y	
1	a1	b1		3
2	a1	b2		5
3	a1	b3		5
4	a1	b4		6
5	a2	b1		0
6	a2	b2		3
7	a2	b3		5
8	a2	b4		2
9	a3	b1		1
10	a3	b2		3
11	a3	b3		5
12	a3	b4		5
13	a4	b1		1
14	a4	b2		2
15	a4	b3		5
16	a4	b4		4

A - 4 regions (Armavir, Ararat, Kotayk, Aragatsotn)  
 B - 4 different styles of leadership (Directing, Supporting, Coaching, Delegating).  
 Y-Learning outcomes

Table 5.

Descriptive Statistics of ANOVA

Descriptive Statistics (ANOVA.sta)						
Effect	Level of Factor	N	Y Mean	Y Std.Dev.	Y Std.Err	Y -95,00% +95,00%
Total		16	3,43750	1,82460	0,45615	2,46520 4,40970
A	a1	4	4,75000	1,25830	0,62915	2,74770 6,75220
A	a2	4	2,50000	2,08160	1,04080	-0,81230 5,81230
A	a3	4	3,50000	1,91480	0,95740	0,45300 6,54690
A	a4	4	3,00000	1,82570	0,91280	0,09480 5,90510
B	b1	4	1,25000	1,25830	0,62915	-0,75220 3,25220
B	b2	4	3,25000	1,25830	0,62915	1,24770 5,25220
B	b3	4	5,00000	0,00000	0,00000	5,00000 5,00000
B	b4	4	4,25000	1,70780	0,85390	1,53240 6,96750

Table 6. Parameter estimation of ANOVA

Parameter Estimates (ANOVA.sta)												
Sigma-restricted parameterization												
Effect	Level	Colu	Y	Y	Y	Y	-95,0	+95,0	Y	Y	-95,0	+95,0
Effect	Effect	Para	Std.E	t	p	Cnf.L	Cnf.L	Beta	St.Er	Cnf.L	Cnf.L	
Intercept		1	3,43	0,22	15,52	0,00	2,93	3,93				
A	a	2	1,31	0,38	3,42	0,00	0,44	2,18	0,52	0,15	0,17	0,87
A	a	3	-0,93	0,38	-2,44	0,03	-1,80	-0,06	-0,37	0,15	-0,72	-0,02
A	a	4	0,06	0,38	0,16	0,87	-0,80	0,93	0,02	0,15	-0,32	0,37
B	b	5	-2,18	0,38	-5,70	0,00	-3,05	-1,31	-0,87	0,15	-1,22	-0,52
B	b	6	-0,18	0,38	-0,48	0,63	-1,05	0,68	-0,07	0,15	-0,42	0,27
B	b	7	1,56	0,38	4,07	0,00	0,69	2,43	0,62	0,15	0,27	0,97

As one can observe from the tables 4, 5 and 6, the variables significantly affected the learning outcomes. But the correlation between leadership style and residual knowledge of farmers is higher (F=13.46, p<<0.005), than effects of different regions (F=4.7, p<0.05=0.02). Consequently, the farmers in different regions have the same level of knowledge, but depending on leadership style, the learning outcome has changed.

The confirmation of the above-mentioned theory is shown in the Figures below.

As we can see from figure 2, from 4 different regions only a1 (Armavir region) has a strong and positive influence on residual knowledge of farmers (t=3.42). But the a2 Ararat region displayed strong, but negative influence on learning outcomes (t=-2.44). The effect of other regions on knowledge of farmers is more or less equivalent. But we believe that the farmer's comprehension is not strongly connected with dissemination of farmers. And that is why we reject that hypothesis.

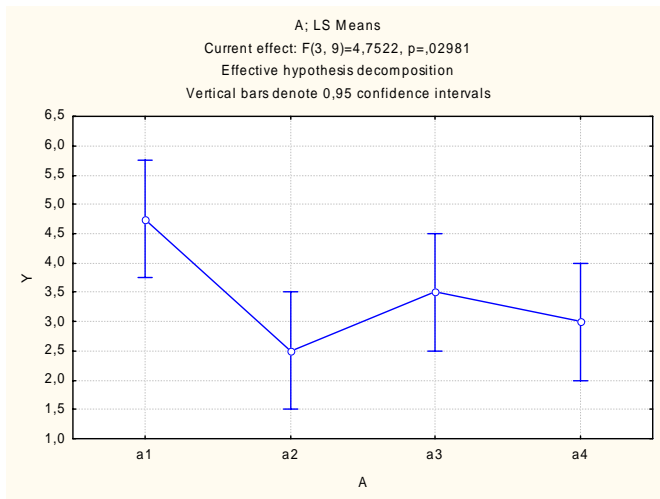


Fig. 2. Current effect of different regions on residual knowledge of farmers

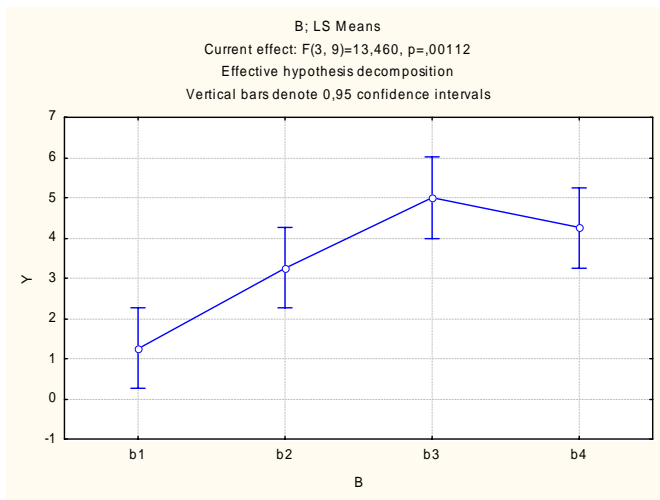


Fig. 3. Current effect of different leadership styles on residual knowledge of farmers.

The third Figure shows the influence of different leadership styles on the residual knowledge of farmers. The results are significant, because the  $p$ -value  $> 0.05$ , and we cannot find any horizontal line, which can cross all groups. From all styles the b3 (coaching) holds the most influence of teaching method efficiency ( $t=4.07$ ). But as we can see, b1 (directing) has the most negative impact over the level of residual knowledge, and this impact is very strong ( $t=-5.7$ ). Thus, we can conclude that during the seminars and field trips the most common and useful leadership style was indeed the coaching style. When the extension specialist shared his experience and showed specifically how to do certain techniques, he was provided with fewer behavior tasks while maintaining high relationship conduct.

## CONCLUSION

In this paper, we have explored the impact of leadership styles on learning outcomes, such as residual knowledge of farmers in different regions of the Republic of Armenia. We have observed how different types of leadership styles influence the farmer's knowledge. We can conclude that the most effective style is the coaching style during which an extension specialist shares his experience and shows specifically how to do a certain technique; in contrast with other styles during which specialists directly command or support the teaching process. During the

coaching style, the specialist is provided with fewer behavior tasks while maintaining high relationship conduct. Therefore, we suggest to all regional agricultural support centers and other organizations to use the coaching leadership style in order to achieve success in communication with farmers.

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