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Twenty-first-century Skills Practices among Faculty Members at Oman College of Health Science: Covid-19 Pandemic Perspective from the Omani Students

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Abstract

Current research is aimed to identify the level of practice of twenty- first- century skills among the faculty member during the COVID-19 Pandemic at Oman College of Health Science from the point of view of students. The research sample was selected utilizing the convenience sampling method from four batches of college students. Descriptive survey design applied. The questionnaire consists of 6 dimensions (Educational art, Communication, and Sharing, Knowledge-Economy, Digital Culture, and Learning Technology, Thinking and Problem Solving, and Learning Assessment Skills). Validity and reliability were measured. The findings of this study showed that the practice level of the twenty-first-century skill among faculty members is in a moderate level. Also, there are significant variations in the responses of the study sample towards practice of twenty-first century skills by faculty members according to their gender. However, there is no significant variation according to study year variable.

Keywords: Level of Practice, Faculty Members, College of Nursing and Health Sciences, Corona Pandemic.

Introduction

The 21st century is characterized by rapid and remarkable knowledge, technical and economic development. With the outbreak of the global Covid-19 pandemic (Hossain et al., 2020), which imposed unparalleled challenges on traditional or direct education, many educators in educational institutions called for the adoption of an educational system that includes the life skills and knowledge necessary to deal with all these developments and challenges (Islam & Habib, 2021; Kar, 2011; Yildiz & Zingin, 2021). World Health Organization has identified essential life skills that enable individuals to successfully deal with the demands and difficulties of daily life which known as 21st century skills (Ananiadou & Claro, 2009; Prajapati et.al, 2017).

In fact, 21st-century skills have been defined and classified differently based on the different perspectives of various institutions and organizations (Erol, 2021; Saleh et al., 2022; Yildiz &

Zengin, 2021); that identified the required qualification and competencies needed for the staff under the name of 21st-century skills (Arslan-Cansever et al., 2021; Binkley et al., 2012). Accordingly, Partnership for 21st Century Skills (P21) described 21st-century skills as knowledge and utilizing the media and technology, learning and renovation, and life and profession. Moreover, North Central Regional Educational Laboratory (NCREL) defined these skills as, creative thinking, effective communication, high productivity, and digital literacy. Whereas, 21st century is explained by Assessment and Teaching of 21st Century Skills (ATCS) as that the working patterns of people and the way they are thinking are the means to live and work in the world. Furthermore, the Organization for Economic Co-operation and Development (OECD) pointed out that interaction with heterogeneous groups is considered to be the use of technological tools (Yildiz & Zengin, 2021).

Supportively, global organizations such as UNICEF, UNESCO, and WHO list 21st-century skills-essential life skills- as educational skills such as self-awareness, critical and creative thinking, Interpersonal relationships, Decision making, Effective communication, Empathy, Problem Solving, stress management, and emotion management (Al Qalhati et al., 2020; Eca et al., 2017; Tahirsylaj & Wahlstrom, 2019). Although the above classification shows a different categorization of 21st-century skills, common features have been noted among these classifications; as well as these skills focus on a common goal which is education (Ceylan, 2019).

Therefore, it is worth mentioning that the fostering of 21st-century skills and competencies in higher education is important as argued by Prajapati et al (2017) who asserted that these competencies have a significant in the overall development of students. Supportively, Kar (2011) stated that acquiring educational and academic excellence is not sufficient as other skills are needed such as individual, reflexive and social skills to maintain a balance of work and personal life. Consequently, it is inevitable to have well-prepared learners, teachers, and future professionals honed with essential skills to interact with others, cope and keep up with the 21st century; which can only be attained by educational institutions, especially higher education institutions (Saavedra & Opfer, 2012; Alhabahba et al., 2016). Therefore, it is crucial for these skill to be acquired by the educational faculty as it enhances the effectiveness characteristics and improves the educational process, different previous studies have supported these skills and their application as Al-Nasraween et al (2021) study, that aimed to assess faculty members' performance at Amman Arab University in light of the 21st century from the perspective of graduated students, the study sample consisted of (364) students. The results showed that assessment degree faculty members' performance was moderate. Also results revealed no statistically significant differences in the means of the "scientific and professional features", dimension and in favour of the business college, statistically significant differences of bilateral interaction were found between gender and college attributable to male students in the business college. Another study by Al-Atab (2020) in a study which aimed to investigate the level of the teaching staff at Bisha University and Ibb University in practicing 21st century skills from the perspective of higher studies students. The study also aims at finding out the differences in the level of practicing the 21st century skills attributed to the study variable in both universities. The 21st century skill questionnaire was chosen to be the study instrument. The results of the study showed that the teaching staffs in both universities' practice for the skills (Art education management, contact, and sharing, knowledge economy, educational technology, higher thinking) was big. But their practice for the skill of assessment was average. Additionally, Omar and Safety (2016) conducted his study that aims to reveal the reality of the twenty-first-century skills from the point of view

of the faculty members at Al-Azhar University and their relationship to creative teaching practices and predict them with the knowledge of the twenty-first-century skills and to identify the differences between the responses of the sample members in the twenty-first-century skills as well as the creative teaching practices according to the variables of the degree. The research sample consisted of (559) faculty members at Al-Azhar University, and the study tools were represented in the twenty-first-century skills questionnaire and the creative teaching practices questionnaire of faculty members at Al-Azhar University. The results showed that creative teaching practices can be predicted with the knowledge of the twenty-first-century skills and that there is a correlation between them, the higher the level of twenty-first-century skills, the higher the level of creative teaching practices. In the same vein, Yildiz and Zengin (2021) pointed out based on their literature review for recent study between 2010 to 2021 that, well prepared educational environment enables to build individuals having the capability and readiness to 21st century. Therefore, it significant to enhance effective educational environment including the teacher and learner.

Considering the importance of the teacher and learner as essential pillars of the educational system, the main pillars of the teaching philosophy are the preparation and continuous development of learners and teachers. Consequently, enhance their ability to meet the significant society needs and improve their educational level and provide them with the skills and expertise that are required in the 21st century (Hossain et al., 2018). Supportively, Schleicher (2012) and Bozalek et al. (2013) emphasized that any graduate has to be prepared well by acquiring the required skills, competencies, and knowledge in terms of required digital technological skills along with traditional education to cope with the 21st century. Therefore, in order to develop these skills effectively among learners, we need teachers who possess the skills and characteristics of an effective teacher in the 21st century, leading to high-quality educational outcomes for both the teacher and the learner (Javed et al., 2020; Schleicher, 2012; Ansari & Malik, 2013). This explains the interest in the level of practice of teachers in higher education institutions and the suitability of their skills with the 21st century.

Looking at the importance of these skills, the researchers conducted this study to identify the gap and contribute to the enhancement of educational practice. Accordingly, improving the educational process along with the 21century through distinguishing the level of practice of twenty-first-century skills among the faculty members at Oman College of Health Sciences from the point of view of students.

The Study Problem

World Health Organization (WHO) emphasized, that quality education is the basis of developing competent health professionals who are equipped with the knowledge, attitudes, and skills necessary to deliver quality health care (WHO, 2016). Moreover, the 21st-century skill is considered one of the future essential skills which are crucial to adopt in higher education including nursing education. It has been highlighted in the book of the college of nursing at the University of Sultan Qaboos that the expected skills and competencies are essential to be equipped with graduated nursing students, that include the ability to communicate meaningfully and effectively, adopt critical thinking in nursing practice, the ability to work independently and develop self-knowledge (Awareness and guided department and college of nursing, 2020). Consequently, these potential capabilities and required skills has been identified as one the important skills which are aligned with the vision of Oman 2040, which called for and encouraged the creation of highly skilled competencies capable of competing locally and globally. In the same vein, Altobi and Alfwaer (2016) and

Alsaied and Al-Mashikhi (2018) emphasized that the important role of higher education institutions is acquired their graduates with knowledge and skills of the 21st century. Supportively, numerous conferences have drawn attention to these skills and their integration into the educational system, such as the 5th Scientific Conference of the Faculty of Education in Port Said (2016) and the international Conference for the evaluation of Education 2018.

Therefore, in order to develop students equipped with the requirements of the 21st century, it is crucial to pay attention to the teachers as they are the basic pillars and effective change agents on a community basis. Consequently, enhance and create an effective educational environment based on 21st-century skills (Al-Atab, 2020). Thus, the current study was conducted to identify the distinguishing the level of practice of twenty-first-century skills among the faculty members at Oman College of Health Sciences from the point of view of students. In light of the above, the problem of the current study can be summarized in the following questions:

1. What is the level of practice of twenty-first-century skills among the faculty members at Oman College of Health Sciences from the point of view of students?
2. Are there statistically significant differences in the students' responses based on their gender and study years towards the practice of twenty-first-century skills by faculty members?

Importance of the Study

This research is essential for various reasons. To begin with, it will examine a topic related to educational renewal, which is effective education in response to global trends that encourage the importance of developing teaching skills for faculty members at Oman College of Health Sciences. Also, it will provide a list of the twenty-first-century skills that should be practiced by faculty members in the college to meet the challenges of the current century. Besides, it will contribute to revealing the level of practice of twenty-first-century skills by faculty members at the Oman College of Health Sciences. Finally, faculty members at the Oman College of health science will benefit in developing and improving the methods and practices they use by identifying weaknesses in their performance to achieve the goals of the educational process and to help achieve its higher goal. Additionally, it will help draw the attention of faculty training staff to the importance of focusing on skills that are poorly practiced based on the results of the study.

Objectives of the Study

This study seeks to achieve the following objectives

- 1- Identify the level of practice of twenty-first-century skills among the faculty members during the COVID-19 Pandemic at Oman College of Health Sciences from the point of view of students.
- 2- To identify whether there are statistically significant differences in the students' responses based on their gender and study years towards the practice of twenty-first-century skills by faculty members.

Definition of the Study Concepts

The concepts used in this study include

21st- century skills: refer to a broad set of knowledge, skills, work habits, and characteristics, which are most needed to compete and lead a perfect workforce in the 21st century,

particularly in academic life and future careers, and include appropriate participation and adaptation in an increasingly diverse society and the rapid evolution of workplaces, use of new technologies; ability to solve problems, individual creativity, collaboration, innovation (Scott, 2015; Rahman, 2019; Strong, 2018).

Practice level: Procedurally measured by the response of students at the Oman College of Health Sciences, North-East Branch, to the questionnaire prepared for this study.

Methodology

Research Design

The descriptive approach utilized due to its relevance for the purposes of this study and its suitability with its nature and objectives used a survey in collecting the data as a quantitative methodology.

Population and Sample of the Study

The population of this study consisted of nursing students at Oman College of Health Science during 2021/2022. To detect the preventative sample size, a table of sampling by Jhonson & Christensen (2019) was utilized. The research sample was selected utilizing the convenience sampling method of 105 undergraduate students from four batches of Oman College of health science of the North Sharqiyah branch. Of these, 16, (15.2%) were male, and 88, (84.8%) were female. According to academic year; 32, (30.5%) were first-year students, 30, (28.6%) were second-year students, 20, (19%) were third-year students, and 23, (21.9%) were fourth-year students.

Instrumentation

To achieve the objectives of the study, a questionnaire was designed according to the study variables referring to the studies of (Al-Sa'ida, 2015) Ongardwanich et al., 2015, Hammadneh, 2107; Al-Atab, 2020). The 21st- century skills questionnaire contains a total of (60) items distributed over 6 dimensions (Educational art, Communication and Sharing, Knowledge-Economy, Digital Culture and Learning Technology, Thinking and Problem Solving, and Learning Assessment Skills). Each question is a Likert scale item with five possible answers/selections, ranging from 1 (strongly disagree) to 5 (strongly agree).

The Validity of the Instrument

To verify the apparent validity of the study tool, it was presented to a group (5) of specialists in the field of higher education, evaluation as well as educational assessment for evaluation and to prove whether the items in the instrument were transparent as well as appropriately connected with research objectives. Consequently, changes based on the reviewer's comments related to the language have been applied to the instrument.

The Reliability of the Instrument

The reliability of the questionnaire was verified by applying it in its final form to a sample of (30) students outside the scope of the original sample. The results of the response were analyzed after unloading it with the aim of calculating the internal consistency coefficient by (Cronbach's Alpha) method for the image of the questionnaire as a whole and the internal consistency coefficient for each field of study. The stability coefficient of the questionnaire as a whole was (0.98), which is a high value and reflects a high degree of the stability of the questionnaire in its axes) and an indicator of the extent of the internal consistency of its

paragraphs, which made it valid for the purposes of the study. The following table (1) shows the reliability of the instrument and included dimensions.

Table (1)

Cronbach's alpha reliability coefficients for the questionnaire dimensions and the instrument as a whole

N	Item	SN	Alpha value
1	Educational art skills	10	0.84
2	Communication and sharing skills	10	0.84
3	Knowledge economy skills	10	0.78
4	Digital culture and learning technology skills	10	0.66
5	thinking and problem-solving skills	10	0,75
6	learning assessment skills	10	0,71
TOTAL		60	0,98

Data Analysis and Discussion

The means, standard deviations, T-test, and ANOVA analysis were used for the study questions, by applying Statistical Package for Social Sciences, SPSS along with a discussion of the results.

Research Question 1: What is the level of practice of twenty-first-century skills among the faculty members at Oman College of Health Sciences from the point of view of students?

Means and standard deviations for the level of practice of twenty-first-century skills among the faculty members at Oman College of Health Sciences were calculated and presented in moderate level as shown in the table (2).

Table 1

Means and Standard Deviations for the Level of practice of twenty-first-century skills among the faculty members at Oman College of Health Sciences.

SI. No	Dimension	Mean	SD	Level
1	Communication and sharing skills	3.20	0.85	M
2	Educational art skills	3.14	0.71	M
3	Digital culture and learning technology skills	3.10	0.72	M
4	Thinking and problem-solving skills	3.04	0.82	M
5	Learning assessment skills	3.01	0.77	M
6	Knowledge economy skills	2.95	0.87	M
Total		2.95	0.87	M

It is clear from the table that the dimensions are ranked descending according to the results and shows that the total score of the average responses of the study sample members of the Oman College of Health Sciences students related to the level of practice of the twenty-first-century skills by the faculty members is in the moderate level ($M=3.07$, $SD=0.72$). In detail, the communication and sharing skills dimension present as the highest skills with a moderate level ($M= 3.20$, $SD= 0.85$), whereas the educational ART skills presented as the second dimension ($M= 3.14$, $SD= 0.71$) ($M= 3.14$, $SD= 0.71$) and that followed by digital culture and learning technology skills; thinking and problem-solving skills; learning assessment skills and

knowledge economy skills with (M= 3.10, 3.04, 3.01 and 2.95) respectively. Accordingly, these results indicated that the faculty members at Oman college of health science practice 21st-century skills at a moderate level. These results can be attributed to the lack of clarity of the 21st-century skills among faculty members, as there is no related clear reference within the strategic plan of the Oman College of Health Sciences (Oman College of Health science, 2021). Similar results have been highlighted by the studies of Altobi and alfawaeer (2016) and Al-Sa'ida (2015); indicating that the faculty members practice 21st-century skills at a moderate level according to the viewpoint of a student. Controversy, the result of another study conducted by Al-Atab (2020) stated that practice level of 21st century among the faculty member presented at high degree except for the learning assessment skills that presented with moderate level similar to the results of previously mentioned studies. The variation of the study results can be attributed to the differentiation of the study population as it was conducted in Egypt.

Considering the order of dimensions, communication skills rank first among other skills and this can be clarified that communication is a crucial skill required to interact in the educational environment in terms of verbal and non-verbal communication between students and teachers to achieve the goals of the university. A similar finding has been identified by (Al-Atab, 2020; Al-Sa'ida, 2015).

Research Question 2

Are there statistically significant differences in the responses of the study sample, towards the practice of twenty-first-century skills by faculty members due to the variables (Gender and years of study)?

To find out the differences between the views of the study sample members according to the difference in gender, and the years of study, the arithmetic means, and standard deviations were calculated using a T-test) and One-way ANOVA analysis; The outcome of the T-test and One-way ANOVA are shown in the tables (3,4).

The Gender

The arithmetic means standard deviations and t-test were calculated to find out the differences between the views of the study sample members according to the difference in gender as presented in table (3).

Table 3

Means and Standard Deviation and t-test of the practice level of twenty-first-century skills at Oman College of Health Sciences based on their gender.

Variables	Level	N	M	SD	t	df	Sig
Gender	Male	16	3.066	1.08	0.026	103	0.011*
	Female	89	3.071	0.65			

*. The mean difference is significant at the .05 level.

Table.3 indicates a significant difference in the responses of the study sample towards the practice of twenty-first-century skills by faculty members according to their gender favourable to females. These findings agreed with the results of the study conducted by Hammadneh (2017). On another hand, different literature, for example, Alnasraween et al (2021); Omar and Safety (2016); Al-Sa'ida (2015) highlighted a significant difference in the response average of the study sample related to their gender favourable to males.

Study Years

To find out the differences between the views of the study sample members according to the difference in study years, One-Way ANOVA utilized and the outcome presented in table (4).

Table. 4

One-way ANOVA of the practice level of twenty-first-century skills at Oman College of Health Sciences based on years of study.

Source	Sum of Squares	df	Mean Square	F	Sig.
Between Groups	1.936	3	.645	1.227	.304
Within Groups	53.110	101	.526		
Total	55.045	104			

The table (4) indicates that there are no crucial variations related to the response of study sample according to the study years towards practice of twenty-first century skills among faculty member. Different result has been highlighted by the study of Al-Sa'ida (2015) a significant difference related to practice level of faculty members based on the study of years favorable to third year students. This may be attributed to students' awareness of the practices in terms of 21st century skills of faculty members at the College of Health Sciences, regardless of their academic year, as the same professors teach them in different years.

Conclusions

Summing up, it can be concluded that; globally, Twenty-first-century skills consider as essential life as well as educational skills to be acquired by both teacher and learner to cope, interact and deal with current challenges and future development. Therefore, it is important to prepare a professional with vital skills such as Educational art, Communication and Sharing, Knowledge-Economy, Digital Culture and Learning Technology, Thinking and Problem Solving, and Learning Assessment Skills; that contributes in the community evolution as supported with literature.

The results of this study revealed that the level of practice of the twenty-first century skills by the faculty members came at an average level of practice. Additionally, the finding pointed out that there are significant variations in the responses of the study sample towards practice of twenty-first century skills by faculty members according to their gender variable favourable to Female. However, there are no significant variations in the response of study sample according to study year variable.

This study focused on educational practice in the higher education of health institution that need to have more attention on along with enhance the practices of the faculty members of the College of Health science as well as other sectors of health institution.

Recommendation and Suggestion

In light of the results of this study, the researchers recommend the following:

- Incorporating twenty-first century skills into preparation and qualification programs in health professional including nursing and another sector of health institution.
- Since the communication skill is highest mean so need to take initiative to improve this skill.
- Conduct specialized training courses to faculty members at the higher education of Health institution in the light of 21st Century Skills.

- Add Educational art skills , digital culture and learning technology skills , thinking and problem-solving skills, learning assessment skills, knowledge economy skills in the Oman college of Health Sciences curriculum
- Include the 21st Century Skills as one of the criteria for evaluating faculty members
- Motivate creative faculty members, who are applying the 21st Century Skills - Financially and with Moral incentives.
- Conduct further studies related to the 21st Century Skills with integration of other methodologies or variables.
- Conducting an extensive study that includes all health institutions of higher education in the Sultanate of Oman.

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