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Identification of change leadership dimensions and components in medical science education to move toward the third-generation universities: A qualitative study

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Abstract:

BACKGROUND: Change is a multidimensional and pervasive issue in the modern world, and organizations are constantly changing in social, cultural, political, economic, and technological fields. Change leadership is a model that employs a combination of leadership styles to keep the employees and the organization prepared for learning and continuous growth. This study aims to identify the dimensions and components of change leadership in medical sciences education to move toward third-generation universities through a qualitative approach.

MATERIALS AND METHODS: The present study was an applied explorative qualitative study. Participants included the experts in the field of management and key informants in the field of change leadership and third-generation universities who were selected through purposive sampling. The research tool was semi-structured interviews aimed at the identification of dimensions and components of the change leadership. Interview-guided questions were about change leadership to move toward the third-generation universities followed by probing questions. Colaizzi content analysis technique was used to analyze the data.

RESULTS: Data from interview transcript analysis resulted in the identification of 335 initial codes, 13 subcategories, and 3 categories or dimensions. The main categories included "change leadership roles and specifications," "providing a context and preparing for change," and "change leadership process and path." Each of the main dimensions included several components.

CONCLUSION: The importance of leadership in the process of change is since change entails the establishment and institutionalization of new systems and structures which is impossible without an effective leadership style. Leaders have high expectations of their followers and inspire them to strive toward organizational goals and facilitate the realization of the shared vision through encouraging them. As a leadership paradigm for organization performance improvement capable of encouraging employees and building an organizational culture in which ethical procedures are considered behavioral norms, change leadership seeks to predict the environment changes so that it can move in accordance with them.

Keywords:

Leadership, medical, medicine, phase transition, third-generation university, university

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Introduction

Change and transformation are inevitable in the modern days, and change programs must be designed and managed to make constructive and effective changes in organizations. Organizations must prefer "being" goals over "becoming" goals to achieve authority in the future. In

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other words, change, reconstruction, and renovation are currently among the important dimensions of organizational health and durability, and change leadership in organizations is thus among the most difficult tasks of professional and pioneering managers.[1]

In the turbulent world of today, organizations need to adapt to the changes to continue their lives and carry out useful and effective tasks. Change and transformation are inevitable. Human attitude and thought will also change as a result of these changes and the emergence of new phenomena. Humans have always embraced the positive changes that advance and facilitate the process of activities and have tried to take advantage of them and prevent their possible adverse effects through change management.[2]

Tom Peters – one of the management science experts in America – wrote that "The principle of change is the only stable principle ruling over all public and private organizations in the modern day." He continues, "The use of the word "change" in this regard is not sufficiently comprehensive and meaningful since this acceleration resulting from the speed and scope of change determines the various types of change in methods and actions. The power of responding and adaptation to the changes in the community and using the force of change as a constructive force or not is the main difference between success and failure."[3]

According to this definition, change is the movement from a stable state to another state through a series of predicted and planned actions and phases aiming to improve the situation. Overall, change refers to moving from one level to another that includes the changes resulting from moving objects and people around to bringing personal abilities, knowledge, and skills from one situation to another.[4] Organizational change entails general awareness, hard and determined work over time, having a principled and purposeful approach, and credible knowledge regarding the organization dynamics and how to change them. Valid and accurate knowledge comes from behavioral sciences such as social psychology, psychology, anthropology, sociology, systems theory, organizational behavior, and management and organizational theory. Organizational change is the result of these sciences that provides guidance to create adaptability and compatibility between the organization and people, the organization and its environment, and organizational components and elements such as structure, processes, and strategies. These guidelines are implemented through programs and change aiming to resolve the problems under particular and problematic circumstances.[5]

Thus, modern organizations deal with broader changes in various aspects of their activities compared to the past. These changes require a correct and planned approach to take advantage of the change in the interest of the organization.[6] Change leadership and its models discuss organizational steering over the process of change.[7] The recent literature on organizational change indicates that over 70% of all efforts toward organizational change have failed.[8] Unfamiliarity with change management and leadership has been mentioned in literature as one of the factors failing change projects.[9,10]

Universities of medical sciences require further efforts to adapt to national and international changes and move toward responding to the changing needs of the community given their crucial role in the educational cycle of the national health and education system.

Thus, the process of change in these universities toward third generation and fourth generation must be guided and steered as well as possible. Identification of the aspects and components that must be managed and led over this path are the turning points of these changes. Considering the aforementioned, the present study aims to identify the dimensions and components of change leadership in medical sciences education to move toward the third-generation universities through a qualitative approach.

Martials and Methods

Study design

The present study was among the applied research in terms of objective, was a qualitative study in terms of data collection, and fell into the category of explorative study.

Study participants and sampling

Participants included the experts in the field of management and key informants in the field of change leadership and third-generation universities who were selected through purposive sampling continued by consecutive sampling, using the snowball method. The inclusion criteria were to be an expert in the field of change leadership and management, being well experienced, and acquainted with the key innovation and transformation packages of the Ministry of Health.

Data collection tool and technique

Semi-structured interviews were conducted. Before the interviews began, participants were provided with information sheets. Interview questions were open ended, and the first stage was designed based on research objective, literature review, and study of the information [Table 1].

Interviews were completely recorded after the permission to record was obtained from participants.

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Eventually, interviews were written down and analyzed. Some interviews[4] were conducted in person, and others[11] were carried out virtually considering the restrictions due to the coronavirus and the fact that the universities were located in various parts of the country. All participants were allowed to withdraw from the study during the interviews. Interview time and place were also determined by participants. The process of selecting interviewees continued to the point where no new data was being obtained from the interviews and data saturation was reached.

The final number of participants reached 18. Participants' views regarding the identification of change leadership dimensions and components in the transformation toward third-generation universities were obtained through in-depth semi-structured interviews. Data were collected, recorded, coded, and classified into the main concepts over an intensive period of 3 months.

Data analysis

Colaizzi data analysis technique (1987) was used to analyze data. After the interviews were conducted and interview transcripts were prepared, all the materials were reviewed carefully to understand and develop a better understanding of the opinions of participants, and the important phrases 9 containing rich concepts regarding the studied phenomenon were extracted. The concepts were then written down as codes. At the nest stage, results were combined as a complete description of the studied phenomenon and were revised to achieve unambiguous concepts. Finally, results were referred back to the participants to examine their validation and were confirmed by them.

The Colaizzi analysis stages included the researcher reading all the descriptions given by participants several times, extracting the sentences and words relevant to the studied subject, and giving a specific meaning to each of the extracted sentences. After the descriptions made by the participants were reviewed, the shared concepts were placed in specific thematic categories and the main transcripts were referred to confirm the materials. Then, the extracted ideas were turned into a complete and comprehensive description of the phenomenon. According to the first three stages of Colazzie content analysis, the concepts extracted from the interviews with participants were categorized into 335 initial codes. At the next stage, the extracted codes were placed into specific thematic categories. For this purpose, categories were created from which subcategories were formed, and the main research concepts were eventually made up of a combination of several subcategories. Eventually, the inferred concepts were categorized into three central concepts at the fourth stage of the seven-stage Colazzie analysis. The researcher wrote down the exact responses of participants on paper and returned them to four of the interviewees to examine the reliability of findings using the participant review technique. The purpose behind this was for the researcher to examine whether he had developed a correct understanding of the interviews, the results of which revealed data reliability. Besides, opinions from qualitative research experts were used during data analysis to check the robustness and accuracy of the study. The analysis and results of interview texts were eventually delivered to two qualitative research experts to review the process and validity of analysis and results which indicated that data analysis was acceptable.

Ethical statement

The present study has been derived from a doctoral dissertation of medical education at Iran University of Medical Sciences, which was conducted with the project code of 16638 and the ethics code of IR.IUMS.FMD.REC.1399.386.

Results

As indicated in Table 2, 11 people (61%) of the participants were male and 7 people (39%) were female. Four people (23%) were assistant professors and 14 (77%) were professors. All participants were adequately familiar with the innovation and transformation packages and would refer to them during the interviews such as being in charge of innovation in their university. Participants were selected from all the ten logistic districts. More participants were selected from district 10 due to a large number of large universities in this district.

The results are presented in 335 initial codes, 13 categories or subthemes, and 3 main categories (similar codes were integrated and were reduced to 110 codes).

According to Table 3, three main categories entitled change leadership roles and characteristics, preparation and providing the context for change, and path and process and change leadership were determined. The themes of the change leadership roles and characteristics included the two subcategories of leader's personal capabilities and characteristics and change leadership roles and tasks. The subcategories of a leader's personal capabilities and characteristics included the components of high diagnostic power, power of accountability, charismatic power, empathy, individual characteristics

Table 1: Interview and probing questions

The interview main question was as follows
What are the key components and dimensions in the field of change leadership of third-generation universities?
The clarifying questions were asked
Can you elaborate?
Please give an example

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Table 2: Demographic characteristics of the participants

Interviewee number	Academic degree	Gender	Managerial experience (years)	Acquaintance with transformation plan packages
1	Assistant professor	Female	1-5	✓
2	Associate professor	Male	5-10	✓
3	Associate professor	Male	<15	✓
4	Assistant professor	Female	1-5	✓
5	Associate professor	Male	<15	✓
6	Associate professor	Male	5-10	✓
7	Associate professor	Female	5-10	✓
8	Assistant professor	Male	5-10	✓
9	Associate professor	Female	1-5	✓
10	Associate professor	Male	<15	✓
11	Associate professor	Male	5-10	✓
12	Associate professor	Female	<5	✓
13	Associate professor	Male	11-15	✓
14	Associate professor	Female	5-10	✓
15	Associate professor	Male	5-10	✓
16	Associate professor	Female	1-5	✓
17	Associate professor	Male	5-10	✓
18	Assistant professor	Male	1-5	✓

and ethics of the leader, creative thinking, honesty and risk-taking at the same time, the power to make rational decisions, the capability of creating motivation for employees, leader's ability to influence others, being full of ideas, high organizational intelligence, high emotional intelligence, and responsibility toward the employees and organizational goals.

Regarding the features of a leader's personal capabilities and characteristics, one participant stated that:

> "*The person who wants to play the role of leader must have some general capabilities and intrinsic characteristics such as the power to make decisions under challenging and critical conditions, high emotional intelligence, the ability to influence hearts, responsibility, etc., to achieve the desired result*" (participant 9).

The subcategories of change leadership roles and tasks included the components of leader's seriousness and determination to change, the leader as a training model who teaches change, taking advantage of the power of group decision-making and participation in programs, the leader as a factor of innovation and creativity in the organization, awareness of the most updated management and leadership methods, ideological influence on the employees to accept and foster change, taking advantage of the entrepreneurial and transformational leadership style, advisory and consultative role, belief and faith in and commitment to change, awareness of one's operational role in the process of change, coordinating individual and group incentives for change, steering and guiding employees toward change, giving authority delegation rights to the employees, the power to identify and make decisions under challenging and critical circumstances, risk-taking to make changes, public mobilization and preparing the forces and the organization for change, the leader as a practical and inspirational model for employees to change, creating positive motivation and encouraging the employees to change, focusing on management and leadership tasks and activities, establishing bonds and empathy between the employees, taking advantage of new management and leadership methods in the organizational environment, identification of the intra-organizational issues, strategic approach to the process of change, improving leadership competency and knowledge in the field of management and leadership, taking advantage of cooperative governance, intelligent performance, allocating enough time and energy to change, and the identification of problems and obstacles of change.

Regarding the subcategory of change leadership roles and tasks, one participant stated that:

> "*To guide and lead change, the organization manager or leader must have a deep insight into the recognition of intra-organizational problems, have mastery in problem-solving, have a strategic approach to the process of change, be committed to the organizations and his tasks, be flexible, etc.*" (Participant 1).

The main category of preparing and providing the context for change included six subcategories including revision and change in university structure and procedures, strengthening communications and interactions, changing organization culture, preparing

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Table 3: Subcomponents, categories, and dimensions

Theme	Category	Code subcategory
Change leadership roles and characteristics	Leader's personal capabilities and characteristics	High diagnostic power
		Power of accountability
		Charismatic power
		Empathy
		Individual characteristics and ethics of the leader
		Creative thinking
		Honesty and risk-taking at the same time
		The power to make rational decisions
		The capability of creating motivation for employees
		Leader's ability to influence others
		Being full of ideas
		High organizational intelligence
		High emotional intelligence
		Responsibility toward the employees and organizational goals
		High flexibility
		High organizational and work commitment
		Proficiency in problem-solving
		Interpersonal communication skills
	Change leadership roles and tasks	Leader's seriousness and determination to change
		The leader as a training model who teaches change
		Taking advantage of the power of group decision-making and participation in programs
		The leader as a factor of innovation and creativity in the organization
		Awareness of the most updated management and leadership methods
		Ideological influence on the employees to accept and foster change
		Taking advantage of the entrepreneurial and transformational leadership style
		Advisory and consultative role
		Belief and faith in and commitment to change
		Awareness of one's operational role in the process of change
		Coordinating individual and group incentives for change
		Steering and guiding employees toward change
		Giving authority delegation rights to the employees
		The power to identify and make decisions under challenging and critical circumstances
		Risk-taking to make changes
		Public mobilization and preparing the forces and the organization for change
		The leader as a practical and inspirational model for employees to change
		Creating positive motivation and encouraging the employees to change
		Focusing on management and leadership tasks and activities
		Establishing bonds and empathy between the employees
		Taking advantage of new management and leadership methods in the organizational environment
		Identification of the intra-organizational issues
		A strategic approach to the process of change
		Improving leadership competency and knowledge in the field of management and leadership
		Taking advantage of cooperative governance
		Intelligent performance
		Allocating enough time and energy to change
		Identification of problems and obstacles of change
Preparation and providing the context for change	Revision and change in university structure and procedures	Revising the goals, vision, and mission of the university and monitoring them
		Establishment of a decentralized and flexible structure
		Revising and changing university structure toward third-generation universities
		Changing organizational environment strategies
		Developing technological infrastructures
		Changing university resources and inputs
		Evaluation of inputs and changing the process of teacher recruitment and promotion

Contd...

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Table 3: Contd...

Theme	Category	Code subcategory
Preparation and providing the context for change	Strengthening communications and interactions	Activating industry offices in the university
		Increasing university interactions
		International interactions and proper communication
		Interaction with the industry and the labor market
	Changing organization culture	Establishing and strengthening the culture of accepting and embracing change
		Strengthening the culture of teamwork and team participation
		Changing the organizational culture through reward and punishment, internal motivation, and obligation
		Embracing those with new ideas
		Leadership and institutionalization of the culture of using the technology in the organization
		Supporting innovative culture
		Attention to the dominant dialog in the university
	Preparing and empowering human forces to change	Empowering various management levels of the university
		Empowering faculty members
		Empowering the employees
		Empowering students
		Attention to organizational learning in the university
		Fostering a commitment to the organization and their tasks in employees and professors
	Changing educational plans and programs	Changing educational contents and observing the effectiveness
		Changing internships and prioritizing skill training
		Changing the curriculums toward competency-based curricula
		Updating and taking advantage of effective teaching strategies
		Engaging learners in one's learning (self-guided learning)
		Education with an emphasis on the learner and their needs (and offering practical training)
		Making educational content efficient
		Using group work in teaching
		Emphasis on innovation and creation of wealth in teaching
		Updating and taking advantage of suitable evaluation methods and processes
	Changing research activities	Taking actions to commercialize knowledge
		Conducting applied research
The path and process and change leadership	Analysis of the status quo in the transition to the third-generation university	Taking advantage of a knowledgeable manager or leader in the process of change
		Understanding the current and main situation of the university by the manager or the leader
		Understanding the conditions and constructive measures in the transition to third-generation university structure
		The feeling of the need to change inside and outside the organization
		Evaluation of the inputs and procedures
		Identification of issue (s) in the way of change
	Planning for change	Investigating the current strategies and selecting the best strategy possible given the new and innovative ideas in the organization
		Considering upstream documents as a framework and criterion to change the goal outline, vision, and the desired perspective of the firm
		Participation of the employees in organizational decisions
		Attention to the present and the future in planning
		Attention to all the components as a coherent system
		Having an operational plan
		Developing a practical proposed plan for change
	Implementing and supporting change	Preparing a comprehensive change map (including components, people, outputs, and outcomes)
		Notification of change by holding workshops, handing out brochures, etc.
		Mobilizing abilities, facilities, and resources to reach the destination
		Use and application of the technologies required in the organization
		Evaluating and monitoring the change plan and revising it if necessary
	Leading resistance against change	Early diagnosis of problems and challenges
		Identification of the main factors of resistance against change
		Raising the awareness and knowledge of the employees regarding change and its impacts
		Communicating with employees regarding the challenges
		Team building and participation in solving challenges
		Using incentive or preventive programs to deal with resistance
		Preparing an action plan to deal with challenges

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and empowering human forces to change, changing educational plans and programs, and change in research activities.

The subcategory of revision and change in university structure and procedures included the components of revising the goals, vision, and mission of the university and monitoring them; establishment of a decentralized and flexible structure; revising and changing university structure toward third-generation universities; changing organizational environment strategies; developing technological infrastructures; changing university resources and inputs; and evaluation of inputs and changing the process of teacher recruitment and promotion.

Regarding the subcategory of revision and change in university structure and procedures, one participant stated that:

> *"… If we're supposed to implement a change plan, we must have an analysis of the current situation of the university in at dimensions and at all levels and then decide what changes are to be made or which direction we must move towards. For instance, a criterion and framework are determined in the upstream documents indicating that we must reach a specific level after a certain amount of time. Sometimes, we might have to adjust the goals and the vision, or we may be given the gap and how to get from point A to point B…"* (Participant 1).

The subcategory of strengthening communications and interactions included the components of activating industry offices in the university, increasing university interactions, international interactions and proper communication, and interaction with the industry and the labor market.

Regarding the subcategory of strengthening communications and interactions, one participant stated that:

> *"… To create the process of change in the university, we need to know where exactly we are now and, in other words, what our position is. We must have a general evaluation of our status quo and then investigate the desired state in the next stage…"* (Participant 17).

The subcategory of changing the organization culture included the components of establishing and strengthening the culture of accepting and embracing change; strengthening the culture of teamwork and team participation; changing the organizational culture through reward and punishment, internal motivation, and obligation; embracing those with new ideas; leadership and institutionalization of the culture of using the technology in the organization; supporting innovative culture; and attention to the dominant dialog in the university.

Regarding the subcategory of changing the organization culture in leadership, one participant stated that:

> *"… The leader or manager can steer the organization towards the desired state through collective determination and establishment of organizational culture as well as having a determined and reasonable plan to resolve the challenges and weaknesses, rely on the capabilities and resources, and overcome the potential resistances in the organization"* (Participant 8).

The subcategory of preparing and empowering human forces to change included the components of empowering various management levels of the university, empowering faculty members, empowering the employees, empowering students, attention to organizational learning in the university, and fostering a commitment to the organization and their tasks in employees and professors.

Regarding the subcategory of preparing and empowering human forces to change in the subject of leadership, one participant stated that:

> *"… I can confidently say that empowering faculty members is among the most significant components of change leadership since its results influence others sectors as well if it is carried out correctly…"* (Participant 4).

The subcategory of changing educational plans and programs included the components of changing educational contents and observing the effectiveness, changing internships and prioritizing skill training, changing the curriculums toward competency-based curricula, updating and taking advantage of effective teaching strategies, engaging learners in one's learning (self-guided learning), education with an emphasis on the learner and their needs (and offering practical training), making educational content efficient, using group work in teaching, emphasis on innovation and creation of wealth in teaching, and updating and taking advantage of suitable evaluation methods and processes.

Regarding the subcategory of changing educational plans and programs in the subject of leadership, one participant stated that:

> *"…Changing the organizational culture might be the hardest work for change leaders and managers since changing organizational culture does not happen over time and is a time-consuming process. The leaders*

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and managers must rely on the tools available to them such as group participation, education, structural changes, redesign, ream-building, obligation, reward and punishment, internal motivation, etc., to institutionalize changes at individual and organizational levels gradually so that the organizational culture also changes over time…" (Participant 2).

The subcategory of changing research activities included the components of taking actions to commercialize knowledge and conducting applied research.

Regarding the subcategory of changing research activities, one participant stated that:

"…When it comes to university changes, we must put education on the change agenda. Our training must be focused on the learners and their needs. On the other hand, the educational materials must be presented in such a way that the student can later use what he learned in commercialization and achieving wealth…" (Participant 9).

The subcategory of analysis of the status quo in the transition to the third-generation university included the components of taking advantage of a knowledgeable manager or leader in the process of change, understanding the current and main situation of the university by the manager or the leader, understanding the conditions and constructive measures in the transition to third-generation university structure, the feeling of the need to change inside and outside the organization, evaluation of the inputs and procedures, and identification of issue(s) in the way of change.

Regarding the subcategory of analysis of the status quo in the transition to the third-generation university, one participant stated that:

"…The leader or manager can coordinate the employees with change by changing the vision and mission of the university, analyzing the current situation, taking advantage of effective methods, and ideological influence on the employees so that he can evaluate and monitor the change program step by step and move towards the desired destination…" (Participant 4).

The subcategory of planning for change included the components of investigating the current strategies and selecting the best strategy possible given the new and innovative ideas in the organization; considering upstream documents as a framework and criterion to change the goal outline, vision, and the desired perspective of the firm; participation of the employees in organizational decisions; attention to the present and the future in planning; attention to all the components as a coherent system; having an operational plan; and developing and proposing practical plans for change.

Regarding the subcategory of planning for change, one participant stated that:

"…Portraying the desired vision and planning to reach it can be the first important step, and it can be followed by mobilizing resources and facilities to reach the desired end…" (Participant 6).

The subcategory of implementing and supporting change included the components of preparing a comprehensive change map (including components, people, outputs, and outcomes); notification of change by holding workshops, handing out brochures, etc.; mobilizing abilities, facilities, and resources to reach the destination; use and application of the technologies required in the organization, and evaluating and monitoring the change plan and revising it if necessary.

Regarding the subcategory of implementing and supporting change, one participant stated that:

"…There are many times when the individuals in the organization resist change due to their unawareness and lack of proper knowledge. This is where the role of managers and leaders becomes highlighted. Naturally, one of the best ways to get people to overcome their resistance against change is to provide them with the required information and knowledge regarding the change in ways such as holding workshops or handing out brochures, and increase their knowledge of the change…" (Participant 6).

The subcategory of leading resistance against change included the components of early diagnosis of problems and challenges, identification of the main factors of resistance against change, raising the awareness and knowledge of the employees regarding change and its impacts, communicating with employees regarding the challenges, team building and participation in solving challenges, using incentive or preventive programs to deal with resistance, and preparing an action plan to deal with challenges.

Regarding the subcategory of leading resistance against change in the subject of leadership, one participant stated that:

"…Managers and individuals who plan to steer the current of change must know that they are more likely to succeed in decentralized and flexible organizations and can align their subordinates with the process of change and minimize resistance by team-building, participation, and offering subordinates the right to delegate authority…" (Participant 7).

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Discussion

Moving towards a knowledge-based economy and society is seen as an essential need for developing countries such as Iran. Studying the experiences of other countries can reduce the errors in this path considering the country's economic need to transition from the resource-based traditional economy to a knowledge-based economy.[12]

The necessity of creating and managing organizational change has been highlighted recently given the fast advancement of science and technology and the complexity of the political situation and the social environment. This growing trend in the need for organizational change increases the need for adequate knowledge and skills for organizational evolution and improvement.

Managers can become change leaders by gaining knowledge such as awareness on the prevailing businesses of their business, learning to use new technologies, empowering themselves in compatibility, adopting strategies and skills, and embracing creative thinking. Change leaders use the capabilities of themselves and those around them well.[13] Taking advantage of leadership and management styles keeps employees prepared and encourages them for constant learning and growth as well as acceptance of change, and creates the proper context and grounds for organizational change. Change leaders are those who think about the future, know the destination, have the self-confidence to create change in themselves, and are patient in helping or steering others to make a change.[14]

Change leadership is the ability to stimulate and influence others through personal support, seeing and steering, and access to the resources seeking to establish a firm ground for change.[11] Leadership is often considered a key for successful change.[15] Change leadership is a type of leadership that is focused on broad changes in an organization. Real change leaders are more concerned with a great and transformative vision for their business and how to empower the employees to realize the vision.[16]

Change management and leadership refer to keeping the organization and the employees ready for constant growth and learning which is itself a sort of thinking ahead.[17] Andrews *et al*. investigated the experiences of educational organizational managers in the field of change management in their study. Their results indicated the importance of individual and organizational culture and the knowledge and skills of the manager regarding change management which could be effective in the manager's choice of change policy and lead to positive or negative results in terms of the implemented changes.[18]

Universities of medical sciences have to monitor trends and internal and external affairs constantly so that they can adapt to the changes at the right time and when necessary, and reach the essential foal of organizational improvement. Organization adjustment refers to a type of principled revision in the organization, a revision that influences the beliefs, thoughts, and value systems of the organization so that it can better adapt itself to the increasing speed of change. The term organization improvement refers to the improving and fostering organization capabilities to the extent that it can reach a favorable level of performance and playing its role, and maintain this level. Organization improvement is the continuous current of problem-solving which entails the cooperation of organization members. According to the organization improvement principles, even organizations that are currently working at a satisfying level can still be improved and enhanced.[19]

In fact, organization improvement is a process resulting from the planned change. Planned change (i.e., the application of change management) encompasses all the dimensions of the organization such as organization structure, vision and mission, management procedures, stakeholders, employees and contents, planning, decision-making, and communication, and seeks to achieve effective changes in the whole organization or parts of it or temporary systems such as committees.

Educational organizations – one of the largest organized human entities in every country and nation – have to pay serious attention to leadership as the most essential need to steer these entities and take measures to succeed.[20] Aarons *et al*. state that leadership plays a significant part in the effective implementation of change and innovation, and there is clear and increasing evidence indicating the influence and role of leaders in successful change.[21] Uokel also considers making a change as the main task of leaders and thus considers the ability to manage and lead organizational change effectively as one of the most favorable skills among the leaders and managers of modern organizations.[22] Gilley suggests that organizational leaders' behaviors directly influence the actions that create change in the workplace.[23]

Therefore, competent managers at the heart of the organization and change management are among the factors that can help universities of medical sciences to implement change programs successfully. Considering the aforementioned, one of the main challenges of making a change in universities is the confidence in the presence of leaders that implement change in the organization successfully, those who help the organization to implement the change and ensure the organization that they will manage the resources spent on change in the best way possible and steer and encourage the employees

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to cooperate in organizational change. Harold *et al*. argue that organizational change can be successful in the case of complete and correct execution of specific measures and actions by the leader regardless of the usual behaviors of leaders. In this regard, when the daily work environment of leaders is influenced by the events of change, actions of change might act as the supplementary or even substitute of their daily and normal behaviors.[24]

The study of Wiener *et al*. also emphasized organizational preparedness for change as a precondition for successful change. Planning for change is another one of the identified measures. Changing without a plan leads to negative outcomes, so leaders need to develop a complete understanding of the positive and negative results of an action before taking it and must try to minimize all obstacles or disruptive consequences.[25] Armstrong suggests that change obstacle evaluation and goals as well as their solutions must be considered in planning for change. The goals behind the change must be debated and agreed upon so that everyone knows for which goal they are striving and can monitor and evaluate the extent to which the desired results have been achieved.[26]

Innovation and limitation

Leaders are recommended to provide employees with lots of information regarding the proposed changes, inform them on the logic behind the change, hold meetings to answer the employee's concerns and questions, and provide those who are influenced by the change with the opportunity to discuss how the change influences them to minimize potential resistance and disagreement. Team building refers to the official and nonofficial intervention at the team level focused on social relations, clarifying the roles, and resolving interpersonal and responsibility problems, and influences team performance. Change leaders can reduce the concern about and resistance to change by portraying a positive image of the change and presenting its feedbacks. According to the social cognitive theory, when individuals receive feedback on their work, they are likely to set higher goals for themselves since they believe in their ability to deal with the goals effectively. Besides, if supervisors provide employees with feedback, they may feel like they can change their behavior successfully or adjust their goals based on the feedback from their supervisor.

Policymakers and administrators can help implement change programs at the university by removing barriers and resistance. It is suggested that researchers identify the reasons for the success and failure of change programs at the university and also identify the factors that enable a leader to implement organizational change well and contribute to the growth and excellence of the organization.

Conclusion

In educational organizations, the organization becomes a learning organization following planned change, and the people at work who are faculty members bring about the organization's improvement through learning. Managers in such organizations can be called change factors since their job is to create a desirable physical and mental environment so that the employees can pay efforts to achieve their organizational and individual goals in peace and by taking advantage of their abilities. Managers must implement change by controlling, influencing, and creating facilities. Any change such as limited or extensive changes must be carried out through an accurately designed plan and establishment of the change process so that its results are predictable. The results of the present study lead to the identification of dimensions and components of change leadership in the transition to the third-generation universities which were categorized into three dimensions. Each dimension had several subcategories. The main categories included change leadership roles and characteristics, preparation and providing the context for change, and change leadership process and path. Each main dimension also included several subcategories. For instance, the dimension of change leadership roles and characteristics included the subcategories of high diagnostic power, power of accountability, charismatic power, empathy, individual characteristics and ethics of the leader, creative thinking, honesty and risk-taking at the same time, the power to make rational decisions, the capability of creating motivation for employees, leader's ability to influence others, being full of ideas, high organizational intelligence, high emotional intelligence, responsibility toward the employees and organizational goals, high flexibility, high organizational and work commitment, mastery of problem-solving, and the ability of interpersonal communication.

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Conflicts of interest

There are no conflicts of interest.

References

1. Doostar M, Mombeini Y, Goodarzi M. Investigating the effect of

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transformational leadership on organizational changes with an emphasis on the mediating role of political intelligence. Q J Public Organ Manag 2016;4:85-104.

2. Petrou P, Demerouti E, Schaufeli WB. Crafting the change: The role of employee job crafting behaviors for successful organizational change. J Manag 2018;44:1766-92.
3. Orridge M. Change Leadership: Developing a Change-Adept Organization. Rout ledge; 2017.
4. Naveed RT, Jantan AH, Saidu MB, Bhatti SM. The validation of the organizational change construct using confirmatory factor analysis. Cogent Bus Manag 2017;4:1-10.
5. Dargahi H, Jam SF. The relationship between transformational leadership and organizational entrepreneurship among clinical laboratories staff of Tehran University of Medical Sciences Hospitals. journal Health_Based Research 2018;10:24-40.
6. Jansson N. Organizational change as practice: A critical analysis. Journal of Organizational Change Management 2013;26:772-92, 1003-19.
7. Dumas C, Beinecke RH. Change leadership in the 21st century. J Organ Chang Manag 2018;31:867-76.
8. Cameron E, Green M. Making Sense of Change Management: A Complete Guide to the Models, Tools and Techniques of Organizational Change. London Philadelphia New Delhi : Kogan Page Publishers; 2015.
9. Bel R, Smirnov V, Wait A. Managing change: Communication, managerial style and change in organizations. Econ Model 2018;69:1-12.
10. Amiresmaili M, Saberi H, Barkhordari F. Identifying the effective factors on the transition to the third-generation university: A qualitative study. J Educ Health Promot 2019;8:235.
11. Cuthbert, K., Glover, G., Forman, D. (2015). Learner Leadership: A Change Agent for UK Interprofessional Learning. In: Forman, D., Jones, M., Thistlethwaite, J. (eds) Leadership and Collaboration. Palgrave Macmillan, London. https://doi.org/10.1057/9781137432094_6.
12. Ramezani G, Zarezadeh Y, Sohrabi Z. Elaboration of indices of the third generation of the universities of medical sciences: Status quo assessment of Iran University of Medical Sciences. J Educ Health Promot 2021;10:255.
13. Jafari H, Raeisi AR, Yarmohammadian MH, Heidari M, Niknam N. Developing and validating a checklist for accreditation in leadership and management of hospitals in Iran. J Educ Health Promot 2018;7:136.
14. Bakari H, Hunjra AI, Niazi GS. How does authentic leadership influence planned organizational change? The role of employees' perceptions: Integration of theory of planned behavior and lewin's three step model. J Chang Manag 2017;17:155-87.
15. Khachian A, Manoochehri H, Pazargadie M, Baghban AA. Challenges of change management: A qualitative study on managers' experiences in nursing and midwifery schools. Hayat 2012;18:79-88.
16. Ashraf F, Iqbal MZ. A research agenda on the leaders political intelligence for effective change management. Afr J Bus Manag 2011;5:5798-806.
17. Rogiest S, Segers J, Witteloostuijn AV. Matchmaking in organizational change: Does every employee value participatory leadership? An empirical study. Scand J Manag 2018;34:1-8. Available from: https://www.sciencedirect.com/science/article/abs/pii/S095652211730307X. 2021-06-15.
18. Andrews, Jane & Cameron, Helen & Harris, Margaret. (2008). All change? Managers' experience of organizational change in theory and practice. Journal of Organizational Change Management. 21. 300-314. 10.1108/09534810810874796.
19. Zahedbabelan A, Karimianpour G, Merati A. Relationship between transformational leadership style and commitment to change through the mediator role of organizational justice among employees in Medical Science University. PSJ 2017;15:27-34.
20. Golparvar M, Vakili N, Ashja A. Structural model for transformational leadership components, job enrichment and organizational citizenship behavior. JMDP 2015;27:95-114.
21. Aarons GA, Ehrhart MG, Farahnak LR, Hurlburt MS. Leadership and organizational change for implementation (LOCI): A randomized mixed method pilot study of a leadership and organization development intervention for evidence-based practice implementation. Implement Sci 2015;10:11.2.
22. Taghavinia M, Maleki MR, Arabshahi KS. Educational leadership in education development centers: A qualitative study. J Educ Health Promot 2021;10:46.
23. Mokhtari S, Nikzad S, Mokhtari S, Sabour S, Hosseini S. Investigating the reasons for students' attendance in and absenteeism from lecture classes and educational planning to improve the situation. J Educ Health Promot 2021;10:221.
24. Patrick, Harold Andrew, and Vincent Raj Kumar. "Managing Workplace Diversity: Issues and Challenges." SAGE Open, (April 2012). https://doi.org/10.1177/2158244012444615.
25. Weiner, Bryan & Clary, Alecia & Klaman, Stacey & Turner, Kea & Alishahi Tabriz, Amir. (2020). Organizational Readiness for Change: What We Know, What We Think We Know, and What We Need to Know. 10.1007/978-3-030-03874-8_5.
26. Armstrong M. Armstrong's Handbook of Management and Leadership for Hr: Developing Effective People Skills for Better Leadership and Management. Philadelphia, PA : Kogan Page, 2016.