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Communication Skills of Agricultural Sciences University Teachers in Iran

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Received: 11 May 2014,
Accepted: 11 Aug 2014

Abstract

This study concerns determining the factors that may influence the communication skill of those university teachers involved in the field of agricultural sciences in Iran. Accordingly, based on a cross-sectional survey method, a conceptual model of communication skill has been devised through reviewing the related literature. Next, the model was revised by the expert panel of the study into a seven-factor model with 58 variables. Then, this revised model was transformed into a questionnaire. Once the expert panel studied, revised and at last confirmed the questionnaire, it was submitted to the subjects, around 234 university teachers of agricultural sciences selected randomly from some main universities in Iran. In order to run Explanatory Factor Analysis (EFA), the obtained data were analyzed by SPSS software (version 16.00). Consequently, EFA explained three factors such as naturalness, eloquence and emotionalness as the main effective ones on teaching agriculture in the universities of Iran. Finally, it is worth mentioning that naturalness comprised six variables, eloquence was consisted of eight variables and emotionalness concerned three variables.

Keywords:
Agricultural education,
University teachers, Explanatory factor analysis

INTRODUCTION

It is generally believed that communication plays an indispensable role among human beings especially during recent years (Hamm, 2006). In other words, interpersonal contact is revealing its effect on promoting people in education, culture and social principles in an ever-increasing velocity (Hargie, 2006; Vargas, 2009). Moreover, out of the individuals in a society, young people are at the heart of the most prominent resources on which the future of a country may hinge (Eldelsky, 2006). Consequently, making the most of these valuable resources relies on an efficient and successful education system.

At the core of an education system, teachers are resided. Teachers have a deep-seated responsibility in the lives of their students. For example, a competent teacher may save a young student from a miserable life or enrich someone's patience and perseverance in encountering difficulties and achieve his/her unattainable goals. In contrast, an unqualified teacher may lead students to hate learning their lessons and deviate from the normal way of their lives. Therefore, this is a certainty that teachers should be experienced enough in communication skills especially in verbal and non-verbal aspects.

In spite of the fact that teachers are expected to be high in social communication, it is not

denied that some students of the modern world are getting weakened in motivation and enthusiasm for learning and studying their lessons. They may participate in their classes while they are feeling sleepy or they may pay no attention to what the teacher is saying and even lack the least spur for doing their homework. Some classes are heterogenous and some students show a disruptive behavior (Vargas, 2009). All of these complexities convey new challenges into teaching followed by new methods to manage them.

As it has already been revealed one of the most critical professions for the long term health of a society is teaching, especially in the field of agricultural sciences. Because as it has been indicated by (Arrington and Cheek, 1990; Boone *et al.*, 1987; Edwards and Briers, 2001; McLean and Camp, 2000; Warmbrod and Whittington, 2004) that teaching agriculture requires a high degree of communication skill and experience. As an agricultural teacher you are charged with a tremendous responsibility. You are supposed to enable the next generation of youngsters to acquire whatever skills they need for their future success in a career and in life in general, including behaviors such as "positive attitudes," "consideration for others," "good citizenship," and so on. To do this, it is expected to do more than presenting information. Moreover, it is re-

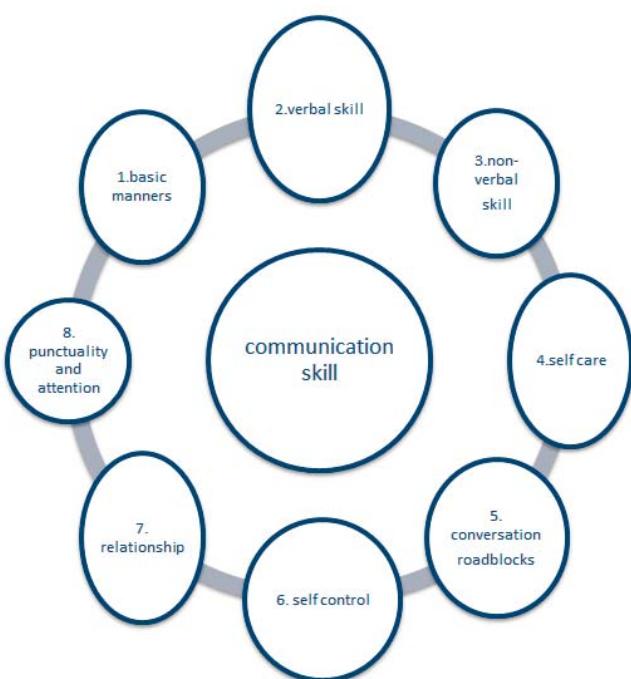


Figure 1: A theoretical model of communication skill

quired not only to design instructional procedures and activities that will improve agriculture students' academic and communication skill but also to monitor and improve agriculture teacher's effectiveness.

In view of that the importance of teachers' communication skill in the education system of a society has been highlighted, this study concerns determining factors influencing a communication skill of university teachers specialized in the field of agricultural sciences in Iran. Thus, a basic and conceptual model has been extracted out of some references such as [Riggio \(1986\)](#) and [Spitzberg \(2006\)](#) as it can be seen in figure 1.

The given model (figure 1) is consisted of eight factors revolving around the nucleus of "communication skill". As it can be inferred from the studies conducted in the field of teacher communication such as [Abedini et al. \(2013\)](#); [Pessoca De Carvalho, \(2010\)](#); [Qadami et al. \(2007\)](#); [Seyameyan et al. \(2012\)](#); [Torabipour and Zahiri, \(2012\)](#); [Wubbels and Brekelmans, \(2005\)](#); [Zlatića et al. \(2014\)](#); the present study seeks to determine the possible relevant factors and their related variables constituting university teachers' communication skill in classroom but with this difference and significance that it categorically concerns agricultural sciences university teachers in Iran.

MATERIALS AND METHODS

The study was based on a cross-sectional survey method. In view of that, a conceptual model of communication skill has been devised, as a point of departure, on the basis of reviewing the related literature. The given model was consisted of eight factors. The factors were arranged based on the [Riggio \(1986\)](#) and [Spitzberg's conceptual model \(2006\)](#) as follows: basic manners, verbal skill, non-verbal skill, self-care, conversation roadblocks, self-control, relationship, punctuality and attention.

To start with, in order to determine the content validity of the conceptual model, it was given to the expert panel, comprising 22 experienced professors of agricultural sciences. It is necessary to mention that the expert panel studied the model and almost all agreed that the eighth

factor (punctuality and attention such as the one who has difficulty with deadlines, difficulty with being on time for meetings and appointments, difficulty with remembering special occasions, being too organized or rigid, difficulty with managing money, bills, bank accounts, being disorganized with his or her possessions, domicile, he or she does not do what they agree to do, does not finish projects) had better be excluded from the model because the factor does not go together straightforwardly with the agricultural teachers' communication features in university classes. Therefore, the model has been revised and shrunk from eight factors towards seven. Then, in order to determine the content validity of the given model, it was requested from each expert to arrange the factors from the most important factors to the least important ones, according to their own way of judgment and accepted wisdom appropriate for teaching agricultural sciences in Iranian university classes. After that, SPSS software (version 16) was employed to determine how factors were ranked from the highest to the lowest ones. To enclose, these ranked factors indicated a revised outline for agricultural sciences university teachers' communication skill in an Iranian context. After this stage, in order to determine the reliability of the model through Cronbach's α and the correlated variables, the revised model was transformed into a questionnaire in which there were seven factors and 58 variables. The questionnaire has been confirmed by the expert panel to be distributed among 234 faculty members of agricultural sciences selected by simple random sampling. That is to say, according to the website report of some mother state universities of Iran such as Tehran, Shiraz, Ferdowsi of Mashhad, Tabriz and Guilan, the total number of the agricultural sciences faculty members in the mentioned universities selected as the statistical population of the study amounted to 580 ones. As a result, [Krejcie and Morgan's table \(1970\)](#) was employed to determine the sample size of the study as 234 faculty members. Next, the questionnaires were submitted to the selected faculty members either through their e-mails or in person. Although the received questionnaires

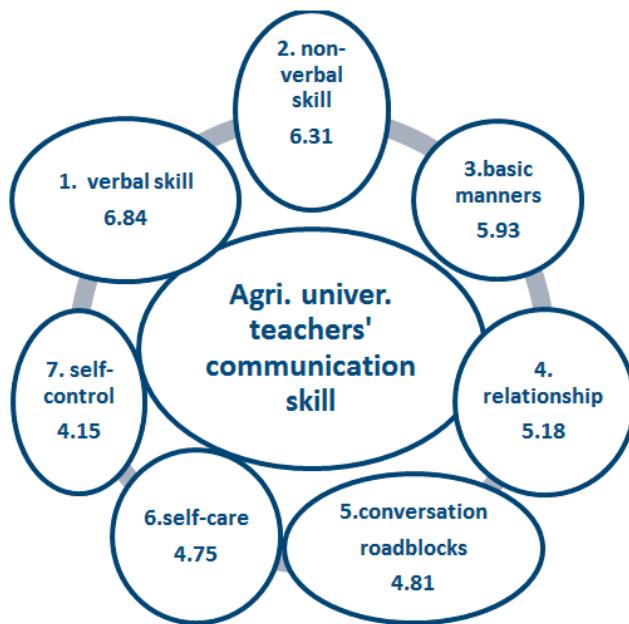


Figure 2: The revised model of communication skill for Iranian agricultural sciences university teachers

were totally reduced to 214, it is worth mentioning that the obtained data enclosed more than 90% of the total sample size. Before running EFA, the reliability of the questionnaire was calculated by Cronbach's α as a coefficient of 0.79 not to mention it was computed that the data were normally distributed based on Kolmograph-Smirnov normality test. Therefore, Explanatory Factor Analysis was conducted based on principle component analysis method with Varimax rotation.

RESULTS

The expert panel ranked the factors from the most important one with a score of 7 to the least important one with a score of 1. Hence, the mean rank given to verbal skill is the highest, 6.84. In contrast, the lowest mean goes to self-control, 4.15. In spite of the fact that self-care with the mean rank of 4.75 is close to the lowest rank. Likewise, the second rank belongs to non-verbal skill with the specified mean rank of 6.31 with a high discrepancy from the first mean rank. Consequently, the detailed results prove that verbal skill is strongly believed to be the most efficient factor in conversational skill of agricultural sciences university teachers in Iran as follows in figure 2.

The given model (figure 2) was transformed into a questionnaire and then submitted to the

subjects of the study. The obtained responses were fed into SPSS and then EFA was conducted. EFA exposed two notions: Firstly, Kaiser-Mayor-Olkin measure of sample adequacy revealed that the sample size of the study was as adequate as 0.82. Secondly, it was explained that there were three main groups in the category of agricultural sciences teachers' communication skills. The titles that the expert panel assigned to the explained groups follow as: 1. Naturalness, 2. Eloquence and 3. Emotionalness. The EFA explained factors and variables are shown in the table 1.

This table confirms that Eigen value plays an indispensable role in EFA. This is because of the fact that it is the total extraction sums of squared loadings of factors. Moreover, Eigen value describes to what extent each factor is effective to explain the common variance underlying the variables. In fact, Eigen value is one of the most necessary reasons in deciding the ultimate extracted factors (Dixon, 2005). To put it into simple language, if the Eigen value of a factor drops significantly, the factor is more likely to be eliminated. As a consequence, the seven-factor model of agricultural sciences teachers' communication skill has been reduced into a three-factor model in which the Eigen value of the selected factors were more than 1

Table1: Agricultural sciences teachers' communication skill factors and variables

Variables	Factor 1 Loading score	Factor 2 Loading score	Factor 3 Loading score
12.Being hopeful of future (having a positive attitude toward life)	0.99		
15.Having a confident voice	0.99		
5.Being able to express his/her feeling and opinion	0.99		
11.Having a good sense of humor(to use humor and stories while speaking)	0.99		
9. Being respectful and gentle	0.86		
22.Having tendency in group-working (he/she likes to work in groups)	0.86		
1.Speaking fluency (pauses, silences, "uh", etc.)		0.97	
4.Being articulate in speaking		0.97	
3.Vocal variety (neither overly monotone nor dramatic voice)		0.89	
18.To show appropriate mimic while speaking		0.89	
20.Using appropriate posture in conversation		0.88	
21.To use appropriate eye contact		0.88	
7.Changing usual language into a scientific language		0.77	
19.To use body language to emphasize what is being said		0.72	
29.Speaking about partner (involvement of a partner as a topic of conversation)			0.99
32.Using appreciation in order to encourage the partner to speak			0.99
37. Nodding of head in response to a partner's statements			0.99
Eigen value	6.14	3.77	2.29
Explained variance	27.91	17.17	10.41

such that the first group entitled as naturalness skill comprised questions: 12 (Being hopeful of future), 15 (Having a confident voice), 5 (Being able to express his/her feeling and opinion), 11 (Having a good sense of humor), 9 (Being respectful and gentle), and 22 (Having tendency in group-working). The second group entitled as eloquence skill is consisted of questions: 1 (Speaking fluency), 4 (Being articulate in speaking), 3 (Vocal variety), 18 (To show appropriate mimic while speaking), 20 (Using appropriate posture in conversation), 21 (To use appropriate eye contact), 7 (Changing usual language into a scientific language), and 19 (To use body language to emphasize what is being said). The third group emotionalness skill includes questions 29 (Speaking about partner), 32 (Using appreciation in order to encourage the partner to speak) and 37 (Nodding of head in response to a partner's statements). In general, the proposed model of EFA entails three factors (skills), the naturalness skill with six variables, the eloquence skill comprising eight factors and the emotionless skill engaging three variables. In this newly-designed model, the cumulative extraction sum of squared loadings seems to be

55.508 percent. The total variance explained for each group concerns 27.917 percent in favor of naturalness skill, 17.173 in support of eloquence skill and 10.418 for the favor of emotionalness skill. Similarly, in order to choose the proposed variables, the loading extent more than 0.5 percent has been considered as the acceptable level. As a result, some variables such as 8 (smiling and laughing), 24 (Initiation of new topics), 55 (Interruption of partner speaking turns) and 2 (Speaking about self) were omitted from the questionnaire because they did not meet the required loading level. Additionally, to facilitate verifying the reliability of the proposed model, a Cronbach's Alpha was used once more. The EFA proposed model was conformed to be reliable with a coefficient of 0.97. As it can be seen, in comparison to the reliability of the revised model of expert panel (0.79), this proposed model gained a higher reliability coefficient (0.97). Moreover, based on what has been achieved out of EFA, the expert panel proposed a newly-formed model for agricultural sciences teachers' communication skill in which there were three factors and 17 variables as it can be illustrated in the following diagram,

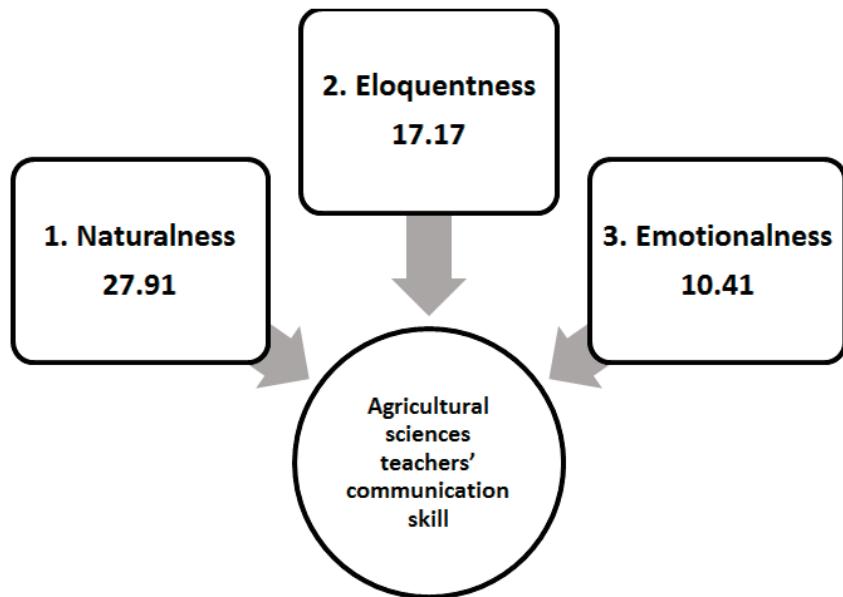


Figure 3: The EFA proposed model

showing each factor with its explained variance in figure 3.

DISCUSSION AND CONCLUSION

In the direction of answering the first and second question of the study, a comparison has been made for three models: [Riggio \(1986\)](#) and [Spitzburg's \(2006\)](#) conceptual model, the expert panel's revised model as well as the proposed model of the study. While the conceptual model gave emphasis to basic manners such as being polite in a dialogue and using appreciation with encouraging the partner to continue talking, as the first factor in a communication skill, on the contrary, in the revised model, the given skill has been selected as the third rank. In other words, the revised model accentuated verbal skill such as fluency and accuracy in speaking, as the most effective factor in the agricultural sciences teachers' communication skill, the notion which is consistent with [Zlatić et al. \(2014\)](#) and [Seyameyan et al. \(2012\)](#). On the other hand, EFA explained some variables like being hopeful of future (having a positive attitude toward life), having a confident voice, being able to express feeling and opinion and having a good sense of humor (to use humor and stories while speaking) with a loading extent of 0.995 as the main variables affecting agricultural sciences teachers' communication skill in universities

of Iran. Therefore, due to the internal characteristics of these communication variables, they were named as naturalness. Furthermore, the second important factor (eloquence) in agricultural sciences teachers' communication skill is consisted of some variables concerning the external uniqueness of a teacher such as being articulate, fluent as well as accurate in speaking, in spite of the fact that they are all the natural individualities, the idea couched in [Abedini et al. \(2013\)](#); [Qadami, \(2007\)](#); [Pessoca De Carvalho, \(2010\)](#); [Torabipour et al. \(2012\)](#); [Wubbels et al. \(2005\)](#). As a matter of fact, natural and eloquent characteristics of a teacher are considered to be the underlying and overlaying structures of communication skill. What it means is that the second skill (eloquence) is the realization of the former (naturalness). Grippingly, the communication won't be accomplished in case these personal skills seem to be effectual in other people, as well. And this belief requires the addition of the third skill pertaining to the emotional aspect of communication such as speaking about partner (involvement of a partner as a topic of conversation), using appreciation in order to encourage the partner to speak and nodding of head in response to a partner's statements. To recapitulate, this study revealed a model of agricultural sciences teachers' communication skill in Iranian universities. The model proposed

three factors such as naturalness, eloquence and emotionalness as the most significant factors shaping the configuration of communication skill. On the whole, the study could be further explored by Confirmatory Factor Analysis to verify the construct validity of the proposed model and at last, by employing Path Analysis as well as Structural Equational Modeling, the native model of the country may be constituted.

ACKNOWLEDGEMENT

This study has been conducted under the supportive involvement of the expert panel and the obliging contribution of Sh. Sobhe Zahedi specialized in the field of agriculture education, to whom the researchers are grateful.

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