

An Assessment of Internet Uses, Practices, and Barriers for Professional Development by Agricultural Teachers in Kermanshah Province, Iran

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Abstract

Received: 8 April 2013,
Reviewed: 14 May 2013,
Revised: 21 May 2013,
Accepted: 23 June 2013

Internet has been perhaps the most outstanding innovation in the field of communication in the history of mankind. The main purpose of this study was to explore the role of Internet in the professional development of teachers working in agricultural schools in Kermanshah Province (N=35). Census survey was used due to the small size of the statistical population. A questionnaire was developed based on literature and was administered to 35 agricultural teachers in Kermanshah agricultural schools. Results showed that the majority of teachers use Internet to search scholarly articles and acquire new information, to develop their professional interest. It was found that agricultural teachers have not fully utilized the Internet because of barriers related to time factor, accessibility, and facilities. Respondents had positive attitude to Internet uses and abilities. The findings also showed a positive and significant relationship between teaching experience and professional development of teachers. There was a significant and positive relationship between the level of education and professional development of teachers.

Keywords: Agricultural teacher, Internet, professional development.

1. Introduction

In The use of Information and Communication Technology (ICT) is becoming progressively more widespread throughout various sectors including agricultural education. One of the main components of agricultural education systems are teachers (Wisconsin, 2003). Therefore, improving the professional development of agricultural teachers through proper planning is essential. Agricultural teachers through training of skilled and professional people are considered among the most influential factors of educational systems (Wisconsin, 2003). Professional development is a continuous learning process for all levels of education in the learning community to help teachers in achieving their goals towards a brighter perspective. Professional development makes sure that teachers, content, processes, knowledge, skills and Qualified and prepared to teach learners to full fill their high levels of skill standards (Wisconsin, 2003).

Nowadays, with the development of tools for comprehensive information, particularly information technology development, the importance of technology in the professional development of teachers can be realized (Demirbilek, 2009).

Internet is a tool that has great potential to encourage and facilitate teaching and learning in

Agricultural Sciences and can serve as a new way to facilitate the processing of information, encouraging learners as responsible for their own learning and to help teachers understand as a facilitator to help learning process. Hence, the educational use of the Internet in daily life is growing increasingly (Demirbilek, 2009).

Policymakers and experts believe that the use of information technology capabilities and talents can have a significant impact on educational processes and outcomes (Drent & Meelissen, 2008). Because of this problem over the past decades, educator shaves a lot of pressure to make use of the abilities and talents of Information Technology (Al-Ammari, 2004; Accascina & Victor, 2003). Although information technology tools such as computers and the Internet for educational trainers is widely available these technologies are in the process of teaching and learning very limited (Holecombe, 2000; Shiroma, 2000; Shireesh, 2004). Research and empirical studies, which suggest that the combination of ICT in education has a tremendous impact as in any other field and is one of the most important strategies for improving the quality of education (Leng, 2008). A large part of researches is to examine the status of teachers and ICT which have emphasized that Technology is a tool that can help

teachers embody best practices to create enriched and collaborative learning environments, meet a variety of learning style needs, support learning transfer, address high-level thinking, make education equitable, incorporate real world problems and authentic assessments and prepare students for the need of lifelong learning (Coutinho, 2007).

Underwood et al. (2006) believe that when the field is provided for the effectiveness investments in ICT impact on educational standards in schools and likewise makes teachers more professional and committed to quality and quantity of their teaching. According to Mary (2004), the computer can also be useful for teachers and students. The Results of this research indicated that teachers need to have more training in computer skills. More than half of the teachers do not have access to any computer sites, while the benefits of computers to themselves are significantly higher than for students.

Hyosung (2004) shows that use of information technology by teachers directly influenced by feel of the usefulness of information technology and the individual factors, Teachers' attitudes toward information technology was in significant relationship with the use of information technology, The feeling of easiness in the use of IT has meaningful relationship with a sense of usefulness and use of information technology. In addition, environmental conditions and computer skills in the use of information technology by teachers was effective. However, several surveys on teachers' attitudes towards the use of information technology indicate that two-thirds of teachers has positive attitude towards the importance of ICT in teaching and learning process (Blair, 1997).

Research of Yaghoubi (2004) in Zanjan University designed to assessing factors affecting on Internet use by faculty members, result was that: Respondents have a positive attitude towards the Internet and there are positive and significant relationship between Internet usage and features such as computer skills, English language proficiency, age, occupation, and number of scientific and research activities.

Peckhamand & Iverson study (1999), about use of the Internet in Georgia agricultural education programs indicates that approximately 33% of teachers use the Internet and the main uses of the Internet in this program include: agricultural research resources, access to training programs and receive training plan from the Internet. The overall results of this study indicate that Internet in university agricultural programs has been used to a limited.

In another study, Layfield & Scanlon (1999) investigate the factors encouraging agricultural high school teachers to use the Internet, The results

showed that a significant relationship exists between the Education, Field of Study and Age of Teachers with rate of Internet use.

It also became clear that the most significant factors, for use of the Internet, are some options such as feel comfortable when working with computers, time and interest in learning to use the Internet, Existence skilled people and experts in field of Internet in educational Institute, having a partner who is skilled on the Internet and finally, access to a computer center with Internet facilities.

Results from the study of determine of Teachers' attitudes toward the Internet and use of it in Pennsylvania America showed that Teachers' attitudes to the Internet does not have a significant relationship with actual use of them from the Internet (Layfield & Scanlon, 1998).

Study on information-seeking behavior of faculty member of Iranian Research Organization for Science and Technology showed that the main motive of these people in searching information on the Internet are doing research work. Survey of Internet use by faculty member of Medical Sciences of Iran, Tehran, and Shahid Beheshti university show that the highest percentage of Internet users (82.7 percent) have less than 5 years working experience, and the professors use the Internet more than other groups and academic ranks, In this study the relationship between Internet use and academic rank was significant (Hazrati, 1377).

Panda and Mishra (2007) in their study found that these of computers and e-mail has a significant and positive correlation with attitude to E-learning, and the most important motivational factors in the use of e-learning for teaching includes: Personal interest in the use of technology, Intellectual challenges and Availability of the technical infrastructure.

Thus as described above, it is acknowledged that the Internet is widely used in educational institutions in order to expand the quality and quantity of training and professional development. With recent advances in information and communication technology, application of the Internet in teaching, learning and professional development of teachers is essential. And since this can have an important role in the professional development, the aim of this study was to investigate the role of Internet in the professional development of teachers. The research questions for this study are:

(1) To what extents does agricultural teachers' use the Internet?

(2) What are agricultural teachers' practices of using the Internet for agricultural teaching?

(3) What are the barriers that hinder agricultural teachers' use of the Internet?

(4) To what extent does the Internet contribute to the professional development of the agricultural teachers in Kermanshah Province?

2. Methods and materials

Thirty five full-time agricultural teachers, who were teaching in secondary agricultural schools in Kermanshah province, and more importantly, who were willing to participate in the study were contacted. A survey was the most effective research method in answering the research questions of this study, as well as reaching teachers to obtain data.

Questionnaires were given to the teachers personally. The 30 teachers answered the questionnaires. The main instrument for data collection was structured questionnaire, questionnaire was composed of four major sections include: Demographic characteristics, Ways of using the Internet for the professional development and barriers to using the Internet and their skills. Validity of Questionnaire was approved by members of the Faculty of Agriculture Razi University; Cronbach alpha indicates that reliability of the data is about 0.86. SPSS version 19 was used for data analysis. Descriptive statistics including mean, standard deviation and coefficient of variation were used for data analysis. Correlation was used for inferential statistics.

3. Results and discussion

3.1 Individual and Professional Characteristics of Teachers

Age and Literacy level

The results of research showed that average of educator's age was 34.3 years and 80 percent of them have post graduate. Teachers with graduate level are in the second rank. It should be noted, that there was a PHD student in the study.

Internet Accessibility of Teachers

About the Internet accessibility of teachers the results showed that 26 teachers (86.6%) at home and 12(40%) of them had access to the Internet in the training center.

In response to the question of whether they have a personal website? There were 22 negative responses to this question and also in response to a personal blog, 24 (80 percent) as they did not have a personal blog.

Average Hours of Internet Use by Teachers

Average hours of Internet use by teachers were about 5.3 hours during the week. Teachers that often use the Internet more than 5 hours per week had the highest frequency (46.6 percent). 16 respondents (53.33 percent) use e-mail every day. Accordingly, it

is obvious that the rate of Internet users has been growing gradually in the last few years.

Fields of Using the Internet in the Development of Professional Teachers

The results about Fields of using the Internet in the development of professional teachers are shown in table 1. The results show that most important use of the Internet for teachers is searching academic papers (mean = 4.6), The following items are: Access to the newest information (mean =4.53), Access to the learning opportunities (mean =4.3) Expansion of experience In order to achieve success in the job (mean =4.3), Knowledge about educational issues of the day (mean =4.27). The results also show that Both variables of entertainment (average =2.93) and chatting (mean =1.9) In terms of Fields of using the Internet, are as the least important.

The development of information technology at the university and society level requires preparation of some equipment. In other words, Facilities shall be provided to access the Internet. The main barriers to use of the Internet are shown in Table 2. Low- speed Internet (mean =3.6), Pay to get the papers (mean =3.57), Problems to get specific subjects (mean = 3.37), Limited resources to purchase computers (mean = 3.23) Lack of time to make more use of the Internet (mean = 3.2).

Attitudes of Agricultural teachers toward Features of the Internet were assessed in 8 items (Table 3). Result showed that overall, respondents had positive attitude to Internet uses and abilities. The cost of using the Internet is low compared to other reference sources (Mean =4.67), Use of the Internet is useful for teachers (Mean=4.6), Internet Usage for professional development of teachers (Mean=4.6), Feeling the need for Internet is an important factor to use of it (Mean=4.37). It should be noted that these results represent teachers tend to apply this technology.

Result about Knowledge of teachers from various fields of ICT presented in Table 4. Result show that respondents knowledge in Yahoo (mean = 4.37) is more than the other cases and then respondent's knowledge in Google, Windows and Word are located in the next categories. Teachers' knowledge in Excel was lowest (mean = 3.6).

3.2 Correlation between Individual and Professional Characteristics with Professional Development of Teachers

Correlation between the independent and dependent variables showed a positive and significant relationship between age and development of professional teachers. This means that teachers who are older have more professional development. The findings also showed a positive and significant relationship between teaching experience and

professional development of teachers with 95% confidence. This means that Teachers, who have more teaching experience, have more professional development. There is a significant and positive

relationship with 95% confidence between the level of education and professional development of teachers.

Table 1. The Internet's role in the professional development of teachers and Fields of using the Internet (N=30).

Items	Mean	sd	CV
Searching academic papers	4.6	0.49	0.1
Access to the newest information	4.53	1.04	0.22
Access to the learning opportunities	4.3	0.65	0.15
Expansion of experience in order to achieve success in the job	4.3	0.83	0.19
Access to the latest news of economic, political, etc.	4.3	0.84	0.19
Knowledge about educational issues of the day	4.27	0.9	0.21
Sharing ideas with other teachers	4.2	0.71	0.16
Searching information about agricultural sciences	4.17	0.79	0.18
Improvement of teaching skills	4.1	0.8	0.19
Acquiring information about the status of agricultural development	4.07	1.01	0.24
Getting motivation to work	4.03	0.92	0.22
Access to global information	4.1	0.66	0.16
Improve their knowledge of English language	4.1	0.99	0.24
E-mail	4.1	0.8	0.19
Academic and scientific	4.1	1.18	0.28
To save time	4	0.91	0.22
To learn teaching methods	4	0.78	0.19
To read online journals and scientific articles	4	1.01	0.25
To learn new skills in practical farming	3.97	0.89	0.22
To keep interest for continue to teaching	3.77	0.97	0.25
Preparing for being creative and innovative	3.77	1.22	0.32
Facilitating the ability to think	3.87	1.01	0.26
Membership in the professional associations	3.6	0.96	0.26
Finding new subjects to offer to the students teaching creative activities for students	3.87	0.97	0.25
Finding the exercises and homework for students	3.4	0.96	0.28
Find questions for exams	3.5	1.07	0.3
Finding the lesson plans	3.7	1.31	0.43
Updating personal information	3.83	1.02	0.27
Access to the newest scientific findings in the special field of teachers	3.93	1.05	0.27
Access to special books related to their field from the Internet	3.63	1.08	0.27
Offer advisory services to teachers via the Internet	3.53	1.24	0.34
Correspondence with local experts in their field	3.9	1.38	0.39
Communicate with external experts in their field	3.73	0.99	0.25
Using the Internet to check the students homework	3.43	1.3	0.37
Entertainment	2.93	1.61	0.54
Chat	1.9	1.37	0.72

Table 2. Barriers to use of the Internet by teachers of agricultural Sciences (N=30)

Items	Mean	sd
Low-speed Internet	3.6	1.4
Pay to get the papers	3.57	1.27
Problems to get specific subjects	3.37	1.35
Limited resources to purchase computers	3.23	0.72
Lack of time to make more use of the Internet	3.2	1.15
Weaknesses in the way of Internet Search	2.9	1.39
Little knowledge of computers	2.63	1.27
Lack of skills in use of the Internet	2.5	1.22
It is difficult to learn the using f the Internet	2.23	1.19

Table 3. Teachers' attitudes about the Internet features (N=30)

Items	Mean	sd
The cost of using the Internet is low compared to other reference sources	4.67	1.24
According to the process of developments now a days use of the Internet for professional development of teachers is an essential	4.6	0.77
Use of the Internet is useful for teachers	4.6	1.03
Feeling the need for Internet is an important factor to use of it	4.37	0.8
Use of the Internet leads to an increased interest in teaching	4.27	0.94
Information on the Internet is comprehensive and useful	4.2	0.92
According to the fast process of changes, today, the Internet is critical in training activities	4.03	0.92
Use of other teachers from the Internet is an important factoring encouraging people to use the Internet	4	0.64

Table 4. Knowledge of teachers from various fields of ICT. (N=30)

Items	Mean	sd
yahoo	4.37	0.71
Google	4.3	0.7
windows	4.07	0.86
word	4	1.14
Power point	3.97	0.85
Excel	3.6	1.07

Table 5. The correlation between individual characteristics and professional development of teachers

Variable	Correlation coefficient	sig
Age	0.425	0.019
Teaching experience	0.432	0.017
Education	0.56	0.01

4. Conclusion and Recommendations

Average of teaching experience teachers are about 6 years, which reflects their good working experience. The results indicate that the average age of teachers is about 35 years, younger teaching force that reflects the use of young people in educational centers. In terms of education, teachers with a bachelor's degree are the most frequent that which represents high level of awareness and knowledge in the teachers. Average hours of Internet use by teachers are about 5.3 hours per week. This shows that most teachers have access to the Internet and are interested in to use it in their work. Therefore, adequate facilities must be provided to access the Internet, So that the professional development be achieved quickly. It should be noted also that 60 percent of respondents do not have access to the Internet in educational centers.

According to these findings, it is recommended that facilities be given to teachers who have access to computers at home or in the workplace. Based on these findings, most of the statistical population uses the Internet to conduct research activities (scholarly articles search) as well as more than half of statistical population have been

referred to the internet once per day, This finding is in agreement with Hazraties's (1998) findings.

Low speed and high cost of Internet is a serious problem for teachers. Therefore, appropriate policies can be equipped training centers to affordable internet access. Adding lines and Bandwidth also are ways to solve the problem of low internet speed. Teachers in this study mentioned the Internet as an important tool to increase their access to information and professional development. As shown in Table 1 was considered most teachers use the Internet to access articles and information that demonstrates professional growth among them. And despite the many obstacles in the process, it is suggested that this is an important instrument should be available to teachers.

Considering the obstacles faced by teachers, it is suggested that this useful instrument should be provided and must be acknowledged that the development of Internet usage is one of the pillars of professional development of teachers. Results showed that computer knowledge of teachers with Yahoo and Google have more than other cases, because it is necessary to use these programs to communicate with others and Ease of use of them. The remarkable thing is that the future of teachers

working and survival of the organization largely depends on the mastering and use of these new technologies. Must the educational centers by organizing training courses provide professional and efficient use of the Internet.

Results of correlation analysis revealed that there was a statistically significant and positive correlation between the age, level of education, and teachers teaching experience and professional development. This means that with an increase in age, level of education and teaching experience, professional development of teachers will also increase.

This shows that the important of long-term training programs for teachers. Then possible to state that with increasing age, educational level and years of teaching experience, it can be concluded that the effort and experience of teachers is more to professional development. These findings of the study are in agreement with Yaghoubi (2004); Layfield & Scanlon, (1999) findings.

The general inferences that good teachers' attitudes to the Internet, one of the main preconditions for the use of these technologies by them. So the time has come to apply these technologies in education and it is suggested that to stabilize and strengthen positive attitudes in the use of Internet, the material and moral incentives that commensurate with the educational level of teachers should be provided.

Although the findings showed that a majority of respondents have considerable knowledge of the Internet and its features however, due to its important role in the present age it is recommended to hold training courses to learn how to use the Internet.

Acknowledge

This paper has been extracted from the research project entitled "The Internet's role in the professional development of agricultural teachers: the case of Kermanshah Province, Iran" that benefited from financial support of Islamic Azad University, Kermanshah Branch. The authors thank the department of Agricultural Extension and Education, Razi University, Kermanshah, Iran for providing the research facilities.

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