

# The Management of Hidden Curriculum in Medical Education: A Thematic Content Analysis Study

Shahram Yazdani<sup>1</sup>, Sedigheh Momeni<sup>2\*</sup>, Leila Afshar<sup>3</sup>, Mohamadreza Abdolmaleki<sup>4</sup>

<sup>1</sup>MD, Associate professor of Orthopedic Surgery, Head of School of Management and Medical Education, Shahid Beheshti University of Medical Sciences, Tehran, Iran

<sup>2</sup>PhD candidate of Medical Education, School of Management and Medical Education, Shahid Beheshti University of Medical Sciences, Tehran, Iran

<sup>3</sup>MD, PhD of Medical Ethics, Assistant professor, Department of Medical Ethics, School of Management and Medical Education, Shahid Beheshti University of Medical Sciences, Tehran, Iran

<sup>4</sup>MSc & PhD of Medical Education, Assistant professor of Medical Education, Department of Medical Education, Faculty of Medicine, Kurdistan University of Medical Sciences, Sanandaj, Iran

## Abstract

During the recent years, many changes have been made in the curriculum of medicine worldwide, but most of these changes rarely emphasize on the effects, processes, structures, and most importantly the management of hidden curriculum as well as how to collect the experiences of students. In this study, the thematic content analysis was used in order to explain the perspectives of key informant in the field of hidden curriculum management in medical education. The study participant were 11 interviewees with five themes obtained after interview analysis, including managing some components like human resources, learning, organizational behavior, formal curriculum, and organization. It was revealed that managing these components (themes) will be resulted in managing the hidden curriculum, and it is possible to plan the students' education based on the required and desirable performance.

**Keywords:** CURRICULUM, HIDDEN CURRICULUM, HIDDEN CURRICULUM MANAGEMENT

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## Introduction

Hidden curriculum comprises a collection of learning in a higher education system that acquired in an unintentional manner for students and faculties based on the dominant culture of the educational environment, universities, and higher education institutions. Moreover, it comprises unwritten and implicit messages and the social atmosphere dominated on the learning setting (1, 2). While the hidden curriculum influences on the socialization of students during their education years (3), it can make the faculties to be socialized during their professional life (4). The factors influenced

essentially on the hidden curriculum include the educational context, communication context, physical environment, the organizational cultural context, and the group values (5). The hidden curriculum shows some important roles in the conveyance of values, beliefs, and attitudes (6, 7), as well as the socialization of students (3, 8, 9) and forming the professional identity (10) in all academic levels.

During recent years, remarkable changes have been made in the medical curriculum over the world, but they rarely focused on the effects, processes, and structures of the hidden curriculum and the process of experience achievement by the students (1). Despite the need perceived for reviewing and modifying the hidden curriculum, the mentioned dimension of the curriculum has been rarely assessed and modified. It should be confirmed that if

\*Corresponding author: Sedigheh Momeni, School of Medical Education, Shahid Beheshti University of Medical Sciences, Tehran, Iran.

Email: s.momeni@sbmu.ac.ir

the components and affecting factors on the hidden curriculum are identified accurately, the hidden curriculum can be managed. It is the most important factor that can affect the graduates' training with ideal and desirable performance.

the other hand, those factors influenced on the hidden curriculum, have been identified, and it seems that changing the management arrangement of students, faculties, institutes, and especially the empowerment of the faculties may result in the desirable expectations at both levels of formal and hidden curriculum (10). Hafler and colleagues suggested that three elements of student, instructor, and the organizational culture influence on the hidden curriculum. They believed that the changes in the organizational management, including recruitment, promotion, payment to faculties, etc. can plan and manage the formal curriculum (4). Given the hidden curriculum being an important component in universities for training the graduates with desirable performance, the aim of the present study is to explain the perspectives of key informant in managing the hidden curriculum aimed to be implemented in national universities and higher education institutes.

### *Study Subjects*

The selected subjects for this study were 11 participants including eight faculties and three students. Considering the research objectives and questions, inclusion criteria of the participants were determined. The people involved in the teaching and learning process were selected purposefully. In this regard, the selected participants were the faculty members, students (both undergraduates and post graduates), and educational managers that actively participated in teaching, learning, and curriculum planning. It should be mentioned that two participants were co-authors of the present study, and the selected students included an undergraduate medical student, and two senior residents in orthodontics and pediatrics.

## **Methods**

A thematic content analysis study was designed. Thematic content analysis can be used as a flexible procedure to provide complicated and diverse details (11). It is applied for identification, analysis, and report of themes. In the present study, an 8-step method developed by Zhang Y, and Wildemuth BM was used (12).

- Preparing the Data
- Definition of analysis unit
- Categorization and codifying schemes
- Testing Coding Scheme on a Sample of Text
- Codifying All the Text
- Assessing coding consistency
- Concluding from the Coded Data
- Reporting Methods and Findings

The data analysis was an inductive process. After writing down data, the meaning unit were selected, then the codification process was started, and data was labeled as read. The similar codes were compared with each other and set in the same category. The similar categories were placed in a class. This process was continued to the end in order to obtain the final themes.

## **Results**

After analyzing the interviews, 168 codes were achieved from interviews, including 32 subcategories, 17 main categories, and 5 final themes (table 1).

### *1-Human Resource Management*

Human resource management was one the related themes in the hidden curriculum. However, that is not focused explicitly in the literature of the hidden curriculum. Human resource management comprises the recruitment process, education, rewarding, the development of staff policy, and imposing some strategies for complying them in the organization (13). Therefore, the accurate selection and recruitment of faculties, and

**Table 1:** Themes, main classes, and subclasses derived from data

Themes	Main Classes	Subclasses
Human Resource Management	Behavioral codes	Behavioral codes development Behavioral codes training Ensuring compliance with behavioral codes
	Appropriate appraising system for organization	Employee performance supervising Employee performance management
	Determination of organizational roles and tasks	Job descriptions development Job descriptions justification
	Faculty development	Technical competencies development Professional competencies development
	Determination of faculty hiring criteria	Determination of faculty hiring qualitative criteria Determination of faculty hiring quantitative criteria
Learning management	Effective motivational factors in learning	External motivation Internal motivation
	Signal management	Increase positive signal Decrease negative signal
	Reframing reference value framework	Shaping the frame of reference
	Enhanced learning methods	learning standardization
	Learning sources	Peer learning Learning from staff
Management of organizational behavior	Role models	Determine the role model examples Role model impact
	Management of personal behavior	Attention to outcome of interventions
	Management of instructor-student interactions	Instructor-student interactions
Management of explicit curriculum	Promotion of student assessment system	student assessment
	Explicit curriculum reform	Conformity of the hidden curriculum with formal curriculum Conformity of content with educational goals Conformity of the hidden curriculum with organization goals Higher order thinking education Curriculum evaluation
	Management of physical environment	Assignment of appropriate physical space
	Management of organizational environment	Promotion of organizational processes Promotion of professional processes
	Management of organizational climate	Creation of appropriate organizational Climate

also the development and evaluation of their performance can remarkably contribute in training students and achieving students' desirable performance.

### *The Behavioral Codes*

The behavioral codes determine the legible/illegible functions (14), reflecting the behavioral expectations that the organization members are required to meet. Given that, one of the participants said, "it is necessary to define the

accurate attitudes and behavioral standards for faculties, staff, and students including the suitable codes for both their behavioral and educational ethics, etc. Consequently, people become aware of their tasks and can evaluate each other based on these standards."

### *Appropriate Evaluation System for Organization*

The performance evaluation system is considered as a systematic method for

appraising how standard the organizational members perform their tasks. There are four reasons addressed for the necessity of a systematic evaluation system as follows: first, the evaluation process should promote the positive performance. Second, it meets the staff's curiosity about how standard their functions are. Also, it serves as a tool for developing staff. Finally, the performance evaluation system can be used for increasing payments (13). One of the participants said, "For example, an appropriate appraisal system should be established with capability for identifying weaknesses, and giving accurate feedbacks. If you can hide your errors, or if a guilty individual is appreciated, and not punished for his false, there is a negative message to be conveyed about this system. "

### *Determination of Organizational Roles and Tasks*

The role ambiguity can be a source of job dissatisfaction and relationship problems in educational organizations resulted in the performance that will not meet the personal and organizational expectations. The role assignment may probably set some limitations for behaviors of staff and the related legible areas are elucidated (15).

Given that, one of the interviewees pointed out the following issues: "The three groups of instructors, students, and staff should know their tasks and aims in the learning system. I think the first important step is related to the clarification of roles for people involved in the system interactions of these groups."

### *Faculty Development*

Some abilities like communication and the interpersonal interactions, and even functioning professionally are defined as a collection of skills, on which physicians should master. These skills are obviously essential. Some evidence showed that they could be learned. More importantly, the ability of doing them can influence on patient care (16). One of the participants suggested that, "Our faculties

are required to know that it is important to emphasize on these capabilities when the students attend in their departments. If their training program is planned according to the considered issues, the remarkable results can be achieved."

### *Determination of Faculty Hiring Criteria*

The selection and recruitment of faculty members can be considered as an important process with the remarkable effects on the institution's capabilities to fulfill its mission. Faculties can influence the educational quality, the effectiveness of the programs and activities, and financial efficiency. When an appropriate process is applied, desirable consequences will be achieved. The identification of the best candidates results in the increased quality, efficacy, and efficiency in higher education (17). Regarding the faculty recruitment, one of the interviewees addressed the followings: "It is better to hire those candidates who know how to talk and encounter the importance of their positions and the educational system, and finally the extremities and limits of this system."

### *2-Learning Management*

Learning management comprises the management process of character forming and personal ethics. Webster defined character as a behavioral or personal pattern found in a person or group of people. The moral strength, self-discipline, fortitude, etc. form a foundation for character (18). Therefore, it is necessary to manage this process appropriately. In the learning management, learners are helped to manage their learning process suitably through reasoning and logical thinking, as the learning based on negative points can achieve some positive results.

### *Effective Motivational Factors in Learning*

The motivation of people can be explained by self-determination theory. Based on the

mentioned theory, we have two kinds of motivations: intrinsic and extrinsic. According to this theory, the intrinsic motivation is observed in those activities that induce self-satisfaction. Conversely, the extrinsic motivation needs oral or tangible rewards. The self-determination theory differentiates critically these two different motivation types. It involves some answers to such questions as why the person performs this activity, for what results and based on what aims he did that, and what is the reasons behind the fulfillment of this aim? If the study in a specific discipline is selected based on an internal satisfaction and interest, the intrinsic motivation is addressed, and if it is for confirmation, rewards and satisfaction from others, the reason is based on extrinsic motivation (19). As one of the participants pointed out, the extrinsic motivation often influences on intrinsic motivation.

“Currently, the Selecting the type of specialty in medicine is based on a higher income. If incomes earned in different medical specialties are made to be equal, a positive movement towards future real decisions will be made. Therefore, students decide about the persuaded medical branch for the future not based on income or paid night working shifts, but according to personal interests.”

### *Signal Management*

Educational organizations are multi-level learning environments with different places for sending messages where students undergo the process of learning ethics and socialization. These signals are transferred using the formal curriculum, interactions, and administration of educational organizations. Therefore, these signals are essential components to control and manage the hidden curriculum (9). Given that the administration of the learning institute will determine the persuaded mission and aims, which is capable to transfer them into signals. Accordingly, a participant suggested that, “the signals comprise values and aims. For example, if a university of medical sciences sets a goal as promoting health in the environment, different

aspects like equality in health, and treatment of diseases can be addressed. They are considered as goals, not values. They are signals included in the organizational mission and statement. We can transfer these concepts.”

### *Reframing Reference Value Framework*

According to the definition developed by Mezirow (1997), the frames of reference includes mind habits. It is a vast and abstract means for orienting the habitual methods or thoughts and behaviors influenced by some pre-assumptions. The students' frames of reference are framed using culture and familial influences. Although the changed reference framework happens to be rare, the transformative learning theory believes that critically rethinking about mind habits or integrating the transformed views can change it thoroughly. The transformative learning theory is widely defined as an effective process for changing the reference framework. The transformative learning happens when the students rethink about their frames of reference (8). Given that, one of the participants pointed out this matter as the following:

“Some people believe that when you intend to shape the students' value frameworks, you should let them express their own values and clarify the hidden points inside them. When that happened, they probably consult them more often.”

### *Enhanced Learning Methods*

Some updated guidelines could be used to adopt procedures as a step toward learning standardization. In addition, the curriculum needs can be identified through a range of approaches, including wise men approach, Consultation with stakeholders, study of errors in practice, Critical-incident studies, task analysis and Study of star performers (20). One of the study participants suggested based on practical errors, critical incidences, task analysis, and functional consequence as

follows, “it is the case, for example, when we intend to train how to measure blood pressure with the detailed procedure, or to explain about common practical errors of recording blood pressure. We explain that lack of precision when to record blood pressure results in an ignorance of recognizing high blood pressure and the consequent complaints in the patient and moral guilt and legal involvement for the physician.”

### *Learning Sources*

Medical schools are highly complicated and integrated organizations managed by many social actors (like faculties, students, managers, staff, patients, and other health care practitioners), and they all engage in the integrated interactions comprised medical training and caring the patients (21). These interactions lead to learning of values, skills, and attitudes. One of the most important learning areas can relate to learning from peers (22). So, peers and other members of the health care team are learning sources. Moreover, this fact was supported according to a study participants who claimed that residents had to learn some essential clinical procedures from the nurses because they are not contained in the developed educational aims and it may not have been planned.

“Medical students and residents learn some materials from clinical staff and nurses... but their training is based on the staff’s experiences and not professional textbooks.”

### *3- Management of Organizational Behavior*

If an organization intent to achieve the planned aims, the managers of the organization should know about how and why to behave with people. Thus, the study of organizational behaviors results in a foundation for effective management of the organization (23). The organizational behavior is a study area aimed to provide some perceptions, descriptions, predictions, and changes of a person’s behaviors (24).

### *Role Models*

Role models constitute a part of learning in the society in every profession or role. In all life aspects, we can think about some people who influenced on our development and growth, and we appreciate them very thoroughly (16). Also, the process of professional identity is probably more formed through role models in medical schools as learning environments (25). “When I reflect on my actions and behaviors, I perceive that many faculties influence my personality as a student. In fact, someone like me is currently shaped as a result of integrated behaviors, involvements, and conversations received from other people with effects in my final spiritual and psychological states.”

### *Management of Individual Behavior*

As the staff’s behavior can convey some messages for other people in the organization, individuals will probably not accept the hidden curriculum because of the increased awareness happen for both instructors and students about this curriculum (26). As one of the participants pointed out, when a person focuses on his behaviors or self-awareness, he/she can control the sent messages to some extent. “I should consider the others’ perception about my behavior and action.”

### *Management of Instructor-Student Interactions (Interpersonal Interaction)*

Functionalists view the schools as media through which students learn about social norms, values, and some skills required in order to survive in the society. They emphasize on making students socialized within their future roles (7). Although instructor-student interaction can result in student socialization, the socialization process does not happen only via the interaction between trainer and learner. It involves all the educational staff of the institute. The interpersonal interactions in learning organizations are essential moments of socialization as a main component in the hidden curriculum (9). And the consequences of these

interactions include learning attitudes, values and beliefs, and shaped professional identity (25). On the other hand, the values influence on the individuals' motivations and behaviors, and in fact, they constitute the fundamentals of on our beliefs, attitudes, expectations, functions, and experiences (27). Given that, one of the participants said, "Good and intensive instructor-student interactions, both via phone or social media, have high potential for students' positive learning and removing the negative phenomena from his mind."

#### *4- Management of Explicit Curriculum*

The Explicit curriculum including the learning requirements is presented officially to learners. This type is continuously reviewed and amended, but the effect of the hidden curriculum imposed on it, is ignored (21). The following aspects should be focused regarding the importance of the formal curriculum management.

#### *Promotion of student assessment system*

Assessment is an important component in the hidden curriculum, because it determines all needs for learning and their requirements (9). Rabah (2012) quotes Rowntree (1987) as saying that "if we would like to discover the truth about an educational system, we should pay attention to the applied assessment procedures." The incorrect assessment can damage to both teaching and learning aims. The assessment procedure conveys some messages for students about what and how they are to learn (6). For medical students, the assessment would be executed as the written assessment (28) of courses like professionalism (29), and also the performance in working environment (30) after determining the assessment standards (31). Moreover, the feedback is a main element in the teaching and learning processes as one of the assessment components. The formative feedbacks about students' performance and practice that the faculties present to learners result in an insight (32). Given that, one of the

participants pointed out how to feedback, and also the attributed importance in the learning: "Regarding how to feedback and train the right behaviors, I prefer to learn my flaws directly given by my trainer without any insulting to me. The behavior of the faculty is effective, definitely."

#### *Explicit Curriculum Reform*

Various dimensions of an official curriculum function, in fact, as the implicit signals about what are really important in different medical schools. Course organization, the, contents, and integrated curriculum can convey some messages to the learners about the importance of educational subjects (9). However, according to a participant's suggestion, when a lecturer emphasizes on the importance of the presented contents, he can help learners about both the importance and the priorities of educational objectives.

"You as faculty member should write your learning aims, for example, sarcoidosis is a rare disease and it is required to learn only the definition. But you should mention that tuberculosis is common in our country. When you set your attitude aims based on importance-oriented attitude aims, you codify them, and finally the knowledge can be managed."

#### *5- Management of Organizational Environment*

The learning environment is one of the significant components in the development process of the formal curriculum (20). In addition, this issue is referred as one of the most effective and important factors in the hidden curriculum. Generally, the learning environment comprises both professional and organizational environments (2). The present study obtained some results emphasized in the management of organizational environment, including physical environment, organizational atmosphere, and organizational leadership.

#### *Management of Physical Environment*

There is an inherent power imbalance among

the power imbalance is obvious among different departments and various medical disciplines. and usually, the larger physical space is assigned to that department with the highest power (25). As one of the participant said, "In a case, there were some imposed administered changes in our university and firstly, the manager assigned a larger physical space to the department being directed by himself suggesting that they are in a high powerful position compared the other department directors to do such thing!"

### **Management of Organizational Climate**

The students', staff retention/sustainability, and employee/student satisfaction are significantly impacted by their learning environment in a positive way (33). Moreover, the learning environment comprises different factors like physical settings (classroom and equipment), teachers, colleagues, and other learning support systems designed for students. The educational environment is perceived as an important part of curriculum associated with students' satisfaction, academic success and the effectiveness of learning (34). One of the participants suggested that environmental standardization can lead to enhancing professional behaviors:

"According to social cognitive theory, humans are proven to have limited capacities for information processing and accurate behavior. If they feel a high stress or high-pressure environment, they will shift to the framed and stereotypical actions, and hasty generalization. As a result, their professional behaviors change into a declined situation. Thus, we should try to make the working environment normalized, and some standards will help in the normalization process."

### **Educational Leadership**

Although the academic leaders are obligated to direct their faculties intellectually, the financial experts, fund-seekers, politicians, and diplomats would be expected to involve

in this task, too. Furthermore, other aspects of an effective leader would relate to qualities associated with human and caring elements. Helping a staff or student in dealing with their complaints due to minor uncomfortable workplace situations can be highly effective in assuring their satisfaction and loyalty to the organization (35). Given that a participant provided his opinion and said that medical school departments should provide support for students as one of their functions: "University students are smart and passionate young people pursuing their future in graduation from medical departments. With these strengths, if they do not receive support, they will convert to some bad-tempered and demotivated individuals. They do not view higher education as a necessity. These students would not be enlightened to overcome their weaknesses; and to make the matter worse, their strengths may be suppressed."

### **Conclusion**

While the components of hidden curriculum have been clarified in the previous studies, and also partially in the present work, it may well be articulated that most identified elements can be manageable components. Hence, it is not required to be concerned about the undesirable and unintended consequences the hidden curriculum may impose. Instead, it can be used as a tool that helps graduates achieve their desired attributes and capabilities.

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## References

1. Ahwee S, Chiappone L, Cuevas P, Galloway F, Hart J, Lones J, et al. The hidden and null curriculums: An experiment in collective educational biography. *Educational Studies: Journal of the American Educational Studies Association*. 2004;35(1):25-43.
2. Andarvazh MR, Afshar L, Yazdani SH. Hidden curriculum: An analytical definition. *Journal of Medical Education*. 2017;16(4):198-207.
3. Lee A, Steketee C, Rogers G, Moran M. Towards a theoretical framework for curriculum development in health professional education. *Focus on Health Professional Education: A Multi-Disciplinary Journal*. 2013; 14:70-83.
4. Hafler JP, Ownby AR, Thompson BM, Fasser CE, Grigsby K, Haidet P, et al. Decoding the learning environment of medical education: a hidden curriculum perspective for faculty development. *Acad Med*. 2011; 86:440-4. Doi: 10.1097/ACM.0b013e31820df8e2
5. Hafferty FW, Gaufberg E. The hidden curriculum. In: Dent JA, Harden RM. *A practical guide for medical teachers*. Amsterdam: Churchill Livingstone/Elsevier; 2013.
6. Rabah I. The influence of assessment in constructing a hidden curriculum in higher education: Can self and peer Assessment Bridge the gap between the formal and the hidden curriculum? *Int J Humanit Soc Sci*. 2012;2(11):236-42.
7. Dickerson LW. (Dissertation). *Postmodern view of the hidden curriculum*. Statesboro, Georgia: Georgia Southern University; 2007.
8. Mezirow J. *Transformative learning: Theory to practice*. *New Directions for Adult and Continuing Education*. 1997;1997:5-12. Doi: doi:10.1002/ace.7401
9. Blasco M. Aligning the hidden curriculum of management education with PRME: An inquiry-based framework. *Journal of Management Education*. 2011;36:364-88. Doi: 10.1177/1052562911420213
10. Mossop L, Dennick R, Hammond R, Robbe I. Analysing the hidden curriculum: use of a cultural web. *Med Educ*. 2013; 47:134-43. Doi: 10.1111/medu.12072
11. Vaismoradi M, Turunen H, Bondas T. Content analysis and thematic analysis: Implications for conducting a qualitative descriptive study. *Nurs Health Sci*. 2013; 15:398-405. Doi: 10.1111/nhs.12048
12. Zhang Y, Wildemuth BM. Qualitative analysis of content. In: Wildemuth BM. *Applications of social research methods to questions in information and library science*. 2nd Edition. Santa Barbara, California: ABC-CLIO; 2016.
13. Dias LP. *Beginning management of human resources* [Internet]. Mountain View, California: Creative Commons; c2012. Available from: <https://2012books.lardbucket.org/pdfs/beginning-management-of-human-resources.pdf>
14. Rezaee Z, Elmore RC, Szendi JZ. Ethical behavior in higher educational institutions: The role of the code of conduct. *J Bus Ethics*. 2001; 30:171-83. Doi: 10.1023/A:1006423220775
15. Bess JL, Dee JR. Organizational roles. In: Bess JL, Dee JR. *Understanding college and university organization: The state of the system*. Virginia: Stylus; 2008.
16. Mann KV. Learning and teaching in professional character development. In: Kenny N, Shelton WN, editors. *Lost virtue: Professional character development in medical education*. Amsterdam: Elsevier; 2006.
17. Grandzol JR. Improving the faculty selection process in higher education: A case for the analytic hierarchy process. *Association for Institutional Research (NJ)*. 2005; 6:1-13.
18. Bebeau MJ. Evidence-based character development. In: Kenny N, Shelton WN, editors. *Lost virtue: Professional character*

- development in medical education. Amsterdam: Elsevier; 2006.
19. Leal EA, Miranda GJ, Carmo CRS. Self-determination theory: An analysis of student motivation in an accounting degree program. *Revista Contabilidade & Finanças*. 2013;24(62):162-73. Doi: 10.1590/s1519-70772013000200007
  20. Harden RM. Curriculum planning and development. In: Dent JA, Harden RM. A practical guide for medical teachers. [Amsterdam: Churchill Livingstone/Elsevier; 2013.
  21. Hafferty FW, Gaufer EH, O'Donnell JF. The role of the hidden curriculum in "on doctoring" courses. *AMA J Ethics*. 2015; 17:130-9. Doi: 10.1001/virtualmentor.2015.17.02.medu1-1502
  22. Cumming AD, Ross MT. Peer-assisted learning. In: Dent JA, Harden RM. A practical guide for medical teachers. [Amsterdam: Churchill Livingstone/Elsevier; 2013.
  23. Stroh LK, Northcraft GB, Neale MA, Kern M, Langlands C, Greenberg J. Organizational behavior: A management challenge. 3<sup>rd</sup> ed. New Jersey: Lawrence Erlbaum Associates; 2002.
  24. Wagner JA, Hollenbeck JR. Organizational behavior: Securing competitive advantage. Abingdon-on-Thames: Routledge; 2010.
  25. Gao Y. (Dissertation). Hidden curriculum and students' development of professionalism in medical education. Saskatoon: University of Saskatchewan; 2015.
  26. Martin JR. What should we do with a hidden curriculum when we find one? *Curriculum Inquiry*. 1976;6:135-51. Doi: 10.2307/1179759
  27. Mann Karen V. Chapter 8: Learning and teaching in professional character development. In: Kenny N, Shelton WN, editors. Lost virtue. *Advances in bioethics*. Bingley: Emerald Group Publishing Limited; 2006:145-83. Doi: 10.1016/S1479-3709(06)10008-4
  28. Schuwirth LWT, van der Vleuten CPM. Written assessments. In: Dent JA, Harden RM. A practical guide for medical teachers. [Amsterdam: Churchill Livingstone/Elsevier; 2013.
  29. Ginsburg S. Evaluating professionalism. In: Dent JA, Harden RM. A practical guide for medical teachers. [Amsterdam: Churchill Livingstone/Elsevier; 2013.
  30. Etheridge L, Boursicot K. Performance and workplace assessment. In: Dent JA, Harden RM. A practical guide for medical teachers. [Amsterdam: Churchill Livingstone/Elsevier; 2013.
  31. Norcini J, McKinley DW. Standard setting. In: Dent JA, Harden RM. A practical guide for medical teachers. [Amsterdam: Churchill Livingstone/Elsevier; 2013.
  32. Krackov SK. Giving feedback. In: Dent JA, Harden RM. A practical guide for medical teachers. [Amsterdam: Churchill Livingstone/Elsevier; 2013.
  33. McAleer S, Roff S. Educational environment. In: Dent JA, Harden RM. A practical guide for medical teachers. [Amsterdam: Churchill Livingstone/Elsevier; 2013.
  34. Hongkan W, Arora R, Muenpa R, Chamnan P. Perception of educational environment among medical students in Thailand. *Int J Med Educ*. 2018;9:18-23. Doi: 10.5116/ijme.5a4a.1eda
  35. Hamdy H. How to manage a medical college? In: Dent JA, Harden RM. A practical guide for medical teachers. [Amsterdam: Churchill Livingstone/Elsevier; 2013.