

A Comparative Study of Undergraduate Nursing Education Systems: Uremia Medical University, Iran and Mosul University, Iraq

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ABSTRACT

Nursing education is an important foundation of health care systems globally. Studying nursing education compares various models could contribute to curriculum development and quality improvement. This study utilized Bereday's four-stage comparative method to compare undergraduate nursing education systems of Uremia Medical University, Iran and Mosul University, Iraq. This descriptive-comparative study was conducted in 2026 using Bereday's four-stage model: description, interpretation, juxtaposition, and comparison. Data were collected from official sources, including Uremia Medical University's College of Nursing, Mosul University's College of Nursing, and peer-reviewed publications. For the purpose of confirming the similarities in educational programs, curricula, teaching methods, and admissions. Both systems rely on centralized admission. Thus, the Iranian educational system presents a clear philosophy and a curriculum structure that includes 130 credit hours of general education, 22 credit hours of basic sciences, 15 credit hours of specialized courses, 54 credit hours of internships, 18 credit hours of clinical training, and 21 credit hours of field training. The Iranian system focuses on research capabilities and evidence-based interpretation. Meanwhile, the University of Mosul faces significant challenges, such as reconstruction following the recent events involving ISIS. However, it boasts strengths in its teaching staff and clinical training. The current study concluded that there are significant similarities between the two educational systems and their organizational structures. However, the two systems differ in their curricula and the problems within the educational institution.

Keywords: Nursing Education, Comparative Study, Bereday's Method, Iran, Iraq, Curriculum Development, Undergraduate Nursing, Healthcare Education.

INTRODUCTION

Nursing education is very important in establishing healthcare systems in different societies. Competent, well-qualified nurses are the backbone of delivering high-quality, safe, and patient-centered healthcare services¹. With rising public health threats, rapid improvements in technology and medical knowledge, demographic factors, and changing disease states, it has become imperative to constantly update and renew nursing education programs to address the new health landscape and the need for new nurse education to meet the needs of today's patient. It is the responsibility of the university or higher education institutions themselves as the primary deliverers of education systems to adapt to the drastic changes being faced in health care provision and culture². The literature has shown that the misalignment between educational content and healthcare service delivery can result in serious problems for the nursing profession as well as the local communities for which we provide care³. The curriculum, the essence of all formal educational establishments, must intentionally deliver curricula that develop education that leads students to the achievement and mastery they desire, along many dimensions of professional nursing care⁴. In today's global setting, comparative studies provide opportunities not only to learn from numerous experiences in education but also to exchange knowledge across cultures⁵. George Z. F. Bereday's comparative method describes the steps of study of a phenomenon through its

description, interpretation, juxtaposition, and comparison stages⁶ and can be rigorously, systematically used to perform comparative studies in education. Iran and Iraq have a lot in common with an important commonality make comparative comparison particularly worthwhile and potentially beneficial. Such as proximity, significant cultural and linguistic similarities, Islamic heritage and values, the sharing of Islamic heritage and values, similar healthcare delivery barriers and regional cooperation framework are among the factors. Both countries are actively endeavouring to better prepare nursing education systems to service their populations to meet the current and increasing in numbers of their expanding, diversified health care needs⁷. The Iranian nursing education system in Iran began in 1915 and has been reformed and underwent numerous major changes in the years that followed. A comprehensive curriculum revision was carried out in 2014 by the Supreme Council for Planning of Medical Sciences, Ministry of Health and Medical Education, thus representing a step up in an ever-constant search for value and an improvement in education⁸⁻⁹. The present Iranian system is centralized and curriculum standardization is common among all nursing schools across Iran. Mosul University's college of nursing, founded in 1993, experienced peculiar and distinct challenges particularly in 2014-2017 under conditions of Islamic State occupation. As a result of the occupation, various infrastructure was destroyed, educational activities were disrupted. Faculty and students

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were displaced completely, and educational assets lost. From its escape from that city in 2017 to present, the university has been involved in comprehensive reconstruction work and even today supplies university education to northern Iraq on small budgets despite a huge load on resources¹⁰⁻¹⁴. Although the significance of and the potential for mutual learning within nursing education in both countries are well known and emphasized by studies of nursing education, there is a lack of systematic comparative studies that fully review such two of the education systems in the two countries in detail. This gap in the literature is a gap in evidence in educational improvement and regional work. The present study seeks to fill the gaps by performing the systematic comparison of both educational systems by employing the well-established methodology of Bereday's comparative approach, which could produce useful information for educational planners, policymakers and nursing staff in both countries, and in more general Middle Eastern countries¹⁵⁻¹⁹. This study aimed to comprehensively describe and analyze the undergraduate nursing education systems in Iran and at Mosul University, Iraq. Interpret these educational systems within their respective cultural, social, economic, and historical contexts. Systematically identify and analyze similarities and differences between the two systems across multiple dimensions and develop evidence-based recommendations for mutual learning, collaboration, and quality improvement

MATERIALS AND METHODS

Study Design and Setting: This descriptive-comparative study made comparisons with Bereday's four-stage comparative method of education. Built on the concept of comparative education, this methodological framework, advanced by George Z. F. Bereday and widely accepted¹⁵, is designed to create a rigorous, systematic framework for comparison of educational systems in various national contexts while considering cultural, social, and historical variables. Bereday's Four-Stage Comparative Method. Data were collected from official sources, including Uremia Medical University's College of Nursing, Mosul University's College of Nursing, and peer-reviewed publications.

Data collection tools and technique: Using Bereday's four-stage model: description, interpretation, juxtaposition, and comparison the data collected

Stage 1: Description: Systematic collection of descriptive data and information on the educational systems being investigated. In this phase, much data was collected on nursing educational programs from the historical perspective to educational organization, philosophy, curricula, admissions, teaching methodologies, assessment, and graduate competencies.

Stage 2: Interpretation: The data collected in the two systems is interpreted within the cultural, social, economic, political, and historical context. Analysis and interpretation to discover an appropriate interpretation process has now become an extremely important aspect of the process.

Stage 3: Juxtaposition: Information was organized as similar categories and structures which facilitated clear comparisons or difference detection in the various structures and similarities across multiple dimensions in the educational systems (Table 1).

Stage 4: Comparison: Compare and contrast analysis, analysis, and interpretation of similarities and differences; synthesis and conclusion based on evidence. The final stage would consist of identifying patterns, identifying best practices, gaining insight into unique modifications

made for each of the contexts and recommendations for both systems that must be executed. Data Sources and Collection.

Sampling Technique: In order to make a comprehensive and valid comparative analysis, the data was rigorously assembled from multiple authoritative, credible sources:

- Official curriculum documents of Iranian Ministry of Health and Medical Education, including the 2014 update of undergraduate nursing curriculum.
- The official website, publications, and publicly available institutional documents of Mosul University College of Nursing.
- Published comparative studies on nursing education across Iran and Iraq, and in the larger Middle Eastern region.
- A systematic review of nursing education and healthcare workforce development reports published by the World Health Organization (WHO) and related documents in the Eastern Mediterranean Region.
- Articles in peer-reviewed journals focusing on nursing curriculum development, educational quality assurance, comparative studies and teaching methodologies.
- Government reports, and statistical information on higher education and health professional education in Iran and Iraq.

Ethical Considerations: Researchers from Armenia Medical University in Iran and the University of Mosul submitted a detailed protocol outlining the nature of the study. Approvals were obtained from the Medical Ethics Committee at Armenia Medical University on (Number 1782 in 6 July , 2025 (and at the University of Mosul – College of Nursing on (Number 011 in 23 March , 2025 (. The study lasted for six consecutive months, and the confidentiality of all information and data was guaranteed. All of this was conducted in accordance with the 1964 Helsinki Convention on Medical Research.

Data Analysis: Each of Bereday's four stages was used to analyze the data in a systematic way. Descriptive information was organized thematically for key components of the educational system. For example, contextual interpretation referred to historical, sociological and educational studies to identify systemic influences. Juxtaposition used structured comparative tables and parallel descriptions. Final comparison synthesized findings to find themes, and form conclusions and recommendations based on the evidence obtained.

RESULTS

Stage 1: Description of Educational Systems

Iranian Nursing Education System: Nursing education in Iran began in 1915 (Solar Hijri calendar 1294) the school of nursing became formal in Iran. The program was implemented initially as a three years' certificate program. The first comprehensive secondary teaching, full secondary education (diploma as of 1998, 1377 Solar Hijri), was declared an entry requirement. The first four-year baccalaureate nursing course was established in 1965 (1344 Solar Hijri), marking a great breakthrough level in the education of professional nursing. The final full curriculum revision was from the Supreme Council for Planning of Medical Sciences, Ministry of Health and Medical Education, 2014 (1393 Solar Hijri), which forms the national standard to this very day¹¹. Organized and Governed: Iran has an all-centralized educational system with all nursing schools directly under the direct supervision of the Ministry of Health and Medical Education. Format and Credit Flow: Undergraduate nursing has four years (8 semesters) of study, for a total of 130 credit hours. Credits are offered using the following criteria: (General education courses: 22 credits — topics covering Islamic studies, Persian language, literature, English language, physical education, and computer skills; Basic sciences: 15 credits — Anatomy, Physiology, Microbiology, Pharmacology, and Nutrition; Specialized

professional courses: 54 credits — each covering all major nursing specialties (Medical-Surgical Nursing, Pediatric Nursing, Maternal-Newborn Nursing, Psychiatric-Mental Health Nursing, Community Health Nursing, and Nursing Management); Internships: 18 credits — for supervised clinical experience; and Field training: 21 credits — a community-based clinical application in both primary healthcare centers and public health settings. Principles and objectives of education in Iranian nursing education The Iranian nursing education syllabus has clearly defined many philosophical bases, including: 1) The ethical and the implementation of ethical training for developing and communicating Islamic cultural values in health care; 2) The promotion and application of national and international professional standards in healthcare provision; 3) Development of critical and creative skills; 4) Combination of research methods, knowledge about evidence; 5) Reliance on holistic, humanist, evidence in health care with a patient-centred and community approach; 6) Systematization of nursing process methodology for practices: application of systematic nursing methodology; 7) Cultivation of lifelong learning and continuous professional development and commitment by the nurse practitioner. Admission Criteria and Admission process: At-university admission to undergraduate nursing school is through a national university entrance examination, which is administered at the national level (Konkour Sarasari), a very highly competitive and national university entrance exam to make admissions to undergraduate nursing program. Requirements for applying include: 12 years or more of formal education with a high school diploma; Successful completion of the experimental sciences track in upper secondary education; Achieve minimum qualifying scores at the national examination in subjects such as biology, chemistry, physics, mathematics and language; Comply with health and fitness requirements for practice in nursing. Teaching-Learning Strategies: The Iranian model uses some diverse and complex methods of teaching-learning: traditional lecture-based methods for initial instruction; interactive seminar and group presentations; problem-based learning situations; lab sessions for skill enhancement; clinical training in hospital environments with supervision; community health center placements; self-directed learning modules; evidence-based practice projects; journal clubs, case study analyses.

Mosul University Nursing Education System

Historical Development and Institutional Context: The College of Nursing at Mosul University was established in 1993 as part of the university's health sciences complex. The college underwent several relocations before settling in its current facility within the first university complex in 2011. Between 2014 and 2017, the University of Mosul endured a period of profound hardship during the occupation of Mosul by ISIS, resulting in the loss of infrastructure, laboratories, and equipment, and the disruption of education in the city. However, after liberation, the College of Nursing has reintegrated into society through its faculty, the reconstruction and rehabilitation of buildings and laboratories, and its efforts to maintain the educational system once again (University of Mosul, College of Nursing, 2024).

Organizational Structure: Since its establishment in 1993, the College of Nursing has operated through two primary branches: the Clinical Nursing Sciences Branch and the Basic Sciences Branch. The college's educational system follows the curriculum overseen by the Iraqi Ministry of Higher Education and Scientific Research.

Program Structure and Duration: The nursing program requires four years of study to award a bachelor's degree. The curriculum includes intensive daily theoretical and practical instruction. The theoretical component focuses on lectures within the college, while the practical training takes place in healthcare institutions such as hospitals and primary care centers.

Mission and Educational Goals: The College of Nursing works to train nursing staff within healthcare institutions to enhance their scientific knowledge, in accordance with the protocols available within these institutions, with the aim of contributing to the improvement of healthcare and the advancement of nursing practices.

Admission Process: Students are selected and admitted according to the central admission system established by the Iraqi Ministry of Higher Education. Admission requires that students be graduates of secondary school and have achieved a high grade point average. Tuition and admission are free of charge for the duration of their university studies.

Educational Approaches: The educational system focuses first on the teacher and then on the scientific system in clinical training. Students receive scientific lectures to acquire knowledge and then receive practical training to enhance their clinical skills. The college faces some limitations and challenges in implementing simulation-based learning due to limited resources.

Stage 2: Contextual Interpretation

Iranian Context: Education in Iran embodies Islamic values and traditions, which encompass all aspects of professional nursing education. The education system follows religious and doctrinal foundations linked to sacred values. The Iranian government provides free education in all aspects across various Iranian universities. Finally, in 2014, the nursing curriculum was updated while preserving cultural beliefs.

Mosul University Context: The nursing educational program at the University of Mosul in general is influenced by its colorful and recent history. The ISIS occupation of Mosul between 2014 and 2017 resulted in the destruction of the city's infrastructure and educational facilities, including laboratories and libraries. A large number of university professors were either killed or displaced, and many others emigrated from Iraq due to the destruction at the University of Mosul. The disruption of students' education negatively impacted the quality of nursing education. Following the liberation of Mosul, the facilities and infrastructure were rebuilt, and many faculty members began returning and being recruited. The learning environment was also improved to better suit training and the implementation of a sound educational system.

Stage 3: Juxtaposition

See Table 1

Stage 4: Comparison and Analysis

Similarities Between Systems

Program Duration and Structure: Both nursing education systems implement a four-year program, consistent with international nursing education standards. This program duration reflects a shared understanding of the time needed to develop nursing faculty and scientific competencies.

Centralized Admission Systems: Both education systems in both countries use a centralized admissions system. This ensures a standardized approach to student selection and may limit diversity and alternative options in nursing programs.

Comprehensive Healthcare Focus: The curricula in both countries focus on the three levels of healthcare provision (preventive, curative, and rehabilitative) (thus preparing graduates to work across the entire healthcare continuum rather than solely in limited sectors).

Table 1. A systematic comparison of the main areas of expertise in both education systems.

Characteristic	Iran	Mosul University, Iraq
Year Established	1915 (first program) 2014 (latest revision)	1993
Program Duration	4 years (8 semesters)	4 years
Total Credits	130 credits explicitly distributed	Not explicitly documented
Governance	Centralized (Ministry of Health)	Centralized (Ministry of Higher Education)
Admission System	National entrance exam (Konkoor)	Centralized admission (Ministry placement)
Tuition	Free (public) Paid (private option)	Free (public university)
Educational Philosophy	Explicitly detailed: - Islamic values - Critical thinking - Evidence-based practice - Lifelong learning	General mission stated: - Quality healthcare - Critical thinking - Professional competence
Teaching Approach	Teacher-centered moving toward student-centered methods	Predominantly teacher-centered
Clinical Training	Hospital internships + community field training	Hospital rotations + primary care exposure
Research Emphasis	Explicit curriculum component	Limited documentation
Recent Challenges	Curriculum updating Resource allocation	Post-conflict reconstruction Infrastructure rebuilding Faculty retention

Cultural and Religious Values Integration: Both systems integrate cultural considerations and religious values into nursing education, emphasizing culturally and religiously sensitive care.

Public Education Model: The fact that both sectors operate through public universities that support free education reflects the responsibility for developing healthcare workers.

Clinical Practice Emphasis: Both programs include intensive professional training within healthcare institutions, acknowledging that nursing is a practice requiring experience and training in healthcare settings.

Differences Between Systems

Curriculum Transparency and Structure: The Iranian educational system provides detailed documentation of the distribution of credit hours (approximately 130 hours) divided among general education, basic sciences, field training, internships, and specialized courses. In contrast, the Iraqi educational system lacks a breakdown of credit hours, study units, and courses.

Educational Philosophy Articulation: The Iranian educational philosophy is more clearly defined and includes critical thinking, Islamic values, and holistic care in the application of the nursing process. In contrast, Mosul University's educational philosophy relies on general learning objectives rather than a clearly defined philosophy, as evidenced in available documentation.

Research and Evidence-Based Practice Integration: The Iranian nursing curriculum includes a clear, evidence-based methodology, such as specialized courses, statistics, and critical appraisal in nursing research. In contrast, at Mosul University, there was no clear documentation regarding the curriculum materials.

Teaching Methodologies: Nursing education in Iran incorporates simulation programs and focuses on the student and problem-solving, while Mosul University employs traditional, teacher-centered instruction.

Institutional Challenges: The most prominent challenges facing the Iranian education system are curriculum modernization and faculty

development. Meanwhile, Mosul University and the Iraqi education system face the challenges of rebuilding infrastructure and restoring educational resources.

Governance and Autonomy: The two systems operate centrally between the Ministries of Education and Health, and this affects the funding mechanisms and policies set by both ministries.

DISCUSSION

This comparative study highlights the differences and similarities in nursing education in Iraq and Iran, specifically concerning nursing programs. The study programs in both countries are four years long, conforming to international nursing education standards and the same program duration and recommendations from organizations like the World Health Organization and the International Council of Nurses^{16,20}. This consistency between the two countries is evident in the quantity of knowledge and skills acquired through practice. However, the duration of learning programs does not determine the quality and effectiveness of learning. Therefore, the study should focus on all curriculum content and clinical training. Nevertheless, the Iranian learning system is more transparent, with a clear distribution of credit hours and courses, which facilitates the student's learning process. Therefore, the nursing education system in Iraq should be based on learning hours, learning documentation, and learning quality to provide a clear picture of learning and promote evidence-based practices, similar to the Iranian approach adopted in nursing programs, which is based on all cognitive and professional aspects²¹⁻²³. Since nursing education is based on scientific evidence, integrating and incorporating scientific research into the nursing curriculum at Mosul University can help improve the competency and outcomes of nursing in Iraq. This integration of scientific research and nursing curricula in the Iranian education system has resulted in a clear improvement in nursing outcomes and in students' thinking and focus on nursing learning, where the student has become the active participant in the learning process, rather than the teacher²⁴⁻²⁶. For this approach to succeed, faculty development, infrastructure support, and improved cultures within educational and healthcare institutions are essential. The nursing education system in Iraq, and at Mosul University in particular, has been limited to a traditional focus and the use of more conventional teaching methods. This leads to weak nursing outcomes.

Therefore, Mosul University must provide specialized courses for faculty members, create a suitable learning environment, improve and develop its educational systems, and strive to change them in the right direction. Iran may experience some challenges in its educational curricula, but the major challenges faced by Iraq, and Mosul University in particular, are those stemming from the post-conflict period. Mosul University experienced these challenges more acutely than other institutions, starting with infrastructure and the rehabilitation of laboratories, libraries, and human resources [27-31]. This will expedite the recovery and development of all essential resources within Mosul University. Finally, nursing education should reconcile professional standards with evidence-based practices to ensure the continued professional competence of nursing graduates in both countries by meeting and implementing all international standards overseen by global organizations such as the World Health Organization and the International Council on Nursing Education³²⁻³⁴.

Limitations and Strength

One of the limitations of this study is its reliance on available documents and publications, which may not cover all aspects of the program and curriculum, leading to a clear imbalance in the analysis of the primary data. Not all data related to students, professors, and graduates was available. Improving nursing education in both countries will lead to higher quality healthcare, thereby contributing to achieving overall health goals and ensuring quality nursing education and care.

Recommendations of the study

The study recommended that:

For Iran

- Expand community-based nursing education components and primary healthcare training
- Strengthen international partnerships for faculty development and student exchange
- Develop more sophisticated simulation and technology-enhanced learning resources
- Create pathways for practice-based research and quality improvement projects.

For Mosul University

- Develop and publish explicit, detailed curriculum documentation with clear credit distributions
- Strengthen integration of research methodology and evidence-based practice throughout the curriculum
- Establish systematic quality assurance and program evaluation mechanisms
- Seek international partnerships for technical assistance, resource sharing, and faculty development

CONCLUSION

The current study concluded that there are significant similarities between the two educational systems and their organizational structures. However, the two systems differ in their curricula and the problems within the educational institution. The Iranian education system is characterized by its credit-hour distribution, clear philosophy, and reliance on evidence-based research practices. In contrast, Mosul University lacked clarity regarding credit hours, the course system, and the strengthening of curriculum documentation.

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Competing Interest: None

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