# ENHANCEMENT OF JUNIOR ACADEMICS PROFESSIONALISM THROUGH RESEARCH AND DEVELOPMENT ACTIVITIES IN AN IRANIAN MEDICAL UNIVERSITY

FARHAD BALASH

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Universiti Teknologi Malaysia

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**To the four gurus in my world:**

*My spiritual model;*

*Mary, the love of my life;*

*Kamran, my moral yardstick;*

*&*

*Dr. Bambang, my academic light.*

# ACKNOWLEDGMENTS

# ABSTRACT

Although research is one of the main duties of academics, research development is being ignored, and consequently academics are puzzled about their research activities. The purpose of the study is to examine the process of research development through professional development activities among medical junior academics at an Iran medical university. In addition, culture, context and environment of research as the main aspects of the process are questioned to precede the study. Methodologically, the study is designed based on qualitative approach applying grounded theory method with constructivist design. Various sources are used for data collection such as interview, observation, documentation, and open-ended questions. Thirty-five lecturers answered the open-ended questions and twenty-two lecturers participated in interviews. The elicited phenomenon from the data analysis is labelled as inefficient juniors in research activities. Moreover, the draft theory of Research Development Trajectory is configured to describe the process of junior academics' research development through professional development activities. The categories are organized and presented in specific sections of the process. Firstly, co-textual category includes research environment and research context. Secondly, strategic category consists of managerial functions. Thirdly, causal category includes learning characteristics and learning activities Fourthly, consequential category includes positive and negative outcomes of junior academics' research development at different levels. Amidst numerous theories to modify the draft theory, relevant theories of this study are known as complexity theory, action theory, change theory, field theory, adult learning theory, and activity theory. Consequently, constructed theory influences the success of professional development programmes by giving knowledge to different beneficiaries. Thus, the theory of Junior Research Development is a comprehensive guideline that can abet the targeted university in order to enhance quality and quantity of research products through developing junior academics' research.

# ABSTRAK

Walaupun penyelidikan dianggap sebagai salah satu tugas utama bagi setiap ahli akademik, pembangunan penyelidikan telah diabaikan dan menyebabkan ahli akademik keliru tentang aktiviti-aktiviti penyelidikan mereka. Tujuan kajian ini adalah untuk mengkaji proses pembangunan penyelidikan di kalangan ahli akademik perubatan junior melalui aktiviti-aktiviti pembangunan professional di sebuah universiti perubatan di Iran. Selain itu, budaya, konteks dan persekitaran kajian menjadi aspek utama dalam proses tersebut telah diselidiki sebelum kajian ini dijalankan. Kajian ini direka berdasarkan pendekatan kualitatif dengan mengaplikasikan kaedah teori *grounded* dengan reka bentuk konstruktivis. Pelbagai sumber telah digunakan bagi pengumpulan data seperti temu bual, pemerhatian, dokumentasi, dan soalan soal selidik bentuk terbuka. Tiga puluh lima orang pensyarah telah menjawab soalan bentuk terbuka dan dua puluh dua orang telah ditemu bual. Fenomena yang diperoleh daripada analisis data dilabelkan sebagai ketidakcekapan junior dalam aktiviti penyelidikan. Selain itu, draf teori *Research Development Trajectory* dikonfigurasikan bertujuan untuk menerangkan proses pembangunan penyelidikan akademik junior melalui aktiviti-aktiviti pembangunan profesional. Kategori telah diaturkan dan dibentangkan dalam proses bahagian yang spesifik. Pertama ialah kategori *co-textual* meliputi persekitaran penyelidikan dan konteks penyelidikan. Kedua ialah kategori strategik yang terdiri daripada fungsi pengurusan. Ketiga ialah kategori sebab-musabab meliputi ciri-ciri pembelajaran dan aktiviti-aktiviti pembelajaran. Keempat, kategori berbangkit yang meliputi hasil positif penyelidikan dan kesan negatif pembangunan penyelidikan akademik junior pada tahap yang berbeza. Di antara kebanyakan teori untuk mengubah suai teori draf, teori-teori yang berkaitan kajian ini dikenali sebagai teori *complexity*, teori *action*, teori *change,* teori *field,* teori *adult learning*, dan teori *activity*. Maka, teori yang terhasil mempengaruhi kejayaan program pembangunan profesional dengan memberikan pengetahuan kepada penerima yang pelbagai. Kesimpulannya, teori *Junior Research Development* adalah satu garis panduan yang komprehensif boleh mempengaruhi universiti sasaran bagi meningkatkan kualiti dan kuantiti produk penyelidikan melalui pembangunan penyelidikan akademik junior.

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| | | |
|---|---|---|
| AAMC | - | Association of American Medical Colleges |
| ACGME | - | Accreditation Council for Graduate Medical Education |
| AIHRD | - | Al Hayat Institute of Human Resources Development |
| AMERA | - | American Medical Education and Research Association |
| AMRA | - | American Medical Research Association |
| AP & TME | - | Middle East |
| CSMI | - | Comprehensive Scientific Map of Iran |
| EU | - | Europe |
| GDP | - | Gross Domestic Product |
| GT | - | Grounded Theory |
| IRI | - | Islamic Republic of Iran |
| IRSS | - | Involvement, Regimen, Self-management Social Network |
| MOE | - | Ministry of Education |
| MoHME | - | Ministry of Health and Medical Education |
| MRC | - | Medical Research Council |
| OECD | - | Organization of Economic Co-operation and Development |
| PDA | - | Professional Development Activities |
| PhD | - | Doctor of Philosophy |
| POD | - | Professional and Organizational Development |
| R & D | - | Research and Development |

| | | |
|---|---|---|
| R & R | - | Ruling and Regulating |
| RDT | - | Research Development Trajectory |
| UN | - | United Nations |
| UNDP | - | United Nations Development Programme |
| UNESCO | - | United Nations Educational, Scientific, and Cultural Organization |
| US | - | United State of America |

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# CHAPTER 1

# INTRODUCTION

## 1.1    Introduction

Research is one of the most crucial tasks for academic members. Moreover, research is common for many universities as the requisite activity to advance knowledge and understanding. The importance of research capability for junior academics is to provide them with the ways of working with multidimensional features of research. The lack of understanding of concepts in junior academics' research capability may hinder the understanding of other concepts or even subjects (Jenkins et al., 2007; Hopwood & Stocks, 2009; Smith & Fernie, 2010). In other words, junior academics' professional skills, in particular, research capability enables newcomers to develop, execute, and report their research (Li et al., 2008). However, for many junior academics, aspiring to the professorate is not fully informed for research (Bensimon et al., 2000; Fry et al., 2009; Gillespie et al., 2010). Many junior academics are struggling as they encounter different angles of research activities.

Moreover, ever-changing trends in technology, dramatic modification in the nature of societies and the workplace, demand academics to have superior diversity of capabilities, skills, and broader understanding in their research (Harman, 2006; Edgar & Geare, 2011). In most developing countries such as China, Nigeria, Iran, Turkey, Saudi Arabia, agree that the majority of academic research is carried out without having an acceptable outcome (Zakersalehi, 2009). In other words,

academics require updating their abilities and proficiencies in research because of the swift change of the world (Brew, 2001b; Brew, 2002; Murray & Cunningham, 2011). Academics need to adapt their research capability with the dynamic environment. Therefore, having fatigued knowledge along with a traditional way of thinking cannot respond to society's demands (Odabasi, 2005; Zakersalehi, 2009).

The constraints of long-established Professional Development Activities (PDA) for research development may not only be the raison d'être of academics' inefficiency in research capability (Hill & Haigh, 2011); however, it may also have caused academics' limitations in their understanding of research (Åkerlind, 2008; Murray & Cunningham, 2011). Usually, many studies have been conducted for junior academics' teaching duty rather than research duty. These studies have introduced diversity of approaches that can support junior academics' teaching activities (Boice, 1992; Bensimon et al., 2000; Blackwell & Blackmore, 2003; Crawford, 2008). For instance, a number of experts strive to support junior academics in teaching development by improving the heads' view (Boice, 1992; Bensimon et al., 2000; Hecht, 2003; Staniforth & Harland, 2006). Some specialists endeavour to assist newcomers with mentoring and peer review (Johnsrud, 1994; Sorcinelli, 1994; Welch, 1996; Boyle & Boice, 1998; Major & Dolly, 2003; Kanuka, 2005; Kinppelmeyer & Torraco, 2007; Sorcinelli & Yun, 2007; Darwin & Palmer, 2009; Karallis & Sandelands, 2009) and others by understanding the actual needs of them in teaching and planning professional development programs by considering the elicited needs for teaching (Boice, 1992; Bensimon et al., 2000; Blackwell & Blackmore, 2003; Hopwood & Stocks, 2008; Kahn et al., 2008, Balash et al., 2011a; Balash et al., 2011b). Therefore, there are many studies on improving academics' teaching (Boice, 1992; Bensimon et al., 2000; Blackwell & Blackmore, 2003; Hopwood & Stocks, 2008; Kahn et al., 2008, Balash et al., 2011a; Balash et al., 2011b); however, hardly specific focus on junior academics' PDA in research.

As same as development for teaching, research development should come to an urgent need of universities. The research expectations of universities bear in mind that universities should consider PDA for research as well as teaching. PDA for research can be treated as a dynamic measure, which can enhance academics'

research (Hemmings & Hill, 2009). Moreover, PDA can help newly appointed academics to transit from the state of dependent researchers to independent researchers. However, moving without quality cannot accomplish the objectives of universities in research as to develop knowledge, career development, attracting government funding, fulfilling industry needs, and competitive advantages.

Some authors have tried to show the effect of professional development programs to support junior academics' development for the quality of research (Korhonen et al., 2001; Grol et al. 2002; Laudel & Gläser, 2008; Laudel, 2008; Stephan, 2008; Carey et al., 2012) in order to have a solid foundation for newcomers' independency in research (Hemmings & Hill, 2009). The quality of academics' research has been valued as the overriding emphasis by many universities in developed countries (Li et al., 2008) e.g., Australia (Bazeley, 2003; Star, 2004), England (Armstrong & Goodyear, 2006; Sikes, 2006), and New Zealand (Middleton, 2005). In order to improve the quality and even the quantity of research, heads are executing some rewards for research outputs and applications (Li et al., 2008; Stephan, 2008; Hemmings & Hill, 2009). Some scholars are endeavouring to find the factors, which affect the quality and quantity of research (Yates, 2005; Hemmings & Kay, 2007).

Both quantity and quality in research outputs demand specific capability underpins newcomers' developmental stages of independency in research (Yates, 2005; Laudel & Gläser, 2008; Hemmings & Hill, 2009). Some researchers in the customized model from Dalton, Thomson, and Price utilized four stages of research development. These stages are the transition from dependent researcher to independent researcher; namely, apprentice, colleague, master, and elite researchers (Yates, 2005; Laudel & Gläser, 2008; Hemmings & Hill, 2009). Hemmings and Hills (2009) explained that the developmental research model covers the independency transition into research tasks such as generating research questions, freely gathering data, analysis and delivery of findings. The model was based on evoking career development of academics, which is used in academics' research betterment in dependency and the acceptance of academics in research communities.

Actually, in order to garner quality and a certain amount of quantity for junior academics, and also assisting them toward the stages of independency, it is critical to recognize different groups of junior academics. In line with the above needs, different studies have classified two cohorts of junior academics; those who are interested sturdily towards research, and the other group who more appeal to other academic duties (Blackburn et al., 1991; Bellas & Toutkoushian, 1999; Debowski, 2006; Lucas & Turner, 2007). Hemmings and Kay (2008) used this classification in their research, and they found a lack of confidence in performing research tasks and publications in those who do not publish.

Major and Dolly (2003) also alluded on different factors as to have a better environment for developing junior academics' research. He counts some needful factors such as contextual factors, organizational culture, mentorship, seniors' inclinations to support newcomers, fresh training, and the opportunity to do research in a peaceful and safe environment. Along with this study, Hemmings et al. (2006) identified similar restrictive factors for conducting and publishing research such as workload, underdeveloped culture for research, and insufficient support. Moreover, he mentioned the intrinsic and extrinsic factors as well as the gender factor for conducting and publishing research. On balance, considering the mentioned classifications for academics, and environmental factors seem important for accelerating and facilitating junior academics' independency and fulfilling the research expectations of universities.

All in all, the literature showed that many academics in general and junior academics, in particular, struggle as their career development to conduct and publish research as their academic duty. There are few scholars that investigate on how to develop and support junior academics in research through PDA by considering exogenous and indigenous factors. Moreover, there are not many studies to see PDA as a mediator for junior academics' research, comprehensively. Thus in this study, the researcher explores junior academics' PDA process as to enhance research capability and understanding. In fact, this study not only extend other researchers' models and views from a partial perspective in their research, but also can be a suitable sample to deteriorate the concerns of universities about junior academics'

research development. Specifically, this study strives to enhance junior academics' professionalism through research develop activities by exploring efficient strategies and affecting factors of research development.


## 1.2    Background of Problem


The Cultural Revolution Council for practical explanation of the Islamic Republic of Iran documented the Comprehensive Scientific Map of Iran (CSMI) in 2011. Around 2000 specialists had been working for three years as to compiling CSMI (SCCR, 2011). In this governmental document, many indexes are listed for human resource development to show the target proportions and number of human resources in order to accomplish Vision 2025. It is deduced from the given CSMI data that based on 1.25% population growth, until 2025 Iranian universities will have to recruit around 120,000 new academics with the growth of 8% per year, in order to achieve the objectives of CSMI. The ratio of academics per one million of population in 2012 is 819 individuals, and it must be reached at ratio one to 2000, which should be around 185,030 academics. According to the prospective number, there is an urgent need of universities for recruiting 15000 new academics during 2012 to 2014. It is the responsibility of faculty developers, university planners, and heads to consider newcomers as the precious resources and to support them with scientific professional activities to develop junior academics based on the actual needs of different specialties (Ahmady et al, 2009).


With the purpose of CSMI some medical universities have submitted their own Scientific Map in order to be consistent with dynamic changes. One of the highlighted statements is to achieve the first ranking position in medical research among region countries such as Azerbaijan, Afghanistan, Jordan, Armenia, Saudi Arabia, Turkey, Emirate, Lebanon, Egypt, Yemen, Iraq, Kuwait, Palestine, Syria, Kazakhstan, Qatar, Georgia, and Turkmenistan. It can be deduced that Islamic Republic of Iran in order to accomplish the claims of the Vision 2025 is too far to make the country as a leader of the region in science, research, and technology (Ezati, 2006; Heidari, 2006; Yazdi & Najafi, 2006; Atafar et al., 2009; Zakersalehi,

2009). In the case of research as the important index for the development of countries, Thomson Reuters Web of Knowledge in 2011 published the report that among fourteen Middle East countries just five have the acceptance level of publications, respectively, Turkey, Islamic Republic of Iran, Egypt, Saudi Arabia, and Jordan yearly more than 1000 papers. In overall, the AP & TME (Middle East) growth in the world is upward. However, regarding research outputs, among five regional countries, Islamic Republic of Iran should make more efforts in some disciplines as to fulfill Iran's Vision 2025.

In the Islamic Republic of Iran, medicine has a traditional state and developing medical borders is very critical. Basically, government has a special sensitivity for medical research and affairs. As mentioned before Iran's top medical universities developed their own Scientific Maps in line with CSMI to accomplish Vision 2025. Based on some universities' Scientific Maps like Tehran medical universities, Islamic Republic of Iran must be the first country in the region in medical research; however, according to the global record of Thomson Reuters (Adams, 2011) the state of Islamic Republic of Iran is not acceptable in medical research as to accomplish the Vision. In comparison with Turkey, Islamic Republic of Iran is 2.24% behind the contribution percentage. It is documented by Thomson Reuters that Turkey has 2.84% and Islamic Republic of Iran has 0.06% of world papers in Medicine (Adams, 2011).

According to the domestic studies, even if the Islamic Republic of Iran achieves the acceptable amount of research publications, yet there is an immense uncertainty of the quality of university research. In medical universities this inefficient matter of research capability pushed the planners to develop two initiatives such as PhD of medical research, and research diploma for medical students. Yet, the output of research in the medical area is not satisfactory. Karimian et al. (2012) in their study in one of the famous medical university in Iran brought the obstacles for doing research at medical universities. Their findings show financial, political, professional, and knowledge limitations and, inefficient human resource in order to have the ideal publications. Junior academics are not supported appropriately to develop their research and they feel alone in their challenging

situations for doing their research tasks. Another complaint is for high expectations of the faculties from junior academics to generate papers. Moreover, another main problems for most medical junior academics in doing research are how to be independent and self-protective. Furthermore, new methodologies and also interdisciplinary study are other concerns of medical newcomer lecturers (Karimian et al., 2012).

Historically, The roots of PDA for research development are anchored in the notion that research is the primary means of academics' advancement. Primary sources back to James McKean Cattell who published his work in 1906 about a directory of researchers (Godin & Lane, 2011). Moreover, previously industrial revolution was presented as a new phenomenon for creating research universities; the time that universities turned their faces toward science, engineering and lab-based research. Historically, the emphasis on research instead of teaching was started from classical European university of Berlin by Wilhelm Von Humboldt. In the middle of the 19th century the idea of Research University and research training infuses to American universities with more commitment on applied research. Moreover, the emerging work of Boyer in 1990 about classification of research and scholarship in academic research has carried out the high impact in improving academics' research programs (Harman, 2006).

Numerous studies showed that the changes in the context of higher education and the state of academics (Roche, 2001; Ferman, 2002; Debowski, 2006; Thorp & Goldstein, 2010). Academics need a novel set of skills that not only include basic knowledge and scientific skills in their disciplines, but also should encompass the adequate and satisfactory research capability in their career development (Ferman, 2002; Debowski, 2006; Reid & Marshall, 2009). Various terms have been utilized to elaborate research capabilities such as research skills, research competency, research understanding, research empowerment, research expertise, and research ability. The record of capabilities defined by whatever term is being utilized in different studies; however, most records focus on reviewing literature, gathering data, analysis results, and delivery of findings (Hemmings & Hill, 2009). Heads of faculties and experts have the similar opinion that many junior academics, when they join to their

faculties, feel pressure from competitive environment. This pressure also can be made from lack of skills, knowledge (Bellas & Toutkoushian, 1999), communication, and on the top independency in research tasks (Boice, 1992; Bensimon et al., 2000, Bazeley, 2003; Debowski, 2006).

The lack of effective and independent research can be correlated to PDA (Debowski, 2003). Some researchers emphasized that traditional styles of formal in-service training and participating in sporadic development programs cannot be the sufficient activities to improve newcomers' capability (Brew, 2003; Carew et al., 2008). Some university programs are focusing on individual, some group activities, or considering formal or informal activities for developing new faculty members. Among all the works for PDA, Ferman's (2002) work is eye-catching. According to the author, a professional development for academics can be visualized as all four main categories of individual, collaborative activities, formal and informal activities for learning (Ferman, 2002). He interwove these categories as a combined supplementary for academics' PDA. It is possible to imagine the result of his interactions in four quadrants of informal-individual, informal-collaborative, formal-individual, and formal-collaborative. Actually, different studies mentioned just one or two out of four items as individual, collaborative, formal, and informal approaches for academics' learning. However, according to the constructivism orientation learning has two faces for academics; individual and social, and academics' previous knowledge (Merriam et al., 2007) that should be considered into their PDA. Academics as the adult learners also do not prefer the rigorous set of determined activities for learning (Ferman, 2002). Therefore, all four items due to junior academics' different aspects of needs should be taken into account for their research development activities.

Although, junior academics before joining faculties have their own specific background in research, it does not mean that they do not have any difficulties in their research tasks. In this case, deficiencies and difficulties of junior lecturers have been well documented (Boice, 1992; Bensimon et al., 2000, Bazeley, 2003; Hemmings & Hill, 2009; Murray & Cunningham, 2011). For most newcomers, floating on a new career without supportive activities from universities can make

them lose their self-efficacy in research (Hemmings & Kay, 2008; Hemmings & Hill, 2009; Hemmings & Kay, 2010). Disparate problem areas have been identified in junior academics' research practice. Some difficulties are reported in doing review literature, gathering data, analyzing results, reporting, attending to the conference, conducting defendable proposals, working on analysis software, and on the top working independently (Hemmings & Kay, 2008; Laudel & Gläser, 2008; Laudel, 2008; Hemmings & Kay, 2009).

PDA for research development is a framework, designed to help junior academics for solving their problems (Boice, 1992; Bensimon et al., 2000, Bazeley, 2003; Hemmings & Hill, 2009; Murray & Cunningham, 2011), overcoming obstacles (Boice, 1992; Bensimon et al., 2000), and increasing self-efficacy (Hemmings & Kay, 2008; Hemmings & Hill, 2009; Hemmings & Kay, 2010) and capability. Furthermore, encouraging and supporting junior academics in order to collaborate with research development activities can assist to reduce their difficulties and obstacles in research tasks. Mostly, within the intention of supporting newly appointed members in their research, investigators have been striving to use various models and theories. For instance, Boice (1992) has the substantial contribution to support junior academics in all their works by using IRSS (Involvement, Regimen, Self-Management, and Social Networks) theory. He used IRSS to stimulate thinking about supportive programs for different junior academics' duties. This theory, particularly in newcomers' research can impart their capability, attitude, and basic skills. The theory uses in socialization, mastery process, and ideas about how best to support junior academics' development.

In another model, Debowski (2006) classified the stages of researcher careers in four stages, labelled as postgraduate internship, early career, mid- career, and leadership. He mentioned that each stage demands its own different needs and development activities in order to enhance researchers' capability in research. In the early-career cohort that is equal to junior academics, Debowski (2006) believed researcher development is not understood and considered enough.

In a further study, Gardner (2008) in his research development model pointed out that there are three significant components to construct research development namely, programmatic, relational, and personal that collides with three phases of formative independency in research. In fact, Gardner tried to support all modes of research development for junior academics in an increasing formative form, which developers can consider in PDA of academic staff and those who are engaging in research development activities.

Furthermore, Hemming and Hill (2009) pointed out that models for research development should consider key aspects such as context with its evidences and obstacles, encouragement and interest, dynamic nature of development (Gariépy, 1996; Spencer & Schöner, 2003; Collins & Van Dulmen, 2006), and uncertainties. According to other researchers' works, Hemming and Hill (2009) also mentioned that the development models should consider personal characteristics (Shiner, 2005; Graber et al., 2006; Munakata, 2006), environmental contexts, and interaction of personal characteristics with environment (Cairins, 2000; Bronfenbrenner & Morris, 2006; Carey et al., 2012).

Basically, along with research contextual and research environmental elements, which are important, to form the nature of research (Gariépy, 1996; Spencer & Schöner, 2003; Collins & Van Dulmen, 2006), research culture is the term that frequently mentioned by several authors (Becher & Trowler, 1989, Hill, 1995, Thompsom, 2003, Girot, 2010, and Dauber et al., 2012). For instance, Becher & Trowler (1989) declared that besides the interactions of values, social, economic, and political factors the impact of ideas and actions of the academic tribes epitomize the main context of research (Becher & Trowler, 1989). It seems that the rule of culture for creating the context of research should be considered in planning for research development. Essentially, According to some experts (Hill, 1995; Schein, 1985; Girot, 2010; Thompson, 2003) there are bilateral directions between research culture and lectures' viewpoints about research and their activities for doing research.

According to scholars, one of the consequences of PDA is the change in research culture (Santovec, 2010; Forbes and White, 2012; Zemsky, 2013). Forbes and White (2012) stressed that PDA for research development creates positive research culture in departments. They assumed research culture as the imperative need for junior academics. In associate with them, Schriner (2007) in his study contended that cultural dissonance in medical centers affect junior academics' values and norms. Based on his findings, cultural dissonance for medical junior academics can be improved through mentorship, formal training, and socialization.

Basically, the academics' shared values and common opinions in each department created the particular clan culture in the faculties. This culture can influence the quality of research as one of the medical academics' duties (Hann et al., 2007). Moreover, according to Pololi et al. (2009) academics' values are vital to further productivity in medical disciplines. In their research about the culture of medical junior and senior academics, they showed the low association between academics' values and perceived faculty values. Moreover, they listed several cultural barriers in medical schools such as lack of consideration to the social mission for providing clinical affairs, a paucity of prioritization of excellence in medical center, a degrading of teaching roles, problematic ethical behavior in management, and the need for self-promoting actions to succeed.

Other scholars showed the impact of managers' viewpoint about research on research culture in medical faculties (Sean et al., 1993; Pratt et al., 1999). For instance, according to Pratt et al. (1999) the change in managers' beliefs, attitudes, and values, can change the organizational culture. Additionally, they noted that in order to construct research culture, the basic factors of time, precise planning, resources, and environment, should be taken into account. However, Reybold (2008) and Yamin, (2010) stress on ethicality that forms the culture of faculties. Moreover, they concluded that cultural issues trigger the psycho-violence among academics in faculties. In contrary to this psycho-violence Conner et al. (2014) provided a model for cultural adaptation among academics.

Apart from research culture and its influences, other researchers like Akerlind (2008) divert the investigators' attention toward academics' understanding of research (Brew, 2001a; Ingerman & Booth, 2003; Bruce et al., 2004; Bowden et al., 2005; Åkerlind, 2008; Murray & Cunningham, 2011). He stressed that over-minded on the measurement and accountability of researchers' activities decreased the important state of academics' understanding or the ways that academics experience different dimensions of research (Åkerlind, 2008; Murray & Cunningham, 2011). He alluded to four dimensions, which are mentioned in previous studies; namely, research intentions, research outcomes, research questions, and research process (Brew, 2001a; Ingerman & Booth, 2003; Bruce et al., 2004; Bowden et al., 2005; Pham et al., 2005; Åkerlind, 2008; Murray & Cunningham, 2011). Moreover, he added one more dimension, called 'researcher affects' or underlying sentiment about research (Åkerlind, 2008).

Summarily, many junior academics are not effective in their research tasks (Boice, 1992; Bensimon et al., 2000, Bazeley, 2003; Hemmings & Hill, 2009; Murray & Cunningham, 2011), because of the lack of PDA in research and also being in the apprentice (dependent) stage in the research (Laudel & Gläser, 2008). Consequently, they suffer from the lack of effective research and from adapting with increasing competition among universities, and pressure on academic duty (Boice, 1992; Bensimon et al., 2000, Bazeley, 2003; Hemmings & Hill, 2009; Murray & Cunningham, 2011). Some universities use supportive activities and technologies in order to develop junior academics' research. According to the above-mentioned studies, research development based on PDA should take into consideration individual and collaborative factors, and learning environment (Boice, 1992; Ferman, 2002; Debowski, 2006; Gardner, 2008; Hemmings & Hill, 2009; Murray & Cunningham, 2011). Since, each model has its own strengths, relevant components of each model and theory might be constructive. Thus, the best characteristics of different PDA models should be incorporated as to support junior academics' research development.

**1.3      Statement of Problem**

Most imvestigations that heartened PDA for supporting junior academics' research were based on involving one or two dimensions of learning. Most often juniors are ignored by universities because of incorrect idea that juniors have the acceptable level of knowledge to do their academic tasks by their own (Boice, 1992; Bensimon et al, 2000; Fry et al., 2009; Gillespie et al., 2010). Therefore, PDA just runs for proving formality. Researchers strive to employ strategies for having a variety of development approaches to develop academics (Ho, 2000; Land, 2001; Ferman, 2002), but their methods still have some shortcomings and have not been adapted for junior academics. For instance, Ferman (2002) endeavoured to involve four academics' learning (formal, informal, collaborative, and individual) for PDA. However, respondents are not questioned based on their career status and research actual needs in their own cohorts. Another weakness in his study in developing PDA is that the links between learning approaches as a tool for improvement are not considered with research activities and research understanding of academics. Apart from the mentioned critiques, the categorization can be an appropriate platform to launch finding the actual state of the PDA with the purpose of making activities useable and constructive.

In another work by Boice (1992), he combined different theories and presented his theory in four steps of *Involvement*, *Regime*, *Self-Management*, and *Social Networks*. He used the theories for supporting junior academics and named them as the theory of IRSS. This theory can be utilized to form PDA in order to develop research. He claims his theory can be a proper model for supporting juniors for their development in basic skills, attitude and capability. Unfortunately, there is no more work to confirm his model. For instance, Boice (1992) has had the substantial contribution to support junior academics in all their works by using IRSS theory. IRSS just stimulates thinking about the support activities for different juniors' duties, and the theory can just carry general effect for PDA. The reason is research development does not happen in a vacuum and environmental, cultural, and contextual factors also are the elements that should be considered.

Furthermore, Debowsky's (2006) work by focusing on different cohorts of researchers is an instructive guide in order to employ his finding in PDA. The important point in his study is drawing attention toward having development strategy and structures. He brings out several constraints for developing junior academics' capabilities in research. But the crucial point is the problems like grant seeking as critical skills, building a strong research profile, postgraduate supervision, time management, life balance, and career management is narrow problems that cannot be the only factors in order to design a proper PDA. Moreover, his results just based on reviewing three sources; an evaluation report of two development programs, a collaborative research project by six research-intensive universities and one workshop attended by research managers and academic researchers. Although, his work covers different angles for collecting data, developing juniors' research capability and understanding might not be limited to these factors.

Other models by Gardner (2008), Murry and Cunningham (2011), and Hemmings and Hill (2009) are focusing on different dimensions of research development as to be programmatic, relational, and personal in evolution form. Applying their classification can be effective in order to frame PDA; however, the point toward their models is how to utilize the dimensions for junior academics' research activities.

Commonly, the methods were used by all the researchers are not dynamic to consider both newcomers' capabilities (Benismon et al, 2000; Fernman, 2002; Bazerley, 2003; Debowski, 2006; Hemmings & Kay, 2008; Hemmings & Kay, 2010) and understanding of research (Brew, 2001a; Ingerman & Booth, 2003; Bruce et al., 2004; Bowden et al., 2005; Pham et al., 2005; Åkerlind, 2008; Murray & Cunningham, 2011). Some works are just focusing on limited area of academics' activities in research capabilities (Benismon et al, 2000; Ferman, 2002; Bazerley, 2003; Debowski, 2006; Hemmings & Kay, 2008; Hemmings & Kay, 2010) and in some cases, their models are too general (Boice, 1992; Hemmings & Hill, 2009) and applying the models without considering multi affecting factors in research development. There are some studies for counting influential factors of research performance (Hemmings & Kay, 2007; Edgar& Geare, 2011); however, they are not

also specifically for junior academics in different cohorts. Also, there are few established studies on utilizing PDA as a tool for research development.

The mentioned problems along with the current state of Iran universities require the comprehensive view for the junior research development. In Iran the increasing number of junior academics, needs to be supported by different activities if the expectation is to accomplish Vision 2025. In point of fact, in most Iranian universities, junior academics are not fully supported for research development. Since, it is mentioned by some experts that at the beginning stages, junior academics are confronted with the sophisticated problems in their duties; therefore, they need to be supported by their faculties to become as productive and long lasting in their universities (Boice, 1992; Bensimon et al., 2000; Staniforth & Harland, 2006; Javdani, 2009). Basically, the absence of methodical development planning for academics, especially in research is a major reason for being inefficient and unproductive (Ahmady et al., 2009). Junior academics in Iran are the thumping heart of universities and can be the focal factor for creating adversity of societies, and they can be forceful and effectual to accomplish CSMI and Vision 2025.

In particular, the ground of Persian University (a pseudo-name of the university) in Iran has the urgent need to be supported by the plan to overcome difficulties of juniors' research activities. Moreover, having applicable professional development practices as to develop juniors' research understanding and capability, are kept in mind where we consider the junior academics' research that is to be used as participants in the study. In this study, the actual participants are junior medicine academics in Persian University in Iran those who have neglected their research development. Of particular inclination, is to on how juniors' research in Persian University can be developed through PDA with considering multi-faceted nature of research and in what ways affecting factors can canalize PDA for their research. Thus, the important purposes of this study are on visualizing cultural and contextual, and casual factors and also the consequences from developed juniors by exploring and locating transitional elements or mediators in PDA for research. These factors are treated as the inflectional factors to create the phenomenon of inefficient junior

academics, which aim to be discovered in the process of junior research development in Persian University.

## 1.4 Objectives of the Study

The main objectives of this research are:

1. To describe research culture of the medical university in Iran.
2. To find out the research environment and context that influence PDA for junior academics' research development in an Iranian medical university.
3. To explore the influential research activities to develop junior academics' research in an Iranian medical university.
4. To discover the research outcomes from PDA in research for junior academics in an Iranian medical university.

## 1.5 Research Questions

To achieve the objectives of the study, following are research questions in this research:

1. How do academics conceptualize research culture of the medical university in Iran?
2. How do the research environment and context influence PDA for junior academics' research development in an Iranian medical university?
3. What are the influential research activities to develop junior academics' capability and understanding in an Iranian medical university?
4. What are the research outcomes from professional development activities in research for juniors in an Iranian medical university?

## 1.6    Significance of the Study

Higher education has changed rapidly, and the change rate around universities and higher education institutions has been rising hurriedly. These changes and development affect the current state of universities in their facilities, resources, organizational structures and staff quality, especially academics. Currently, academics understand that they must take action toward new demands in their specialties as to improve their research, teaching, and services duties.

Faculty developers and heads of departments understand these important needs. One of their measures is to provide development programs for junior academics. Basically, focus on junior academics' research can be the certain way to develop junior academics' professionalism. The attention in this way can improve the state of universities and countries as well. Moreover, research development activities can increase quality in different aspects. Furthermore, it can be useful for new academics, because at the beginning of their career they are not familiar with their different research activities as to do the activities efficiently.

Due to the complexity of human science studies, in order to understand the issues of junior academics' research development, the examination of affecting factors such as environmental, contextual, cultural, causal, and outcomes seem needful. This study can be a suitable scheme to modulate professional development activities for junior academics' research enhancement.

The research may evoke attentiveness among faculty developers and heads of the departments that PDA can be integrated in junior academics' research development with the potentiality of having different aspects. Through considering a systematic approach to see a variety of existing factors around PDA, junior academics with their particular characteristics of having different backgrounds as the adult learners can benefit to increase their capabilities and understanding in research. Moreover, understanding a process of junior academics' development in research through PDA can provide opportunities for junior academics, developers, and heads to be acquainted themselves with the multi-faceted state of this process. In addition,

applying the emerged theory for better understanding is imperative for newcomers' career development.

## 1.7    Scope of the Study

The study was conducted at one medical university in Iran, which called in the pseudo name of Persian University. Seniors and junior medical academics participated in the study. In this study, junior academics were those joined in their faculties for maximum five years with the positions of 'senior lecturer'. Participants were selected by several purposive samplings. Regarding data collection, interview, open-ended questionnaire, and documentation were used to achieve the factors and categorize the data.

Qualitative methodology is employed in the study. Among all qualitative design, Grounded Theory (GT) is applied to create a paradigm pattern. Different phases of coding, which are the focal process in grounded theory and other relevant techniques such as memo-writing and constant comparing are discussed in Chapter three. Findings are compared with other studies. However, findings may vary by others' works based on unexpected factors like demographic and cultural differences.

## 1.8    Conceptual Framework

Basically, the fundamental point of coding process in GT is to conceptualize the data. In this study, the phenomenon of inefficient junior academics in the Persian university is conceptualized through different aspects, which are configured the research questions of this study. Around the emerged core category several categories come to appear to support the process of the occurring the phenomenon. Contextual, environmental, causal, and consequential factors are the aspects of the process of inefficient academics in research. Essentially, the dominant of research contextual and environmental aspects to shape the systemic order of the process can be seen in a digestible relationship. These aspects can be treated as the exogenous

factor that along with indigenous factor can form the research questions. The main reason to highlight the mentioned factor could be justified through current state of political, economic, and cultural circumstances that in any systematic approach should be considered as to come up with dynamic model (Figure 1.1).
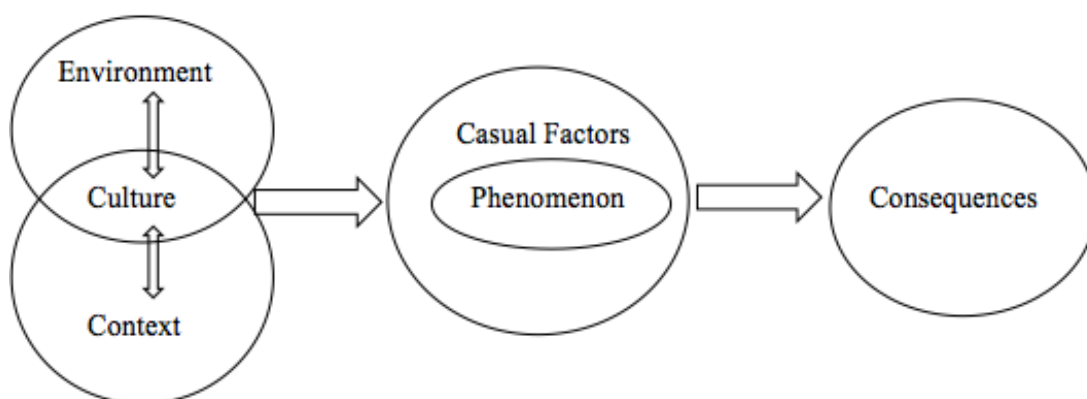


**Figure1.1** Conceptual Framework

## 1.9    Definition of Terms

In this part, key definitions of the study are presented in order to clarify the intended concepts of the focal terms to minimize misunderstanding and misinterpretation. Therefore, several expressions such as medical university, academic research, junior academic in medicine, professionalism, and PDA are defined below.

### 1.9.1  Medical University:

In this research, medical university is the university assigned for working with medical majors with different faculties in medicine fields of study. The university is authorized by the Ministry of Health and Medical Education in Iran.

The university provide both undergraduate and postgraduate education in different majors of medical education such as Bachelor, Master, and PhD (MoHME, 2012).

### 1.9.2 Academics' Research

Academics need a novel set of skills that not only include basic knowledge and scientific skills in their disciplines, but also should encompass the adequate and satisfactory research capability in their career development (Ferman, 2002; Debowski, 2006; Reid & Marshall, 2009). Various terms have been utilized to elaborate research capabilities such as research skills, research competency, research understanding, research empowerment, research expertise, and research ability. In this study, the academic research capability refers to the ability of junior academics in doing the research tasks independently (Boice, 1992; Ferman, 2002; Bazeley, 2003; Debowski, 2006; Lucas & Turner, 2007; Gardner, 2008). Moreover, the ways in which, academics experience the underlying intention of research and their research roles. Basically, different layers of answers have the potential to be developed by specific activities and motivations. As the matter of fact, understanding is distinct from activities, in plain definition; there are dissimilar ways to understand similar activity (Åkerlind, 2008).

### 1.9.3 Junior Academic in Medicine:

There are three cohorts of junior academics such as inexperienced, experienced, and returning newcomers (Boice, 1992). These cohorts are explained in Chapter two. Specifically, in this study junior academics are those inexperienced academics that joint to the faculties immediately after graduation, and they work maximum five years (Åkerlind, 2008). Moreover, in this study, junior academics in medicine are those academics that join to the universities after graduation. They are assigned to do different duties such as research, teaching, and services. Basically, there are two types of membership for junior academics in medicine in Iran universities, teaching staff membership and research staff membership. Basically,

junior academics should do their duties based on the type of membership. For instance, the weekly hours that junior research staff spends for research activities are more than teaching activities compare to junior teaching staff.

### 1.9.4    Professionalism:

Professionalism does not mean wearing a suit or carrying a briefcase; rather, it means conducting oneself with responsibility, integrity, accountability, and excellence. It means communicating effectively and appropriately and always finding a way to be productive (The U.S. Department of Labor). According to Arnold and Stern (2006) professionalism in medical should be defined through the understanding the concept and component dimensions. They also added clear and complete definition of professionalism that it should cover consequential and psychometric aspects. In this study, the operational definition of professionalism is adapted from Deans (1991) definition of professionalism that professionalism is not limited to a process of skills and knowledge; also, it is a matter of junior academics' ethical behaviors, preference, and values (culture) with the scope of a specific profession. Moreover, another dimension of professionalism is junior academics' capability to criticize the current state by reviewing the issues from different aspects in order to come up with better perspective.

### 1.9.5    Professional Development Activities (PDA):

PDA is defined as a mediator for encouraging academics to change their current state in different academic duties (Gaff & Simpson, 1994; Blackwell & Blackwell, 2003; POD, 2011). Moreover, According to Marcinkiewicz and Doyle (2004), PDA is necessary for fulfilling junior academics' duties. They asserted that junior academics require professional development programs and encouragement in order to be ready for their duties. In this study, PDA is the key element of junior academics' prosperity in enhancing professionalism through research development.

## 1.10    Summary

To sum up, in this chapter different sections are discussed in order to clarify the issue. In this study, the researcher develops several objectives and questions as to understand the issue. Essentially, in Chapter One it is distinguished that universities hardly ever applied supportive activities and technologies as to enhance junior academics' research; since, the academics' preference is on teaching. According to previous studies, the research development depends on contingent professional development activities, which should be in harmony with some reflections. Therefore, the researcher strives to generate relevant sections in line with the issue as to understand the process of junior academics' research development. Different sections such as objectives, research questions, significance of the study, scope of the study, and definition of the terms have been conducted to support three first sections of this chapter named as introduction, background of the problem, and statement of the problem.

Next chapter the researcher argues the literature about Iran medical universities, research development, and PDA. Diverse aspects of academic research and the relevant terms are presented to clarify the complexity of the issue. Moreover, the underpinning theories are discussed to elaborate the fundamental aspects of PDA; since, the underpinning theories act as the facilitator to shape PDA for research.

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