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The Process of Faculty Members' Expertise in Education: A Grounded Theory Study

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ABSTRACT

Background and Objective: There is widespread agreement about faculty members' competences in literature. Dreyfus considers stages such as an advanced beginner, competence stage, proficiency stage, the expertise, the mastery stage for teaching and learning in order to acquire skills and competencies. The aim of this study is to clarify the effective concepts and elements in the developmental process of mastering at teaching among the faculty members of universities, based on experiences and their perceptions of this process.
Methods: This is a qualitative study based on grounded theory, which was conducted using interviews and observations. First, purposive sampling was used and then theoretical sampling to sample. Participants in a study included 12 faculty members with different experiences and background of mentoring to mastering and also five medical university students participated that semi-structured interviews were conducted to them. Simultaneously with data collection, analysis of them performed using a method of coding (open, axial and selective) and Strauss & Corbin constant comparative.
Results: Based on the results of coding steps, "Intrinsic motivation", "extrinsic motivation" , "continuous learning", "commitment to community" and "empowerment" are contextual factors that affect the process of expertise among mentors. From the perspective of participants, individual motives and external motivational factors such as the identity of scientific and social economic issues, wide variety responsibilities, accountability to the community and the desire for transcendence are of the most important contextual factors affecting the process of expertise.
Conclusion: Expertise in education is a complex process, which is affected by multiple factors; detecting and addressing these factors can lead the way to progress and excellence of masters in acquiring expertise and skill in the education and promoting the quality of education at universities.
KEY WORDS: expertise, faculty members, grounded theory.

I. INTRODUCTION

There is general agreement about faculty members' competences in literature. Expertise in universities refers to a set of faculty members as a lecturer or professor, that they should teach various and academic courses in order to improve knowledge, assisting to acquire the necessary skills and attitude of future generations (1, 2). Teaching is a difficult and complex activity that implicates mastery of content, classroom control, techniques of organization, and command of teaching skills and needs training (3, 4). Dreyfus described some stages such as novice, advanced beginner, competence, proficiency, expertise, mastery, and practical wisdom for teaching and learning in order to qualify capability and competency, and the gradual nature of process make it contradictory from beginning to end, i.e. to achieve the mastery and practical wisdom (5). Banner also classifies nursing training to five ability levels of novice, advanced beginner, competence, proficient, and expertise by using the Dreyfus model of acquisition and development of skills. He believes that the change from beginner to master level occurs in four aspects of performance (6). Being in the level of expertise and mastery expresses the high levels of "self-flourishing" and mastery is a degree in which the person puts behind other different stages of cognitive, science, practical and epistemic life, then reached to a level that flourishes his innate talents and abilities and everyone confesses on it (7, 8).Various studies point to the role of a good instructor in education based on different criteria and critical tips and usually the teacher is known more than a teacher. Harden enumerates six roles and twelve different tasks for the masters including providing information to facilitate learning, student evaluation, planning, design resources, and being a model (9). Most studies considered the characteristics and core competencies of faculty members as factors like, the continuous dynamics, social responsibility, trained talented men, goal-oriented, prioritizing the issues of

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human and social interests (10-12). In this context, higher education institutions are trying to determine the factors in order to assess suitability of their masters and accordance with them providing the fields and conditions for masters to earn expertise and empowerment, and thereby, improve the quality of education (1, 13). This issue is especially due to the escalation of challenges facing the health care educators in the twenty-first century and the increasing expectations of education and health care quality has got more importance than before (14). On the other hand, trying to improve education, professional development of masters is the necessity of success and increases knowledge and skills of masters in the garb of expertise. Expertise is as an agent who needs changes to improve educational system and the professors themselves are considered as the most important factor causing the mentioned change. The dual status of teachers in educational reform, being the main element of changes and executive of them, has converted teachers' professional development to the growing and challenging fields (15, 16). However, what of these efforts are in common to identify the professional development of masters and teachers is that teachers learn how to learn, and transfer knowledge into practice to help students' progression and by that to promote the universities' scientific status (17). Richter et al (2011) know professional development of expertise teachers by the result of processes and activities designed to enhance the knowledge, skills, and professional attitudes of teachers to improve students' learning. This definition includes a wide range of the professional development of teachers. However, new approaches to professional development, promoting lifelong learning and do not accept Professional learning in the short-term interventions, but also knows the professional development of teachers a long-term activity that it is ranged from training of teachers in university to in-service courses of individual teachers (18). In the higher education institutions, various attempts have been made for empowerment and achieving expertise. The way of faculty involvements in education and training has been explored by several investigations. These studies all show a similarity in the focus towards either the transmission of information and skills and attitude to students or the development of understanding in students. The aim of any staff development needs to be in line with the participants' own understanding of teaching and development for them to be interested and find it worthwhile (18-20).

Arkerlind has been explored Teachers' understanding of their own development and growth by a research that revealed, the way that academics started their development and progress as teachers and recognized different ways and means based on the teachers' own experiences for examples. Improved content knowledge to know what to teach , increased practical experience as a teacher to know how to teach, Increased repertoire of teaching strategies to become more skillful as a teacher, increased understanding of which strategies work or do not work for the teacher to be more effective as a teacher, Increased understanding of which strategies work or do not work for the students in order to become more effective in facilitating students learning (21).

Recently in Iran, there has been a little argument of how medical faculty members can attain the knowledge, attitudes and skills necessary for competent teachers. In this regard, how the process of achieving expertise in teaching for expertise is formed, there are no studies done. In this study, in addition to the clarification of the process of acquiring expertise for expertise in education, we show how the different components and parameters influence the process of becoming an expert for expertise in education. Therefore, the aim of this study is to focus on the way that teachers understand development as a teacher in more general terms, rather than the way they have developed themselves. The aim of this study was to explore medical teachers' ways of understanding development as teachers.

II. GOALS HAIR

The process of faculty members' expertise in education:
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METHODS

This study is the qualitative study on the grounded theory that generates an explanation and discovers the process of expertise development as it was described by participants. Grounded theory approach was the suitable method in this study because it is inductive and exploratory methods that allow researchers in various subject areas to explain of process and develop a theory of actions instead of relying on existing theories. This theory compiled in a systematic form and based on real data (21). To define grounded theory, it is a theory which is derived from data collected systematically during the research process and analyzed. In this strategy, collecting and analyzing data and a theory that is ultimately derived from the data, are in close association with each other. In addition, it will be used when the researcher wants to discover patterns of behavior and social interactions among specific groups of people in a particular context. Since the expertise stages are largely unknown in education and many factors are involved in it, a qualitative approach was chosen for the study (22, 23). Participants are selected according to the variety of academic ranks, work experience and expertise by a purposive sampling method and among key and effective informants, who are known as successful faculty members according to education assistance documents and have the greatest efforts to improve quality. In the

following sampling data is done by theoretical sampling and data saturation in this study, 20 people participated including 15 members of the faculty of basic sciences and clinical sciences and five students in the internship and basic sciences stages. The primary method of data collection was in-depth semi-structured interviews. Interviews were begun with general topics such as "talk about your educational experience" and then the participants were asked to describe their views and perceptions about their expertise. The stream of interview is largely dependent on the questions that occurred in the interaction between the interviewer and interviewees. In the process of study after obtaining permission from the participants, the interview was recorded and verbatim immediately. The interview was conducted individually, in a quiet place and in a suitable time and place at which participants felt comfortable and then verification of documents and coordination for subsequent interviews were done. On the other hand, research questions were changed according to the classes and the emerging theory. To describe the participants, demographic data were recorded. The interviews lasted one hour on average and each interview was conducted in one session. Another method of data collection in this study was an unstructured observation in the educational setting. So that investigator observed the way of interactions among faculty members and students in the classroom, laboratory, clinical training and clinics during 5 weeks, while obtaining informed consent, maintaining anonymity, payment data confidentiality and notes of the interview as part of the data was analysis.

Researcher and trustworthiness: To ensure the accuracy of the data, we use peer review, check member, the researchers' acceptability, and the long and continuing involvements through in-depth, prolonged, and repeated interviews by the participants, using the colleagues' comments were used.

Data Analysis method: In grounded theory approach, the analysis of data took place simultaneously with data gathering. Data collection and its analysis lasted 6 months from 2012 till 2013. To analyze the data, we used from Strauss and Corbin 2 coding and constant comparison methods, which were done in three stages of open, axial, and selective coding and in a non-linear form. Data were analyzed using MAXQADA 2007(version BI GmbH, Berlin, Germany).

RESULTS

Describes the research findings: In this study, totally 17 members have participated including 12 faculty members of the basic and clinical sciences and in three School of Medicine, dentistry, and five medical university students, with the sex demographic characteristics of 9 male and 3 female, with ten to thirty two years of work experience and academic rank of 8 professors and 4associate professor and 3 female and 2 male students. The number of initial codes from the coding stage in the process of data analysis was reduced to 310 codes. These codes were classified in 3main and 11 subcategories as axial coding stage:

The results of selective coding phase were the formation of 3 main categories "Individual competencies ", "Educational context"," Responsibility and Reflection" table 1.

Table 1: Themes and sub-themes from the interview

Themes	Sub-themes
Individual competencies	a) motivation duo to being knowledgeable b) Extrinsic-motivational factors c) Interest in learning and teaching
Educational context	d) "Systematic teacher training and e) The governing culture of university education f) Educational environment
Responsibility and Reflection	g) professional commitment h) Reflection i) Self-Empowerment

The causal relations between axial sub-codes on the mind map model of this research are shown below:

III. INDIVIDUAL COMPETENCIES

Individual competencies as an intrinsic factor motivate the faculty member to attain teaching competency process. This category consisted of five subcategories: "**motivation duo to being** knowledgeable", "**Interest in learning and teaching**", and "**Extrinsic motivations**"

IV. MOTIVATION DUO TO BEING KNOWLEDGEABLE

In this category, participants focus is, on the content of individual knowledge and competence. This means that for being as an expert teacher, being knowledgeable necessary to develop as a medical teacher expertise. One of the professors stated that "At the first of my duty, I became into a faculty member due to being a gifted talent student in my class; that's why I say that if I wasn't talented although I liked that so much I couldn't be a faculty

member. So knowledge in Specialty Fields plays the most important role and other things will be gained by experiences."(Professor number 3)

Participants agree in this issue that good knowledge and skills of each person can affect his/her self-esteem and the majority of participants consider knowledge and skill in specialty field as a necessary factor to start expertise in educatio

V. INTEREST IN LEARNING AND TEACHING

Expertise process of professors can start by likelihood in education, valuing education and enjoying it. Satisfaction and being responsible can increase professors' knowledge and skill in order to fulfill students' needs more. One of the participants in this regard says: "Teaching and learning is a holy work and success in being a good teacher is a supreme value. In all human societies, as well as our society, university professors, and teachers have prestige and high status" (faculty member NO. 6)

Or in another statement, one of the faculty members said:

"…… My honor is to be a medical faculty member and I know this prosperity for everybody who can serve it." (Faculty member NO. 12)

Participants in this study , teaching a pleasure considered ,when they have earn sufficient ability to do it "I enjoy teaching some of the topics, and when people enjoy from doing a work that believe on it and have the ability to do it." (Faculty member NO. 10)

1.3 Extrinsic motivations: In this study, considering the cost and benefit analysis, their expertise in teaching in terms of financial will have a little effect on the rights and benefits, but promotion of human dignity and their mastery is important. Among these; patterns, social factors, economic issues, and income as an extrinsic motivating factor in experts' attitude toward the subject of education have great importance. However, a model education is one of the ways to motivate teachers through the process of expertise.

One of the participants stated:

"Patterns and veteran professors have an important role and I personally, a professor for me have always been a model and is. A teacher is a model for everybody, a scientific model, being human, and being interested in working, have special attention to patient and get serious training" (Faculty member NO. 11)

The attitude of society to the masters and the status of faculty mentors in the area of attitudes and practice are important factors in the growth and elevation.

VI. EDUCATIONAL CONTEXT

This category consisted of three subcategories including "Systematic teacher training and "academic culture", .

A. Systematic teacher training

Education is the foundation of all learning and training and promotion their talents is the most important duty in the twenty-first century. In other words, one of the most important responsibilities of managers is helping them to develop and improve their job skills. Continuous medical education (CME) is the improved methods of human resources and the most important kind of experimental teaching, because in this type of education employees acquired the experience and knowledge during work and gradually became a self-constituted person. In addition, employees' performance goes up and provides the success of quality assurance programs. The World Health Organization is recognized continuing education as an urgent necessity and at the world summit on medical education in Edinburgh in 1993, emphasized onits importance as an essential activity for maintaining profession Continue education and systematic teacher training.

"We primarily consider ourselves a physician and then a faculty member, but my belief is that as well as mastery is precious, has responsibility. As I am trying in my special field and I should be accountable to the authorities in this regard. It means that we should not forget and leave a master, then expect that he will spontaneously be expert. It is possible but with trial and error that is not appropriate. Therefore, monitoring and evaluation and formal and targeted training is necessary." (Faculty member NO. 11)

Attending in Continue education and systematic teacher training needs, Personal maturation and Community orientation and growing attention to the diverse needs of society is the main and important slogan of society and many universities and professional development centers.

One of the professors says:

"The impact of training environment and Empowerment programs is very impressive. I have experience of Participation in a workshops(Eastern Mediterranean) in Shiraz, I first heard the training concept in the workshops and Become familiar to them, I was so excited that I wanted to tell everyone what I learned and what I know"." (Faculty member NO. 3)

teachers Requiring deep-thinking approach to the educational problems of national and even global society to acquire and strengthen expertise in training in order to assist students in studying science and boosting the morale of

obtaining knowledge, self-purification, and belonging to medical ethics and social commitment to the community. In this connection, a medical student said:
"Our problem is incredibly important, but who listens? I wish we at least had a logical answer. We expect our teachers who are oscillations of society being more involved with the community on issues. Some professors reached high level but separate them from the society and us. Of course, there are those who provide best in teaching and clinical practice. "(student NO. 3)
This regards a faculty member said:
One participant stated:
"However, knowledge, interests, preferences and experiences come first in the quality of teacher's education and expertise, but it should be related to an organization that is responsible for the training of teachers and guide them to that point."

B. Academic culture

Academic culture in its meaning and symbolic space develop distinct procedures, rules and social and interaction patterns that appear even as rituals and ceremonies. Academic culture is considered as a model of meaning, embodied in symbolic forms, such as words, actions and all significant issues that help academics to communicate with each other and share experiences, findings and common beliefs. Academic culture finds objectivity and expressed as particular language, symbolic space, academic regulations, norms and regulations, and, in general, special symbols and the most important function is to determine the specific identity for a university person The status and role of individual and the member of the academic community is determined by the process and practices of university, educational and research process and by the academic culture.
One of student participants in this case says:

Perhaps you are wondering but the University Atmosphere and the Laws governing education are in fact a reflection of University Experts. Therefore the relationship is reciprocal, culture influence on the people and individual have effect on culture and Change it. I want to say the present situation. In the culture if scientific university and education is a value, professor goes to science and Good education therefore they need to be qualified. (Student NO. 3)

VII. RESPONSIBILITY AND REFLECTION

A-professional commitments

No topics were concerned in the medical training, as a matter of "physician's professional commitment "in recent years. Lack of commitment and professional ethics in medicine, is the main concern of doctors, specialists in ethics and the population. To establish a professional identity in professors various activities performed, but professors are aware of their own role in this process and successful training in this area is considers as individual and more self-aware and not out of obligation .
One professor stated: "First, we must evaluate ourselves (evaluate our capability), and then accept a duty. Mastery is not a low position. Must learn - practice and learn from others and think about the way we can become a good teacher." (Faculty member NO. 4)
"A person who shapes my educational identity is my husband. She is also my colleague. Sometimes she criticized main fact, and I think she helped my professional identity in education."
Thus, although teachers know interest is necessary in starting phase and extrinsic motivations are not probably kinds of engine or reasons for working, but continuous education and training are not achieved without self- assessment and self-empowerment of speculation. Reflection is defined as "one thought, idea, opinion or statement and commenting form of thought and meditation." In medicine,

B-self-Reflection

Reflection is defined as a way that involves a broader context, the concept and context of an experience or action. In the theory of learning, Reflection is an incorporation of a concept or a combination of skills, attitudes, and values in the context of the learner's cognitive.
In order to prove professional identity among professors, different actions are performing but professors know these roles and successful education in this field is considered individually by them no compulsorily. One of the professors states that:"We must first evaluate ourselves then accept a duty, mastering is not a low placed situation, we must practice education and learn from others and think how to be a good professor" (Faculty member NO. 6)
Or other participant remarks: "A person who shaped my educational identity was my wife. She was my colleague. She sometimes convinced me and she helped me a lot in improving my"(Faculty member NO. 11)

Although professors knew likelihood enough to start the job as a faculty member and external or internal motivations were not the major points to start a job with. Continuous education and practice will not occur without self thinking and criticizing.

"I have a program from the first of my serving as a faculty member and I act accordingly. I expect myself that I do not stop and reach growth stages; such stage that I have something unique to say and my university, my family, and my colleagues will benefit from and be proud of me"(Faculty member NO. 5)

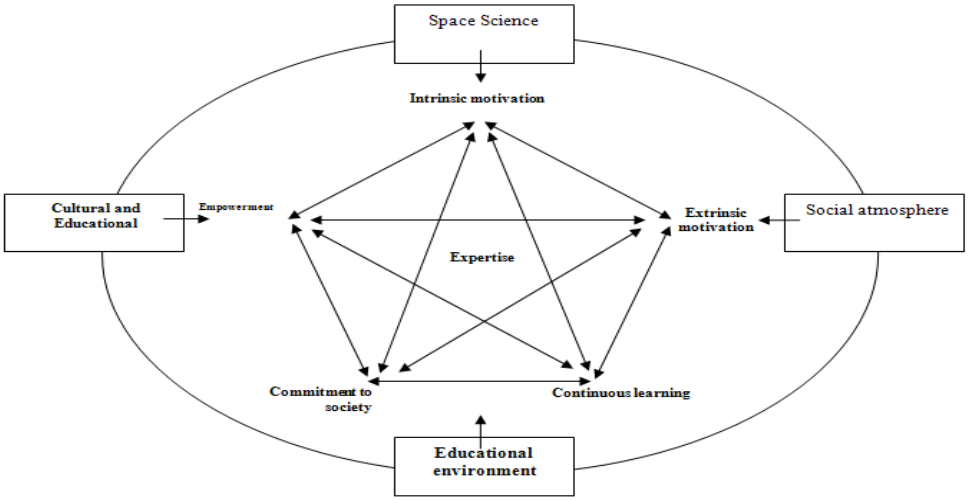
VIII. THE CENTRAL CODE OR CORE VARIABLE

Center of expertise in the education process describe as individual excellence and loops of Competence Self-reflection and capability that leads to educational insight. In addition to innate talent and interest, the empowerment in expertise can be considered as a structures consisting of the combination of spontaneously and self-centered learning, committed to continual education and theoretical learning in a thoughtful and critical manner. Expertise in professional learning is individual and collaborative to empower faculty competencies. In other words, expertise is obtained in education through interest in learning, teaching, talent and an active role in learning and collaboration with teachers' education center. The outer and inner motivations create interest and participation of masters in professional learning and consequently, the professional development strategies used to achieve learning. Although teachers have different concerns, however, interested in learning and are patient. If sufficient space provide for teachers who are interested in learning, they are eager to learn. This interest associated with internal and external motivations led to engage them in learning, and try to comprehension and in summarize have an active role in learning.

On the other hand, influence of environment and context on this process is undeniable. Context indicates the particular circumstances in which interaction strategies are performed to respond to phenomena. The professional development strategies in medical education and development centers, including expertise in masters are affected by a context in which it occurs. Based on the analysis of the interviews, the following two underlying factors are considered as the time and environment educational factors (23, 24).

The time factor: Operating time in at least two dimensions has an effective role in professional learning of masters in medical education and development centers. First, the allocated time for teachers' skills training and other devoted time to learn and obtain experience that almost all participants emphasized on the positive effects of experience in the process of acquiring expertise in education. For example, a clinical professor stated:

"I think this is experience that makes the master. It means that without experience if you will be a university scientist, you cannot act like an expert in practice! The truth is that the expertise means experience or making knowledge practical. This short-term and limited time and providing a series of articles can just be a flip to someone who thinks about his promotion or thinks; he is going to be an expert. Environment is the basis for forming many of the behavioral characteristics. In other words, many emotions, habits, tastes, even attitudes and meetings affect dramatically from environment (25, 26). This is why many experts labeled an environment academically in which every individual according to their backgrounds and talents can learn from it and be exposed to its effects. A university that individual never graduated from. So paying attention to the environment and attempting to determine it, can help to understand the root causes of many of the behaviors and norms.



The conceptual framework of the relationship between the sub-codes, dimensions, and implications of expertise

IX. DISCUSSION

The findings showed that faculties" expertise is influenced by 3 main factors including being knowledgeable, continued education and maturation, Self-reflection and capabilities attainment can leads to educational insight. Intrinsic motivation contains personal and inherent characteristics and external factors including patterns, social and economic factors. Findings show that expertise primarily based on their individual characteristics and approach to teaching, in direct interaction with both internal and external motivational factors are trying to acquire expertise and personal characteristics and their inherent interest as one of the most important internal factors, and leads them in acquiring expertise. Extrinsic motivation factors including models and socioeconomic factors explain how to deal with the current challenges in the way of requiring expertise. In addition, colleagues in their study in Finland showed that teachers' commitment to teaching is the main factor and have the central role in their teaching activities. Consequently creates different capabilities for teachers based on the amount their commitment to the teaching profession. Empowerment of faculty members in various ways, including self-governance and self-education and respect to professional ethics, made a master as an integrated scientific moral character that in mastering values are institutionalized, internalized, and prospered.

The findings of this study are consistent with the findings of the three circles model at the University of Dundee and The proposed model for clinical competence of professors (27, 28). Also the participants' opinions are consistent with the expertise acquisition in Dreyfus theory of competence (5). In the three circles model, emphasize is on the basic Tasks of professors as the center of the circle, met competences in the second circle and Professional behavior in third circle (27). Figure 2

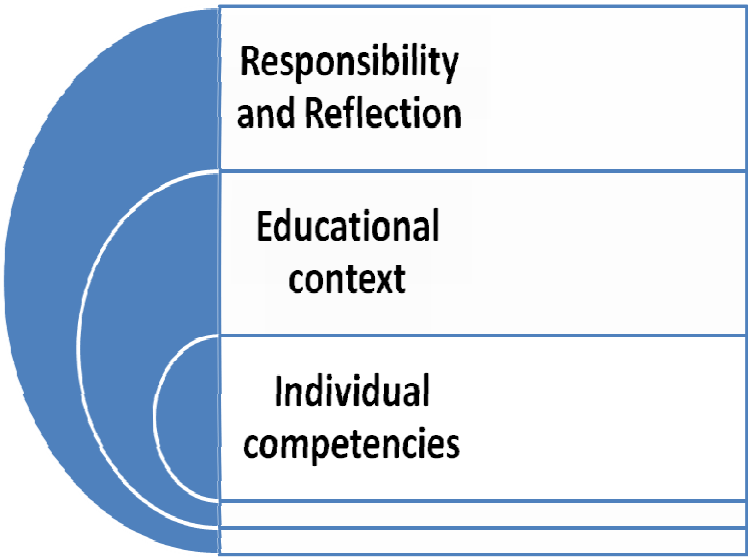


Figure 1- Individual capabilities and responsibility in expertise process

While in the present study the first circle shows personal competence and knowledge which causes the tasks are done properly, the second circle demonstrates empowerment and impact of environment and culture on the empowering and the third circle shows Commitment and reflection in training. When in Dreyfus says expert is someone who does the right task in the right way with regard to professional behaviors, in fact, tells the concept of competency model based of harden in education (5, 27).

The present study showed that internal factors based on individual characteristics of teachers and their views about the medical profession and education, are the most important factors influencing the process of acquiring competencies in them. Attention to the masters' training in medical sciences is an underlying issue of higher education that needs to educational reform strategies with national security approach and seeks for help explicitly governments and civil society; in order to "national security" and "future of the country "makes his first priority, "education reform" and "Empowering Teachers. "

International experience shows that many managers concerns about the quality of education in universities are serious strategic countries. In today's world of rapid turbulent and highly elusive future of management puts before we change. Expand the frontiers of knowledge and ideas of globalization, requires review and analysis of international experience in this field (28, 29).

This study as a qualitative study has several limitations as other qualitative studies such as the limited time of partners and the impact of research's mentalities. In particular, the professional experience of the researcher and challenge that always exists to obtain a nursing teacher competency, lead to the continuous engagement of his mind in the subject of study. However, we have tried to use the cumulative accuracy and reliability of data methods and considering quality criteria for qualitative research minimized limitations of this study.

CONCLUSIONS

Activities of faculty members in expertise acquisition process are affected by the interest and intrinsic motivation and extrinsic motivation. However, due to the dynamic nature of human, teacher ship and mastership require effort and dynamic and ongoing training to achieve professional qualifications. Accordingly acquired expertise is placed in the axial direction and also on one hand is based on the views and interests of them towards teaching profession and on the other hand is based on their individual efforts are at different levels of it. Therefore, teachers due to having different levels of interest, incentives, and definition of the concept of expertise in education, indicate different behaviors and reactions to the challenges exist in the way of competency acquiring. In other words, in spite of numerous internal and external factors in the direction of acquiring expertise, if masters have individual characteristics with positive attitude and interest towards the teaching profession, inhibiting factors such as the particular situation of social, environmental and organizational that are available at direction of obtained competency, had only a marginal role and they will be able to follow the process successfully and develop to the self-reflection and becoming capable in education.

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