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Designing a Model for Internship Course in Higher Agricultural Education System Using the Delphi Technique: Combining Academicians and Practitioner Viewpoints

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Abstract

Experts believe that a solution to avoid the inefficiency of university graduates, especially graduates in agriculture, is to revise the practical courses, especially internships, and transform and amend them. Taking this point into account, this study aimed to design a model for the internship course in the iranian agriculture higher education using the Delphi technique. The mental basis of this study was Akker's ten-phase model. The panel was composed of the university professors supervising agriculture internship courses (N=34) and the employers to whom the students referred for passing the course (N=63). The results from the perspective of employers and the university professors, after three Delphi rounds, determined items for ten components of internship courses, i.e., logic, objectives and goals, content, learning activities, the role of trainer, materials, and resources, classification, location, time, evaluation and appraisal, which were used as the basis for the development of an internship model.

Keywords:
Higher agricultural education; internship; Delphi; curriculum; agricultural employers

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INTRODUCTION

Internships are a key facet of higher education programs and are seen as an opportunity for students to learn about their chosen industry, be more marketable upon graduation, and offer a lower-cost labor source for companies. Colleges and universities also benefit from the closer ties to the industry and bring learned lessons into the classroom. Generally, internships focus on specific objectives, such as the creation of opportunities for students to acquire practical experience, apply textbooks and classroom theories, and acquire positive, realistic attitudes towards work and society (Chen et al., 2011). Internships often improve students' academic performance (Sharifzadeh et al., 2012).

Agricultural education is no exception and transfers technical and vocational training skills through practice or experiential learning and familiarizes students with scientific experiences (Lawrence et al., 2009). The purpose of an internship course is for students to gain real-world experience, acquire new skills, and become better prepared for the job market in their field of study (Aghapour et al., 2013). Furthermore, internships provide specific training opportunities in which students work for a predetermined period of time for a specialized profession to gain essential skills and valuable on-the-job experience (Phipps et al., 2008; Mousavi et al., 2014). Candidates seeking a desired career path need essential elements of creativity, technical skills, critical thinking, and adaptability to change, However, these skills may be overlooked when designing academic curricula (Zarafshani et al., 2009), which may be exacerbated for students graduating from agricultural education programs (Ghorbani Piralidehi & Valizadeh, 2015).

Zimmerman (1996) proposed the following conditions required for an internship to be successful: (1) the course should be required in the curriculum; (2) a salary should be paid by the employer; (3) contemporaneous job opportunities should be considered; (4) the internship should be planned and implemented considering the needs of both intern and employer; (5) administrative bureaucracy should be minimal; (6) forms and methods should be developed; (7) orientation should precede the starting date; (8) employer specifications and requirements should be adhered to; (9) appropriate evaluation metrics should be used and scored, which may include submission of a term paper and daily journal; (10) final evaluation should be based on the shared perspective of the professor and the supervisor/employer; (11) site visits should be made by the professor; and (12) adequate professor compensation should be provided.

While the time devoted to an internship may vary, Pollard and Pollard (2003) found optimal results in student internships when colleges/universities limited internships to one semester. But, there are differing views on an internship's duration. For example, Tse et al. (2008) concluded that long-term internships required more coordination between universities and employers and that periodic verbal and written reports by the intern enhanced effectiveness. Yet, Hauck (2000) reported that some internship failures resulted from its short duration as students lacked enough time to acquire specific skills and benefits from the experience.

For the most successful internship programs, Harrison and Kennedy (1996) recommended that the students, employers, and university should participate in the process of planning, implementation, and assessment of the course. They suggested that all parties should sign a written agreement before the start of the internship to define the objectives and tasks of each party. Holmes (2006) argues that the best practice would occur when the scope of tasks of each participant remains clear, and guidance flows from agents to the intern. In similar research, Henry et al. (2001) stated that employers and professors identified five components for successful internships: objectives of the program; intern readiness; location of the internship; assessment of the intern; and assessment of the in-

ternship program.

Other research on internships has focused on identifying success factors. In their study, Mirdamadi and Touhidlou (2008) identified several factors integral to the success of internships including the location of the internship, the field of study, instructor's visits at the internship location, and opportunities for interactions between employers and the intern to become familiar with facilities and equipment. However, Movahed Mohammadi et al. (2008) identified several factors that would lead to the success of internships, including assiduous matching of the internship environment with the field of study and convenient access to the place of internship. Skaggs (1998) concludes that the success of an internship depends primarily on the continuous engagement of the interns.

Similarly, internships can fail without proper consideration of some key variables. Collins (2002) found that lack of work description, strict regulations, servitude, lack of learning opportunity, and employer's improper behavior presented potential problems. Klooster et al. (2008) conclude that employers without specific work plans often cause confusion among interns. Confusion and uncertainty make interns engage in clerical activities without any programming tasks. To motivate the participation of the interns in an internship course, Laker (2005) suggested the use of certificates to verify work accomplishment and a record for potential future employment

The role of the intern has also been a focus of several studies. Liu et al. (2014) found that intern ingratiating behavior and political skills influenced internship job performance. In an earlier study, Liu et al. (2011) studied the role of emotional expression and mentoring in internship learning among a sample of 167 student interns working in the retail industry. They concluded that emotional sharing was positively related to both learning and mentoring while emotional masking was negatively related to learning. They further showed that when interns experienced learning and mentoring, they exhibited a high level of job satisfaction and affective commitment to the internship sponsor, and a positive attitude towards the industry they interned with as a potential future career. Other studies have considered the role of multiple actors (students, university, and business) in internship effectiveness. Narayana et al. (2010) found that multiple actors were effective in student internship satisfaction and similarly, D'abate et al. (2009) revealed that the satisfaction of interns was significantly influenced by job characteristics, work environment characteristics, and contextual factors.

Agricultural internships are a subset of internships in general. Prior research on agricultural internships has focused on methods of implementation. However, few studies have proposed specific frameworks for the implementation of agricultural internship courses, rather than focusing on effective components (Ghorbani Piralidehi & Valizadeh, 2015; Mousavi et al., 2014). In their study on incentives, Ataei et al. (2013) conclude that agricultural students value different incentives for participation and that some students even value regular communications with their professors during the internship period over remunerative bonuses.

Given the dearth of research on agricultural internships in higher education, the focus of this study is on providing a broader description of an agricultural internship curriculum. There are various models of curriculum fundamentals and planning, and they have widely been criticized in the literature. As shown in Table 1, the research on internship curriculum has used several variables over time. The most descriptive and comprehensive one is the model proposed by Van den Akker (2003) who argues that a broader description of curriculum is most appropriate to understand the problems of curriculum decision-making and implementation. In his research, Van den Akker (2003, 2005) recommended a cyclic process with stakeholder and participant involvement to realize intended changes in practice. His model has ef-

ficacy and based on a review of literature, has been used in higher education (Nourbakhsh, 2012) and medicine (Fatehi Vajargah et al., 2014), but it has not been applied in agricultural fields yet.

This present study uses Van den Akker's spiderweb model of curriculum planning in the field of agriculture, focusing on curriculum planning of agricultural internship courses in particular. According to Van den Akker's spiderweb model, as shown in Figure 1, the primary rationale of the agriculture internship course is located in the center of this spiderweb, and the curriculum's components are peripheral but all interact with each other. Table 2 further clarifies the web of Van den Akker's (2003, 2005) model and offers questions to further refine each of the ten variables.

Table 1
Types of Curriculum Planning Models

Experts	Elements									
	Aims	Content	Learning activities	Teacher role	Materials & resources	Time	Location	Grouping	Assessment	Rationale
Walker (2002)	*	*								
Tyler (1949)	*	*		*					*	
Ash	*	*	*	*					*	
Taba (1962)	*	*	*	*					*	
Eisner (1967)	*	*	*	*					*	
Clein	*	*	*	*	*	*	*	*	*	
Van den Akker (2003)	*	*	*	*	*	*	*	*	*	*

Figure 1. Akker's (2003, 2005) spiderweb curriculum planning model

Table 2
The Ten Elements of Curriculum Planning (Akker, 2003)

Element Number	Element Name	Question for the Clarification of Element
1	Rationale/vision	Why are they learning?
2	Aims & objectives	Toward which goals are they learning?
3	Content	What are they learning?
4	Learning activities	How are they learning?
5	Teacher role	How is the teacher facilitating learning?
6	Materials & resources	With what are they learning?
7	Grouping	With whom are they learning?
8	Location	Where are they learning?
9	Time	When are they learning?
10	Assessment	How to measure how far learning has progressed?

Purpose and objectives

This study aimed to demonstrate that internships can provide effective models of experiential learning in agricultural education that could be used in the context of the Iranian agriculture higher education system. The following objectives were formulated to accomplish the purpose of the study:

Applying Van den Akker's (2003, 2005) model to improve consensus in the design and development of the internship curriculum, comparing the needs of academicians and practitioners in agriculture;

- Determining the relationship among student interns, professors, and employers and providing the best practice for internships;
- Determining the value of applying theory to praxis through the effective use of internships;
- Determining a possible ideal model of internship courses in the context of Iranian Agriculture Higher Education System.

METHODOLOGY

This study used qualitative inquiry combined with the Delphi approach. The technique is designed as a group communication process that aims to achieve a convergence of opinions on specific, real-world issues as suggested by Hsu and Sandford (2007).

In this study, a convenience sample of professors was identified who had some experience in the management of internship courses in the college of agriculture at four large universities across the western part of Iran: Razi University, Ilam University, Lorestan University, and Kurdistan University. Following the recommendations of Mantooth and Frits (2006) who recommended 10 to 50 experts for Delphi studies, this study included 34 professors who agreed to participate in the three rounds of the Delphi procedure. A total of 64 employers who had sponsored college interns in the past all agreed to participate too. They represented the following organizations: the Agricultural Organization, the Department of Wildlife and Fisheries, the Department of Natural Resources, and the Organization for Vocational Training.

The methodology consisted of three rounds. In the first round, participants were asked to evaluate the internship based on Akker's questionnaire. There were ten open-ended questions submitted to each participant. After collection of the completed questionnaires, content analysis was performed and duplicate items were eliminated. This set of responses was resubmitted to the experts for the second round of this study.

In the second round, the experts reviewed the responses and added or omitted the items. This list was a comprehensive enumer-

ation of the priorities of the experts on crucial components of the agricultural internship and the internship process.

In the third round, the respondents were asked to agree or disagree with the individual responses and assign a score on a Likert-type scale to assess significance ranging from "very important" to "important", "moderately important", "slightly important", and "unimportant."

After collecting the responses from the third round, the average and standard deviations were calculated for all the Likert-type scale items. Items with averages less than 2.5 ("moderately important") were discarded based on the guideline of Martin et al. (2006). Further research suggests that the validity of the Delphi studies is compromised by significant differences in experts' opinions between rounds of the Delphi process (Hsu & Miller, 2008; Ludwing, 1997). For the purpose of this study, the responses that got less than 66% agreement among the experts were discarded.

RESULTS

Using Van den Akker's (2003, 2005) model, the professors regarded the primary objective of the agricultural internship course to be an exercise in fulfilling the needs of society. Both identification of the real needs of students and society and learning knowledge, change in attitude and skills that the intern will need in the future were scored high by the respondents.

The results of the third round of the Delphi, as shown in Table 3, indicated that the professors of universities of Kermanshah, Ilam, Kurdistan, and Lorestan assumed the acquisition of job skills and learning knowledge, change in attitude and skills that the intern would need in the future were significant among the objectives of the internship course. Considering the objectives of agricultural internship courses, the development of job skills and familiarity with the mission and objectives of the department were significant.

It is important that the experience gained from an internship should advance the scientific and practical capacity of an intern. Concerning the type of learning activities, an intern should benefit from any opportunity to acquire experience by observing production units that are relevant to their field of study. The role of the internship professor is to monitor the integrity of scientific literacy, supervise and monitor the ongoing status of the internship course, describe the scope of work, and assure that an intern's educational acumen is commensurate with their assigned responsibilities.

The professors asserted that the resources and materials of the college were adequate. This included farms, laboratories, seedling farms, chicken farms, cattle farms, and greenhouses. Among the grouping, there was a high level of agreement with regard to "conformity with the competence and capability of the interns". Regarding the specifications of successful internship locations, the following responses enjoyed particular significance: "giving learning opportunity to the interns", "appropriate behavior of the staff of related department with the intern", "making the intern hopeful to the job future", "strengthening creativity and innovation in interns", and "strengthening taking responsibility". The group did not receive 100 percent agreement on the time of implementation of the internship course. Finally, regarding the assessment of the internship course, it was agreed that the employer and the professor should both frequently assess the status of interns, including knowledge gained by interns. High significance was placed on continuous assessment during the course, granting an official course completion certificate by the university, and regular visits of the location by the internship professor.

When considering responses to the question, "in which type of activities should the interns be involved?", the professors believed that the interns should be involved in the activities facilitating finding job opportunities, including performing the responsibilities assigned to them by the employer, the opportu-

Table 3

Level of Agreement of University Professors in the Razi University of Kermanshah, Ilam, Kurdistan, and Lorestan Provinces as to Agriculture Internship Course (N=34)

Percent disagreement	Percent agreement	Item	Means	Standard deviation
Which objectives should be followed by the internship course for the students in the field of Agriculture?				
0	100	Identification of the real needs of students and society	4.01	0.64
0	100	Learning knowledge, changing attitude and skills that the intern needs in the future	4.00	0.67
8.83	91.17	Identification of job needs of the society	3.42	0.73
8.83	91.17	Acquisition of job skills	3.40	0.53
11.77	88.23	Proceeding towards a wisdom-based society	3.35	0.62
11.77	88.23	Improving intern skills in different sectors compatible with the job market	3.35	0.71
20.59	79.41	The student should become familiar with the nature of practical work in his field of study	3.33	0.54
Which objectives should the internship course follow?				
2.95	97.05	Familiarity with the method of identification of problems in the real conditions of work	4.37	0.42
2.95	97.05	Strengthening relation between the university and intern admitting departments	3.39	0.62
5.89	94.11	An opportunity for a combination of science and action	3.37	0.54
5.89	94.11	Strengthening intern's interest in his field of study	3.31	0.61
11.77	88.23	Acquisition of a critic of mental thinking in an encounter with job issues	3.28	0.62
11.77	88.23	Familiarity with the mission and objectives of the intern admitting departments	3.27	0.51
14.71	85.29	The familiarity of an intern with the nature of his field of study	3.20	0.60
20.59	79.41	Improvement of social and communication skills	3.08	0.50
2.95	97.05	Development of job skills in the real atmosphere	3.02	0.53
2.95	97.05	Vocational training of the interns	2.97	0.62
5.89	94.11	Acquisition of empirical learning during internship course	2.69	0.57
What should be learned by the interns during the internship course?				
0	100	Promotion of scientific and practical capability of the intern	4.44	0.62
11.77	88.23	Relation of the content with the field of study of the intern	4.29	0.42
17.65	82.35	Conformity of training content with the theoretical learnings of the intern	4.21	0.63
In which activities should the interns be involved?				
11.77	88.23	The accomplishment of the responsibilities assigned to him by the employer.	4.63	0.41
11.77	88.23	Observation opportunity for the intern in a production unit related to the field of study of the intern	4.51	0.44
11.77	88.23	Improving the mentality of investigation in himself/herself	4.39	0.59
14.71	85.29	A continuous visit from the ongoing projects of the employer	4.33	0.60
17.65	82.35	Using any opportunity for the acquisition of experience	4.27	0.54
17.65	82.35	Not being inactive and indifferent to the internship course	4.12	0.64
20.59	79.41	Seeking to grasp opportunities that could be followed after the internship course	3.97	0.45
29.95	70.05	Strengthening investigation mentality in him/her	3.82	0.68

Table 3
Continued

Percent Disagreement	Percent Agreement	Item	Means	Standard deviation
What is the most appropriate role that the professor could play?				
2.95	97.05	Prevention from the involvement of interns in the unprofessional activities (work not related to the field of study) in the internship location	4.86	0.59
8.83	91.17	Ability to respond to the interns' questions	4.71	0.63
0	100	Up-to-date scientific literacy of professors	4.66	0.69
0	100	Establishment of a connection between previous learning of the intern with what he/she learns in the internship atmosphere	4.49	0.65
29.36	70.64	Attention to the individual differences of the interns	4.35	0.63
11.77	88.23	Understandable and perceivable speech for the interns	4.31	0.62
0	100	Monitoring and supervision on the internship course	4.29	0.62
8.83	91.17	Assessment of the intern	4.21	0.53
5.89	94.11	Readiness for a change in internship location in special cases	4.16	0.68
2.95	97.05	Developing rapport with the interns	3.84	0.51
5.89	94.11	Encouragement of the employer to the participation of the intern in the internship atmosphere	3.78	0.71
8.83	91.17	Identification of the internship location in conformity with the work tendencies of the intern	3.69	0.53
0	100	Description of scope of work of internship before the start of the internship course	3.47	0.42
17.65	82.35	Encouragement of interns to participate in the activities assigned to them	3.52	0.45
5.89	94.11	Guidance and encouragement during internship course	3.49	0.64
Which materials and resources could a professor present to make the internship course more effective?				
0	100	Farm	3.95	0.51
0	100	Laboratory	3.58	0.42
0	100	Seedling farms	3.44	0.42
0	100	Chicken farms	3.39	0.40
0	100	Cattle farms	3.31	0.42
0	100	Greenhouses existing in the college	3.30	0.33
How should a professor group the interns if the number of interns increases?				
11.77	88.23	The groups should be in proportion to the objective of the internship.	3.98	0.43
5.89	94.11	Division of work should be reasonable and without orientation if the number of the above groups is high.	3.01	0.51
23.53	76.47	Moral conditions and the style of the personality of the interns should be considered when grouping.	2.66	0.46
What should the specifications of the locations selected by the professor in his organization or department be?				
0	100	Strengthening responsibility-taking in the intern	3.32	0.43
0	100	In general, it should be capable of admitting the intern	3.30	0.44
17.65	82.35	Should pay a fee to the interns.	3.19	0.43
0	100	The staff of the related department should have an appropriate behavior with the intern.	3.12	0.40
0	100	The interns should have a learning opportunity.	3.06	0.44
0	100	It should make the intern hopeful for the job future.	2.59	0.51
0	100	There should be the possibility of job opportunities there.	2.59	0.41
Which time do the professors propose for passing the internship course?				
11.77	88.23	Preparation and establishment of internship plan during the academic year (throughout the year)	3.51	0.43
17.65	82.35	Changed into a six months period	3.01	0.54
11.77	88.23	Presented after passing 100 credits and in the sixth semester	2.69	0.42

Table 3
Continued

Percent Disagreement	Percent Agreement	Item	Means	Standard deviation
How should the procedure of assessment be at the end of the internship course?				
5.89	94.11	Preparation of daily report by the intern to the employer and professor of the internship course	4.25	0.51
0	100	Continuous visit of the professor of internship from the internship location	4.36	0.41
0	100	Granting official certificate for completion of internship course by the university	4.24	0.70
5.89	94.11	Final written report on the internship course period	4.21	0.52
0	100	The employer and professor should frequently assess the learning and knowledge of each intern.	4.11	0.43
11.77	88.23	The professor and employer should ask the intern to self-evaluate or self-assess learning of his performance	4.09	0.52
11.77	88.23	Assessment at the end of course	3.78	0.56
0	100	Continuous assessment during the course	3.67	0.46

nity of observing a production unit relevant with the intern's field of study, and strengthening the investigative research in the interns. When asked about "the teacher's role," the professors serve as facilitators where they prevent interns from engaging in non-professional activities while, at the same time, responding to the interns' questions and staying up-to-date in their fields of expertise. With regard to materials and resources presented in the internship course, the professors perceived that it is possible to use the college facilities.

Regarding "interns should be grouped by professors", they believed that the grouping should be performed in conformance with the learning objectives. For example, "division of work should be reasonable and without orientation" and "moral conditions and type of personality of interns should be considered in grouping". Regarding "the specifications of internship locations", the professors reported that the location is important and might be an incentive. About the component of "the time of passing internship course", there was no agreement among the professors. Finally, regarding intern assessment, the professors supported continuous assessment including, "preparation of a daily report by the intern to the employer and professor of internship course" and "continuous visit of the professor of internship at the internship location".

The results of the third round of Delphi, as shown in Table 4, reveal that employers placed a high degree of significance on the notion that acquisition of vocational skills related to an intern's field of study increases their self-confidence. Among internship course objectives, the familiarity of the intern with the real job market, being mentally prepared for practical work, real-world experience, finding job opportunities, and growth of technical and vocational skills enjoyed special significance. Regarding content, conformity with the needs of the job market was highly significant. Practical work in different units was also considered important. This included practical activities, such as working alongside the manager of a cattle farm, learning how to provide fodder from a corn silo, calibration of equipment, milking, and learning about the different stages of calf development. Regarding the scope of the employer's role, interest in educating interns, and possession of practical skills, and experience in the field of agriculture had special significance.

Table 4

Level of Agreement of Employers in Kermanshah, Ilam, Kurdistan, and Lorestan provinces for Agriculture Internship Course (N=64)

Percent disagreement	Percent agreement	Item	Means	Standard deviation
Which objectives should be followed by the Internship Course for the students in the field of agriculture?				
0	100	Acquisition of marketing skills	4.52	0.42
0	100	An increase in bargaining power	4.08	0.72
3.13	96.87	Realizing the real work atmosphere	3.03	0.48
6.25	93.75	Acquisition of vocational skills in relation to the field of study in practice	2.95	0.61
6.25	93.75	An increase in self-confidence in the interns	2.89	0.40
12.5	87.5	Strengthening the skill of problem-solving in the interns	2.84	0.35
21.88	87.12	Acquisition of communication skills	2.81	0.40
26.57	73.43	Realization of the on-job issues and challenges	2.75	0.39
Which objectives should an internship course follow?				
0	100	The growth of technical and vocational skills	3.99	0.37
20.31	79.68	Elimination of the sense of pessimism and negative attitude towards the future job	3.81	0.60
0	100	Finding job opportunities	3.67	0.36
4.68	95.31	Testing the learning in practice	3.30	0.40
6.25	93.75	Creation of new idea by the intern	3.27	0.39
0	100	Creation of mentality of practical work in the intern	3.20	0.41
0	100	The practice of experiences in the real atmosphere	3.18	0.40
0	100	The familiarity of the intern with the real needs of the job market	2.96	0.39
Which contents should be learned by interns during the internship course?				
0	100	Conformity of the content with the needs of the work market	3.49	0.62
6.25	93.75	Prevention from the application of personal taste in the internship content	3.43	0.51
10.93	89.06	The intern should be able to communicate effectively with customers of the admitting organization	3.32	0.35
23.43	76.56	Visit of plans and projects of the admitting organization	3.29	0.27
7.81	92.18	Conformity of content with the theoretical learning of the intern	2.86	0.62
In which activities should interns be involved?				
6.25	93.75	Encouragement of the intern to the research activities of the department	4.31	0.66
0	100	Involvement in the practical work, like working beside the manager of a cattle farm, learning how to prepare a fodder corn silo, calibration of the equipment, milking, and stages of calf growth	4.22	0.54
12.5	87.5	Participation of the intern in the department missions	4.21	0.46
15.62	84.37	Participation in the meetings of the organization/department	4.05	0.49
65.62	34.37	Communication with the customers	3.99	0.52
15.62	84.37	Delegation of some authorities of experts to the interns	3.32	0.39
0	100	The intern should attend in all different units of the department alternatively.	3.30	0.39
9.37	90.62	Precise observation of ongoing activities by the department experts	2.69	0.58
What is the most appropriate role that which the employer could play?				
25	75	Giving the intern the opportunity to participate in performing affairs	4.39	0.62
9.37	90.62	Supervision on the intern's activities	4.21	0.61
6.25	93.75	Patience in an encounter with the interns	4.11	0.52
50	50	On-time presence in the internship location	3.87	0.37
3.12	96.87	The assessment of the performance of the interns	3.79	0.52
0	100	Interest in teaching subjects to the interns	3.87	0.42
14.7	85.93	Attention to the individual features of the intern	3.67	0.41
4.68	95.31	Having a happy and positive mentality	3.65	0.42
6.2	93.7	Following up on the intern problems in the internship location	3.27	0.38
0	100	Having a practical skill and experience in the field of agriculture	3.22	0.38

Table 4
Continued

Percent Disagreement	Percent Agreement	Item	Means	Standard deviation
Which materials and resources can an employer present to make the internship course more effective?				
10.94	89.06	Laboratory	4.09	0.51
9.37	90.62	Training and training aid facilities	3.98	0.42
14.06	85.93	Appropriate space for the intern	3.86	0.54
26.56	73.43	Transportation facilities for the intern	3.41	0.40
0	100	Farm	3.30	0.53
How should a professor group the interns if the number of interns increases?				
4.68	95.31	Grouping the interns should be performed in presence. In other words, the intern should participate in the grouping.	4.62	0.52
0	100	The intern should cooperate with the other departments residing in the organization.	4.44	0.42
0	100	Preparing the conditions for a group activity of the interns	3.67	0.46
7.81	92.18	The ratio of the number of an expert to intern	3.59	0.61
50	50	It should be tried to match an intern's interests with the type of activity of experts.	3.48	0.55
What should be the specifications of the locations selected by the employer in his organization or department?				
0	100	Conformity of the location of an internship with the student's field of study	4.16	0.42
62.04	59.37	There should be welfare, transportation, accommodation, and food facilities in the internship location.	3.99	0.62
56.25	43.75	The location should be selected in such a way that other experts of the department may have easy access to it.	3.69	0.61
71.87	28.12	The location should be near and accessible.	3.27	0.32
0	100	Just for the passing an internship course, the internship course should not be dispatched to an irrelevant location.	3.26	0.41
Which time do the employers propose for passing the internship course?				
0	100	It is preferred to be at peak of agriculture and experts' activities.	4.64	0.70
0	100	The internship should be implemented in two steps. For instance, in the first step of the internship, after passing 50 credits of curriculum, and in the second step, last semester.	4.61	0.48
56.25	43.75	To be after passing all curriculum credits by the intern	4.59	0.52
14.06	85.93	Not to be in interference with the student examinations.	3.32	0.41
How should the procedure of assessment be at the end of the internship course?				
9.37	90.62	The final assessment should be with the participation of the university and employer.	3.87	0.51
6.25	93.75	What the employer sees of the daily observation should be the basis of assessment.	3.86	0.37
26.56	73.43	The professor of an internship course in the university should participate in the assessment.	3.62	0.51
6.25	93.75	Conformity of assessment with the objectives of the curriculum, an individual feature of the intern, the content of training activity, and practical skill of the intern.	3.30	0.37
3.12	96.87	Assessment should be only in the form of a daily written report.	3.30	0.42

Regarding materials and resources provided by the employer during the internship course, the farm itself had the highest level of significance. Cooperation of interns with the demands of other units within the organization and relevancy of type of activity among the experts in the field also received the highest significance.

With respect to the features of the internship location, "the conformity of internship location with the intern's field of study" and "just for the passing internship course, the internship course should not be dispatched to an irrelevant location" were important. The employers viewed that "the time of internship should not interfere with the student's examinations" and "it is better to be at the peak of the agricultural cycle and experts' activities", and finally for employers' assessment, "conformity of assessment with the objectives of the curriculum, individual features of the intern, the content of training activity, and practical skill of the intern" enjoyed high acclaim.

The employers' perspectives show agreement with the levels of Van den Akker's (2003, 2005) model. For instance, employers believed that the objectives of the internship course should be strengthening the communication and occupational skills of the interns. Employers considered the acquisition of marketing skills and an increase in bargaining power significant. The most important objectives of the internship course, in the view of employers, were more job search opportunities and improvement of technical and vocational skills, as well as managing any sense of pessimism towards a future job. Regarding the content of the internship course, employers stated that aligning educational objectives with the needs of the job market and personal interest in the internship content were significant.

The employer should have a guiding role and provide the intern with an opportunity to participate in daily activities. In relation to materials and resources, employers should use suitable physical facilities, such as a laboratory or a training facility. With respect to the grouping, employers should group interns by type of activity. For instance, employers should encourage interns to participate in grouping via cooperation with other organizational departments. Employers indicated that the location of the internship should be in line with the chosen field and that welfare, transportation, accommodation, and food facilities should be available at the internship location. Regarding the time component, there was no agreement among the employers. Regarding the method of assessment, employers were in agreement that the final assessment should include the participation of both the university professors and employers. Daily observations and practical projects were also stated as important. An ideal model of the internship courses in the agricultural higher education system in view of the university professors and employers is summarized in Figure 2.

CONCLUSIONS

The research model included the following components: objectives, aims, content, activities, the role of teacher, materials and resources, grouping, location, time, assessment, and evaluation of the internship course. All components were approved by the university professors and employers.

The university's objectives for internships included "acquisition of occupational skills, familiarity with practical work, learning knowledge and changing attitude, identification of the real needs of the student and society, progress towards a wisdom-based society, identification of the occupational needs of society, and growing skills of the intern appropriate to the various parts of the job market."

Indeed, the university's stated objectives are ideally the same. That is, after four years of education, a student should receive a bachelor's degree, and while most students attain familiarity with theoretical concepts, they are not highly familiar with the real atmosphere of the work.

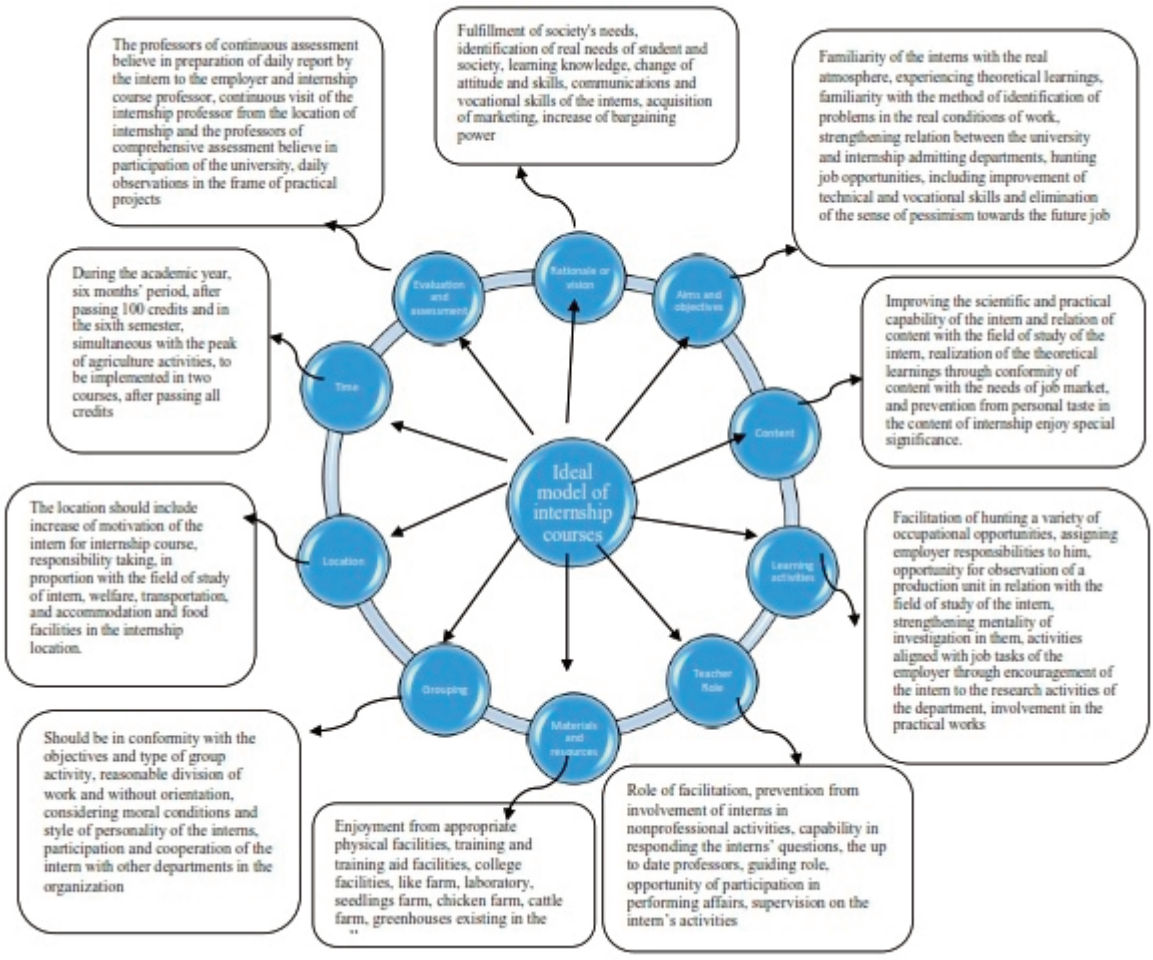

Figure 2. An ideal model of internship courses in the agriculture higher education system from the view of university professors and employers

The purpose of an internship course is for students to gain real-world experience, acquire new skills, and become better prepared for the job market in their field of study (Aghapour et al., 2013).

Employers and university professors identified the acquisition of real-world skills as one of the objectives of these courses, but the skills stated by the employers were not necessarily the same as those stated by university professors. For example, employers stated that internships could be helpful for improving self-confidence, bargaining power, communication skills, identification of practical problems, and gaining familiarity with industrial organization and administrative procedures (Ehiyazayan & Barraclough, 2009). A successful internship course improves the outcome of interns making them more creative and equipped with stronger skill sets.

As previously stated, the objectives of Agriculture Higher Education are to maximize the efficiency of internship courses by improving the quality of course offerings.

The next components we studied were the objectives of internship courses. University professors believe that these courses should be developed so as to expand the skills acquired by interns at the university and that this goal is realized by vocational training in a real-world atmosphere. University professors assume that opportunities in which the knowledge and science are acquired by in-

terns in an academic setting should be integrated with real-world practical training, which would result in an improvement in the quality of learning, which is another objective. Scientific and practical training are complementary and together improve the expertise and skill of individuals. In this respect, Ahmadi (2011) agrees that it is also necessary for the intern to identify the objectives and purposes of the university, as well as the issues and problems of the work environment. By gaining familiarity with both, the intern can become more capable at appropriately resolving problems and issues with science and wisdom.

Employers stated that credit for an internship course should be based on a good understanding of the real-world needs of the market because students do not have the required knowledge and awareness about the need of the job market. Awareness about the needs of the job market incentivizes the students and encourages the individual to mentally prepare for entrepreneurship by eliminating the sense of pessimism and negative attitude towards their chosen field of study and occupational future. For example, Gholamreza et al. (2012) stated that agriculture students have a negative attitude towards their field of study. Therefore, an internship course could be effective in changing a student's attitude about their field of study.

The university professors believed that one of the most important requirements for improving scientific capabilities was that internship courses should retain conformity with the educational field and content. For the employers, identification of important and required subjects is made possible by planning to visit projects, nurturing direct relationships with customers, and preparing for the conditions of various activities. Concerning the content, the employers were in agreement with the university professors – that is, internship course materials should be complementary to the theoretical content and in conformity with the needs of the job market. The university professors believed that the activities should include visiting and participating in various projects such that they would be more likely to acquire valuable experience and stimulate interest in entrepreneurial developments. Furthermore, university professors stated that such activities should be structured so as to create intellectual curiosity, thereby motivating students to seek out new brave endeavors. The employers stated that suitable activities for required courses should primarily include practical work through activity on farms, in greenhouses, and via participation in meetings. The employers also stated that interns working in an office should be active in all departments, alternating so as to gain a comprehensive understanding of the enterprise. During an internship course, the university professors and employers should use their respective roles and talents so as to assure that internship courses are appropriately designed.

Regarding the role of university professors, they should remain up-to-date in their field of scientific literacy and be available to respond to the interns' questions. This will afford the professor an opportunity to better tailor the course to the intern's interests and preferences, e.g., by guiding them to different departments and clearly describing credit requirements and other expectations, and then following up with a continuous assessment of the intern's activity via supervisory visits at the place of internship.

Another role the professor can play is to orient the intern to the internship process by introducing them to specific expectations of the internship's work environment. The employer also has a role to play in this regard. For instance, a happy, positive, and patient mentality during an encounter with the intern is important for the intern's self-esteem, motivation, and continued interest in the internship. To that end, the employer should possess the skills and expertise necessary to transfer these skills to the intern and monitor their activities. The employer should also consider the individual characteristics of the

intern and assign responsibilities to them based on their interests, and afterward, monitor their activity. In cases where an intern encounters unfamiliar problems, the employer should stand ready to help with a timely resolution, thereby improving the intern's motivation, mental strength for future problems, and helping them gain valuable experience. This approach is corroborated by Soukhtanlou and Bandari (2017) who stated the importance of motivation of interns by the employer.

The facilities provided by the university professors and the employer in these courses could be another component that should be considered for the maximization of the effectiveness of these courses. Professors stated that location was an important factor and should be taken into account so that it should be selected with the intern's participation. It is even possible to prepare a list of locations and provide it to the intern along with sufficient and appropriate information about each location. The list should include locations that are appropriate and accessible. Prior research shows that an appropriate location could be effective in the acquisition of useful experience and employment of the intern in the future (Ahmadi, 2011).

Employers stated that facilities should include a training and demo farm, training and educational aid facilities, appropriate space, and transportation facilities. Interns can be dispatched to the internship locations in groups, and some standards should be considered when grouping them. According to the university professors, the groupings should be based on interns' capabilities and the objective of the internship. There should be reasonable incorporation of work into the course requirement.

The employers also stated that interns should be grouped according to certain factors, such as the intern's interests. They also indicated that the number of interns should be in proportion to the number of available onsite experts so that the acquisition and transfer of expertise and experience are performed in an efficient manner. Location was also cited to be very important because proper selection can ensure that onsite experts would be available to transfer knowledge and increase the intern's experience.

The university professors stated that suitable locations should have characteristics that have desirable incentives, strengthen interests, and stimulate creativity and innovation in the internship course, ultimately adding value with learning opportunities. In other words, by treating the intern as an employee, and including appropriate remuneration, the intern's interest would be stronger.

Regarding the internship course, employers stated that the location should be in conformity with the educational field of the intern and that dispatching a student to irrelevant sites would result in a waste of time and cost. The amount of time spent in the internship is also important and should be seriously considered. The university professors stated that the time of the internship should be divided into defined phases and take place during the academic year.

The professors also stated that relatively short internships do not sufficiently contribute to the amount of experience gained when compared to longer internships. The view of the employers is that it is better if the internship period coincides with the peak of agricultural activities. Employers also stated that it is better for students if the internship course is not concurrent with students' examination periods so that the intern could devote their full attention to the experience.

Finally, the method of assessment is of importance. Professors supported the necessity of joint assessment, by both the employer and the intern, to recognize strengths and weaknesses. The university professors agreed that it is important that assessments are made throughout the course, such as daily work reports from the intern. The employers concurred with the university professors and stated that it is better to perform an assessment with the participation of both parties, that is, both the university professors and the

employer. The written report received from the intern and the employer's observations of the intern's activity should be used as the basis for the assessment. In general, effective and high-quality internship courses should have some stated objectives. The stated objectives should focus on measurable elements that are associated with improving the intern's expertise and skills, as well as other items agreed upon by the employer and professors. The end result is an assessment that simultaneously represents the three points of a triangle, that is, the employer, the intern, and the university professors.

RECOMMENDATIONS

As shown in Table 5, the responses from the academicians and practitioners, described earlier in Tables 3 and 4 were sorted and totaled by category to provide an index of the interests of the respondents (N=98) by the number of total responses sent to the evaluators (N=134). In addition to recording the number of responses by each evaluator group (academicians and employers), Table 5 presents the average Likert-type response to the questions. The results shown in Table 5 reveal not only the priorities of the respective groups but also the significant differences in their perspectives. An important result is the observation that there are "responses by employers only" and "responses by academics only", i.e., each group primarily responded to their own areas of interest. The results suggest that there are two sides to the current internship experience, one designed by academics and the other designed by the agricultural employers. There are issues that should be viewed solely from each party's perspectives such as what the location and timing requirements of the group should be (academics versus employers). The process design should be based on facilitating improved communication between the academics and employers regarding the internship experience. The academic calendar, however, is fixed for scheduling requirements, but what should be in the curriculum must be in agreement by both parties. Resolving what materials and resources are the responsibility of the employer or the professor are questions that both parties need to view from the others' perspective. Similarly, what students need to do in the course of the internship should also be determined by cooperative discussions between the employer and the faculty members. A balance and connection should be struck between the practical tasks found at the employers' site versus the academic perspective on an appropriate college-level class such as an optimization or efficiency problem. This mutual insight will assist in defining the appropriate role that the employers and professors should play. In the third section of Table 5, there were questions where both groups evaluated the responses such as designing and including activities, procedures for assessment, and curriculum. Not only are insights from both groups essential for creating the best internship process and program for the students but the insights will also act as a vehicle for communication between academe and the agricultural companies. Working together will improve the understanding of what each group requires and will provide a better experience for the students.

The key differences in the curricular priorities of the two groups' responses in Tables 3 and 4 lead to recommendations for future research that emphasizes consensus-building between academicians and practitioners. In future studies that extend this methodology, respondents from both groups could consider and evaluate all responses. This would lead us to the comparison of practitioner priorities viewed from the academicians' perspective and the academician's priorities viewed from the practitioner's perspective.

This exploratory study focused on a region in western Iran with a convenience, snowball sampling of both academicians and practitioners. Future research should employ a more stratified random sampling or a larger sample of both groups and even be expanded to include students to improve the findings

Table 5

Categorization of Respondents by Components of Van den Akker's (2003, 2005) Questionnaire on Curriculum by Both Academicians and Employers in Kermanshah, Ilam, Kurdistan and Lorestan Provinces for Agriculture Internship Course (N=134 usable responses from 98 respondents)

Responses by Academics Only:	**Responses**	**Academics**	**Employers**	**Score**	**Academics**	**Employers**
What is the most appropriate role that the professor can play?	15	15	0	4.12	4.12	NA
What should the specifications of the locations selected by the professor in his organization or department be?	7	7	0	3.02	3.02	NA
Which materials and resources can the professor present to make the internship course more effective?	6	6	0	3.50	3.50	NA
What should be learned by the interns during the internship course?	3	3	0	4.31	4.31	NA
Which time do the professors propose for passing the internship course?	3	3	0	3.07	3.07	NA
Responses by Employers Only:						
What is the most appropriate role that the employer can play?	10	0	10	3.81	NA	3.81
Which materials and resources can the employer present to make the internship course more effective?	5	0	5	3.73	NA	3.73
What should the specifications of the locations selected by the employer in his organization or department be?	5	0	5	3.67	NA	3.67
Which contents should be learned by the interns during the internship course?	5	0	5	3.28	NA	3.28
Which time do the employers propose for passing the internship course?	4	0	4	4.29	NA	4.29
Responses by Both Academics and Employers:						
Which objectives should the internship course follow?	19	11	8	3.33	3.27	3.42
In which activities should the interns be involved?	16	8	8	4.01	4.26	3.76
Which objectives should be followed by the internship course for the students in the field of agriculture?	15	7	8	3.38	3.55	3.23
How should the procedure of assessment be at the end of the internship course?	13	8	5	3.90	4.09	3.59
How should the professor group the interns if the number of interns increases?	8	3	5	3.68	3.22	3.96

and consensus. Even a larger, international sample of other agricultural regions would be useful for comparisons and extension of the findings and generalization of the perspectives. Comparisons in other industries beyond agricultural domains is also needed to validate Van den Akkers's (2003) model.

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