



Preparing Students for Transition to University: The Role of Senior high Schools

Maryam Samadi^{1*}, Rouhollah Mahdiun², Abolfazl Ghasemzadeh Alishahi³

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Abstract

The present study aimed to determining the role of senior high schools in the preparation of students to transfer to university. By using an exploratory mixed method approach, we combined qualitative content analysis with descriptive quantitative method. In the qualitative part, the study population includes 9929 senior high school teachers of Tabriz and 891 professors of Tabriz University, and in the quantitative part, it includes 2013 students of Tabriz University in the academic year 2019-2020. The participants of the qualitative part are 16 people and the quantitative part is 325 people based on the Krejcie-Morgan, which was selected by simple random sampling. In order to collect data in the qualitative part, a semi-structured interview, and in the quantitative part, a researcher-made questionnaire based on the findings of the qualitative part was used. The reliability of the quantitative part by using the internal reliability of 0.93. For data analysis, Colaizzi's method analysis was used in the qualitative part, and descriptive and inferential statistics tests (Friedman's ranking and sample TT) were used in the quantitative part. Based on qualitative findings, the role of senior high schools in preparing students for transfer to university included academic adaptation, environmental adaptation, individual-emotional adaptation, pre-transitional preparation, and organizational-managerial factors of educational system. The findings of the quantitative part from perspective of the first-year students, indicated status quo of organizational-managerial factors of educational system, pre-transitional preparation, and individual-emotional adaptation was unfavorable while factors of academic and environmental adaptation had moderate situation. According to the results of Friedman test, environmental adaptation was in the highest rank followed by academic adaptation, organizational-managerial factors of educational system, individual-emotional adaptation, and pre-transitional preparation in the next ranks. Combining quantitative and qualitative methods, in this study, caused different aspects of preparing students for transfer to university through senior high schools were identified, and finally, solutions for preparing students to university were presented.

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1. PhD candidate in Educational administration, University of Tehran, Tehran, Iran.

*Corresponding Author: Email: maryam.samadi@ut.ac.ir

2. Associate Professor of Educational administration, Azarbaijan Shahid Madani University, Tabriz, Iran.

3. Associate Professor of Educational administration, Azarbaijan Shahid Madani University, Tabriz, Iran.

Introduction

Educational organizations are one of the most important, effective and broadest organizations that are responsible for the formal education and training of people in society and also provide human resources for other organizations (Avarsin & Soodi, 2019, p. 2). Education department is one of the largest institutions receiving special attention in any country. Education is taken into account as it provides both the possibility of progress and development and destruction of a country (Andishmand & Shams al-Dini, 2020). In each of educational levels, many efforts and expenses are spent by various institutions including education and higher education departments for growth and promotion of scientific and cultural level of students. The university, as the highest educational institution in country, is the place where all these efforts come to fruition. A person goes through different stages during his life time through various transitions, both physically and psychologically. Students also experience transitions from preschool to elementary, elementary to high school and senior high school to university at different stages of their education. However, the transition between preschool and elementary school is different from transition to university (Jackson, 2000). As you enter adulthood, one of the most important changes in path of education is moving from high school to university. Transition to university is the change or movement of individual from the known to the unknown, from familiar to alien and from old to new environment along with challenges faced by him in creating this change or

movement (Kantanis, 2000; Hellsten, 2002; Bolt & Graber, 2010). Javed (2016, p.14) described transition as "a dynamic and complex process, in which a student transitions from an old, known and familiar culture (school) to a new, unknown, and unfamiliar learning culture (university). Every year, a large number of students are transferred from school to university after passing difficult competitive exams (Ghalkhanbaz & Khodaei, 2014) and face with a variety of challenges and stresses in process of adjusting to new social and academic culture of university (Jackson, 2008; Tuna, 2003). These challenges confront students with a variety of social, academic, and emotional stressors (Dangi & Mittal, 2023). Changing teaching process from teacher-centered to teaching with the methods conveying information through discussion requires independent learning styles (Terpstra-Tong & Ahmad, 2018), thus differences in type of evaluation, type of study for success, differences in university and school environment (Goodman, 2017), and more focus on teamwork and social and individual adaptation are challenges of the gap between school and university (Lowe & Cook, 2003). University professors also have difficulty in teaching students who have just entered university because some students do not have appropriate prior knowledge and skills for university (Hammer et al., 2015).

For the students who have not had an experience of being in a mixed-gender environment, feeling of embarrassment to communicate with classmates and professors of the opposite sex may cause problems at social and scientific levels.

At academic level, it may influence learning because a number of academic activities at university require teamwork (Kantanis, 2000). It should be emphasized that this problem is very common in Iran. Because in Iran, like some Islamic countries (eg. Pakistan) students are studying in single-gender schools. And students face a lot of challenges in the university due to not having the experience of studying in the presence of both sexes.

Many students are unable to manage challenges of the school-university gap (Jalali & Sadeghi, 2017) and this causes a high dropout rate (Ghignoni et al., 2019; Krause et al., 2005; McPhail, 2015; Scutter, 2011) and academic failure in the first year students in university. So that about 50% of the first year students are faced with academic failure (López-Bárcena, 2009). The drop in students' academic performance is just one of the problems that arise due to the gap between school and university. Students enter university with expectations that do not correspond to reality (Hassel & Ridout, 2018) and lack skills, such as problem-solving, critical thinking, and reasoning for university success (Percival et al., 2016). Students may experience psychological depression and stress in face of new and unfamiliar university culture in an attempt to acquire skills necessary to adapt to host culture (Javed, 2016). So, despite waiting for results of efforts and costs of the previous courses, due to many differences between school and university and unpreparedness of students to study in different environment of university, students face with many problems. Because students enter

different environment of university without necessary preparation (Venezia & Jaeger, 2013). Conley (2008, p. 24) defined university preparation as "a degree of educational and personal experience preparing students for their expectations and aspirations on campus." High school students get prepared only for difficult competitive entrance exams of university and do not enter higher education with special training for a successful transition to university. Success at university depends on level of students' preparation and their ability to adapt to new environment (Agherdien, 2018). Schools and families are among the institutions that have the ability to prepare students for a successful transition to university but are mostly unaware of this serious task. Schools and universities do not have necessary communication and cooperation to bridge the gap between school and higher education so; students are not prepared to transit to university when they are at school (Fielding & Stott, 2012). Although, students' personal characteristics, such as academic ability, academic aspirations or parents' background can have significant effects on transition to university, school characteristics have also a significant effect on transition to university. Thus, successful transfer to university is influenced by characteristics like geographical area, type, size, location, and economic characteristics of schools (Brinkworth, 2009; Gemici et al., 2013). Activities that help in preparing students for transition to university have dual benefit including enriching students and increasing their performances when they

are still at school. Teachers have long been aware of benefits of inviting academics to schools to talk or visit students on campus. These activities also increase depth and breadth of knowledge understanding in classroom (Goodman, 2017).

School-university gap is an issue that exists in education system of most countries across the world (van Rooij, 2018). For example, the findings of Veniz and Jaeger (2013) in the United States indicate that 75 percent of the freshmen of the university are not ready and eligible to qualify. Tong and Ahmad (2016) found that a considerable proportion of freshman students in the United States, Australia and the UK are not ready to enter the university. So, researchers have paid attention to the topic of preparing students for inclusion and education in the university (Meidanipour & et al., 2019). Numerous studies have been conducted on school-university gap and its challenges around the world (e.g. Siri et al., 2016; Ferrira, 2018; Machisi, 2018; Basitere & Lavala, 2014). These studies have explained school-university gap, the problems arising from it, and search for a plan and solution to address this challenge. But, little research has been done on preparation to address these challenges and studying in different university environment (e.g. Perander et al., 2021; Bettinger & Long, 2009). Most of these studies have focused on addressing challenges by providing student preparation programs after entering college (McPhail, 2015). Very little research has been performed on preparation of senior high school students

before entering university. Despite a deep gap between school and university and many challenges arising in Iran, there are few studies in the field of student preparation programs for entering university (eg. Jalali & Sadeghi, 2017; Sayyah, 2015; Khabaz Mafinejad & et al., 2021). But, in Iran there is no research on the role of senior high schools in preparation of students for transition from school to university. Therefore, this research was conducted to investigate the role of senior high schools in preparing students for transition to university. Therefore, herein, it is attempted to answer the following question: "What is the role of senior high schools in preparing students for transition to university?"

Theoretical framework

Educational System in Iran

Education system is centralized in Iran and is divided into K-12 education and higher education (Hosseingholizadeh et al., 2020). Education department provides free education in primary, secondary and high school levels and is responsible for teacher training (Nazarpoori, 2017). All schools are monosexual, and all girls' schools, except for rural schools, must have a female teacher, and boys' primary schools can also have a female teacher (Zeinabadi, 2013).

High school graduates compete for a university entrance exam called *Konkour* in Iran. It is derived from the Persian term *concourse* meaning competition. Konkour is a comprehensive and multiple choice tests (with four options) with only one correct answer for each question. The exam covers common high school

subjects and is held once a year in five different disciplines of Experimental Sciences, Mathematics and Physics, Humanities, Fine Arts and Foreign Languages. Konkour is so rigorous, students in their final years of high school focus so much on preparation for it that other aspects of higher-level mental performance, such as creativity and critical thinking may be overlooked. In addition, test preparation has become a focus of teaching in schools, making schools centers for exams (Farrokhi-Khajeh-Pasha et al., 2012). High school graduates enter the university after passing Konkour. There are also institutions, such as Payame Noor University that offer distance or online degrees (Arani et al., 2012).

School - University gap

Everything is new for students after coming to university: new people, environment, social contexts, norms, expectations, there is a significant decrease in the amount of personal attention that students receive from their teachers compared to high school. One of the examples of the gap between school and university is the difference in teaching methods. In schools, the subjects are presented only by memorization and the students don't establish a meaningful relationship with the course subjects. University subjects are presented with the aim of providing deep theoretical understanding through lectures with minimal supervision by professors. University is a fundamental leap in the level of thinking to the abstract world. While what is expected from high school students does not understand the subjects; rather, it is to remember the content.

Students are not ready to take responsibility for learning and are waiting for step-by-step instruction from professors (Gruenwald et al, 2004). The gap can be caused by the incompatibility of the curriculum, tests, and teaching styles used in both stages (Mumba, 2002).

The lack of required skills in the university is another new challenge for students. Students feel a gap in their IT skills, reading and presentation skills, which leads to their destruction. The more skills students learn, the less likely they are to drop out in their first year at university. Teachers in schools should teach their students in this field (Kikkenborg, 2019). Students lack confidence in some key skills for university education such as critical reading, library research, and essay writing, and they lack a correct understanding of grammar, spelling, accounting skills, and foreign language skills. In their studies, they focus on exams and grades. Students also notice that the role of professors has changed compared to teachers in their classes. While in school, teachers themselves were present as experts who prepared information for them in essays and exams, in university much of that "information" is now left up for discussion. students are expected to participate in these discussions, and professors are placed as collaborators in these discussions (Booth, 2005). Students also report significant differences in the assessment experience between school and university (Skinner, 2014).

The social culture of the university also presents students with a number of challenges. Many students reported that

they were in a state of culture shock, worry and confusion on the first day and felt that the students and senior staff were indifferent, unfriendly and unhelpful. Classrooms and the fields of relationships with the opposite sex are also a challenge for the majority of these students, especially for those who come from single-sex schools and traditional fields. It is also problematic for students due to the lack of experience of students attending clubs or university societies, as well as preventing the creation of a large number of new friends and expanding their social circle. The inconsistency between students' expectations and issues related to the new environment are important challenges. The mismatch between the dreams before the university and the reality of the first year of the university creates problems for the

Tinto's student integration model (1975)

Tinto (1975) presented a model and a theory to explain the factors that determine the social integration of students in the university environment. The starting point of the Tinto model is to pay attention to the relationship and interaction between the student and the university. He stated that the interaction between the student and the university plays a very important role in the personal growth and progress of the student in the field of learning. One of the strongest and most effective factors for student success in university is paying attention to the continuity and coherence of social and educational systems, both formally and informally. In the same proportion that the contact and interaction between the

students in adapting to the university culture during the transition. New students have new responsibilities such as living independently, adapting to new scientific challenges and learning to deal with new stressors such as exams and financial pressures. Researchers have reported the possibility of inconsistency between students' pre-transfer expectations and aspirations and the reality of their transition experiences in the university, which presents various challenges for adapting to the university culture. Among the students' misconceptions are: the expectation that they will work with old learning methods and study styles and habits in university and that university education is similar to high school education. And some students may expect that studying at university will be easy (Javed, 2016).

student and the place of study will increase in both directions inside and outside the classroom; Social integration and academic integration, individual progress and learning of people increase (Tinto, 1975). According to Tinto's model in Figure 1, students not only need academic integration to survive in the university until graduation, but they also need to participate in cultural issues, both inside and outside the learning environment, i.e. social cohesion. In fact, social and academic integration have been introduced as predictors of satisfaction with academic life. In addition, the level of social and academic integration of students predicts the continuation of their studies and their success in the first year of university. (Zaki, 2015) .

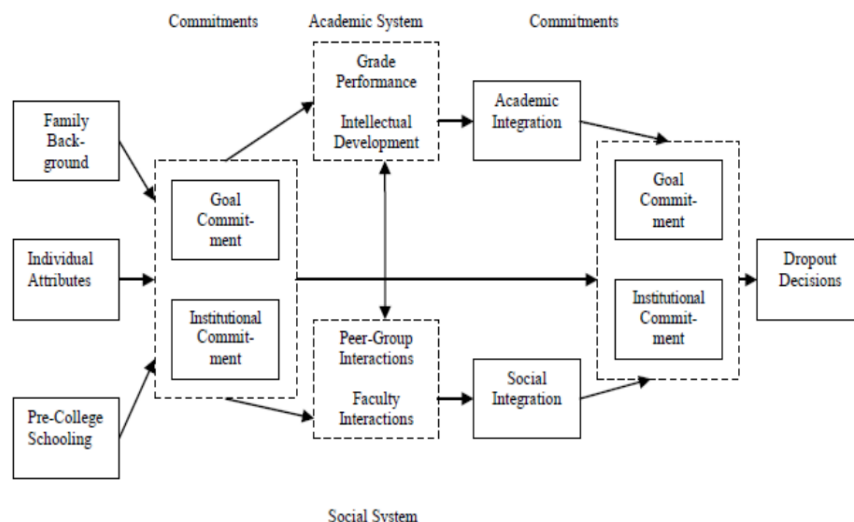


Fig. 1 Tinto's student integration model (1975)

The main idea of Tinto's theory is that laziness is related to the academic and social integration of the student, which in turn affects and is affected by the level of organizational commitment. In addition, student characteristics (for example, individual characteristics, previous education, demographic characteristics) and institution characteristics (for example, characteristics of the learning environment) affect goal commitment and organizational commitment. It is an ongoing process; The level of student commitment changes during the time of studying at the university. Tinto's theory is particularly useful for studying the transition from high school to university. This model states that students begin their education with specific input characteristics such as ability, demographic factors, and previous education. During the first year, students interact with and experience a specific

learning environment (Van Rooij, 2018). In the following, some of the most important studies conducted in this field are explained:

Jalali and Sadeghi (2017), in a research with the aim of investigating the effect of the school-to-university transition preparation program training on the adaptability of the career path and academic well-being of newly arrived students, in a semi-experimental method, the participants were enrolled in eight group sessions under the school transition program training. to the university and the control group was not subjected to any intervention. These results showed that the school-to-university transition preparation program has been effective in increasing the adaptability of the career path and academic well-being of students. Heydari Sharaf et al. (2018) conducted a semi-experimental study on the effectiveness of resilience education on

increasing the adaptability of female students with all new incoming girls of Razi University, Kermanshah. The experimental group received the resilience skills training program. They came to the conclusion that resilience training is effective in increasing students' adaptability. Sayah (2014) in his dissertation with a semi-experimental method and with the aim of investigating the effect of the familiarization training program of new incoming students on their adaptation to the university; He designed the familiarization program for new incoming students based on the experiences of the world's top universities and a review of the literature in the field of familiarization. It was concluded that there is no significant difference between the group that received the familiarization training program and the control group in the degree of adaptation to the university. The research of Meidanipour and et al. (2019) with the aim of identifying the areas of cooperation and educational interaction between high schools and the faculties of Psychology and Education showed that one of the general fields in which senior high schools and faculties of psychology and educational sciences in Tehran can participate in that field is Preparing students for university. Faculties of psychology and educational sciences can first of all identify students' academic and career talents and prepare them cognitively, psychologically and emotionally, culturally and skillfully to enter and study in the university.

va Rooij (2018) in a research entitled "Preparation of secondary school students for university and their transfer to university", focused on the transfer of

Dutch students from secondary school to university. It has investigated the reduction of the gap between school and university and the role of teachers in preparing students to transfer to university. The study showed that in secondary schools, there is a need for more awareness about informing universities and establishing cooperation between schools and universities. And mutual expectations between school and university must be managed. The study showed that in secondary schools, there is a need for more awareness about informing universities and cooperation between schools on the one hand and universities on the other hand, only in the form of managing mutual expectations. Javed (2016), in a research entitled "Pakistani students' transition to university", came to the conclusion that many of the transition experiences of Pakistani language learners in this study are similar to those in international environments. However, some experiences are naturally different due to the educational, cultural and historical context of Pakistan as a post-colonial country. In particular, the general education system of public and private schools and the Urdu/English dual language media policy have a significant impact on students' transition to university, shaping the adaptation experience and the entire transition process. As a result of this study, it is suggested that there is a need to reform the school education system and review education policies in order to bridge the gap between school/college and university education and becoming a university is a smooth process. The

research of Njage and Athiemoolam (2021) was conducted with the aim of establishing the effect of secondary school guidance programs in preparing students for successful transition to university. The findings of this study revealed that high school guidance programs do not support learners adequately in preparing them to transition to university. Yee Voon and Shae Lynn (2015) in a research entitled "Bridging students: successful transition from high school to college" embarks on a study specifically sought to identify transitional barriers faced by postsecondary students who are enrolled in the Pre - University programs at Sunway College Johor Bahru . The outcome would also highlight the inadequacies of their pre - college preparation years and their lack of crucial skills to survive the college years .Hence, successful transition to college should be a challenge shouldered by all parties, including policy makers, teachers and parents. Nunez Rodriquez and et al. (2017) in a research entitled "Building Understanding of High School Students' Transition to College" designed a program that high school and college teachers met for one year to build understanding of the critical transition of high school students to college. The program analyzed how current reforms in both systems will impact student skill development and preparedness for college work. The discussions highlighted the need to clarify expectations for college freshmen regarding syllabus policies, deadline observations, and the importance of defining consistent classroom management strategies. This program

also focused on the need to increase the dialogue between high school teachers and college professors as there exists reciprocal unawareness regarding curricular changes and the learning environment faced by students at both academic levels.

Examining the background of the research shows that the gap between school and university has caused many challenges. And in various researches, these challenges have been investigated in different ways. However, no research has been done regarding the role of secondary schools in preparing students. Therefore, this study will answer two following research questions:

Q1- How does the professors of University and senior high school teachers describe the role of senior high schools in preparing students for transition to university?

Q2- What is the role of senior high schools in preparing students for transition to university from perspective of the first-year students of University?

Method

The present study aimed to determining the role of high schools in the preparation of students to transfer to university. This research had applied purposes and in terms of method, it used exploratory mixed approach of instrumentation type. In this type of research, the researcher first examines the research topic qualitatively with a limited number of participants, and then the qualitative findings are used as a guide to formulate questions and scales of quantitative survey tools. In the second stage of data collection, the researcher implements and validates these tools in a

quantitative way." (Creswell & Clark, 2007) .The qualitative method of the research was content analysis. The quantitative stage of the research was descriptive-survey to achieve the generalizability of the findings of the qualitative sections in the larger sample.

Participants

Participants of the qualitative research part were selected by criterion-based purposeful sampling method in academic year of 2019-2020. The characteristics of the participants in qualitative part can be seen in Table 1. Totally, 9 out of 891 faculty members of a Tabriz university and 7 out of 9,929 senior high school teachers in Tabriz metropolises were selected. In purposeful sampling of senior high school teachers, teachers of theoretical courses were chosen; because, based on the research background, there

is a greater gap in transition from school to university in theoretical courses. Among faculty members, professors who taught first-year students were selected. Because, these professors had direct relationships with first-year students, and the problems and challenges caused by the school-university gap were more tangible and common to them. In this regard, first, the qualified individuals were selected for interview and then, they were interviewed in person.

Statistical population of the research in quantitative part included all 2,013 first-year undergraduate students of a large university in northwestern Iran in academic year of 2019-2020. To estimate the sample size in quantitative part, 325 university students were randomly selected by simple random sampling method using Krejcie - Morgan table.

TABLE 1. Characteristics of the participants in qualitative part

Gender	Field of study	Position
Male	Geography	Faculty member
Male	Persian the literature	Faculty member
Female	Psychology	Faculty member
Male	Educational Science	Faculty member
Male	Education Management	Faculty member
Female	Educational Science	Faculty member
Male	Psychology	Faculty member
Male	Math	Faculty member
Male	Law	Faculty member
Female	Math	Senior high school teacher
Female	English language	Senior high school teacher
Male	Psychology	Senior high school teacher
Female	chemistry	Senior high school teacher
Male	Religion and Life	Senior high school teacher
Male	Sociology	Senior high school teacher
Female	chemistry	Senior high school teacher

Research Instrument

In the qualitative part of the research, a semi-structured interview was used. After making the necessary arrangements for the interview and scheduling the interview sessions, all interviews were conducted by the researcher. To design the interview questions, first the research literature was studied, then, the interview questions were designed with the advice of experts. The questions were designed as semi-structured interviews and the researcher asked other questions according to the circumstances and if necessary to explain the dimensions of the questions or ambiguities of the previous interviews. The interviews continued until the theoretical saturation of the data. After conducting 16 interviews (9 university professors and 7 high school teachers), a theoretical saturation was obtained.

The research instrument in the quantitative part was the researcher-made questionnaire derived from the findings of the qualitative part. Questionnaire was completed with a survey of first year students of Tabriz University. This questionnaire included two parts: general items and specialized items. The general items included demographic questions (Faculty, gender, residence status (native vs. non-native) .And the specialized items included 81 closed-ended items in a 5-point Likert scale. After the preliminary test with 32 people, 7 items due to Weak reliability was removed and 74 items were determined for the final questionnaire. For ensuring validity of the first phase of the research and accuracy of findings we used member checking and peer review. In the quantitative part of the

research, for evaluating validity after preparing a questionnaire based on initial concepts, opinions of 5 professors of the educational administration were used. The construct validity of the questionnaire was confirmed by confirmatory factor analysis. The reliability of the quantitative part was confirmed using Cronbach's alpha internal reliability (0.93).

Data analysis

To achieve the aims of the research and based on the qualitative approach, Colaizzi's method analysis was used to analyze the interviews. The unit of analysis in this study; There are sentences or phrases that refer to the role of senior high schools in preparing students to transfer to university. The recorded conversations were converted to written texts. The texts were read carefully. At this step, we tried to get a general view of the collected information by repeatedly passing the data. In the next step, the main phrases related to the topic were identified using sentence by sentence strategy. The result was the identification of 171 primary concepts. Then, by combining similar items and removing duplicate ones, 21 sub-themes were formulated. In the next step, the current extracted phrases were divided into five themes so that the extracted notions with a similar subject were placed in one category. Determining and naming the categories is based on the technical and specialized terms in the background or the language used by the interviewees. In descriptive statistics, mean, median, standard deviation and variance and in inferential statistics, Friedman test and one sample t - test with software spss

version 22 and confirmatory factor analysis using lisrel 10 software was performed.

Results

In thematic analysis stage, for investigating Q1, concepts that were more conceptually related to each other were placed in clusters and the researcher gave each cluster a title. In the third stage,

after reviewing the data, duplicate concepts were removed and similar concepts were merged until 191 primary concepts, 21 sub-categories, and 5 general categories were obtained. (Table 2) shows a summary of coding results of interviews done with University professors and senior high school teachers.

TABLE 2. A summary of coding results of interviews done with Tabriz University professors and senior high school teachers

primary concepts	sub-themes	themes
Structural gap between school and university Transferring the decentralized structure of the university to the school Strategic and long-term planning to address the problems between education and higher education Being far from the goals of the educational system Alignment of education and higher education goals	educational system management	managerial factors of the educational system
High school control based structure Structure based on direct supervision of high school Special relations and rules of the university	control and supervision gap	
Scientific visit of university in the last high school years Presence of students with the previous coordination in some university classes Inviting professors of educational sciences for connecting school and university and preparing students Inviting students to school to familiarize them with university space Inviting young professors to schools to familiarize students with university space	Creating connection between school and university	Pre-transitional preparation
Extracurricular program to prepare students for university in high school Holding in-service training of teachers on how to prepare students for transfer to university Presenting content representation courses in high school Holding interschool conference	Extracurricular activities to prepare students for university	
Teaching social skills to students Acquiring self-management skills in schools Institutionalizing behavioral and personality skills in the student Fostering critical thinking in students Presenting practical and introductory research assignments in high school	developing skills	
Transferring teacher experience from university to students Employing scientifically and morally self-made teachers Modeling of students from teachers Changing the teachers' evaluation methods in high school	Senior high school teachers	
The need to establish a counseling center in schools The presence of a consultant in the second year of high school	specialized counseling in schools	

Advice on choosing a university field according to the talents of students in schools			
The spirit and motivation of students to do homework		scientific interest	Academic adaptation
Inducing students to continue their education			
Motivation to study in the field of interest			
The distance between high school content and modern science		educational content	
Advise professors to use multiple resources in the university			
Changing the educational approach from a superficial approach to a comprehension approach			
The need to do practical work in the university			
Teaching courses in a space appropriate to the nature of the course		teaching	
Gap in terms of teaching depth			
Teaching appropriate to the academic level of students by professors			
Difficulty in teaching and explaining university content to students			
Interest in the field of study		academic field of study	Environmental adaptation
Familiarity of students with the university field of study			
Workshop on explaining university disciplines by academics in schools			
Living independently of the families of non-native students		environmental adaptation	
The presence of students from different cultures in the university			
Different opinions and beliefs in the university among students			
More intimacy in school		interpersonal relationships	
Teaching appropriate behavior with professors			
Students' relationship with each other			
Students getting delinquent		social adaptation	
Students suffer from social ills			
The challenge of speaking bilingual students in standard language at university		language adaptation	Individual adaptation
Assisting students in speaking the standard language			
Lack of study experience in a mixed university environment		gender adaptation	
Lack of teachers of the opposite sex in schools			
High expectations of students from higher education		adaptation of students' expectations	Individual adaptation
Student's incorrect mentality of university courses			
Easily expect to get a grade in college			
Low self-control of high school students		psychological adaptation	
The fit of students' personality with the university environment			
Confusion of first year students			

According to the results of the qualitative content analysis, the following components were identified as the role of senior high schools in preparing students for transition to university:

1- Managerial factors of the educational system (with sub- categories of educational system management, control and supervision gap, and entrance exam). A sudden change from the

controlled environment of the school to an environment where students are expected to take personal responsibility for both academic and social aspects of their lives will cause anxiety and eventually be challenged (Rickinson & Rutherford, 1995).

"The root of these issues is in education; we should examine the problems between these two

organizations with comprehensive and strategic planning and eliminate this deep gap. The education system must make a fundamental change. The system must change. Everyone should be trained according to his talent, not assimilated" (Interview: C1).

2- Pre-transitional preparation (with sub- themes of creating a connection between school and university, extracurricular activities to prepare students for university, the role of education in bridging the gap, developing skills, senior high school teachers, and specialized counseling in schools). Senior high schools play an important role in preparing students for university. Preparing students for the university in senior high school was different from different points of view.

Martin (2010) emphasized that communication and exchange between school and university play an essential role in preparing students for the transition to university. Many students have little information about university fields, and after starting university life, they realize that the field they are studying are different from what they thought. However, students who know fields in high schools can soon adapt to their fields (Wang et al., 2006).

"Schools can be very effective in providing advice for choosing a university course. Secondary schools can explain university fields to students by giving advice" (Interview: C16).

"Teachers transfer their experiences to students. Because a teacher who teaches

students has university experience" (Interview: C12).

3- Academic adaptation (with sub-categories of scientific interest, scientific-educational gap, educational content, teaching and academic field of study). Students study habits that are formed in high school remain until the end of the first semester of university (Love & Cook, 2003). University education requires that students acquire many skills in the field of qualifications and advanced literacy methods so that they can effectively engage with their field of study. Moreover, know what kind of resources to choose and combine in line with their goals (Thompson et al., 2013).

"The teacher can hold some classes in a university style. Declare the sources as unclear. Let us limit ourselves to teaching the topics so that the students are not limited to the exam and approved high school curriculum. All these will help the transition period happen best" (Interview: C2).

4- Environmental adaptation (with sub-categories of interpersonal relationships, social adaptation, environmental adaptation, language adaptation, and gender adaptation). If the first-year students cannot quickly adapt to the new environment, they may have problems in their studies and psychological developments (Wang et al., 2006).

"In senior high school, students should be taught life skills and dealing with people from different cultures through various programs" (Interview: C4).

"In most schools, students do not speak the standard language, while in the university, everyone should speak the same language; the school should be a place for students to practice speaking the standard language" (Interview: C7).

"Senior high school was only one gender together. Here students have to prove themselves against the opposite sex and be proud. In high school, naturally, they should be prepared for this bisexual environment" (Interview: C11).

5- Individual adaptation (with sub-categories of adaptation of students' expectations and psychological adaptation). Attending university for the first time requires a change in young people's lives, which brings much stress. Although some students experience this transition as a challenge for personal growth, others are affected by the changes and experience emotional disharmony and depression (Wintre & Yaffe, 2000).

"First-year students enter a different world while the family's control over them decreases, and they must be mentally and psychologically prepared for this environment. Students have other

expectations from the university, but when they enter the university, the university does not meet their expectations. The teacher can introduce the student to the reality of the university so that they do not have unrealistic expectations about the university" (Interview: C4).

In the following, the research findings related to Q2 are presented in order to investigate the role of senior high schools in preparing students for transition to university from the perspective of the first-year students of university. After performing qualitative stage of the research, the researcher-made questionnaire was designed based on the obtained data from qualitative part of the research. For evaluating consistency of the questionnaire and internal consistency of the questions, Cronbach's Alpha coefficient was calculated for pilot sample (30 people) and the Cronbach's Alpha value of 0.93 indicated reliability of the questionnaire and internal consistency of the items. (Table 3) shows the results of testing consistency of the research categories.

TABLE 3. Results of testing consistency of the research categories by Cronbach's Alpha

		<i>Environmental adaptation</i>	<i>Academic adaptation</i>	<i>Pre-transitional preparation</i>	<i>managerial factors of the educational system</i>	<i>Individual adaptation</i>
Number of questions	15	22	20	6	11	
Cronbach's alpha	0.90	0.94	0.93	0.80	0.89	

According to the obtained results from confirmatory factor analysis of the research categories shown in (Table 4),

all indicators were found to have appropriate extent and construct validity of the structures was confirmed.

TABLE 4. Fit indicators of the first-order factor analysis model of the research categories

<i>Examined indicators</i>	<i>Individual adaptation</i>	<i>Environmental adaptation</i>	<i>Academic adaptation</i>	<i>Pre-transitional preparation</i>	<i>managerial factors of the educational system</i>
χ^2/df	2.68	2.77	2.40	2.70	2.86
RMSE	0.07	0.06	0.07	0.07	0.08
A					
NFI	0.94	0.92	0.91	0.91	0.97
CFI	0.94	0.93	0.92	0.92	0.98
IFI	0.94	0.93	0.92	0.92	0.98
GFI	0.88	0.82	0.93	0.92	0.97

For testing Q2, (Table 5) shows the results of investigating the current status of the research categories by one-sample

t-test with a given mean (3) and an error level below 5%.

TABLE 5. Results of one-sample t-tests to investigate the current status of the research categories

<i>research categories</i>	<i>Mean difference</i>	<i>sig</i>	<i>df</i>	<i>T</i>	<i>Mean</i>	<i>Mean error</i>	<i>standard deviation</i>
managerial factors of the educational system	-0.08	0.03	324	-2.20	2.91	0.040	0.72
Pre-transitional preparation	-0.51	0.00	324	-13.75	2.49	0.036	0.66
Academic adaptation	0.18	0.00	324	8.22	3.18	0.022	0.40
Environmental adaptation	0.28	0.00	324	12.16	3.28	0.23	0.42
Individual adaptation	-0.14	0.00	310	-4.21	2.86	0.032	0.58

According to the results of one-sample t-test presented in (Table5), it can be seen that significance level of t-test is less than 5%. Therefore, there was a significant difference between the given mean and categories of the research. Mean of the

variables of Managerial factors of the educational system, pre-transitional preparation, and individual adaptation was lower than the given mean (3). This shows unfavorable situation of Managerial factors of the educational

system, pre-transitional preparation, and individual adaptation regarding the role of senior high schools in preparing students for transition to the university from the students' viewpoint. Mean of the variables of academic and environmental adaptation was higher than the assumed mean (3). It shows moderate status of academic adaptation and environmental adaptation regarding the role of senior high schools in preparing students for transition to university from the perspective of students.

Table 5 shows the results of the

Friedman test to prioritize the categories regarding the role of senior high schools in preparing students for transfer to university. As can be seen from the perspective of the first-year students, environmental adaptation with the mean rank of 3.83 had the highest rank, followed by academic adaptation with the mean rank of 3.68, Managerial factors of the educational system with the mean rank of 2.98, individual adaptation with the mean rank of 2.77, and pre-transitional preparation with the mean rank of 1.73 in the next ranks.

TABLE 6. Ranking research categories based on the Friedman test

	<i>Rank</i>	<i>Mean Rank</i>
Environmental adaptation	1	3.83
Academic adaptation	2	3.68
managerial factors of the educational system	3	2.98
Individual adaptation	4	2.77
Pre-transitional preparation	5	1.73

(Table 7) shows the significant results of the Friedman test to investigate ranking of the research categories from the perspective of the first-year students. As can be seen, this test was statistically significant. Therefore, order of the

categories of environmental adaptation, academic adaptation, Managerial factors of the educational system, individual adaptation, and pre-transitional preparation was approved.

TABLE 7. Friedman test results

<i>N</i>	<i>sig</i>	<i>Df</i>	<i>Chi-square</i>
325	0.01	4	366.49

Discussion

According to findings of qualitative part of the research, 5 factors were

identified as the role of senior high schools in pre-transitional student preparation for university including: 1-

Managerial factors of the educational system, 2- Pre-transitional preparation, 3- Academic adaptation, 4- Environmental adaptation, and 5- Individual adaptation. The educational system bears many expenses for the education of educated people from the first year of elementary school to the completion of university education. But the gap between different educational courses, especially the gap between school and university, causes lack of proper efficiency and many challenges in the path of growth and education of learners. This issue can be investigated from different aspects. The current research has addressed this issue from the perspective of the role of senior high schools in preparing students for this transition.

Javed (2016) in a study also showed the role of education in successful transfer of students to university and addressing challenges of the school-university gap and importance of social, linguistic, and environmental adaptation as effective factors in resolving the school-university gap and successful transfer to university. Successful transfer of students to university environment is a function of their readiness (Conley, 2008). Although, primary responsibility for helping new students' transition from school to university rests with them, schools can also play an important role in preparing students for this transition (Goodman, 2017; van Rooij, 2018). Preparing students for university in senior high schools is accomplished in different ways. Specialized counselling in schools to choose field of study that suits interests

and talents of students avoids many challenges of the freshmen in dealing with their field of study for which they do not have necessary interest, talent, or even academic preparation. Developing critical thinking, creativity, reasoning, and innovation skills in senior high school students makes their transfer to university easier (Ramma et al., 2015). Senior high school teachers play a major role in reducing students' gap and reaching excellence (Fielding & Stott, 2012; Catelli, 2006). They have the greatest effect on development of students' academic expectations from university (Martin, 2010). Senior high school teachers believe that if they do similar activities with university, it will help in preparing students; as an illustration, one can mention increasing level of students' freedom similar to university's learning environment, which will make students enjoy freedom in space of the school (van Rooij, 2018).

Academic assignments of universities are very different from those of students at schools. Hence, many students may find it difficult to adapt to scientific culture of the university; because they need to learn and adopt new learning styles (Krause et al., 2005; Yorke & Longden, 2008). Students' academic adaptation is very important in academic achievement (Raza et al., 2021; Páramo et al., 2020; van Rooij, 2018) and readiness of students for transfer to university. Senior high schools can play an important role in preparing students for college by creating academic adaptation before they enter university (Marinela et al., 2020).

Preparing students for transfer to university is not limited to a set of academic skills, but includes social readiness as well. However, students' independence, making new friendships, and facing with unfamiliar environments make them even more necessary (McPhail, 2015). Transition experiences are different for students and depend on their previous social and cultural backgrounds (Fielding & Stott, 2012; Bolt & Graber, 2010; Pacheco et al., 2020), prior knowledge, goals, personal traits, characteristics, previous learning experiences, goals, beliefs, and values (Tinto, 1993). Social adaptation challenges faced by students during the first months of transfer from school to university can have a negative effect on the overall performance of students at university (Kantanis, 2000; Lowe & Cook, 2003). Individual adaptation is very important for students' success and includes a combination of psychological and mental skills (Draper, 2008). Researchers have reported inconsistencies between students' pre-transitional expectations and reality of their university transition experiences, presenting various challenges, such as students' failure in their first year of university to adapt to university (Chavan & Carter, 2018; Seabi & Payne, 2013; Javed, 2016). Many unrealistic expectations in students result from poor preparation before coming to university. Maintaining students' psychological adaptation is a problem that can be solved in secondary education through university preparation and appropriate

guidance (Ozga & Sukhanadan, 1998). Considering that no research with this title has been conducted in domestic research and no research was found in foreign research, but the results of some researches are indirectly aligned with the findings of this research. The results of the research (Javed, 2016) are somewhat aligned with the results of the current research. In this research, social, linguistic, and environmental compatibility have been discussed as effective factors in closing the gap between school and university and successful transfer to university. Since this research was conducted in Pakistan, it is more similar to the environment of the current research in terms of environmental adaptation of first year students. Because, schools in both country have a single-sex environment. Also, the results of this research show the role of the education system in the successful transfer of students to the university and solving the challenges of the gap between school and university. The results of the research (van Rooij, 2018) are in line with the results of the current research because in this research the preparation of high school students has been discussed and the results of the research show the role of teachers in the preparation of students for university. Also, academic adaptation has been discussed as an effective factor in preparing for the transition. With the difference that van Rooij's research has also stated academic self-efficacy, academic motivation, degree of satisfaction with the program, self-

regulation of study as success factors in the transition. The results of the present study are in line with the results of the research of Siri et al. (2016) in preparing students for university and establishing a relationship between schools and universities, because it addressed the problems related to the transition from high school to university, such as the academic failure of first-year students. The aim is to investigate the effectiveness of preparatory courses for medical students. The results of this research emphasize the need for promotion strategies and the design of integrated courses to resolve the discontinuity between the goals, experiences and expectations of students in the transition from school to university. The research results of (Fielding & Stott, 2012) are somewhat aligned with the current research because this research states three factors for a successful transition from school to university, which are: students' previous experiences, preparation by teachers, and independence in study. The research results of (Lowe & Cook, 2003) are also in line with the current research because unrealistic expectations of students have been expressed as a factor in the failure of students in the first year of university. The results of the research (Njage & Athiemoolam, 2021) indicated that first year students who were well supported by high school guidance programs were found to have a successful transition to university and managed to start their early adult life without any crisis.

The results of quantitative part of the research showed that the status of Managerial factors of the educational system, pre-transitional preparation, and individual adaptation regarding the role of senior high schools in preparing students for transition to university was unfavorable from the perspective of students but factors of academic adaptation and environmental adaptation related to the role of senior high schools in preparing students for transition to university had moderate situation from the students' point of view.

The results of Friedman test showed that environmental adaptation had the highest rank, followed by academic adaptation, Managerial factors of the educational system, individual adaptation, and pre-transitional preparation, respectively. Dlamini et al., (2020) and Alipour et al., (2018) also concluded that the status of educational and social adaptation of students to university is moderate. The results of the research (Njage & Athiemoolam, 2021) are somewhat consistent with the results of the current research because the results showed that only 9.34% of the male and 6.22% of the female respondents admitted that high school guidance helped them for university course selection. A few students reported that they were adequately prepared for university education and life by the guidance program in high schools. Also, the results of this study showed that most secondary school leavers were not provided with adequate information relating to universities and career choices

as well. This means that there is a mismatch between students' expectations and what is offered at the university. Enayati (2017) indicated that students' individual adaptation is below the average level. Students' adaptation to university prepares them to bridge the school-university gap. In terms of the gap in Managerial factors of the educational system, especially the issue of entrance exam and disproportion between goals of high school and university education, this factor had an unfavorable situation from the students' viewpoint. Also, due to the lack of attention to preparation programs for students to transfer to university including extracurricular programs suitable for preparing students to transfer to university and the lack of developing skills in students to succeed in solving challenges of transfer to university, this factor was not at a desirable level from the students' point of view. The results of Yee Voon and Shae Lynn (2015) research also showed the inadequacies of their pre-college preparation years and their lack of crucial skills to survive the college years.

Research limitations and conclusions

Combining findings of qualitative and quantitative parts of the research provided an answer to the research problem in a more comprehensive way (Creswell & Clark, 2007). First, qualitative findings provided an in-depth picture of the role of senior high schools in preparing students for transfer to university. Then, subsequent quantitative findings led to a broader and different view of the issue by investigating

perspectives of the first-year students. Findings from both sections of interviews done with university professors and senior high school teachers and implementation of a questionnaire in statistical population of the freshmen indicated a deep gap between school and university, yielding many challenges for both professors and students. Due to unfavourable situation of Managerial factors of the educational system and adaptation, and pre-transitional preparation to university from the students' point of view, the challenges faced by students during transition are largely due to the lack of preparation of students by senior high schools because, there is no planning to prepare students for this critical transition beforehand. Therefore, for reducing the gap between school and university and the challenges arising from it, planning and implementation are necessary to improve the situation of these factors.

The secondary period is the periods that link general education to higher education and provide a large group to enter the society and the labor market; Therefore, any type of failure and disruption in this period will directly affect the performance and quality of both education circles, i.e. general education and higher education (Graili et al., 2017, p.133).

It is recommended the educational system should pay more attention to the elimination of entrance exams so that students can be guided from only paying attention to testing and superficial learning to deep learning. Education

department should develop students' critical thinking and problem-solving skills. It is recommended to pay more attention to the consistency of the content of high school books with the content of university books in the compilation of secondary school textbooks. In-service courses should be held for senior high school teachers in order to educate them to prepare students for transition to university. A center in education should be established to design and implement programs to prepare students for the transition to university.

Senior high schools should guide and advise students with field selection consultations according to students' talent and interest in choosing a university field. Senior high schools should provide guidance and counseling to students in choosing the most appropriate field of study with respect to students' talents and interests. Specialized psychological counseling should be provided in senior high schools to prepare students and help their psychological adaptation to university. Schools in cooperation with the university should hold courses for students before they enter the university. In these courses, important issues such as time management and how to plan for academic success in the university should be mentioned and the students should know that in planning to do Bankruptcy is more important after class than high school. Also, in these courses, issues such as the academic behavior (for example, the rules and regulations of plagiarism and how to register), polite behavior in multicultural environments, self-

regulation and self-care training, how Membership in various academic associations and etc. should be described. Cooperation courses between high school teachers and university professors should be held, in which courses are exchanged about the skills needed by students to reduce the challenges that students face in transition and university professors observe in first-year students. Senior high schools, especially in the final years, should organize a scientific camp from the university.

In order to better connect schools and universities, it is suggested that academicians attend schools to prepare students and adapt their expectations to attend the university environment. It is recommended that universities organize orientation events. And Students should make the most of the orientation events to get to know their way around the campus, to understand the particular philosophy, expectations and regulations of the university, to meet some of the faculty (both academic and support staff) and to get to know other students. academics are suggested to attend schools in order to prepare students and adapt their expectations for attending university environment. Universities should help schools in better preparation of students by monitoring the academic status of first-year students and informing schools about the conditions and status of students.

Regarding, the second question of the research, considering that the state of the organizational-management factors of the educational system, preparing students

for the transition to university, and personal-emotional adaptation of the role of high schools in preparing students for the transition to university, from the students' point of view, are at the optimal level. does not have; It is suggested that the educational system reduce control and supervision and guide students to self-control in order to reduce the amount of control and supervision gap in the transition to university. It is recommended to deal with specialized psychological counseling in secondary schools in order to prepare students and their psychological adaptation to the university.

However, the role of senior high schools in preparing students for transition to university can be investigated by longitudinal studies from senior high school to the end of the first year of university. In addition, here, the relationship between type of school, field of study of high school and educational status in senior high school with individual, social ,and environmental

adaptation of the first-year students was not investigated, which is suggested to be addressed in the future studies.

One of the main limitations of this research was the high number of questionnaire questions that students were not patient enough to complete the questionnaire. Also, university officials did not cooperate well with the researcher in presenting statistics on the number of first-year students and professors and education officials in presenting statistics on senior high school teachers.

Ethical Considerations

During the implementation of this research and the preparation of the article, all national laws and principles of professional ethics related to the subject of research, including the rights of statistical community, organizations and institutions, as well as authors and writers have been observed. Adherence to the principles of research ethics in the present study was observed and consent forms were consciously completed by all statistical community.

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Author 1 & Corresponding Author Name: Maryam Samadi

Email: maryam.samadi@ut.ac.ir

PhD candidate of educational administration at Tehran University.



Author 2 Name: Rouhollah Mahdiuon

Email: rmahdiuon@gmail.com

Associate Professor of educational administration at Azarbaijan
Shahid Madani University.



Author 3 Name: Abolfazl Ghasemzadeh Alishahi

Email: ghasemzadee@yahoo.com

Associate Professor of educational administration at Azarbaijan
Shahid Madani University

