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Research Paper

Trends in Iranian Agricultural Education Articles: A Five-Year Look (2013-2017)

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Abstract

The purpose of this study was to analyze the trend of scientific articles in the field of agricultural education. The statistical population of the study consisted of all agricultural education articles published in three scientific journals from the years 2013 to 2017 (N =198). SPSS and EXCEL software used to analyze the data. The findings showed that the journals upgraded during the studied years, which indicated improvement of the journals. In terms of publication the agricultural education article versus other fields of study, the results indicated that the articles, with the exception of growth in the year 2015, had a decreasing trend. Articles with three authors had the most frequency. According to the findings: The most used software was SPSS, the most used method was quantitative research, the most tool for collecting data was questionnaire, and the most source for gathering data was student. Also, the most relevant subject was quality of education, teaching and learning. Finally, based on the findings, it is recommended that the needs of labor market, industry and society be considered for conducting applied and developmental researches.

Keywords:
Agricultural education; content analysis; Iran; research

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INTRODUCTION

Conducting research is an inevitable necessity of society (Yazdi Moghaddam & Mohammadi, 2007) and scientific researches results are of importance; because they not only affect implications in scientific areas but also serve as a guide for implementers (Karadağ, 2009). Research is a systematic process for the production and creation of knowledge and it can be used as a powerful tool for information generation and management decision-making (Fielden et al., 2007; Noroozi et al., 2012). On the other hand, research is one of the missions of universities and professors and students of various academic disciplines carry out fundamental, applied and developmental researches in order that the results of research are used in decision-making and policy-making. Therefore, research in different fields of science is growing rapidly and the evidence is the growth rate of scientific articles. Tavakolizadeh et al. (2016), in the study of one decade of scientific contribution by Iranian researchers to Persian journals found that the field of humanities had the highest level of scientific production. Also, the greatest number of papers in the field of agriculture belonged to the subfield of agronomy; in the field of engineering, it was the subfield of chemistry, oil and polymer; and in the field of science it belonged to the subfield of biology. According to the findings, the average annual growth rate of publications during the years was 26.2 percent for humanities, 5.8 percent for engineering, 28.9 percent for agriculture, veterinary and natural resources and 29.2 percent for science. Osareh and Wilson (2002); (cited in Zamani & Azizi, 2011) found that between 1995 and 1999, about 8.9 percent of the Iranian scientific articles published at SCI database related to agriculture and related disciplines.

The researchers, in order to plan for research, need some type of framework that show them where they have been, and where they can or should go (Crunkilton, 1988). For research results to disseminate fast and up-to-date and be available for the widest possible audience, they must be published as article and in a scientific journal (Hamedinia & AmiriParsa, 2017; Majidi et al., 2018; Riahinia & Navabinejad 2011). One of the purposes of any Journal is to transmit ideas and make the readers utilize the recommendations (Fazely, 2010). Given the fact that research and publication of it has significant costs to researchers, universities, and research institutes; the evaluation of research is an important issue. One of the most effective methods for assessing the status of researches is the use of scientometrics by reviewing research articles published in scientific Journals (Hamedinia & AmiriParsa, 2017). Accordingly, over the years and in various scientific fields, the published articles were examined and analyzed. So, items such as: number of authors (Akaydın & Akif Çeçen, 2015), authors' gender (Arabiun et al., 2015; Ghahnoyeh et al., 2011), academic degrees (Ghahnoyeh et al., 2011), organizational affiliation (Ghahnoyeh et al., 2011; Hamedinia & AmiriParsa, 2017), and research method (Abolfathi Momtaz et al., 2017; Akaydın & Akif Çeçen, 2015; Arabiun et al. 2015; Donald & Ng, 2014; Eğmir et al., 2017; Ghahnoyeh et al., 2011; Mehram & Tavanaee Shahroudi, 2009). Also, subject matter of articles were reviewed to group the topics under appropriate categories, based on central themes, titles of the research study, or summaries of abstracts (Abolfathi Momtaz et al., 2017; Alias et al., 2013; Allahyari et al., 2015; Buboltz et al., 2010; Edgar et al., 2008; Ershad Sarabi et al., 2010; Mehram & Tavanaee Shahroudi, 2009).

The agriculture sector is one of the most important and fundamental economic sectors and supporting this sector is substantial in many countries (Panahi & Ziaee Mehr, 2017). In the field of agriculture, technological innovations are one of the significant factors in the development of agriculture. These innovations lead to the modernization of traditional agriculture and improving human control over natural resources and the exploitation of it (Opara, 2004). Agricultural education plays a key role in the production,

dissemination and application of knowledge in agricultural-related occupations (Lemma & Hoffman, 2006). The future of agricultural education depends on the acquisition and application of new knowledge via research (Dyer et al., 2003). In other words, it is very important to carry out applied and developmental researches in the field of agricultural education in order to improve its function and effectiveness. Researchers publish and disseminate the finding of their researches in many different ways, such as professional journals. The first Journal in agriculture called "*Agriculture De France*", published in Paris (1763) followed by "Census Agriculture" published in Washington (1840). By the middle of 19th century, many journals published from various countries on agriculture and related subjects (Fazely, 2010). Since the 1990s, rapid growth in research and publication of agricultural education has resulted in great growth of agricultural literature (Radhakrishna & Jackson, 1995; cited in Edgar et al., 2009). The analysis of articles in scientific journals is one of the significant themes that different researches are done. Radhakrishna and Xu (1997) in reviewing the subject matter topics researched in agricultural and extension education found that the top five subject matter topics researched during the studied years were: secondary agriculture programs, learning styles/theory, extension education, professionalism, and agriculture mechanics/engineering. Ravi and Selvaraj (1998) in analyzing the content of *Journal of Extension Education* found that most of the papers were research articles (72.69%) followed by research notes (19.68%), conceptual articles (6.02%) and book reviews. Edgar (2010) in an analysis of the literature cited in the *Journal of International Agricultural and Extension Education (JIAEE)* found that the Journal relied heavily on books, journals, conference proceedings and other literacy works that cover an expansive works. Fazely (2010) found that amongst various topics, agronomy articles had the largest share with respect to number of articles (25.03%). MalekMohammadi (2008) investigated the articles published in Iranian Journals on *Agriculture and Natural Resources* between the years 1905 to 2003 based on thematic areas. The findings showed that 81percent of the articles were in the field of agriculture. More than 95percent were quantitative type and 5percent were qualitative type. From the thematic area, the topics of agronomy and plant breeding had the highest number of articles, and agricultural extension and education had the lowest number of articles. Allahyari et al. (2015) analyzed the content of Iranian articles on agricultural extension and education during the years 2009-2013. The results showed that descriptive-correlational was the most common methods used in researches. Out of 781 articles, 719 articles were written as a result of group participation and the rest (62 articles) were individually written. The highest frequency distribution of the authors in terms of academic rank related to assistant professors. According to the research findings, one article had review type, 10 articles used mixed method, 18 articles were qualitative and the rest (752 articles) were quantitative. Also, multiple regression methods were used as the most common statistical method. Pathology of research findings publication in agriculture could be classified in three areas, including publishing context, publishing structure, and publishing behavior (Bijani et al., 2018). Majidi et al. (2017) found that "problem statement and research method", "weakness of titles and analysis" and "innovativeness and applicability" were significant factors change publication quality of scientific articles.

Totally, due to the importance of scientific journals, it is necessary that the journals and published articles be reviewed periodically; which was suggested by researchers (Allahyari et al., 2015; Radhakrishna & Xu, 1997). Therefore, in addition to a comprehensive view of the trends and the scientific status of the journals, it is utile to improve their quality. Also, planning for future research activities requires review of previous studies and

researches. Based on the aforementioned issues, the aim of this study was a five-year look (2013 to 2017) on the trend of articles in the field of agricultural education.

METHODOLOGY

In this study, the content analysis method was used. The content analysis can be considered under three titles including descriptive content analysis, thematic content analysis, and meta-analysis (Çalık & Sözbilir, 2014). This study conducted under the title of descriptive content analysis because it provided information on the trends of the articles in the field of agricultural education, which was published in the years 2013-2017 in the *Journal of Agricultural Education Administration Research (JAEAR), Iranian Journal of Agricultural Economics and Development Research (IJAEDR), and Iranian Agricultural Extension and Education Journal (IAEEJ).* Descriptive research is conducted with the aim of describing the present situation of a phenomenon or object. Today the results of this kind of researches have significant contribution for decision-making (Mostakhdemin Hosseini, 2015). The reason for choosing these three journals was that they publish more articles in the field of agricultural education. However, some agricultural education articles are also published in other journals such as The International Journal of Agricultural Management and Development, *Journal of Research and Planning in Higher Education, Journal of New Approaches in Educational Administration,* and etc. All published articles in the field of agricultural education in the aforementioned scientific journals during 2013 to 2017 (N=198 article) were examined.

(A) *Journal of Agricultural Education Administration Research* (ISSN=1735-6652): This quarterly journal aims to raise the scientific level in theoretical and applied principles of teaching models, the best national and international experiences, the factors participate in education and training, and technology in agricultural education. This journal aims to provide a clear vision for planners, policymakers and other interested parties in implementing a new and accurate agriculture in the country. The publisher of the journal is the Agricultural Research, Education and Extension Organization.

(B) *Iranian Journal of Agricultural Economics and Development Research* (ISSN=2008-4838): This quarterly Journal aims to provide an intellectual environment for national researchers and focus on the topics such as economics, extension, education, agricultural development and rural management. This Journal is published in response to advances made in the aforementioned fields and the purpose is to publish quality articles that report findings related to the major issues of the sciences. The publisher of the journal is the University of Tehran.

(C) *Iranian Agricultural Extension and Education Journal* (ISSN=2008-1758): This journal deals with research articles in the following fields of research: agricultural extension, formal and informal agricultural education, human dimensions of agricultural development, rural development, agriculture entrepreneurship, agricultural and rural cooperatives, rural innovations, rural women, rural youth, conservation of the environment, and production resources in the agricultural sector. The publisher of the journal is Iranian Agricultural Extension and Education Association.

In order to review the articles published during the years, the census method used and all the published articles in the field of agricultural education were selected. The research tool was a checklist that included items on the organizational affiliation of correspondence author and first author, the number of authors, the academic rank of the first author and the correspondence author, the research method, the source of data collection, data collection tool, the software, and the thematic areas of the articles. Descriptive statistics (including frequency and percentage) conducted to analyze data, using SPSS and EXCEL software.

RESULTS

According to the national scientific journals database[1] (MSRT, 2018), the rank and score of all the three studied Journals has increased over the years, which indicate a qualitative improvement of the journals. The results on the trend of published articles in the field of agricultural education showed that over the years (2013 to 2017), a total of 657 articles have been published in the journals, of which 198 articles (30.1%) was in the field of agricultural education. The trend of published articles showed that in 2013, 37.9percent of the articles were in the field of agricultural education. In the period from 2014 to 2016, 28.3 percent, 33.6percent and 26.7 percent of articles were in the field of agricultural education. Finally, in 2017, 24.6 percent of the published articles were in the field of agricultural education. As it can be seen, the trend in the publication of articles in the field of agricultural education has been declining (with the exception of the growth that existed in 2015).

According to the regionalization of universities and higher education institutions of the country, universities divided into ten regions as follows:

Region 1: Provinces (Tehran and Alborz),
Region 2: Provinces (Gilan, Mazandaran and Golestan),
Region 3: Provinces (East Azarbaijan , West Azarbaijan , Ardebil and Zanjan),
Region 4: Provinces (Hamedan , Qazvin , Qom and Markazi),
Region 5: Provinces (Kermanshah , Kurdistan, Ilam and Lorestan),
Region 6: Provinces (Isfahan, Yazd , Chahar Mahal and Bakhtiari),
Region 7: Provinces (Fars,Bushehr,Kohgiluyeh and Boyer-Ahmad),
Region 8: Provinces (Kerman,Sistan and Baluchestan and Hormozgan),
Region 9: Provinces (Khorasan Razavi , North Khorasan , South Khorasan and Semnan),
Region 10: Provinces (Khuzestan).

Based on Table 1 for organizational affiliation of correspondence author, ten regions with the Islamic Azad/PayameNoor University and organization/research institute have been identified and the organizational affiliations of the correspondence author were placed in the relevant groups. As it can be seen, during 2013, 2014 and 2015, the highest percentage was related to region 1. In 2016, the highest percentage was in region 4, and again in 2017, region one had the highest percentage (Table 1). About the universities, in the years 2013 and 2014, the highest percentage of the correspondence author was for University of Tehran (2013=27.9%, 2014= 31.4%). In 2015, the highest percentage was for the University of Zanjan (19.1%). In 2016, the highest percentage was for University of Bu-Ali Sina (21.1%), and in 2017, Universities of Tehran, Tarbiat Modarres, and Zanjan had the same percentages (13.3% each).

The results of the organizational affiliation of the first author (Table 2) showed that during 2013, 2014 and 2015, the highest percentage was related to region 1. The percentage in region 1 from 2013 to 2016 was decreased (2013= 39%, 2014= 38%, 2015= 23.4%, 2016= 19.4%) and in 2017 was increased (23.3%). In 2016, the highest percentage was in region 4 (22.2%), and again in 2017, region one had the highest percentage (Table 2). About universities, during 2013 and 2014, the highest percentage was in University of Tehran (2013= 32.5%, 2014= 30.5%). In 2015, the highest percentage related to Tehran University and Zanjan University (19.1% each). In 2016, the highest percentage was in Bu-Ali Sina University (22.2%), and in 2017, the universities of Tehran and Zanjan had the same percentage (13.3% each).

[1] http://journals.msrt.ir

Table 1

Organizational Affiliation of Correspondence Author

	2013		2014		2015		2016		2017	
	f	%	f	%	f	%	fF	%	f	%
Region 1	14	32.5	14	40.0	11	23.4	6	15.8	8	26.7
Region 2	4	9.4	2	5.8	2	4.3	2	5.3	2	6.7
Region 3	-	-	3	8.6	10	21.3	5	13.1	5	16.6
Region 4	2	4.7	1	2.8	1	2.1	8	21.1	2	6.7
Region 5	8	18.6	5	14.3	5	10.6	5	13.1	5	16.6
Region 6	-	-	-	-	-	-	-	-	-	-
Region 7	2	4.7	2	5.7	2	4.3	-	-	-	-
Region 8	2	4.7	1	2.8	3	6.4	2	5.3	-	-
Region 9	-	-	-	-	-	-	-	-	-	-
Region 10	3	6.9	3	8.6	6	12.7	5	13.1	2	6.7
Azad/PayameNoor University	5	11.6	3	8.6	2	4.3	2	5.3	3	10.0
Organization/ research institute	3	6.9	1	2.8	5	10.6	3	7.9	3	10.0

Table 2

Organizational Affiliation of The First Author

	2013		2014		2015		2016		2017	
	f	%	f	%	f	%	f	%	f	%
Region 1	16	39.0	14	38.9	11	23.4	7	19.4	7	23.3
Region 2	4	9.7	1	2.8	2	4.2	2	5.6	2	6.7
Region 3	-	-	3	8.3	10	21.3	5	13.9	5	16.7
Region 4	2	4.9	1	2.8	1	2.1	8	22.2	3	10.0
Region 5	7	17.1	5	13.9	6	12.8	5	13.9	4	13.3
Region 6	-	-	-	-	-	-	-	-	-	-
Region 7	2	4.9	3	8.3	1	2.1	-	-	-	-
Region 8	-	-	2	5.6	3	6.4	-	-	-	-
Region 9	-	-	-	-	-	-	-	-	-	-
Region 10	2	4.9	3	8.3	6	12.8	4	11.1	2	6.7
Azad/PayameNoor University	5	12.2	3	8.3	3	6.4	3	8.3	3	10.0
Organization/ research institute	3	7.3	1	2.8	4	8.5	2	5.6	4	13.3

Findings on the number of authors showed that in the all studied years, the highest percentage related to "three authors". In 2013, there was no article with one author. In 2014, the percentage of the article with five authors was the lowest, and second, there were articles with one author. During 2015, 2016, and 2017, the lowest percentage of articles related to five authors (Figure 1).

In response to the question of whether the first author is the correspondence author. The findings indicated "the first author is correspondence author" has been the most percentage in the all years. The trend over the years showed that in 2014, compared with 2013, the percentage of articles that "the first author is correspondence" was also increased. From 2015 to 2017, this trend showed downturn (Figure 2).

The results on academic rank of the first author showed that the highest percentage in 2013 belonged to master degree and faculty members (equally). In 2014, the highest percentage was master degree. During 2015, 2016, and 2017, the highest percentage belonged to faculty members. The trends on academic rank: the master degree grew in 2013 and 2014, and then decreased until 2016, and increased in 2017. PhD: during 2013 and 2014, the percentage has decreased and then increased in 2015, decreasing in 2016 and increasing in 2017. Faculty member: decreased in 2013 and 2014 and increased in 2015 and 2016, and in 2017 was decreased (Figure 3).

The results on academic rank of the correspondence author (Figure 4) showed that: Master: during 2013 and 2014 increases and from 2015 to 2017 decreases. PhD: Decreased from 2013 to 2014, then increased in 2015 and 2016, and again decreased in 2017. Faculty member: Decreased from 2013 to 2014 and increased from 2015 to 2017. The results showed that the highest percentage in 2013 was for faculty members, in 2014, the highest percentage was for master. During 2015 to 2017, the most percentage were for faculty members.

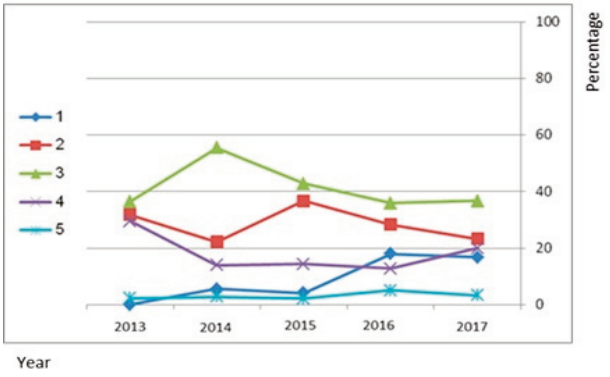

Figure 1. Number of authors (percentage)

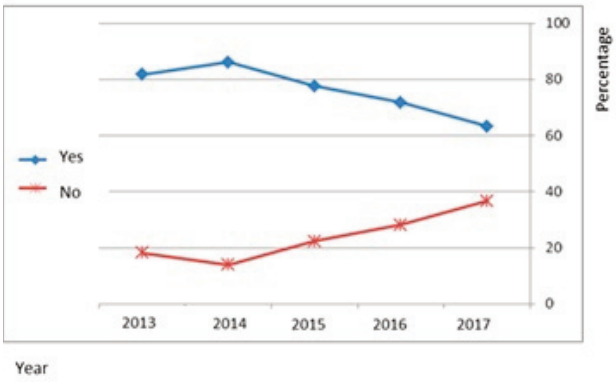

Figure 2. First author is the correspondence author (percentage)

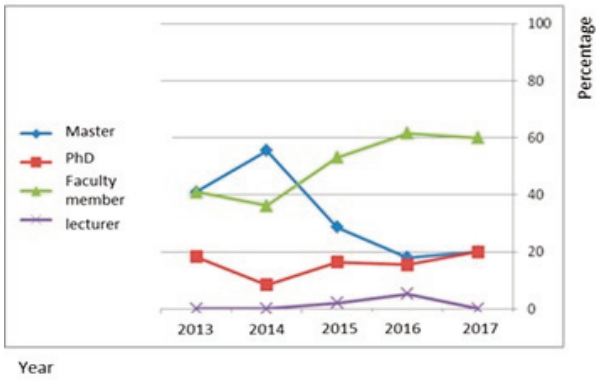

Figure 3. Academic rank of the first author (percentage)

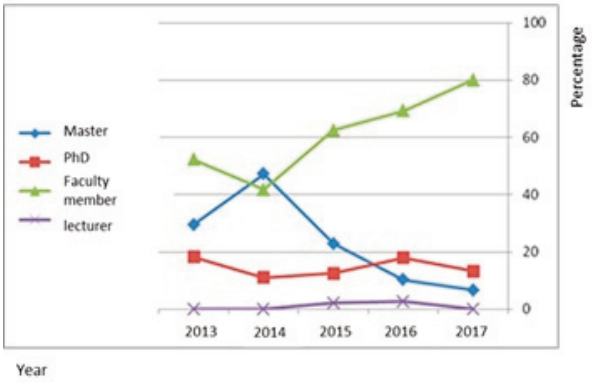

Figure 4. Academic rank of the correspondence author (percentage)

The results showed that the highest percentage of the source of data collection related to students (Figure 5). The trend of changes in each of the sources of data collection was as follows: Student: From 2013 to 2014, the trend was ascending and from 2015 to 2017, the trend was descending. Faculty member: Decreased from 2013 to 2015 and increased during 2016 and 2017. Graduated: From 2013 to 2014, the trend was descending and from 2015, the trend was ascending.

The results on data collection tool showed that the researcher-made questionnaire had the highest percentage in the five studied years (Figure 6).

The results of research methods (Figure 7) showed that the use of quantitative method increased from 2013 to 2015, and decreased from 2016 to 2017. Qualitative method: from 2016 to 2017, had a significant growth. Mixed method: In 2013 and 2014, the mixed method did not used. However, from 2015 to 2017, the use of this research method has increased.

The results of the used software (Table 3) showed that the highest percentage was SPSS software in all the 5 years. However, the trend of using this software during 2013 to 2017 was descending, from 86.3percent in 2013 to 60percent in 2017. In contrast, the modeling software (Amos, Lisreal, and PLS) has increased from 2013 to 2015. In 2016, the use of this software showed decrease, and in 2017, the increase observed (35%). The findings indicated that R/SAS software has been used in articles since 2015.

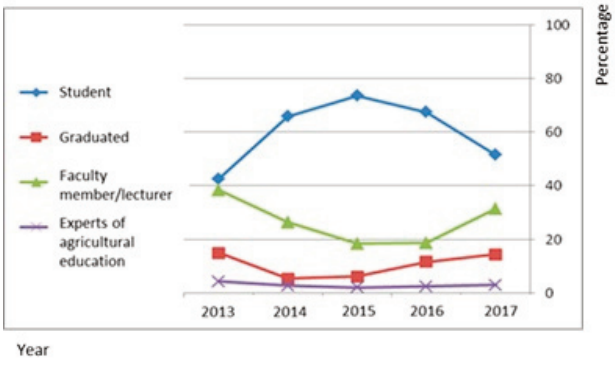

Figure 5. Source of data collection (percentage)

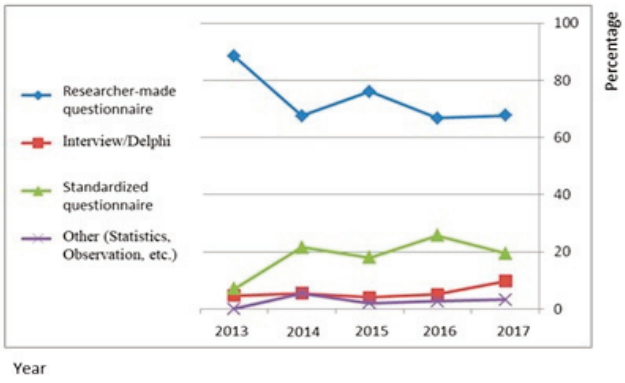

Figure 6. Data collection tool (percentage)

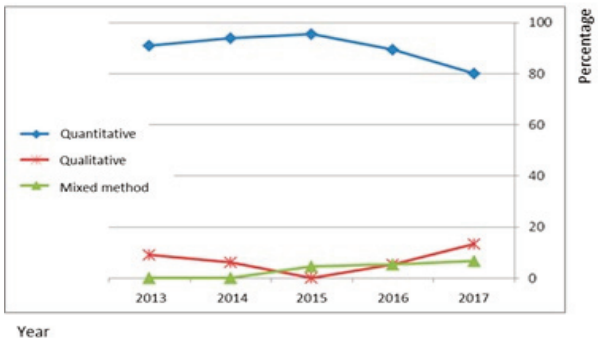

Figure 7. Research methods (Percentage)

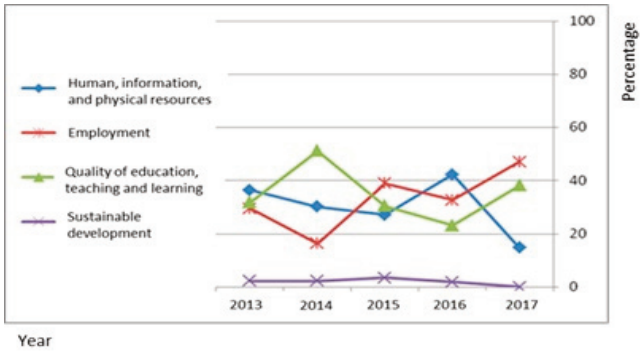

Figure 8. Thematic areas of articles (percentage)

Table 3
Result of Used Software

	2013		2014		2015		2016		2017	
	f	%	f	%	f	%	f	%	f	%
SPSS	38	86.3	30	81.1	38	71.7	31	68.9	24	60.0
Modeling software (Amos, Lisreal, and PLS)	4	9.1	6	16.2	12	22.6	8	17.9	14	35.0
R/SAS	-	-	-	-	1	1.9	2	4.4	1	2.5
Excel	1	2.3	1	2.7	1	1.9	2	4.4	-	-
NVivo	-	-	-	-	-	-	-	-	1	2.5
Topsis and AHP/expert choice	1	2.3	-	-	1	1.9	2	4.4	-	-

Table 4
Thematic Areas of the Articles

Domains	Sub-domains	2013		2014		2015		2016		2017	
		f	%	f	%	f	%	f	%	f	%
Human, information, and physical resources	Information resources, Information technology	2	4.5	4	9.3	5	8.5	2	3.8	1	2.9
	Organizational and human resources development	11	25.0	5	11.6	4	6.8	9	17.3	4	11.8
	Psychological characteristics (creativity, creative thinking, etc.)	3	6.8	4	9.3	7	11.8	11	21.2	-	-
Employment	Entrepreneurship and self-employment	7	15.9	5	11.6	18	30.5	13	25.0	12	35.3
	Employment and unemployment	6	13.6	2	4.6	5	8.5	4	7.7	4	11.8
Quality of education, teaching and learning	Curriculum, teaching and learning	9	20.5	8	18.7	6	10.2	7	13.5	3	8.8
	motivation to study, progress and academic achievement	-	.	6	13.9	4	6.8	4	7.7	6	17.6
	Quality in agricultural education	5	11.4	8	18.7	8	13.5	1	1.9	4	11.8
Sustainable development	Sustainable development and the environment	1	2.3	1	2.3	2	3.4	1	1.9	-	-

To study thematic areas of the articles, domains and sub-domains grouped and categorization made. The results of thematic grouped of the articles are shown in Table 4.

The results for thematic areas (Figure 8) showed that sustainable development had the least published articles over the years.

DISCUSSION AND CONCLUSION

In recent years, many researchers have been carried out in the field of agriculture in general and in the field of agricultural education in particular. Specially, with the increase in the number of graduate students, the number of research articles has grown. Zamani and Azizi (2011) also stated this issue and added that many national journals have good quantitative and qualitative growth. Since scientific journals have an important role in development of scientific disciplines, as stated by Zamani and Azizi (2011), it is necessary to review trends of the articles publish in the journals. The results showed that, in total, the highest percentage of articles related to papers with the three authors and then papers with two authors. Papers with one author were less than ten percent. Allahyari et al. (2015) found that the highest percentage of articles related to papers with two authors. They stated that papers with one author accounted for less than ten percent. Comparison of the findings of this study and study conducted by Allahyari et al. (2015) shows that in both periods, the single-authored articles compiled a slight percentage. Most of research activities are group working. In this regard, the results of previous research suggested that group researches were more accurate, comprehensive, and faster (Homaee et al., 2011). The results showed that for first author, region one had the highest percentage, followed by region five. University of Tehran had the most percentage of the first author and correspondence author. The collaboration of foreign researchers and international collaborations did not see in articles. Based on this, it is recommended that participatory researches be done with researchers from other countries; publish joint articles to promote scientific rank of the Journals. The results on the scientific rank of the first author showed that the highest percentage was for faculty members. Among the articles that the first author was faculty member, the highest percentage belonged to assistant professor. Allahyari et al. (2015) also found that the most percentage was assistant professor. The results regarding scientific rank of the correspondence author showed that the highest percentage related to the assistant professor.

The results showed that quantitative research method had the most percentage. The mixed method used since 2015. MalekMohammadi (2008) in the study of agricultural journals found that more than 95percent of the articles had a quantitative type. Allahyari et al. (2015) found that only 3.5percent of articles had qualitative type. About one percent of the articles used mixed method, and the rest were quantitative. As it can be seen, the results of this research are consistent with the results of previous studies, which indicated weakness in conducting qualitative and mixed method researches. Proper use of statistical methods results in reliable findings and enables effective decision making, which was also suggested by Dehyouri et al. (2011). The approach of journals to prioritize the acceptance of articles with statistical analysis can contributes to the development of using this method (Sadeghi & Bijani, 2018). Therefore, it is recommended that researchers consider the qualitative and mixed methods in their researches. Also, it is recommended that the journals in addition to the quality of the articles, prioritize the articles which are of a qualitative and mixed-method type. The results showed that the researcher-made questionnaire had the highest rate of use by researchers. Considering the fact that in many researches questionnaire and self-reporting are used, therefore, that is likely to be influenced by the emotion and bias of the respondents. It is recommended that in cases that it is possible, by using qualitative methods, a more accurate examination be made.

Regarding the software, the results showed that using SPSS software was the most. Allahyari et al. (2015) found that in 91percent of the articles, the software used was SPSS and Lisreal was 3.6percent after. As it can be seen, SPSS was the most frequent in this article, but the comparison of the percentage of this study with the study by Allahyari et al. (2015) shows that the use of this software has been decreased. Considering the importance of using statistical software, it is recommended that training workshops be held on application of each software so that students and researchers can use optimal and appropriate software tools.

Findings indicate that researchers conduct agricultural education researches in a wide variety of subjects. Quality of education, teaching and learning had the highest percentage of frequency and in contrast, sustainable development had the lowest percentage of frequency. Employment, and human, information, and physical resources were in second and third place. Previous researches indicated that major themes researched during the studied years were: secondary agricultural programs, learning styles, and extension education (Radhakrishna & Xu, 1997), adoption, communication, impact studies, teaching methods (Kadam & Karande, 1991), communication management, information technology, media relations, distance education (Miller et al., 2006). According to Majidi et al. (2017), weakness of titles and analysis are among factors influence scientific publication quality. Regarding the importance of doing research and since many theses are published in the form of articles and are effective in increasing science, it is recommended that the needs of labor market, industry and society be considered. It is recommended that incentive policies be adopted to strengthen the interaction and cooperation of universities with the industry, so that applied and developmental researches can be improved. It is recommended that professors lead students to research topics that, in addition to the importance of the subject, less research has been done in the field. Hence, in addition to preventing the reproduction of similar and repetitive articles, it contributes to production and dissemination of science. It is recommended that the research priorities provided by the journals be periodically reviewed in order to reinforce less-used subject-matter and prevent the repetition of some topics. For example, given that the lowest percentage of articles related to the area of sustainable development, it is recommended that more qualitative and valuable articles be published in this area.

Finally, the Research Policy and Planning Center of the Ministry of Science, Research and Technology (MSRT) ranks scientific publications based on important indicators such as the status of publication, index in scientific databases, and completion the information in the system of evaluation of scientific journals. Accordingly, it evaluates Journals at several levels (MSRT, 2018). Some of the indicators and evaluation criteria are: the status of articles structurally (the organizational affiliation of authors, the date of receipt and acceptance), the journal's index in international indices, use the principles of writing and editing the article, the number of papers related to the editor, the number of articles published by repeated researchers, journal websites and so on. In this study, a number of important issues examined and it is recommended that in future studies, other issues be considered.

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