Investigation of Educational Needs with Job Analysis Approach (Case Study: Financial and Urban Economy Experts of Tehran Municipality)

Seyyed Mohsen Tabatabaei Mozdabadi*
Educational Management, Allameh Tabatabaei University, Tehran, Iran

Received: 2016/01/27 Accepted:2016/5/10

Abstract: Progress and development of organizations depend on improving the level of knowledge, insight, and skills of their human resources so that organizations can achieve to competitive advantage in line with their scientific and economic goals as well as innovation. The first step of educational planning in organizations is to determine educational needs and present educational plans for employees' growth and education. Educational needs are related to the knowledge, attitude or skills that human resources need them in order to carry out their job responsibilities optimally. Thus, this paper has been done aiming to investigate educational needs with the approach of job analysis. Research method is mixed exploratory. In qualitative part, research samples were 13 financial and urban economy experts selected by purposive sampling. Data were collected by semi-structured interview. In this part, required knowledge, skill, technology, and instrument for four jobs of accountant, auditor, document expert, and urban economy expert of Tehran Municipality were identified and four questionnaires were developed based on it. In quantitative part, 143 people were selected by simple random sampling method among financial and urban economy experts of Tehran Municipality including 62 urban economy experts, 49 accountants, 22 auditors, and 10 document experts. In order to analyze data statistically, Lee Hee and one sample t-tests were used. Finally, educational needs of four jobs including accountant, auditor, document expert, and financial and urban economy expert of Tehran Municipality were obtained. According to the priorities, for high priority needs, educational plan was proposed for the first year.

Keywords: Educational needs, job analysis, financial and urban economy experts, Tehran Municipality
JEL Classification: L32, J44, G21, P46

The Scientific-Research Quarterly Journal of Urban Economics and Management
ISSN: 2345-2870
Indexed in: ISC, EconLit, Econbiz, SID, Noormags, Magiran, Ensani, Civilica, RICeST
www. en.iueam.ir
Vol. 4, No. 3(15)
Summer 2016
Pages: 127-146

* Corresponding author: sm.tabatabaei@atu.ac.ir

[Downloaded from mail.iueam.ir on 2026-09-26]

[DOR: 20.1001.1.23452870.1395.4.15.8.3]

1- Introduction

Education is one of the issues dealing with destiny of humans and societies. Given rapid changes in different aspects of social life, today, unlike in the past, humans cannot be satisfied with findings and information of formal education system and they cannot meet their personal and occupational expectations and responsibilities with their help. Thus, in order to balance between methods, findings, and new information in the wider social scene, most bodies consider staff training as an integral element of their organization. Therefore, human resources management in an organization can play an important role in organization's survival and efficiency by designing plans and systems for proper use of organization's forces (Mohammadpour Zarandi et.al., 2013). Training should not be regarded as an organizational cost; rather it should be counted as one of the organization's duties and a kind of investment (Balkin & Richebé, 2007).

Tehran Municipality, as a body that its mission is to service to people, is responsible for risky duty of staff training and improvement that should do its best to service citizens; therefore, this organization requires essential training based on actual needs of its staff training more than any other organization or institute.

The necessity of planning in organizations and institutes was proposed once the necessity of optimal use of limited resources and facilities, and access to maximum efficiency was specified. Since reliable, comprehensive, and accurate information is needed in fundamental and realistic planning, the process of educational need-assessment was considered more than before in the past decades (Fathi Vajargah, 2013). For this purpose, the first step of educational planning is to identify educational needs and prioritize them. If this step is done correctly and well, implementation of educational development will be easier and more effective. Educational need-assessment, as one of the important tools in line with human force empowerment, makes educational gaps be appeared. It facilitates effective and quick decision-making and gives decision-makers and planners the opportunity to apply proper strategies to fill the gaps regarding limited financial resources and increasing cost by prioritizing different options (McCawley, 2009).

Thus, this research tries to investigate educational needs of financial and urban economics experts in Tehran Municipality with an approach to job analysis and determining prioritized educational courses and answer following questions:

1. How main educational needs are identified to improve financial and urban economics experts' performance of Tehran Municipality?

2. How is prioritization of financial and urban economics experts' identified needs of Tehran Municipality?

2- Literature Review

a) foreign Researches

Jacobs (2004) in a research studied the impact of employed people's needs in accounting and financial professions on its training in the universities of South

[Downloaded from mail.iueam.ir on 2026-09-26]

[DOR: 20.1001.1.23452870.1395.4.15.8.3]

Africa. The results indicated that there is a different expectation gap from accounting training between academics and employed people in the profession. However, he concluded that employed people's needs in the profession affect accounting training both scientifically and in terms of individual skills and competencies. Moreover, he mentioned professionally required skills and competencies for accounting graduates and educational syllabus addable to previous programs including prediction and controlling the budget and taxes.

Edgard (2011) in a research concluded financial accounting, tax accounting, knowledge and group work, critical and analytical thinking, and written communications are the most important skills from perspective of employed people in accounting profession that should be contained in educational programs.

b) Iranian Researches

Eydi and Navehebrahim (2011) in a research entitled "transition from quasi-needs assessment to actual educational needs" tried to recognize educational needs for financial expert of Mehr Credit Institute and explain educational need-assessment technique, as a tool for transition from quasi-needs assessment to actual educational needs. In terms of purpose, this research is applied. In order to investigate experts' opinions, survey methodology was used. The results indicated that among educational needs, the least one is related to familiarity with principles of supervision with 29.5 percent distance from educational standards and the most one is related to familiarity with issues of electronic banking with 60 percent distance from educational standards. It has been suggested from approach of this research and to increase success rate of applying this method in other organizations to investigate job experts, supervisors, managers, and other beneficiaries' opinion as well as occupational network results in the studied area before job-based educational need-assessment.

Akhundi et.al., (2011) in a research entitled "municipalities' educational need-assessment in order to improve informal settlements in Iran" seek to answer what knowledge and skill shortages exist in municipal employees and members of city councils in the five studied cities in this research that can be removed through presenting educational courses. For this purpose, scientifically educational need-assessment methods including organization analysis, problem analysis and survey were used. Finally, tutorial instructions consisting of three elements of lesson and workshop, program, and module were designed. Generally, six educational modules were suggested.

Mohammadi Zanjirani et.al., (2012) tried to explain the way of identification of employees' training needs based on an approach consisting of individual-based analyses, organization, and somewhat job (with integrated approach) in a research and represent its implementation process in a case study. In the suggested approach, educational need-assessment is done based on required competencies that results in achievement of purpose (vision and mission) and organization's strategic

[Downloaded from mail.iueam.ir on 2026-09-26]

[DOR: 20.1001.1.23452870.1395.4.15.8.3]

goals. The method used in this study is to identify employees' key competencies, draw hierarchy model of criteria, need-assessment indicators, application of AHP technique, assessment and ranking employees from perspective of competency indicators, and identification of employees' educational needs based on existing gap analysis of employees with top ranks in competencies.

Rahimian and Tabatabaei Mozdabadi (2014) analyzed the gap of general and technical skill needs of financial and urban economy experts. Statistical population was all 227 financial and urban economy experts of Tehran Municipality. 143 of them were selected as sample by using Cochran sampling formula. The results indicated that 1. Status of educational needs were assessed moderately and ideal situation of educational needs were assessed in high level. 2. There was a significant difference between current and ideal situation of educational needs (general and technical). 3. The priorities of general skills of financial and urban economy experts of Tehran Municipality (general training gap) were respectively statistics, writing skills, communication, management, planning, and computer. 4. The priorities of technical skills for financial and urban economy experts of Tehran Municipality (technical skills gap) were respectively accounting, financial issues, and investment.

Fathi Vajargah et.al. (2013) studied Iranian journalists' educational needs in the field of knowledge, skill, and attitude based on job analysis approach. Statistical population 2200 Iranian journalists and 330 of them were selected as sample by simple random sampling. The results indicated that priorities of educational needs in the field of knowledge are familiarity with headline writing rules in interviews, familiarity with leads and lead writing techniques, report-writing methods, in the field of skills; speed in the transmission of news, ability to select and develop appropriate title, the ability to communicate with influential people in organizations and important centers in news arena, in the field of attitude; discrimination and analysis of daily discussions, analysis of mental and methods to combat it, ability to valuate and prioritize top stories.

3- Theoretical Principles

The first step for educational planning is to identify educational needs and prioritize them. If this step is done correctly, implementation of educational development process will be easier and more effective (Abbaszadegan and Torkzadeh, 2000).

Educational needs begin with analysis of purposes, investigation of organization's status, and discrimination of gap between current and ideal status, continue with identification of solutions and prioritizing needs. What is very crucial in this process is access to accurate information. Needs can be people's attitudes, knowledge, competencies, skills, performances, and activities (Mohammadpour Zarandi and Tabatabaei Mozdabadi, 2015). Need assessment is a systematic process to determine purposes, to identify gap between current-status and purposes, and

[Downloaded from mail.iueam.ir on 2026-09-26]

[DOR: 20.1001.1.23452870.1395.4.15.8.3]

finally, prioritize them (Fathi Vajargah, 2013). With advent of strong competition in the external environment of organization, complexity of work environment, innovation in technology, and uncertainty and unpredictable factors, education and consequently educational need-assessment, as the first step of training process in most organizations, whether public or private, are necessary.

In order to remove gap between knowledge that is acquired from school and university and necessary skill in work place, educational need-assessment should be done (Vemić, 2007). Educational need-assessment is access to information about necessary main and practical duties to play role in job, knowledge, skill, and essential attitudes to perform that task; therefore, it can be said that need-assessment is data collection tool. If it is applied correctly, we may exit from passive and ambiguous position in educational activities (Khorasani Abasalt and Eydi, 2010). The most important activity in performing educational need-assessment is to determine model. Selecting or designing a model for need-assessment facilitates and increases accuracy and credit of need-assessment process. In fact, selecting a model for need-assessment is a pre-planned roadmap; methods and practices have been specified and determined. Sometimes, proposed models in need-assessment are at organizational, occupational, and personal levels, and they sometimes may be general. Some of the most important need-assessment models are Klein, DACUM, Rummler, Rossett, Ford, gap, etc. Some of them are as follows:

DACUM need-assessment is a method for job analysis. DACUM workshop consists of one facilitator for educational workshop and about two to five experts. The facilitator is one who is responsible for directing DACUM workshop with valid degree about DACUM process from one of the valid organizations (Johnson, 2010). DACUM steps are:

1. Experts' familiarity with DACUM process in order to have a clear image of the process

2. Defining and identifying studied job: a comprehensive explanation that states job purpose or services expected from job operators

3. Identifying main tasks, i.e. what duties are performed in each job that includes several tasks or sub-tasks

4. Identification of task and sub-tasks related to main duty: for this purpose, experts are asked to write their duties in a sentence with infinitive or command verb. For instance: to formulate bureau

5. Revising and refining the primary and secondary identified tasks are done by exchanging present people's opinions in the workshop

6. In this step, it is specified what knowledge and skills are required to perform each main task

7. In this step, all identified duties are ranked based on their frequency and learning level. Scale importance is used to illustrate the importance of one task to achieve to occupational purposes. Frequency means how many times an

[Downloaded from mail.iueam.ir on 2026-09-26]

[DOR: 20.1001.1.23452870.1395.4.15.8.3]

occupational task is done by experts. Learning level of a duty represents how difficult is each task for inexperienced employees (Fathi Vajargah, 2012).

Task analysis in DACUM is a process of breaking, and analyzing a job in a form of its consisting duties, discovering existing communication between duties, knowledge, and necessary pre-requisite skills to perform that task. Although task analysis is done with job analysis, it should not be accompanied with it necessarily. Generally, task analysis is done by educational program planners in order to specify necessary knowledge, skills, and attitudes to carry out the studied job (Norton, 2009).

In Rummler's need-assessment model, the process of organizational education need-assessment has wide attitude toward the whole organization. Need-assessment should not be concentrated only on staff, yet it should target existing issues and complexities in organizational performance. In this type of need-assessment, it is investigated how studied job affect organization and customers. What are the major outputs in this job? What duties are necessary to carry out the studied job? Which task is more important and sensitive than others? What competencies are necessary for this job? What knowledge, skills, and attitudes are required? What training is required to meet these needs? (Rummler & Brache, 2013). Thus, need-assessment requires analysis and investigation in organization, job, and employer and educational programs are formulated based on the results (Rummler, 2006).

Ford's need-assessment model includes needs' analysis, monitoring, investigation, analysis, and finally practical action. In the phase of organization analysis investigation, causal and motivational analyses are done. What is important in need-assessment is to recognize duties, its components, and analysis of required skills (Ford, 2014).

Job analysis is a process in which the entity and features of each job in organization is investigated, sufficient information about them is collected and reported. With job analysis, it is specified each job consists of what duties and what skills and knowledge are required to carry it out appropriately. Need-assessment that is counted as criterion to discriminate employees' actual needs can be benefited results of job analysis. Particularly, with full knowledge of the job and employed person's status and its conditions, occupational and technical training courses are predicted and employees' actual needs are designed.

Totally, in order to facilitate realization of different educational need-assessment models, some of the models, their features, and steps have been represented in table1.

[Downloaded from mail.iueam.ir on 2026-09-26]

[DOR: 20.1001.1.23452870.1395.4.15.8.3]

Table1. Models, features, and steps of educational need-assessment

Model	Features	Steps
Klein	This type of need-assessment can be implemented at all national, local, and regional levels	• Specifying goals • Prioritizing goals • Specifying gap and distance between purposes and actual performance • Specifying priorities for implementation
SWOT	Identification of organizationally educational needs through analyzing threats, opportunities, weaknesses, and strengths	• Specifying external factors (threats and opportunities) • Specifying internal factors (weaknesses and strengths)
DACUM	Targeting need-assessment and planning processes simultaneously	• Specifying main functions • Determining key duties • Determining main steps of performing each task • Determining required knowledge and skill and formulating results
Rummler	It requires analysis in fields such as organization, job, and person.	• Specifying main outputs in organization and its environment • Specifying processes and working groups • Specifying required knowledge, skills, and attitudes to carry out the job
Rossett	Based on gap analysis	• Planning • Implementation • Using and applying
Skill Gap Analysis	The main focus is on people's skill measurement	• Determining favorable skills • Determining and measuring existing skills • Specifying gap and distance • Developing and educating skills
Ford	Need-assessment as a managerial and organizational tool	• Monitoring • Investigation • Analysis

Reference: (Researchers' findings)

4- Research Methodology

In the qualitative stage, statistical population included financial and urban economy experts of Tehran Municipality who identified by using purposeful sampling method i.e. those people were selected who had sufficient awareness of research subject.

The criteria that experts were selected for interview are as follows:

1. Tehran Municipality's top financial and urban economy managers

2. Financial and urban economy experts with at least 10 years' experience in the field of financial issues and urban economics and highest performance in their annual performance assessment

3. Financial and urban economy experts with technical training and high scores

4. Financial and urban economy experts who published books or articles in their specialized filed

About introducing Tehran Municipality's financial and urban economy experts, Tehran Municipality's director of education and human resources manager were asked to introduce some qualified deputies and experts to interview. In the qualitative step, sample was reached to its

[Downloaded from mail.iueam.ir on 2026-09-26]

[DOR: 20.1001.1.23452870.1395.4.15.8.3]

saturation level. It means that the researcher interviewed since more interviews did not lead to newer data. According to the mentioned issues, in the qualitative step, at first, five financial and urban economy experts of Tehran Municipality were selected by using stratified purposeful sampling, and then, 13 of them reached to saturation level by using snowball method. Data collection tool was semi-structured interview and interpretive analysis method was used to analyze qualitative data. Given output of qualitative part, existing job description in Tehran Municipality, Occupational Information Network (O*Net), and four job analysis questionnaires that investigate required knowledge, skill, tool, and technology for accounting, auditing, document examiner, financial and urban economy experts were formulated. The questions of these four questionnaires were scored based on three components of learning importance and necessity, frequency, and learning difficulty. Learning necessity and importance was scored at three levels including less important (1 score), somewhat important (2 scores), and very important (3 scores), frequency was scored at three levels of occasionally to rarely (1 score), monthly to annually (2 scores), and daily to weekly (3 scores), and learning difficulty was also scored at three levels including easy (1 score), fairly difficult (2 scores), and difficult (3 scores). The first questionnaire consisting 30 questions related to required skill, tool, and technology for urban economy experts was distributed among 62 urban economy experts of Tehran Municipality, the second one included 25 questions and distributed among 49 accountants of Tehran Municipality, the third one included 23 questions and it was distributed among 22 audits of Tehran Municipality, and the fourth one included 20 questions and distributed among 10 document examiners of Tehran Municipality. The experts assessed the tool validity favorably by using content validity method. However, in order to estimate reliability, Cronbach's alpha method was used. It was 0.80 for the first questionnaire, 0.79 for the second one, 0.83 for the third one and 0.82 for the fourth one. In order to analyze data statistically, given continuous and interval scale of data, and after ensuring normalized data through Kolmogorov-Smirnov test, one sample t test was used. For instance, the method of obtaining questions of job analysis for accounting in Tehran Municipality has been represented in table 2.

[Downloaded from mail.iueam.ir on 2026-09-26]

[DOR: 20.1001.1.23452870.1395.4.15.8.3]

Table2. The method of obtaining the questionnaire of required skill, knowledge, tool, and technology for accounting in Tehran Municipality

Area	Row	Skill, knowledge, tool, and technology	Taken from		
			Job analysis in Tehran Municipality	O*NET website	Interview with experts
Skill	1	Examining accounts summary and fitting them with related bureau	✓	✓	✓
	2	Preparing notes and filling forms of investigating accounts for doing comparative calculation	✓	✓	✓
	3	Investigating financial reports of different offices	✓	✓	✓
	4	Coding modification		✓	✓
	5	Analysis of financial reports		✓	✓
	6	Adjustment of financial transactions with financial rules and regulations	✓		
Knowledge	7	Familiarity with financial regulations and tax laws			✓
	8	Familiarity with financial and transactional regulations of Municipality			✓
	9	Theoretical and functional principles of municipalities' finance			✓
	10	Familiarity with income system and finance in municipalities			✓
	11	Mastering accounting bureau	✓		
	12	Mastering cost and income deeds	✓		✓
	13	Mastering on detailed budget of offices	✓		
	14	Mastering budget bureau	✓		✓
	15	Mastering financial and tax regulations			
	16	Mastering audit of accounts	✓		✓
	17	Mastering comprehensive bill	✓		
	18	Mastering accounts entity	✓		✓
Technology	19	Finance software			✓
	20	Access software			✓
	21	Excel software			✓
Tool	22	Using P.C.	✓		✓
	23	Working with office automation			✓

Reference: (Researchers' findings)

5- Research Findings

In order to answer the first question, i.e. how educational needs are identified to improve financial and urban economics experts' performance of Tehran Municipality, first, the average required skill, knowledge, tool, and technology for financial and urban economy experts of Tehran Municipality for four jobs including urban economy expert, accountant, audit, and document examiner were calculated generally based on three components of learning importance, frequency, and learning difficulty, and then, given the average of each three components including learning importance and necessity, frequency, and learning difficulty, totally, one-sample t-test was used. The items that their t values are significant are considered as educational need.

In order to investigate required skill, knowledge, tool, and technology for urban economy experts of Tehran Municipality, according to three components of learning importance and necessity, frequency, and learning difficulty, and generally one-sample t-test

[Downloaded from mail.iueam.ir on 2026-09-26]

[DOR: 20.1001.1.23452870.1395.4.15.8.3]

results, it can be proposed that there is a significant difference at α=0.05 level between theoretical mean (number 2) and experimental mean. Thus, since experimental means are higher than theoretical ones, it can be stated that all obtained skills, knowledge, tool, and technology related to Tehran Municipality's urban economy experts (each single question) are significantly higher than average in terms of total three components of learning necessity, frequency, and learning difficulty and they are counted as educational need (table3).

Table3. The status of required skill, knowledge, tool, and technology for financial and urban economy experts of Tehran Municipality based on three components of learning importance, frequency, and learning difficulty in general

Row	Area	Items	Mean	Standard deviation	Df	t	Sig
1	Skill	Mastering consolidated financial statements	2.14	0.34	61	2.72	0.009
2		Investment management	2.41	0.28	61	6.12	0.000
3		Financial management of project	2.25	0.30	61	6.46	0.000
4		Urban development planning	2.38	0.31	61	8.90	0.000
5		Calculating stock value	2.12	0.39	61	2.24	0.02
6		Calculating risk value in projects	2.38	0.38	61	7.29	0.000
7		Calculating project efficiency	2.36	0.42	61	7.20	0.000
8		Feasibility of projects	2.15	0.46	61	2.27	0.000
9		Financial engineering	2.23	0.43	61	3.54	0.000
10		Discriminating inefficiencies of urban place selection and alternative general policies to develop efficient choices	2.34	0.38	61	6.56	0.000
11		Financial planning	2.35	0.36	61	7.87	0.000
12		Budget prediction	2.42	0.39	61	8.20	0.000
13		Analysis of financial settlements	2.29	0.37	61	5.98	0.000
14		Preparing financial reports	2.32	0.37	61	7.99	0.000
15	Knowledge	Familiarity with financial rules and tax laws	2.16	0.47	61	2.58	0.01
16		Familiarity with financial and transactional regulations of municipality	2.22	0.40	61	7.27	0.000
17		Theoretical and functional principles of finance for municipalities	2.30	0.39	61	7.5	0.000
18		Familiarity with revenue and finance system in municipalities	2.06	0.53	61	5.49	0.000
19		Mastering money and capital market issues	2.09	0.46	61	1.15	0.000
20		Mastering the principles of urban economics and sustainable revenue	2.30	0.44	61	5.37	0.005
21		Mastering Islamic financial concepts	2.25	0.41	61	5.13	0.000
22		Familiarity with the concept of borrowing in municipalities	2.33	0.27	61	9.22	0.000
23	Technology	Finance software	2.35	0.43	61	6.42	0.000
24		Access software	2.39	0.37	61	8.30	0.000
25		Excel software	2.08	0.42	61	8.06	0.02
26		Using advanced accounting soft wares, and financial and economic modeling	2.25	0.36	61	5.47	0.000
27		Camfar software	2.27	0.41	61	4.68	0.000
28		Working with integrated financial systems	2.34	0.38	61	6.56	0.007
29	Tool	Using P.C.	2.27	0.34	61	5.97	0.000
30		Working with office automation	2.25	0.41	61	4.45	0.000

Reference: (Researchers' findings)

[Downloaded from mail.iueam.ir on 2026-09-26]

[DOR: 20.1001.1.23452870.1395.4.15.8.3]

In order to investigate required skill, knowledge, tool, and technology for Tehran Municipality's accountants, one sample t-test was used based on three components of learning importance and necessity, frequency, and learning difficulty in general. Given the obtained t and significance level, it can be stated preparing financial settlements, list of orders and employees' payments, budget bookkeeping records, familiarity with financial and transactional regulations of municipality and using P.C. are not counted as educational needs since their significance levels are more than 0.5. About other items, it can be said that they are counted as educational needs since there is a significant difference at 0.05 level (table4).

Table4. The status of required skill, knowledge, tool, and technology for accountants of Tehran Municipality based on three components of learning importance, frequency, and learning difficulty in general

Row	Area	Items	Mean	Standard deviation	Df	t	Sig
1	Skill	Preparing financial settlements	2.01	0.38	48	0.25	0.80
2		Figures recorded in the financial bureau (newspaper, total, and certain ones)	2.20	0.28	48	4.93	0.000
3		Keeping and recording accounts	2.21	0.30	48	4.89	0.000
4		Preparing financial documents	2.34	0.32	48	7.55	0.000
5		Preparing list of orders and employees' payments	2.08	0.38	48	1.52	0.14
6		Preparing detailed budgets of offices	2.35	0.40	48	6.20	0.000
7		Recording budget bureau	2.02	0.42	48	0.34	0.73
8		Dealing with people's debt files to municipalities until collection of receivables	2.12	0.47	48	1.71	0.02
9		Preparing and keeping different accounting statistics	2.14	0.45	48	2.14	0.04
10		Calculating payments	2.31	0.43	48	5.13	0.000
11		Preparing required financial reports	2.32	0.35	48	6.34	0.000
12		Data analysis related to tax on VAT and withholding taxes	2.37	0.37	48	7.07	0.000
13		Analysis of financial settlements	2.26	0.39	48	4.68	0.000
14		Reporting cash flow of all accounts	2.36	0.38	48	6.72	0.000
15		Preparing comprehensive revenue and cost bill	2.14	0.48	48	2.10	0.04
16		Categorizing and summarizing numerical and financial data	2.40	0.40	48	6.98	0.000
17		Verification and balancing receipts	2.26	0.37	48	4.83	0.000
18	Knowledge	Familiarity with financial regulations and tax laws	2.32	0.55	48	4.05	0.000
19		Familiarity with financial and transactional regulations of municipalities	2.00	0.44	48	0.00	0.1
20		Theoretical and practical principles of municipalities' finance	2.11	0.43	48	1.76	0.000
21	Technology	Finance software	2.21	0.39	48	4.24	0.08
22		Access software	2.31	0.42	48	5.19	0.000
23		Excel software	2.36	0.36	48	7.03	0.000
24	Tool	Using P.C.	2.05	0.42	48	0.92	0.36
25		Working with office automation	2.25	0.34	48	5.23	0.000

Reference: (Researchers' findings)

[Downloaded from mail.iueam.ir on 2026-09-26]

[DOR: 20.1001.1.23452870.1395.4.15.8.3]

In order to investigate required skill, knowledge, tool, and technology for Tehran Municipality audits, one sample t-test was used based on three components of learning importance and necessity, frequency, and learning difficulty in general. Given obtained t and significance level, it can be stated that familiarity with financial regulations and tax laws, familiarity with financial and transactional regulations of municipalities, and using P.C. are not considered educational needs because their significance levels is more than 0.05. About other issues, it can be said that there is a significant difference and they are counted as educational needs (table5).

Table5. The status of required skill, knowledge, tool, and technology for audits of Tehran Municipality based on three components of learning importance, frequency, and learning difficulty in general

Row	Area	Items	Mean	Standard deviation	Df	t	Sig
1	Skill	Dealing and investigating account summaries and their adjustment with offices and related sub-settlements	2.19	0.38	21	2.26	0.02
2		Preparing notes and filling account check forms	2.23	0.28	21	3.58	0.000
3		Dealing with financial reports of different offices, investigating and their adjustment with the processes of accounting operations	2.26	0.30	21	3.86	0.000
4		Coding modification	2.30	0.32	21	4.39	0.000
5		Analysis of financial settlements	2.14	0.39	21	1.68	0.02
6		Adjustment of financial transactions with financial rules and regulations	2.41	0.30	21	2.99	0.000
7	Knowledge	Familiarity with financial regulations and tax laws	2.07	0.29	21	0.93	0.07
8		Familiarity with financial and transactional regulations of municipalities	1.98	0.45	21	0.32	0.75
9		Theoretical and practical principles of municipalities' finance	2.28	0.43	21	3.54	0.000
10		Familiarity with revenue and finance system in municipalities	2.13	0.35	21	1.74	0.000
11		Mastering accounting bureau	2.44	0.45	21	4.98	0.000
12		Mastering cost and revenue documents	2.35	0.50	21	4.25	0.000
13		Mastering detailed budget of offices	2.28	0.49	21	2.95	0.000
14		Mastering budget bureau	2.24	0.38	21	2.75	0.000
15		Mastering financial and tax regulations	2.14	0.40	21	2.03	0.04
16		Mastering audit of accounts	2.18	0.36	21	3.75	0.000
17		Mastering comprehensive bill	2.42	0.35	21	3.02	0.000
18		Mastering nature of the accounts	2.27	0.46	21	2.95	0.000
19	Technology	Finance software	2.47	0.44	21	4.99	0.000
20		Access software	2.30	0.45	21	2.98	0/005
21		Excel software	2.29	0.51	21	2.97	0.000
22	Tool	Using P.C.	1.97	0.44	21	0.32	0.09
23		Working with office automation	2.24	0.50	21	2.80	0.000

Reference: (Researchers' findings)

[Downloaded from mail.iueam.ir on 2026-09-26]

[DOR: 20.1001.1.23452870.1395.4.15.8.3]

In order to investigate required skill, knowledge, tool, and technology for Tehran Municipality document examiners, one sample t-test was used based on three components of learning importance and necessity, frequency, and learning difficulty in general. Given obtained and significance level, it can be stated that keeping and recording accounting bureau, checking cost documents and their regulation methods, preparing financial settlements, preparing financial reports, familiarity with financial regulations and tax laws, familiarity with financial and transactional regulations of municipality, mastering theoretical and practical principles of municipalities' finance, using P.C., and working with office automation are not counted as educational needs since their significance levels are more than 0.05 (table6).

Table6. The status of required skill, knowledge, tool, and technology for document examiners of Tehran Municipality based on three components of learning importance, frequency, and learning difficulty in general

Row	Area	Items	Mean	Standard deviation	Df	t	Sig
1	Skill	Keeping and recording accounting bureau	2.21	0.39	9	1.73	0.08
2		Preparing cost documents	2.33	0.38	9	2.77	0.000
3		Recording budget bureau	2.39	0.40	9	3.11	0.000
4		Keeping different statistics	2.43	0.37	9	3.65	0.000
5		Controlling cost documents and their regulation methods	2.22	0.55	9	1.28	0.09
6		Adjustment cost with financial and legal regulations	2.60	0.39	9	4.87	0.000
7		Auditing expense and income accounts and matching them with the legal provisions	2.19	0.37	9	1.65	0.02
8		Preparing financial settlements	2.12	0.42	9	0.88	0.1
9		Preparing financial reports	2.10	0.61	9	0.50	0.1
10		Statement of cash flows	2.19	0.53	9	1.15	0.03
11		Preparing comprehensive settlement of revenue and cost	2.11	0.55	9	0.61	0.04
12	Knowledge	Familiarity with financial regulations and tax laws	2.02	0.39	9	0.14	0.2
13		Familiarity with financial and transactional regulations of municipalities	1.77	0.48	9	1.54	0.07
14		Familiarity with revenue and finance system in municipalities	2.77	0.34	9	2.14	0.000
15		Mastering theoretical and practical principles of municipalities' finance	1.94	0.42	9	0.48	0.2
16	technology	Finance software	2.24	0.38	9	2.02	0.04
17		Access software	2.11	0.50	9	2.23	0.000
18		Excel software	1.64	0.32	9	0.46	0.3
19	Tool	Using P.C.	1.67	0.71	9	1.48	0.09
20		Working with office automation	1.89	0.65	9	0.52	0.2

Reference: (Researchers' findings)

In order to answer the second question i.e. how to prioritize identified educational needs for financial and urban economy experts of Tehran Municipality,

[Downloaded from mail.iueam.ir on 2026-09-26]

[DOR: 20.1001.1.23452870.1395.4.15.8.3]

Lee Hee test was used. For this purpose, at first, all items related to skill, knowledge, tool, and technology were sorted in total mean order of each items related to skill, knowledge, tool, and technology were sorted. Then, the highest mean will be subtracted from the lowest one, and the obtained figure is divided on four (four-year program). Finally, the obtained figure is added from the lowest mean in four steps in order to specify range of priorities (table7).

Table7. The average of required skill, knowledge, tool, and technology for urban economy experts of Tehran Municipality in priority order based on three variables of learning importance, frequency, and learning difficulty

Row	Skill, knowledge, tool, and technology	Average of each of three variables of learning importance, frequency, and learning difficulty	Priority
1	Budget forecast	2.42	1
2	Investment management	2.41	1
3	Access software	2.39	1
4	Urban development planning	2.38	1
5	Calculating the amount of risk in projects	2.38	1
6	Financial planning	2.35	1
7	Finance software	2.35	1
8	Discriminating inefficiencies of urban place selection and alternative general policies to develop efficient choices	2.34	2
9	Working with integrated financial systems	2.34	2
10	Familiarity with the concept of borrowing in municipalities	2.33	2
11	Mastering urban economics principles and sustainable revenue	2.30	2
12	Theoretical and practical principles of municipalities' finance	2.30	2
13	Analysis of financial settlements	2.29	2
14	Camfar software	2.27	2
15	Using P.C.	2.27	2
16	Mastering Islamic financial concepts	2.25	2
17	Financial management of project	2.25	2
18	Using advanced accounting and financial-economic modeling soft wares	2.25	2
19	Working with office automation	2.25	2
20	Financial engineering	2.23	2
21	Familiarity with financial and transactional regulations of municipalities	2.22	3
22	Familiarity with financial regulations and tax laws	2.16	3
23	Feasibility of projects	2.15	3
24	Mastering integrated financial settlements	2.14	3
25	Calculating stock value	2.12	3
26	Mastering issues of money and capital market	2.09	4
27	Excel software	2.08	4
28	Familiarity with revenue and finance system in municipalities	2.06	4
29	Calculating project outcome	2.03	4
30	Preparing financial reports	1.99	4

Reference: (Researchers' findings)

[Downloaded from mail.iueam.ir on 2026-09-26]

[DOR: 20.1001.1.23452870.1395.4.15.8.3]

Regarding required skill, knowledge, tool, and technology for financial and urban economy experts of Tehran Municipality, an educational program is formulated for the first priority needs for seven courses including budget forecast, investment management, Access software, urban development planning, calculating amount of risk in projects, financial planning, and finance software based on each of three variables i.e. learning importance, frequency, and learning difficulty, considering coordination with Tehran Municipality education authorities, interviews with financial and urban economy experts of Tehran Municipality, and meetings of education leadership council. Required skill, knowledge, tool, and technology for Tehran Municipality accountants were prioritized based on three variables of learning importance and necessity, frequency, and learning difficulty by Lee Hee method. According to table4, five items that were not counted as educational needs were removed among 25 items related to required skill, knowledge, tool, and technology for Tehran Municipality accountants; therefore, the priority is based on 20 extracted items as table8.

Table8. Required skill, knowledge, tool, and technology for accountants in order of priority based on three variables of learning importance and necessity, frequency, and learning difficulty

Row	Skill, knowledge, tool, and technology	Average of each of three variables; learning importance, frequency, and learning difficulty	Priority
1	Classification and summarizing numerical and financial data	2.40	1
2	Data analysis related to VAT and withholding taxes	2.37	1
3	Excel software	2.36	1
4	Preparing detailed budget of offices	2.35	1
5	Preparing financial documents	2.34	1
6	Preparing required financial reports	2.32	1
7	Calculating payments	2.31	1
8	Access software	2.31	1
9	Verification and balancing receipts	2.26	2
10	Analysis of financial settlements	2.26	2
11	Working with office automation	2.25	2
12	Keeping and recording accounting bureau	2.21	2
13	Finance software	2.21	2
14	Recording figures in financial bureau (newspaper, total, and certain)	2.20	2
15	Preparing comprehensive revenue and cost bill	2.14	3
16	Preparing and keeping different accounting statistics	2.14	3
17	Dealing with people's debt files to municipality until collecting borrowing	2.12	3
18	Theoretical and practical principles of municipalities' finance	2.11	3
19	Familiarity with financial regulations and tax laws	1.99	4
20	Reporting cash flow of all accounts	1.98	4

Reference: (Researchers' findings)

[Downloaded from mail.iueam.ir on 2026-09-26]

[DOR: 20.1001.1.23452870.1395.4.15.8.3]

Regarding required skill, knowledge, tool, and technology for Tehran Municipality accountants, based on three variables of learning importance and necessity, frequency, and learning difficulty, an educational program is formulated for four courses including categorizing and summarizing numerical and financial data, data analysis related to VAT and withholding tax, Excel software, and preparing detailed budget for offices for the first year given coordination with Tehran Municipality education authorities, interviews with financial and urban economy experts of Tehran Municipality, and meetings of education leadership council.

Required skill, knowledge, tool, and technology for Tehran Municipality accountants were prioritized based on the variables of learning importance and necessity by Lee Hee method. According to table5, three items that were not counted as educational needs were removed among 25 items related to required skill, knowledge, tool, and technology for Tehran Municipality audits; therefore, the priority is based on 20 extracted items as table9.

Table9. Required skill, knowledge, tool, and technology for audits in order of priority based on three variables of learning importance and necessity, frequency, and learning difficulty

Row	Skill, knowledge, tool, and technology	Average of each of three variables; learning importance, frequency, and learning difficulty	Priority
1	Finance software	2.47	**1**
2	Mastering accounting bureau	2.44	**1**
3	Mastering comprehensive bill	2.42	**1**
4	Coding modification	2.41	**1**
5	Mastering cost and revenue documents	2.39	2
6	Mastering financial transactions with financial rules and regulations	2.30	2
7	Access software	2.30	2
8	Excel software	2.29	2
9	Theoretical and practical principles of municipalities' finance	2.28	2
10	Mastering detailed budget of offices	2.28	2
11	Mastering nature of accounts	2.27	2
12	Dealing with financial reports of different offices, investigating, and adjusting them with accounting stages	2.26	2
13	Mastering budget bureau	2.24	2
14	Working with office automation	2.24	2
15	Preparing notes and fill forms of account check for calculating comparative operations	2.23	2
16	Dealing and investigating summary of accounts and their adjustment with subsidiary bureau and settlements	2.19	2
17	Mastering audit of accounts	2.18	3
18	Analysis of financial settlements	2.14	3
19	Mastering financial and tax laws	2.14	3
20	Familiarity with revenue and finance system in municipalities	2.13	3

Reference: (Researchers' findings)

[Downloaded from mail.iueam.ir on 2026-09-26]

[DOR: 20.1001.1.23452870.1395.4.15.8.3]

Regarding required skill, knowledge, tool, and technology for Tehran Municipality audits, based on three variables of learning importance and necessity, frequency, and learning difficulty, an educational program is formulated for four courses including finance software, controlling accounting bureau, controlling comprehensive settlement, and coding modification for the first year given coordination with Tehran Municipality education authorities, interviews with financial and urban economy experts of Tehran Municipality, and meetings of education leadership council.

Required skill, knowledge, tool, and technology for Tehran Municipality document checkers were prioritized based on the variable of learning importance and necessity by Lee Hee method. According to table6, nine items that were not counted as educational needs were removed among 25 items related to required skill, knowledge, tool, and technology for Tehran Municipality document checkers; therefore, the priority is based on 10 extracted items as table10.

Table10. Required skill, knowledge, tool, and technology for document checkers in order of priority based on three variables of learning importance and necessity, frequency, and learning difficulty

Row	Skill, knowledge, tool, and technology	Average of each of three variables; learning importance, frequency, and learning difficulty	Priority
1	Adjusting cost with financial and legal regulations	2.57	1
2	Keeping different statistics	2.47	1
3	Preparing cost documents	2.40	1
4	Recording budget bureaus	2.39	1
5	Statement of cash flows	2.20	2
6	Auditing expense and income accounts and matching them with the legal provisions	2.03	3
7	Finance software	2.02	3
8	Preparing comprehensive bill of revenue and cost	1.95	3
9	Access software	1.89	3
10	Excel software	1.87	3
11	Familiarity with income and finance system in municipalities	1.60	4

Reference: (Researchers' findings)

Regarding required skill, knowledge, tool, and technology for Tehran Municipality document checkers, based on three variables of learning importance and necessity, frequency, and learning difficulty, an educational program is formulated for four courses including adjustment of cost with financial and legal regulations, keeping different statistics, preparing cost documents and recording budget bureau for the first year given coordination with Tehran Municipality education authorities, interviews with financial and urban economy experts of

[Downloaded from mail.iueam.ir on 2026-09-26]

[DOR: 20.1001.1.23452870.1395.4.15.8.3]

Tehran Municipality, and meetings of education leadership council.

Generally, an educational program can be formulated for four mentioned jobs for 21 courses as follows: budget forecast, investment management, Access software, urban development planning, calculating risk amount in projects, financial planning, finance software, categorizing and summarizing numerical and financial data, data analysis related to VAT and withholding tax, Excel software, preparing detailed budget of offices, preparing financial documents, preparing required financial reports, calculating payments, mastering accounting bureau, mastering comprehensive bill, coding modification, adjusting cost with financial and legal regulations, keeping different statistics, preparing cost documents, and recording budget bureau.

6- Conclusion

This research aimed to obtain and prioritize educational needs for financial and urban economy experts of Tehran Municipality with job analysis approach. In this regard, required knowledge, skill, technology, and tool for four jobs, including urban economy expert, accountant, audit, and document checker in Tehran Municipality, were obtained according to existing job description in Tehran Municipality, use of jobs' database, and interviews with financial and urban economy experts of Tehran Municipality. Then, based on that, four questionnaires were designed to carry out quantitative part. The results of quantitative part indicated that all items were significant and counted as educational needs, in terms of total of each component, including learning necessity, frequency of use, and learning difficulty from 30 obtained items in terms of skill, knowledge, tool, and technology for urban economy expert. For accounting job, 20 items were significant and counted as educational need from 25 identified items, in terms of skill, knowledge tool, and technology, in terms of total of each component, including learning necessity, frequency of use, and learning difficulty. Since significance levels of "preparing financial settlements, preparing list of money order and payment of employees' borrowing settlements, recording budget bureau, familiarity with financial and transactional regulations of municipality, and using P.C." are more than 0.05, they are not counted as educational needs; therefore, they were omitted. For auditing job, three items of "familiarity with financial regulations and tax laws, familiarity with financial and transactional regulations of municipality, and using P.C." were not educational needs from 23 identified items, and other ones were considered as educational needs. About document checking job, since significance levels of nine items, including keeping and recording accounting bureau, controlling cost documents and their regulation method, preparing financial settlements, preparing financial reports, familiarity with financial regulations and tax laws, familiarity with financial and transactional provisions of municipality, mastering theoretical and practical principles of municipalities' finance, using P.C., and working with office automation, are more than 0.05, they are not counted as

[Downloaded from mail.iueam.ir on 2026-09-26]

[DOR: 20.1001.1.23452870.1395.4.15.8.3]

educational needs. In other cases, it can be stated that there is a significant difference and they are regarded as educational needs. The results of prioritizing required skill, knowledge, tool, and technology, for four jobs of financial and urban economy expert, accountant, audit, and document checker of Tehran Municipality, based on three variables of learning importance, frequency, and learning difficulty with Lee Hee method, indicate that an educational program for the first year can be formulated. Given coordination with education authorities of Tehran Municipality, interviews with financial and urban economy experts of Tehran Municipality, meetings of leading council of education about required needs for financial and urban economy experts, seven courses can be considered as follow: budget forecast, investment management, Access software, urban development planning, calculating risk amount in projects, financial planning, and finance software. For accountants, four courses with top priority are categorizing and summarizing numerical and financial data, data analysis related to VAT and withholding tax, Excel, software, and preparing detailed budget of offices. For audits, five courses with top priority are finance software, controlling accounting bureau, controlling comprehensive bill, controlling cost and revenue documents, and coding modification. For document checkers, five courses with top priority are cost adjustment with financial and legal regulations, keeping different statistics, preparing cost documents, recording budget bureau, and controlling cost documents and their regulation method.

According to research entity and findings, following issues are recommended:

- In order to increase educational effectiveness, detected priorities for financial and urban economy experts should be put on agenda by educational managers of Tehran Municipality

- Since urban economics is a new occupational field in Tehran Municipality, and educational courses, including investment management, calculating risk amount in projects, urban development planning, feasibility of projects etc., have not been held in Tehran Municipality, it is recommended to apply top professors in the field of urban economics and cooperation with urban associations to educate these courses.

Given the results, budget issue, from budget forecast to preparing detailed budget of bureau and recording them, is one of the required skills of these four jobs, it is recommended that educational managers of Tehran Municipality should try to increase effectiveness of holding these courses.

7- References

Abbaszadegan, S.M., Torkzadeh, J. (2000). *Educational need-assessment in organizations*. Tehran: Enteshar Corporation.

Akhundi, A., Barakpoor, N., Saeidi Rezvani, H., Imani Jajromi, H., Binaghi, T. (2011). Educational need-assessment of municipalities to improve informal settlements in Iran; case study: Bandar Abbas, Tabriz, Zahedan, Sanandaj, and Kermanshah, *Quarterly Journal of urban management*, 9(27), 261-247.

[Downloaded from mail.iueam.ir on 2026-09-26]

[DOR: 20.1001.1.23452870.1395.4.15.8.3]

Balkin, D. B., Richebé, N. (2007). A gift exchange perspective on organizational training. *Human Resource Management Review*, *17*(1), 52-62.

Edgard, B. (2011). *How Relevant Do Accountants Consider Knowledge, skills and Instructional Methods Acquired During College and Required by the profession?* A Cross – Country Analysis.

Eydi, A., Naveh Ebrahim, A. (2011). Transition from semi-need-assessment to actual need assessment (case study), *A new approach in educational administration,* 2(4(8)), 77-96.

Fathi Vajargah, K. (2012). *DACUM analysis guide (comprehensive approach in educational need-assessment*. Tehran: Simaye Danesh Publication.

Fathi Vajargah, K. (2013). *Educational need-assessment: models and methods*. Tehran: Ayij Pubs.

Fathi Vajargah, K., Khorasani, A., Hasanzadeh, H. (2013). Educational need-assessment of Iranian journalists, *Quarterly Journal of socio-cultural development studies, 2(2),* 9-37.

Ford, J. K. (2014). *Improving training effectiveness in work organizations*. Psychology Press.

Jacobs, L. (2004). The impact of changing practitioner requirements on management accounting education at South African universities, *Doctoral Dissertation*, University of Pretoria.

Johnson, J. (2010). What GIS technicians do: A synthesis of DACUM job analyses. *URISA Journal, 22*(2), 31.

Khorasani, A., Eydi, A. *practical techniques of educational need-assessment emphasizing on necessities of international standard of ISO 10015,* Tehran: Education and Industrial Research Center of Iran.

McCawley, P. F. (2009). Methods for conducting an educational needs assessment. *University of Idaho, 23*.

Mohammadi Zanjirani, D., Eshtiyaghiyan, N., Raznahan, F. (2012). A multi-criteria and integrated approach of educational need-assessment based on analysis of employees' competencies, *journal of new educational approaches, 7(1(15)),* 107-136.

Mohammadpour Zarandi, H., Tabatabaei Mozdabadi, S.M. (2015). *Organizational training administration (emphasizing on urban capital development).* Tehran: Road, Housing and Development Research Center.

Mohammadpour Zarandi, H., Tabatabaei Mozdabadi, S.M., Karimi, S. (2013). *Human Resources Management in municipalities.* Tehran: Koohsar Publication.

Norton, R. E. (2009). Competency-based education via the DACUM and SCID process: An overview. *Columbus, OH: Center on Education and Training for Employment, The Ohio State University.*

Rahimiyan, H., Tabatabaei Mozdabadi, S.M. (2014). Gap analysis and need-assessment of general and technical skills of financial and urban economy experts of Tehran Municipality, *Quarterly journal of Urban Economics and Management, 8(2),* 67-78.

Rummler, G. A. (2006). The anatomy of performance. *Handbook of human performance technology: Principles, practices, and potential*, 986-1007.

Rummler, G. A., Brache, A.P. (2013). *Improving performance: How to manage the white space on the organization chart* (3rd ed.). San Francisco, CA: Pfeiffer.

Vemić, J. (2007). Employee training and development and the learning organization. FACTA UNIVERSITATIS Series: *Economics and Organization,4*(2), 209-216**.**

[Downloaded from mail.iueam.ir on 2026-09-26]

[DOR: 20.1001.1.23452870.1395.4.15.8.3]