

Original Research



A preference for educational philosophy and philosophical mindedness among Iranian faculty members at Semnan University of Medical Sciences

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Abstract

Background: The adequacy and efficiency of an educational system in the academic settings depend on the teachers' philosophical mindedness and the ruling approach of educational philosophy. Therefore, the lack of knowledge about the philosophical foundations of education can adversely affect the educational system. The current study investigates the faculty members' philosophical mindedness and educational philosophy of the Semnan University of Medical Sciences.

Methods: This descriptive correlational study was conducted on full-time faculty members of Semnan University of Medical Sciences selected by convenience sampling method in 2020. Zinn's Philosophy of Adult Education Inventory and Komeli's philosophical mindedness questionnaire were used to assess participants' educational philosophy and philosophical mindedness, respectively. Pearson's and Spearman's correlation coefficients and the regression analysis were used for the inferential analysis.

Results: Data collected from 62 faculty members were finally analyzed. It was found that most of them (56 faculty members, 95.2%), had an average philosophical mindedness, and behaviorism dominated their educational philosophy. The variable components of philosophical mindedness (i.e., comprehensiveness, penetration, and flexibility) were not significantly different between participating faculty members from different faculties ($P > 0.05$). The highest mean score of philosophical mindedness was related to comprehensiveness (47.54 ± 4.9), followed by penetration (43.40 ± 4), and finally flexibility (32.38 ± 3.7). Based on the results, philosophical mindedness and educational philosophy are significantly correlated. The regression coefficients revealed that, flexibility affected predicting the tendency towards liberalism and progressivism, among the elements of philosophical mindedness. In contrast, comprehensiveness and penetration affected predicting radicalism. The results obtained showed an average level of philosophical mindedness among the professors participating in this study.

Conclusion: The results indicated an average level of philosophical mindedness among faculty members participating in this study. Therefore, courses should be held in their empowerment programs to strengthen the philosophical mindedness of the faculty members. Furthermore, these courses will positively affect educational philosophy. In addition, courses in critical thinking are required. This type of thinking is beyond the ability to solve problems; it gives a philosophical orientation to thinking.

Introduction

As societies' driving and informing force, universities are considered critical social systems, and the philosophy

underlies their education and training programs. Therefore, the orientation and philosophy of their managers is crucial to the design and revision of these

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programs.¹ As a result, the primary responsibility lies with the faculty members, whose views and teaching methods follow philosophies, and to some extent, the success/failure of the educational programs depends on their thinking and vision.²

Faculty members and educational managers generally use a philosophy known as educational philosophy which is of great importance. It can affect learners' personalities and thoughts. The educational philosophy adopted by the faculty members can therefore be a precise indicator of the adequacy and efficiency of an educational system.³ The faculty members' perspectives, philosophical mindedness, and personal philosophy significantly affect their work, such that it transforms them from someone with mere teaching skills into an intelligent individual who is given the heavy responsibility of educating others.¹

Education is primarily concerned with fostering the power of thinking, which in turn requires specific tools, including a philosophical mind.

An individual's philosophical mind can be discerned through their way of thinking, dealing with problems and tendencies, as well as mental characteristics, which can be observed through various aspects of their behavior. By providing ample learning opportunities and organizing educational materials, philosophically minded teachers create an environment conducive to learning. As a result, they provide a framework for the comprehensive development of students' thinking.⁴

In addition to having a philosophical mindedness in educational activities; it is essential to select a philosophical foundation since the ruling approach of educational philosophy determines the objectives, values, and worldview of an educated person. Educational systems that have not been built on the values of a particular educational philosophy have a minimal chance of success. After selecting appropriate educational philosophy, planning becomes more accessible, thereby avoiding pointless plans without objective and content.⁵

The importance and necessity of this study arise from the fact that the current educational system at Iranian Universities of Medical Sciences requires new concepts to open up new horizons for knowledge development. Philosophical mindedness and educational philosophy have received insufficient attention due to the priority placed on quantitative education and the lack of opportunities for quality improvement.

Moreover, the neglect and unawareness of the philosophical foundations of educational programs constitute one of the most significant factors that may adversely affect the educational system at many universities. Medical education centers do not currently adapt their teaching and training methods to practical educational philosophy. Therefore, it is necessary to explore the main flow of prevailing ideas or philosophy, to understand how the educational system is transforming, as well as its goals and policies.

Therefore, the current study was conducted to investigate the philosophical mindedness and educational philosophy of the faculty members of the Semnan University of Medical Sciences (SUMS). The research questions are: 1. To what extent do faculty members of the SUMS have a philosophical mindedness? 2. What is the status of educational philosophy among the faculty members of the SUMS? 3. Is the philosophical mindedness related to the educational philosophy of the faculty members of the SUMS? 4. Can philosophical mindedness predict educational philosophy among the faculty members of the SUMS?

Methods

This descriptive correlational study was conducted on full-time faculty members of the SUMS selected by the convenience sampling method in 2020. A sample size of 62 participants was calculated based on the formula

$$n = \frac{Z^2 \frac{1-\alpha}{2} \delta^2}{d^2}$$

, and a study by Mahboobi et al.⁶ Faculty members who agreed to participate in the study were asked to complete questionnaires at their offices and return them within a week.

Faculty members' educational philosophy was measured with 15-question Philosophy of Adult Education Inventory (PAEI). Each question with five options investigates liberalism, behaviorism, progressivism, humanism, and radicalism. Finally, the scores of 15 questions were collected separately for five philosophies, and the scores of each faculty member in each philosophical school were determined separately. The range of scores in each of the five schools was between 15 and 105. A score of 95-105 indicates a strong agreement with a philosophical school, a score of 55-65 indicates a unique philosophical school, and a score of 15-25 indicates a strong disagreement with a philosophical school.⁷ Zinn reported the alpha of the overall test to be 0.75,⁸ and Spurgeon and Moore reported the alpha of the test to be 0.94.⁹ A study by Zandevanian et al.² examined the face and criterion validities of the tool for use in Iran. Pearson's, Spearman's, and Kendall's tau-b correlations were calculated between the five subscales of the PAEI and the researcher-made form to examine the criterion validity; all the correlation coefficients were significant ($P < 0.01$). For examining the reliability, the Cronbach's alpha of the tool was calculated and reported as 0.92.²

Philosophical mindedness was assessed using the 42-item philosophical mindedness questionnaire developed according to the book entitled *the Philosophical Mind in Educational Administration*, written by Smith Philip¹⁰ and prepared for use in Iran by Komeli Asl.¹¹ The questionnaire has a total of 42 items, where 15 inquire about the comprehensive dimension, 14 about the penetrative dimension, and 13 about the flexibility dimension of philosophical mindedness. The answers are on a five-point scale (i.e., never, rarely, sometimes, almost

always, and always). The scores of 42 questions are added together to yield the final score. The minimum possible final score is 42, and the maximum is 210. A score between 42 and 84 indicates poor philosophical mindedness, and 84 and 126 indicate average philosophical mindedness. A score higher than 126 indicates strong philosophical mindedness. The Cronbach's alpha coefficient was 0.753 for the comprehensiveness dimension, 0.721 for the penetration dimension, 0.788 for the flexibility dimension, and 0.788 for the entire philosophical mindedness questionnaire.¹¹

Statistical analysis

The extracted data were analyzed using software SPSS for Windows 11.5 (SPSS Inc, Chicago, IL USA). Descriptive statistics were used for demographic information. The results were reported with mean \pm standard deviation and frequency (percent). The normal distribution of the data was assessed using the Kolmogorov-Smirnov and Shapiro-Wilk tests. The mean values were compared using the *t* test and the ANOVA. Pearson's and Spearman's correlation coefficients and regression analysis were used for the inferential analysis. In all tests, $P < 0.05$ was considered statistically significant.

Results

Among 62 participants in this study, 39 (62.9%) were females, 31 (50%) were from the departments of medicine, 24 (38.7%) held Ph.D. degree, 24 (38.7%) were assistant professors. The participants' average work experience was 11.37 ± 6.55 years. The detailed demographic information of the participants is provided in Table 1. Quantitative data distribution was normal for all groups ($P > 0.05$).

Question 1: To what extent do the faculty members of the SUMS have a philosophical mindedness?

Among the faculty members participating in this study, 56

Table 1. Demographic information of the professors of Semnan University of Medical Sciences participating in this study

Demographic characteristic		No. (%)
Gender	Female	39 (62.9)
	Male	23 (37.1)
Educational department	Medicine	31 (50)
	Nursing and para-medicine	13 (21)
	Rehabilitation	11 (17.7)
	Dentistry	7 (11.7)
Education	Ph.D.	24 (38.7)
	Master	15 (24.2)
	Specialist	15 (24.2)
	Subspecialist	8 (12.9)
Level of education	Assistant professor	24 (38.7)
	Associate professor	23 (37.1)
	Instructor	15 (24.2)
Work experience (years)		11.37 ± 6.55

members (95.2%) had average philosophical mindedness, two members (3.2%) had strong philosophical mindedness, and merely one member (1.6%) had poor philosophical mindedness. Most of the faculty members in nursing and para-medicine (92.3%), rehabilitation (90.9%), medicine (100%), and dentistry (85.7%) had average philosophical mindedness (Figure 1).

As shown in Table 2, no significant differences were shown between the faculty members of the different faculties in terms of their general philosophical mindedness and each of its dimensions (i.e., comprehensiveness, penetration, and flexibility) ($P > 0.05$). The highest mean philosophical mindedness score was related to comprehensiveness (47.54 ± 4.9), followed by the penetrative dimension (43.40 ± 4), and the lowest score pertained to flexibility (32.38 ± 3.7). The mean total score of the faculty members philosophical mindedness was 123.3 ± 10 .

Question 2: What is the educational philosophy among faculty members of the SUMS?

Based on Table 2, there were no significant differences in educational philosophy tendencies between the faculty members of the different faculties ($P > 0.05$). Additionally, Figure 2 shows tendencies toward educational philosophy in the faculties by educational philosophy tendencies. In assessing the overall educational philosophy among the faculty members, the minimum mean score was related to liberalism, and the maximum mean score was related to behaviorism (Table 2).

Question 3: Is the philosophical mindedness related to the educational philosophy of the faculty members of the SUMS?

The Pearson's correlation coefficient matrix results in Table 3 show a significant relationship between philosophical mindedness and educational philosophy. The correlation coefficient between philosophical mindedness and liberalism, behaviorism, and progressivism was -0.4, 0.51, and 0.38, respectively ($P < 0.05$).

Furthermore, Spearman's correlation test showed no statistically significant relationship between the level of education and the tendencies to educational philosophies and between the level of education and the philosophical mindedness of the three dimensions ($P < 0.05$). In addition, in the Spearman correlation test, gender was only significantly related to the tendency toward radicalism ($P = 0.004$). Furthermore; the mean radicalism score for women was higher than that for men ($P = 0.004$).

Question 4: Can the variable of philosophical mindedness predict the educational philosophy of the faculty members of the SUMS?

The results of the multivariate regression analysis indicate that flexibility explained 0.27 of the variance of liberalism and 0.3 of the variance of progressivism.

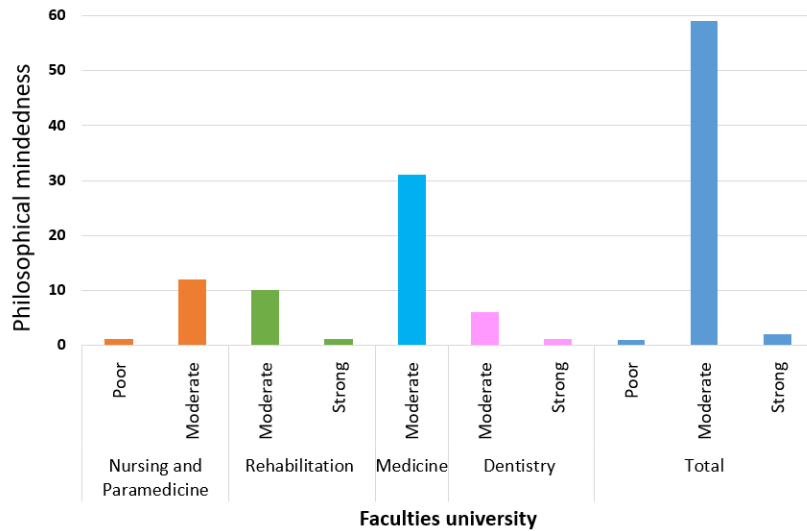


Figure 1. The philosophical mindedness of faculty members, according to the faculties of Semnan University of Medical Sciences

Table 2. Educational philosophy tendencies among the faculty members of the SUMS

Educational Philosophy	Faculty				Total (N=62)	One-way ANOVA	
	Nursing and Paramedicine (n=13)	Rehabilitation (n=11)	Medicine (n=31)	Dentistry (n=7)		P value	F
	Mean ± SD	Mean ± SD	Mean ± SD	Mean ± SD			
Liberalism	64 ± 6.24	64.04 ± 8.9	62 ± 6.5	60.6 ± 7	62.6 ± 6.9	0.59	0.64
Behaviorism	75.7 ± 9.12	81.45 ± 10.7	78.61 ± 7.62	75 ± 6.7	78.1 ± 8.5	0.29	1.27
Progressivism	74.3 ± 8.9	74.7 ± 5.6	75.3 ± 7.5	75.9 ± 5.45	75 ± 7.2	0.96	0.09
Humanism	68.7 ± 11.62	72.3 ± 7.4	74.35 ± 7	76.42 ± 5.5	73 ± 8.3	0.13	1.96
Radicalism	62.53 ± 7.84	63 ± 7.8	67.45 ± 7.6	64.6 ± 9.5	65.3 ± 8	0.18	1.65
Comprehensive	45.53 ± 6.3	48.36 ± 5.8	48 ± 4.21	47.9 ± 2.03	47.5 ± 4.9	0.41	0.95
Penetrative	41.61 ± 5	44.63 ± 3.6	43.5 ± 3.7	44.42 ± 2.9	43.4 ± 4	0.24	1.43
Flexibility	30.5 ± 3.55	33.54 ± 3.8	32.5 ± 3.7	33.7 ± 4.3	32.4 ± 3.7	0.14	1.9
Philosophical mindedness	117.6 ± 12.21	126.54 ± 12	124 ± 8.4	126 ± 7	123.3 ± 10	0.11	2.06

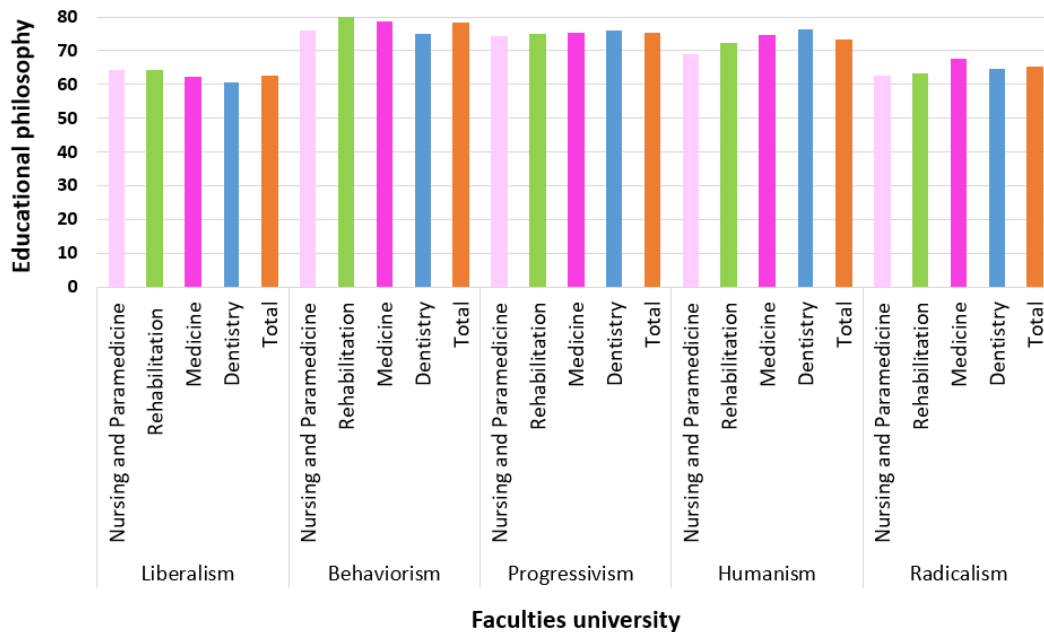


Figure 2. Educational philosophy tendencies in the faculties of the Semnan University of Medical Sciences

Table 3. The correlation matrix of the study variables

Variables	Liberalism	Behaviorism	Progressivism	Humanism	Radicalism	Philosophical mindedness	work Experience
Liberalism	1						
Behaviorism	-0.10	1					
Progressivism	-0.02	0.3	1				
Humanism	0.05	0.08	0.002	1			
Radicalism	-0.07	-0.1	0.2	0.12	1		
Philosophical mindedness	-0.4	0.51	0.38	0.12	0.31	1	
Work experience	0.16	0.073	-0.02	0.58	-0.03	-0.05	1

Moreover, in the first step, comprehensiveness explained 0.25 of the variance of radicalism, and in the second step, comprehensiveness and penetration explained 0.41 of the variance of radicalism. Given that the calculated B value is less than the significance level of 0.05, the linear regression models are significant. As a result, the variable components of philosophical mindedness are linear with educational philosophies. The results of the model fitting using the step-by-step method are presented in Table 4.

The results of the estimation of significant models in the form of regression coefficients are presented in Table 5. As shown, flexibility can predict liberalism and progressivism, and the *t* test for the significance of the regression coefficients is significant at the level of less than 0.05. The regression coefficients showed that the flexibility predicted -0.27 for liberalism and -0.3 for progressivism. In addition, comprehensiveness and penetration can predict radicalism, and the *t* test for the significance of the regression coefficients is significant at a level less than 0.05. The regression coefficients in the first model showed that comprehensiveness predicted -0.25 of radicalism, and in the second model, comprehensiveness and penetration predicted -0.45 and 0.38 of radicalism, respectively.

Discussion

The results of the current study showed that most of the participating faculty members had average philosophical mindedness, and comprehensiveness and flexibility dimensions were the highest and lowest mean scores among the dimensions of philosophical mindedness, respectively.

Philosophical mindedness is the individual's capabilities and readiness to value, make correct judgments, and the habit of creative thinking.¹⁰ Philosophically-minded faculty members are affected by their philosophical minds in their teaching process and use creative and active teaching methods. Philosophical mindedness positively affects the stages of planning and preparation, the teaching process, evaluation, classroom management, and professional collaboration and increases the quality of teaching. The quality of teaching is expected to be favorable at the desired level in environments where the faculty members have a good philosophical mindedness.¹²

Faculty members with a high level of comprehensiveness in their philosophical mindedness can visualize the general educational context in their minds when teaching. When encountering a particular problem, they can understand its connection to the related issues and provide various solutions. In addition, faculty members with this mental skill wish to assess their students' behaviors in different situations, conduct an in-depth study of their students' abnormal behaviors, discover the reasons for these behaviors, and attempt to modify them.¹²

This study investigated the educational philosophies of the faculty members of Semnan University of Medical Sciences. The results showed no statistically significant difference in the tendency toward liberalism, behaviorism, progressivism, humanism, and radicalism, which was consistent with the findings of McKenzie's study.¹³

In our study, the lowest mean value in the dimensions of educational philosophies was related to the tendency to liberalism, and the highest mean was related to behaviorism. In a study by Zandevanian et al. in Iran, who used PAEI to measure the educational philosophy of the faculty members in Yazd, the highest educational correlation was observed in the tendency to behaviorism and progressivism, and the lowest was observed in the tendency to liberalism.² In addition, most faculty members tended to behaviorism in studies by Zandevanian et al.,² McKenzie,³ Moore and Spurgeon,⁹ Williams,¹⁴ Boone et al.,³ and Lehman.¹⁵ In a study by Boone et al.,³ the least tendency among the faculty members was toward liberalism. The results of these studies are consistent with our study. The analysis of these results revealed that liberalism has several distinctive features that may have caused the lower tendency toward it. In liberalism, there is a profound gap between theory and practice, the emphasis on conveying theoretical knowledge and content, and theoretical discussions are of higher value than practical and professional ones. Another criticism of liberalism concerns its elitist approach and efforts to form an elite, which contradict the common slogan of "education for all" in today's adult education. Liberalism theorists recommend education for a limited number of people and consider professional education sufficient for the public. Another point is that, in liberalism, the faculty member is an expert conveyor of knowledge, and the teaching mainly

Table 4. Results of fitting the regression model

Model		R	R square	Adjusted R square	Std. error of the estimate
Liberalism	Model 1(flexibility)	0.27	0.76	0.061	6.66
Progressivism	Model 1(flexibility)	0.3	0.09	0.07	6.9
Radicalism	Model 1(comprehensive)	0.25	0.06	0.05	7.8
	Model 2(comprehensive, penetrative)	0.41	0.17	0.14	7.4

Table 5. Regression coefficients for predicting educational philosophies according to philosophical mindedness

Model	Model	Unstandardized Coefficients		Standardized Coefficients	t	P value
		B	Std. Error	Beta		
Liberalism	Model 1 (Constant)	79.2	7.4	-	10.5	0.0001
	Flexibility	-0.511	0.22	-0.27	-2.2	0.03
Progressivism	Model 1 (Constant)	94	7.7	-	12.1	0.0001
	Flexibility	-0.59	0.23	-0.3	-2.4	0.01
Radicalism	Model 1 (Constant)	85.3	9.8	-	8.6	0.0001
	Comprehensive	-0.4.2	0.2	-0.25	-2.05	0.044
	Model 2 (Constant)	67	11.3	-	5.9	0.0001
	Comprehensive	-0.75	0.23	-0.45	-3.2	0.002
	Penetrative	0.77	0.28	0.38	2.7	0.04

involves lectures.^{3,7} Criticism of this viewpoint may be that the superiority of theoretical knowledge is less acceptable in today's world, and medical sciences education seeks to eliminate the gap between theory and practice.

In our study, the good philosophical mindedness of the faculty members not only confirms their creative thinking but also shows their ability to use lectures in conjunction with modern and active teaching methods. The teaching methods used by these faculty members are often student-oriented, and the teacher is not the only presenter in the classroom. This approach shows that participating faculty members were less concerned with liberalism, which is a positive point in education.

In this study, the highest tendency was toward behaviorism. Behaviorism emphasizes the principles of positivism, objective study, and the relationship between the environment and under-controlled behavior, which was the dominant paradigm of the 20th century. Behaviorism is founded on the philosophy of objectivism. Its learning approaches emphasize central or critical skills and the outcome of learning. The teacher's function is to shape the students' behavior in this philosophy.¹⁶ Behaviorism focuses on the students' acquiring specific skills and competencies through a structured sequence. In this approach, the ultimate goals are determined based on a written outline, the learning content and activities are sequenced according to these goals, and the results are evaluated concerning the predetermined goals.¹⁶

The final goal of teaching-learning, especially medical sciences education, is the changes in behaviors due to experiences. In the medical sciences education, the training is step by step, and in every stage, an evaluation is performed to assess whether the behavioral goals have been

achieved. First, the students pass basic sciences courses and then specialized subjects. Practical learning activities are presented in clinical skills development centers that simulate healthcare centers. Students will be admitted to real clinical centers if they obtain an appropriate score. In medical sciences education, the faculty member acts as a behavior engineer,¹⁷ who conveys the information to the students and controls their amount of learning at different stages and finally strengthens desirable activities in them, and manipulates and controls the frequency, duration, and intensity of the students' behaviors in all stages of learning.^{2,14}

In the current study, the tendency toward liberalism decreased as flexibility of the philosophical mindedness increased. Issues are investigated from different aspects through flexibility, and appropriate responses are shown according to the situation.¹¹ While in liberalism, the curriculum includes theoretical and eternal facts (timeless virtues) found in theology, dialectic, mathematics, literature, and philosophy. This knowledge is about constant subjects that are only recognized through reason and have remained unchanged over time.⁷ With philosophical mindedness, a person does not condemn himself to tangible things but uses the innovative and creative power of the mind to understand tangible things better. The philosophically-minded individual takes his mind off the real world and tries to explain and interpret the reasons and evidence for specific matters. Hence, promoting philosophical mindedness and its dimensions conflicts with liberalism.⁴

The findings of this study showed that increasing the comprehensiveness and penetration dimensions of the philosophical mindedness increased the tendency toward

radicalism. People with greater penetrability always ask questions regarding old and even new issues and thoughts and explore them to find their truth with reasoning. This perspective makes leaving worthless matters and trying to change based on the facts. In this view, socio-economic and cultural issues play an essential role in affecting changes since comprehensiveness and penetration allow issues to be investigated from different aspects, and responses emerge by the situation.⁴

Radicalism emphasizes the role of education and training as a means to create major social, political, economic, and cultural changes. This philosophical approach aims to provide comprehensive education on social, cultural, and political principles and societal changes.⁷

In the current study, increasing the flexibility of philosophical mindedness increased the tendency toward progressivism. Progressivism is affected by pragmatism. Pragmatism's view of existence as a changing subject that asks whether humankind can experience and reconstruct existence means that the primary goal of education and training in this school is the continuous reconstruction of experiences. In this school, scientific methods are used to solve social problems; correct judgment is one of the crucial objectives of pragmatism. Using the students' interests, experiences, and findings to acquire new experiences is a fundamental principle of pragmatic epistemology.¹⁸ This school is consistent with flexibility approaches, i.e., patience and reflection in judgment, and also away from the psychological Mortis that occurs in flexibility. This philosophy seeks to support responsible participation in society to transfer practical knowledge and problem-solving skills to the learners.⁵

The current study found no statistically significant relationships between the level of education and educational philosophy tendencies, and between the level of education and philosophical mindedness or its three dimensions and subsets of the three dimensions of philosophical mindedness. No relationship between education level and educational philosophies is consistent with a study by Buckingham.¹⁹

In the current study, the tendency toward radicalism was greater in women than in men. Regarding the effect of gender on educational philosophy and philosophical mindedness, it should be noted that gender alone cannot be considered the determining factor. Our findings are consistent with the results of Wingenbach,²⁰ who believed that women have a greater tendency toward radicalism due to their tendency and focus on social changes, empowerment, and equality.

In the current study, increased work experience led to a greater tendency toward humanism. Our results are consistent with a study by Farhadian et al,²¹ who found that the mean score of humanism of faculty members with more work experience was higher than those with less work experience. Our study showed that a work experience enriches the faculty members' understanding

of humanism over their years of teaching and interaction with the students, they become more familiar with the students' characteristics and then learn to use more effective teaching methods for adult students. In other words, as a result of the experience, the faculty member becomes a facilitator in the teaching process, and the learner assumes responsibility for learning.²¹

Conclusion

In general, the findings of this study showed that the faculty members of the Semnan University of Medical Sciences had average philosophical mindedness. They had the least tendency towards liberalism and the most tendency towards behaviorism. Having good philosophical mindedness positively affected the stages of planning and preparation, teaching, evaluation, class management, and professional participation and increased the quality of teaching.

Having good philosophical mindedness, a person does not condemn himself to tangible things and attempts to explain and interpret the reasons and evidence for specific things. Hence, the promotion of philosophical mindedness and its dimensions conflict with liberalism.

The philosophical mind leaves what is worthless and attempts to make changes based on facts, which is consistent with radicalism. The philosophical mind uses scientific methods to solve social problems, which is consistent with pragmatism. This philosophical approach seeks to support responsible social participation to transfer practical knowledge and problem-solving skills to learners.

Finally, it is expected that where the faculty members have philosophical mindedness, the quality of teaching will be at the desired level.

Limitations and suggestions

The absence of the tools of philosophical mindedness and educational philosophy in accordance with Iranian-Islamic philosophy caused the measurement of the study objectives not to be appropriate to the current culture and traditions in this university. Therefore, researchers recommend designing these tools corresponding to Iranian-Islamic culture.

This study only investigated the philosophical mindedness and educational philosophies of the faculty members of medical sciences who taught theory courses. The researchers found no similar report in the country with similar objectives. However, we recommend conducting further studies with a larger sample size in different settings, such as clinical courses.

The participants of this study had average philosophical mindedness. Therefore, it is suggested to hold courses to strengthen the philosophical mindedness of the faculty members in their empowerment programs. Improvement in their philosophical mindedness could be positively affected by educational philosophies.

Critical thinking encompasses high-level intellectual and mental skills, such as judgment, questioning, reasoning, seeking truth, analysis, comprehensiveness of thought, objectivity (apparent enlightenment), neutrality, flexibility, and rational reflection. Accordingly, improving critical thinking skills leads to increased abilities such as comprehensiveness, penetration, and flexibility, which are the same as dimensions of philosophical mindedness. Therefore, it is suggested to hold critical thinking courses for students and faculty members in medical sciences.

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Authors' contribution

All authors conceptualized, designed, conducted the research, and wrote the initial draft of the manuscript. MA, AH, and GD collected and analyzed the data, and interpreted the results. MA and MRA concluded the study. MA and MBO reviewed and edited the manuscript, responded to the reviewers' comments, and revised the manuscript. MRA supervised the project. All authors read and approved the final submitted manuscript.

Competing interests

The authors declare no conflict of interests

Ethics approval

The researchers first obtained the written approval of the SUMS Medical Research Ethics Committee under the reference number "IR.SEMUMS.REC.1396.35". They explained the objective of this study and how to complete the questionnaires to each faculty member. In addition, the questionnaires were completed with informed consent by the participants. The participants were assured that all information obtained would remain confidential. This study was conducted based on the principles of the Helsinki Declaration.

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