

## Using Massive Open Online Courses (MOOCs) on Microsoft's educational community platform for professional development for teachers in Oman under Covid-19

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**Abstract:** The aim of this study is to identify the effectiveness of MOOCs in the Microsoft educational community platform in professional development for teachers under Covid-19. The study sample consisted of (180) male and female teachers in the Microsoft Education Community Platform. The study was applied in March 2020, and this study is part of descriptive research that relies on the survey methodology, with a stability index of it (0.966). The results of the study showed: That the satisfaction of teachers with the use of electronic courses (MOOCs) in the Microsoft educational community platform in the professional development of teachers under covid-19 in each field of study tools was very high. There are statistically significant differences at the level of significance ( $\alpha \leq 0.05$ ) in the degree of teacher satisfaction with the use of electronic courses on the Microsoft educational community platform under covid-19 attributed to the gender variable in favor of teachers (male). While there were no statistically significant differences at the level of significance ( $\alpha \leq 0.05$ ) in the degree of teacher satisfaction with the use of electronic courses on the Microsoft educational community platform under covid-19, they are attributed to the variable of educational qualification, and variable of years of experience. The study recommended the widespread use of open source online courses (MOOCs) from the Microsoft educational community in the professional development of teachers in the Sultanate of Oman. The need to pay attention to distance teacher training in the use of open source online courses (MOOCs) from the Microsoft educational community in developing their various professional competencies.

**Key Word:** (MOOCs, professional development, Microsoft educational community, Oman, Covid-19).

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### I. Introduction

The education landscape has experienced a shift in relation to mindset, priorities, physical & social learning, connectivity, online technology... the list goes on! How are educators being supported through this transition? The following practices are providing educators with the knowledge and confidence they need to try out new tools and activities with their students through distance learning as well as providing educators with the opportunity to learn and explore new ways to teach in the future. (Katija, 2020).

The change from in-school to online and remote learning has been quick, drastic, and unprecedented in the world of education. We have seen the educator community come together by sharing resources, expertise, and tips to make this transition as simple and easy as possible. The following practices engage educators to learn, connect & adapt to the current and future needs of their students. (Chris, et., 2020.P53).

Due to the development of the current society, continuous professional development of teachers is an imperative for every educational system. Nowadays MOOCs are on a hype for educational systems, being one of the most discussed and debated university/academia/higher education topics. (Laura, et., 2018.p235).

TPD can be provided in different ways: formal courses or workshops, peer learning within the school or in cooperation with other schools or informal events. Recently, several Massive Open Online Courses (MOOCs) on teaching skills have been added to this range of possibilities offering flexibility and more training possibilities to teachers. MOOCs are online courses without entrance requirements other than Internet access. Consequently, MOOCs are free for the learners and do not set a maximum number of participants (Jonatan, et., 2018.p608).

The lack of entrance requirements is an important feature when analyzing the possibilities of MOOCs for teacher training because traditional teacher training courses tend to limit the number of participants and apply selection criteria (Kasch, Van Rosmalen, & Kalz, 2017).

MOOCs are generally known as open educational programs that are broadcasted online for thousands of learners. Another beneficial aspect is that MOOCs can accommodate many teachers working in different locations. Therefore, it can be said that open MOOCs available to anyone with an internet connection offer many possibilities for improving teacher training and development on an ongoing basis. Another discussion about MOOCs will be useful to substantiate this argument. MOOCs owe the "huge" part of its name as far as it reaches

the audience who Reaching them (up to 100,000 or more) compared to the distribution of this audience spanning all continents, MOOCs fall into two main categories: “xMOOCs”, which essentially reproduce lecture sessions and end with final testing, and “cMOOCs”, which support a more collaborative approach, Also known as "open learning" where participants are relatively independent in selection Learning materials and to identify learning goals (Richard, 2014).

Massive Open Online Courses (MOOCs) are digital teaching formats that provide incentives for developing e-learning concepts, Web 2.0, and open educational resources. They can be used before, during and after the completion of the degree course and can also be combined in the course, unit, or degree program level in academic teaching (Schultz, 2014.p7). These characteristics of MOOCs make it a cost-effective, accessible, and effective tool for the professional development of teachers. (Palmer, 2015).

The massive open online training courses (MOOCs) have changed the way we learn and the way we teach. The main goal of MOOCs is to provide new opportunities for many learners to attend free online courses from anywhere around the world. MOOCs have unique features that make them an effective model for technology-enhanced learning (TEL) in higher education. (Yousef, et., 2014.p9).

Given that 87% of the world's students are affected by the closure of schools due to Covid 19, UNESCO has announced the launch of a global education alliance to support countries in expanding the best distance learning solutions and reaching the most vulnerable children and youth, the closure of schools due to Covid-19 has affected more than 1.5 billion students and at least 63 million teachers in the primary and secondary levels in the world affected by the unprecedented disruption caused by the pandemic (Covid-19), especially since schools have closed their doors in 191 countries, and governments have worked in turn, since Close schools to contain the Covid-19 pandemic, spreading distance learning solutions , And trying to overcome the complex nature of the process of providing distance education, starting from providing content and supporting teachers to providing guidance to families and addressing the difficulties of Internet connection .(UNISCO, 2020).

On the MOOCs platform on edX, Microsoft offers more than 220 mega open online courses (MOOCs) that are free online courses available to everyone for registration, and MOOCs provide an affordable and flexible way to learn new skills, enhance your career and provide high-quality educational experiences on a large scale, as a result Educators are increasingly turning to massive open online courses - or MOOCs - for their professional development needs, now Microsoft is entering this space. Microsoft has sponsored the creation of five free MOOCs designed to help teachers transform the learning experience for students, although Microsoft funded the production of the courses, it was developed by the Massachusetts Institute of Technology, the University of Michigan and the University of Queensland and is part of the non-profit edX platform (Michelle, 2016 ). Today, Microsoft is sponsoring 321 massive open online courses. (MOOC, 2020).

Training teachers to use digital learning management systems and online learning pedagogy – before crises – is essential to transitioning to an online learning modality during a time of crisis. However, for teachers who are finding themselves in uncharted territory, a brief livestreamed training session could be organized. Establishing communication lines between teachers and parents before crises and maintaining them as children learn from home is also key to support the most at-risk children. (Stefania,2020).

The study of ( Al-Raghibi,2019) recommends working to spread the culture of e-learning using electronic educational platforms (MOOCs), and provide open and continuous training programs for female teachers during service because of their effectiveness and development for them, providing more training courses with electronic platforms bearing MOOCs specifications.

Pradeep (2018) Study confirms that Teacher Professional Development (TPD) has become a major policy priority within education systems around the world. But keeping teachers professionally updated and providing them with professional development opportunities on an ongoing basis is a big challenge. Massive Open Online Courses (MOOCs) can be a cost-effective and resource way to complement the traditional methods of professional development for educators.

The results of the (Powell & Bodur,2019) study showed that there are six essential features for online teacher participation: convenience, originality, benefit, cooperation, interaction, thinking, and context, and they emphasized that professional online development must be integrated into the job; that is, it must be Teachers are able to use materials from the professional development course in their job, aspects of the teacher's job (for example, understanding the content they need to teach, planning lessons, understanding student work, carrying out tasks and thinking about learners 'experiences) in professional development activities.

The (Hollebrands& Lee, 2020) study emphasizes the importance of effective online professional development principles for mathematics and statisticians that include: self-directed learning, multi-voice learning, job-related learning, peer-to-peer learning and massive open online courses through the MOOC revolution.

This optimism assumes that using MOOCs will facilitate group training for teachers according to their comfort and ease. Another assumption is that training based on MOOCs will be easy to adapt to different cultures and languages.

## **1.2. Study Problem**

The Spotlight: High-Quality Education for All report mentioned the Covid-19 Crisis, (2020) prepared by HundrED in partnership with the Organization for Economic Co-operation and Development (OECD). Examples of problems we want to solve from: Teachers scramble to access digital content without much support and training. (Chris, et., 2020, p12 ). A framework report to guide the education response to the emerging Covid-19 pandemic 2020 mentioned a reference list for the education response to the pandemic, including: Design a mechanism for the immediate professional development of teachers and parents so that they are able to support learners in the new teaching method. (OCED,2020, p6). The report stated that there are some difficulties in implementation in the education response to the new crisis in Krona, including the inability of teachers or their willingness to adapt to the changes required by the situation. (OCED,2020,p20).

The Study problem was formulated in the following Sub- question:

1. What is the degree of teacher satisfaction with the use of electronic courses (MOOCS) on the Microsoft Education Community platform in the professional development of teachers in Oman under Covid-19?
2. Are there statistically significant differences at the level of ( $\alpha \leq 0.05$ ) between the averages of use of electronic courses (MOOCS) on the Microsoft Education Community platform in the professional development of teachers in Oman under Covid-19 due to the variables (gender, educational qualification, work experience)?

## **1.3. Research Objectives**

The study aims to achieve a few objectives including:

- Measuring the degree of teacher satisfaction with the use of electronic courses (MOOCS) on the Microsoft Education Community platform in the professional development of teachers in the Sultanate of Oman under Covid-19.
- Disclosing the difference in the degree of teacher satisfaction with the use of electronic courses (MOOCS) on the Microsoft Education Community Platform in the professional development of teachers in the Sultanate of Oman under Covid-19 with different variables (gender, work experience, educational qualification)
- Response to regional and global trends that call for the need to Show the importance of professional development for teachers in the Corona 2020 pandemic.

## **1.4. The limitations of the study**

The study was conducted in March 2020 in the Sultanate of Oman on 180 teachers belonging and active in the Microsoft educational community.

## **1.5. Study Importance**

The importance of this study is that:

1. Highlighting the importance of using electronic courses (MOOCs) in the professional development of teachers in various scientific and technical aspects, and its role in exchanging experiences and supporting lifelong learning in Covid-19 pandemic.
2. Directing the attention of those responsible for the educational process to the importance of using open source course (MOOCs) in the professional development of teachers in the sultanate of Oman considering Covid-19.
3. Directing the interest of researchers in the Sultanate of Oman to conduct educational research aimed at developing the employment of using e-courses in light of Covid-19 pandemic in several areas and overcoming the most important weaknesses in the use of (MOOCs) through the recommendations of this study.

## **1.6. Study Terms**

The researchers define the terms of the study procedurally as follows:

### **Massively Open Source Electronic Courses (MOOCs):**

define it as "Massive" (M) / Course registration available to a large number of thousands and tens of thousands of students, "O" "Open" / Registration is free and the student is not restricted to a specific age or geographic location "O" (" Online), (the course is completely provided online without the need for face-to-face training, "C" (" Course) / Plan materials and schedules within the course usually include, with the presence of a mentor or in the presence of a trainer or educational assistant. "(Monje& Bárcena,2014, p16).

### **Professional Development:**

An ongoing process that is planned and designed in the form of technical programs to raise the level of professional competence of teachers to enable them to develop their professional performance.

### **Microsoft educational community:**

It is a community that educates educators or trainers interested in career development accompanying the tremendous technical development of technologies in the Fourth Industrial Revolution, focusing on learning how

to use Microsoft technology in your classroom in effective and attractive ways while also earning professional development hours. Focusing on developing skills or mastering Microsoft products in the learning path, and a set of deeper training courses on a subject. It helps teachers and students develop skills ready for the future. With the ability to see the badges and points you got in your profile. You can also share the training transcript to document your learning for others.

▪ **Covid-19:**

Covid-19 disease is an infectious disease caused by the last detected virus of the Coronavirus. There was no knowledge of the existence and disease of this new virus before its outbreak in Wuhan, China, in December 2019. Covid-19 has now turned into a pandemic affecting many countries of the world.( WHO,2020).

## **II. Methodology**

### **2.1 Research design:**

The study relied on the descriptive and analytical approach as the most appropriate for this study as it relies on the study of the phenomenon as it exists in reality, and is interested as an accurate description and expresses a qualitative or quantitative expression.

### **2.2 Data Collection Instruments:**

After reviewing the previous studies, the researchers built a questionnaire that consisted of (46) questions divided into five criteria that included (technical and technical standards for the Microsoft educational community platform - goals and content - educational activities, tasks and assessments - interaction, discussion and feedback - the effectiveness of the Microsoft educational community platform in development Professional). The questionnaire was applied to a sample of (30) male and female teachers, and the stability factor was calculated using the Chronbach Alpha equation, to find the coefficient of stability (0.966), and this value of the stability factor is acceptable in the educational and psychological field.

### **2.3 Procedures of the study:**

The study followed the following procedural steps:

2.3.1 Re-arbitration of the study tool used and extracting honesty and consistency, after presenting it to several arbitrators to amend and develop it for the purposes of achieving the study objectives.

2.3.2 Randomly selecting a group of teachers who join the Microsoft educational community.

2.3.3 Tribute the questionnaires to the study sample individuals and request them to fill out the questionnaires accurately and objectively.

2.3.4 The tool was distributed electronically to the respondents, giving them ample opportunity to respond, and it took 14 days to distribute the questionnaires and collect them. The recovery rate was (81.81%), which reached (180) out of a total of (220) questionnaires.

2.3.5 Analyze data statistically using SPSS version 19 and draw conclusions based on study questions. Results were extracted, discussed, and compared to the results of previous relevant studies. Then he presented the recommendations and proposals, taking into consideration the results of the study that was reached.

2.3.6 The degree of satisfaction with the use of electronic courses (MOOCs) has been divided.

In the professional development of teachers to five levels according to Likert pentatonic scale, based on the average of responses.

### **2.4 Data analysis:**

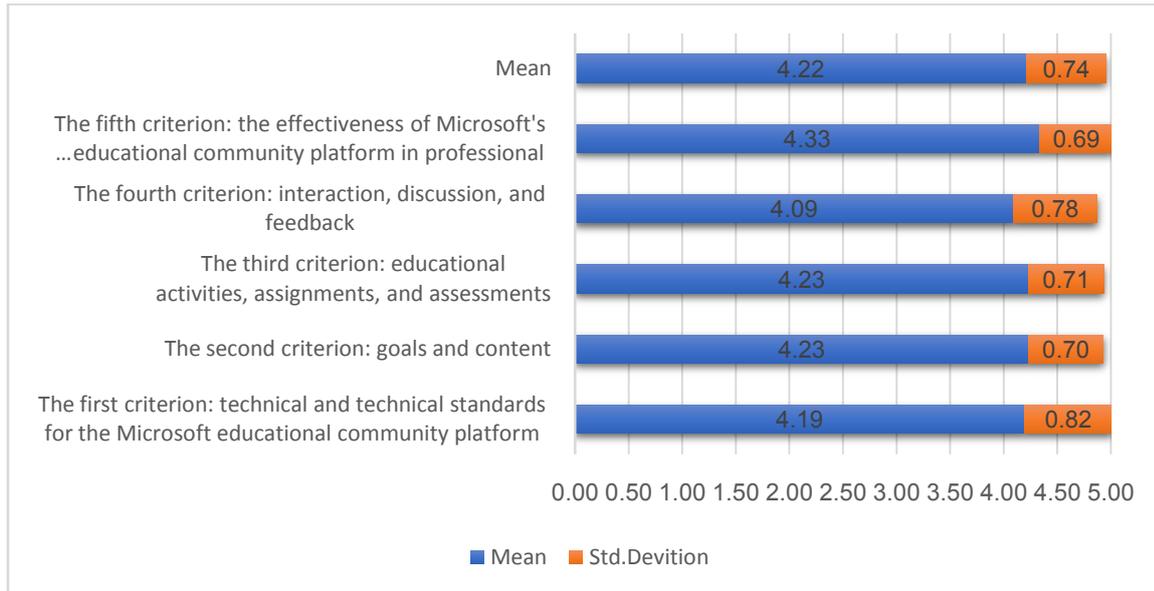
The researchers used:

1. Arithmetic averages, standard deviations, grades, and degree of approval.
2. ANOVA analysis to test statistical differences between averages of variable groups for more than two categories (such as experience variable).
3. T-test to test the differences between independent binary samples (gender and educational qualification).
4. Chronbach Alpha stability formula.

## **III. Findings**

Answer of first question1. What is the degree of teacher satisfaction with the use of electronic courses (MOOCS) on the Microsoft Education Community platform in the professional development of teachers in Oman under Covid-19?

The researchers calculated the arithmetic mean, the standard deviation, and the degree of satisfaction, for each field of study tool Figure (1) shows this.



The Figure (1) shows that teachers' satisfaction with the use of electronic courses (MOOCs) with the Microsoft educational community platform in the professional development of teachers for each field of the study tool was very high, as the general arithmetic average reached (4.22) with a standard deviation (0.74), The degree of teacher satisfaction with the use of e-courses in general came with a very high degree, except for the second and fifth criteria, the degree of teacher satisfaction came with a high rating.

1. The first criterion: technical and technical standards for the Microsoft educational community platform (Fig2).

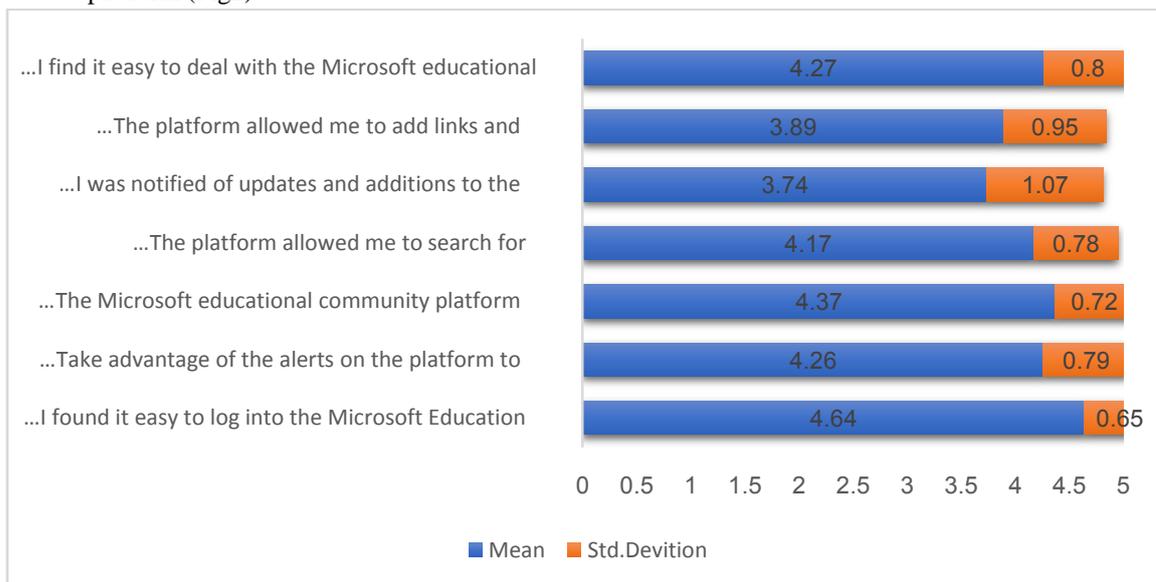


Figure (2) shows that the degree of teacher satisfaction with the first criterion: technical and technical standards for the Microsoft educational community platform: ranged between very high and high, where the value of the arithmetic average ranged between (3.74-4.64), which indicates the ease and simplicity of teachers using the Microsoft community platform Educational. And its various options for the user.

2. The second criterion: goals and content (Fig3)

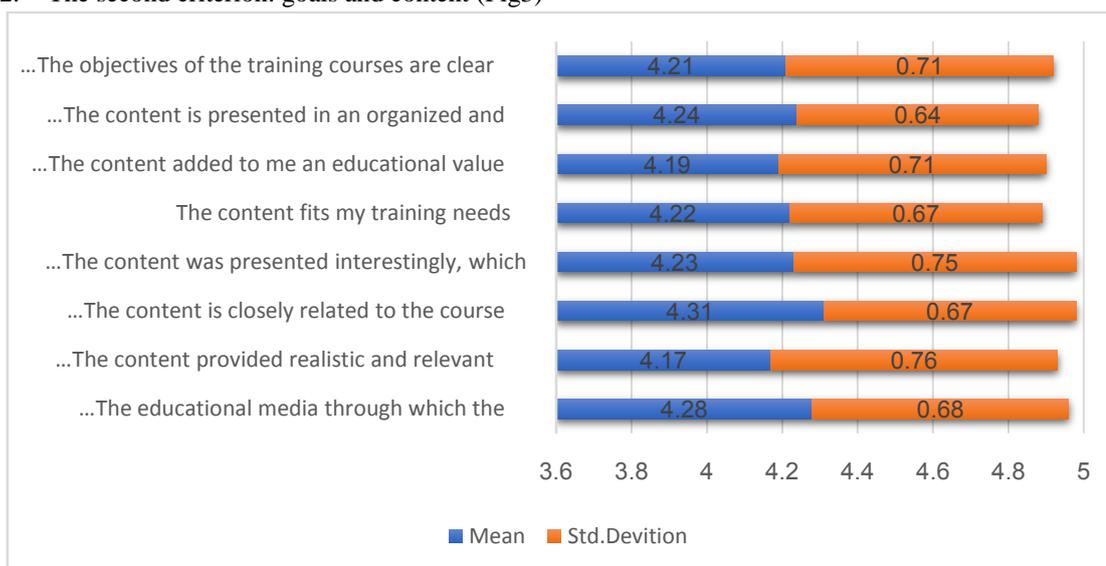


Figure (3) shows that the degree of teacher satisfaction with the second criterion, objectives and content: ranged between very high and high, where the value of the arithmetic average ranged between (4.17-4.31), which indicates teacher satisfaction with the clarity of the goals and content of e-courses, which makes it easier for teachers to continue developing Their skills and competencies and familiarity with the content of the courses offered on the platform. In proportion to the training needs of teachers.

3. The third criterion: educational activities, assignments, and assessments (Fig4).

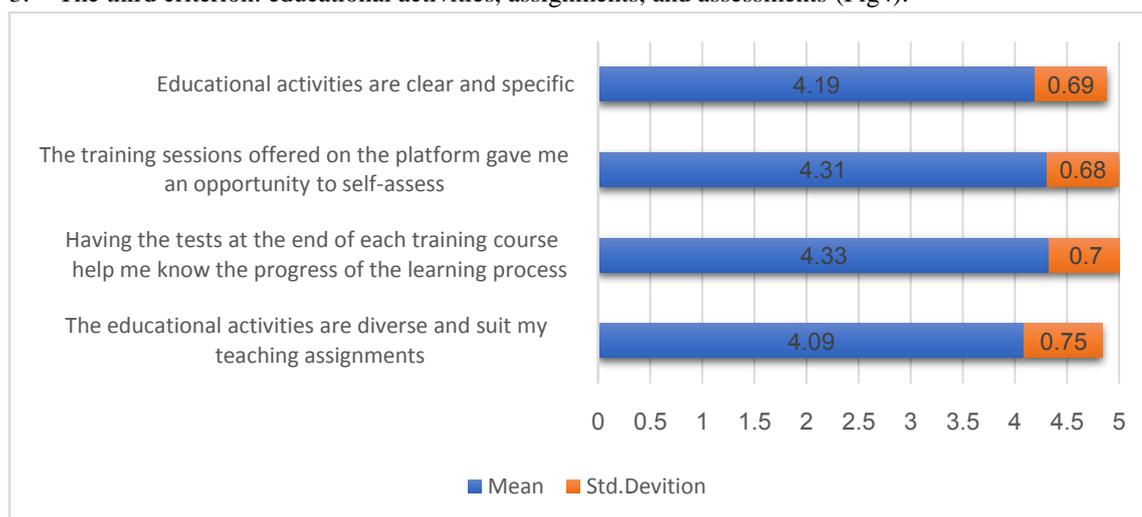


Figure (4) shows that the degree of teacher satisfaction with the third criterion: educational activities, assignments and assessments: ranged between very high and high, where the value of the arithmetic average ranged between (4.09-4.33), which explains the satisfaction of teachers about the existence of various educational activities that are appropriate to their teaching tasks , Tests and assignments while studying the e-course or after completing it to obtain a certificate to pass the course.

4. The fourth criterion: interaction, discussion, and feedback (Fig5).

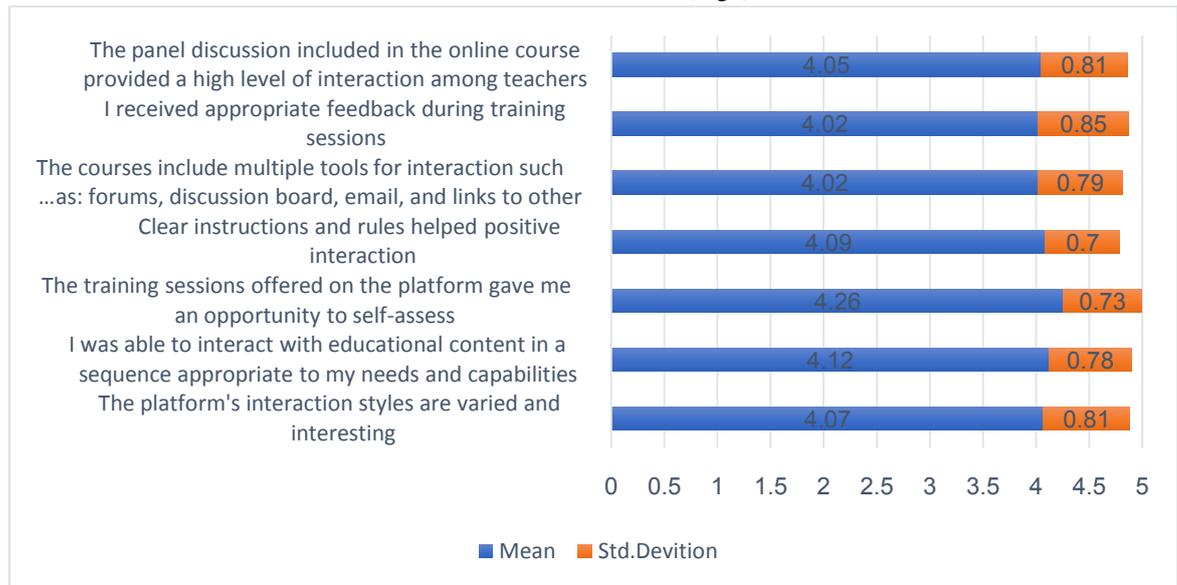
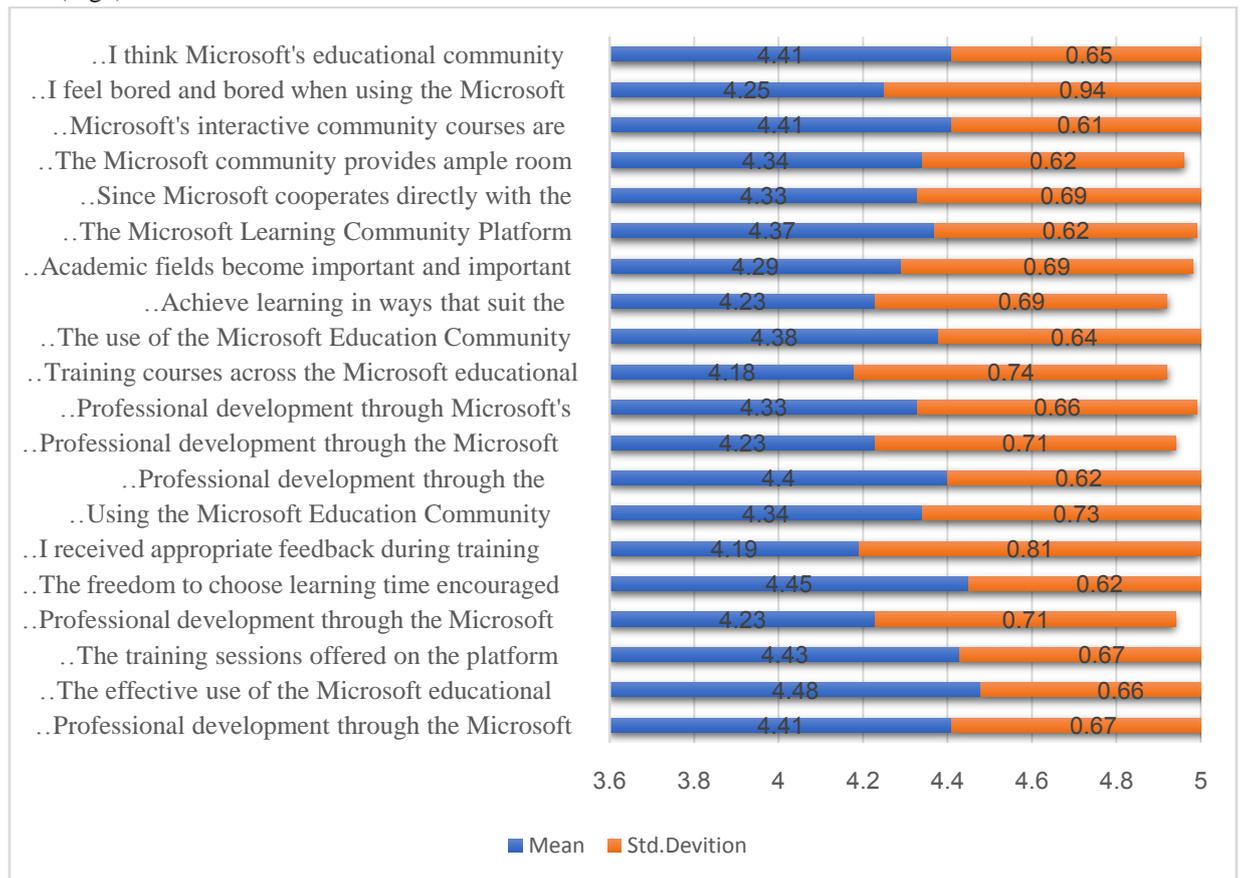


Figure (5) shows that the degree of teacher satisfaction with the fourth criterion: interaction, discussion and feedback ranged between very high and high, where the value of the arithmetic average ranged between (4.02-4.26), which indicates the presence of diverse and well-known interaction methods that enable the advertiser to interact with the content Educational with appropriate feedback during training sessions.

5.The fifth criterion: the effectiveness of Microsoft's educational community platform in professional development (Fig6).



Figure( 6) shows that the degree of teacher satisfaction with the fifth criterion: the effectiveness of Microsoft's educational community platform in professional development ranged between very high and high, where the value of the arithmetic average ranged between (4.19-4.48), which explains the satisfaction of teachers through the contribution of decisions to professional development For teachers and points achieved a set of advantages from them. Developing the knowledge and skill aspect of teachers, practicing self-evaluation, observing individual differences and different learning styles, the freedom of the teacher to choose the appropriate time to learn, achieving lifelong learning, exchanging experiences between teachers, increasing self-confidence, and obtaining accredited global certificates.

Answer of Second question2. Are there statistically significant differences at the level of ( $\alpha \leq 0.05$ ) between the averages of use of electronic courses (MOOCs) on the Microsoft Education Community platform in the professional development of teachers in Oman under Covid-19 due to the variables (gender, educational qualification, work experience)?

**Table (1): The results of the (T-test)for differences in the averages of the responses of the study sample individuals on the scale of teacher satisfaction with the use of electronic courses according to gender.**

Gender	Gender	N	Mean	Std. Deviation	T	Sig
<b>The first criterion</b>	male	55	4.40	0.62	1.01	0.273
	female	125	4.27	0.78		
<b>The second criterion</b>	male	55	4.26	0.52	0.50	0.618
	female	125	4.21	0.67		
<b>The third criterion</b>	male	55	4.23	0.54	0.847	0.398
	female	125	4.14	0.70		
<b>The fourth criterion</b>	male	55	4.22	0.55	1.962	*0.051
	female	125	3.98	0.81		
<b>Fifth Standard</b>	male	55	4.57	0.50	2.550	*0.012
	female	125	4.34	0.60		

The Table(1) shows results that there are statistically significant differences at the level of significance ( $\alpha \leq 0.05$ ) in the degree of teacher satisfaction about the use of electronic courses in the Microsoft educational community platform in the fourth criterion: interaction, discussion and feedback for the benefit of teachers, and the fifth criterion: the effectiveness of the Microsoft educational community platform in professional development in The gender variable in favor of teachers (male).

**Table (2): The results of the (T-test)for differences in the averages of the responses of the study sample individuals on the scale of teacher satisfaction with the use of electronic courses according to Qualification.**

Qualification	N	Mean	Std. Deviation	T	Sig	
<b>The first criterion</b>	barcaroles	144	4.22	0.72	1.807	0.075
	highest	36	4.51	0.65		
<b>The second criterion</b>	barcaroles	144	4.38	0.38	0.142	0.887
	highest	36	4.36	0.67		
<b>The third criterion</b>	barcaroles	144	4.33	0.56	0.350	0.727
	highest	36	4.28	0.69		
<b>The fourth criterion</b>	barcaroles	144	4.16	0.70	0.139	0.890
	highest	36	4.13	0.82		
<b>Fifth Standard</b>	barcaroles	144	4.48	0.53	0.263	0.793
	highest	36	4.45	0.54		

Table (2) shows that there are no statistically significant differences at the level of significance ( $\alpha \leq 0.05$ ) in the degree of teacher satisfaction with the use of electronic courses on the Microsoft educational community platform due to the variable of educational qualification.

**Table (3): Analysis of the variance of the differences between the averages of the responses of the study sample individuals on the teacher satisfaction scale regarding the use of electronic courses in the professional development of teachers according to the variable of years of experience.**

work experience		Sum of Squares	df	Mean Square	F	Sig.
<b>The first criterion</b>	Between Groups	0.960	2	0.480	0.877	0.418
	Within Groups	96.806	177	0.547		
	Total	97.766	179			
<b>The second criterion</b>	Between Groups	1.614	2	0.807	2.056	0.131
	Within Groups	69.449	177	0.392		
	Total	71.062	179			
<b>The third criterion</b>	Between Groups	1.850	2	0.925	2.188	0.115
	Within Groups	74.857	177	0.423		
	Total	76.707	179			
<b>The fourth criterion</b>	Between Groups	4.865	2	2.432	4.576	*0.012
	Within Groups	94.080	177	0.532		
	Total	98.944	179			
<b>Fifth Standard</b>	Between Groups	1.923	2	0.962	2.894	0.058
	Within Groups	58.814	177	0.332		
	Total	60.737	179			

The results of Table (3) indicate that there are statistically significant differences at the level of ( $\alpha \leq 0.05$ ) in the responses of the study sample individuals on the teacher satisfaction scale on the use of electronic courses on the Microsoft educational community platform according to the variable work experience in the fourth criterion: interaction, discussion and feedback. To find out the returns of the differences, a Scheffe test was applied for the dimensional comparisons (Scheffe), and Table (4) shows that.

**Table (4) The results of the Scheffe Test for multidimensional comparisons between the averages of the responses of the study sample according to the variable of years of experience**

The criterion	work experience	Mean	Less 5 years	5-10 years	11 years and more
<b>interaction, discussion, and feedback</b>			<b>4.18</b>	<b>4.49</b>	<b>4.41</b>
	Less 5 years	<b>4.18</b>		0.073	0.114
	5-10 years	<b>4.49</b>			0.859
	11 years or more	<b>4.41</b>			

Table (4) shows that there are no statistically significant differences at the level of significance ( $\alpha \leq 0.05$ ) between the response rates of teachers with experience (less than 5) years, the mean of response of experienced teachers (5-10), and the mean of response of experienced teachers (from 11 years or more).

## V. Recommendation

1. Expanding the use of the widespread open-source online courses (MOOCs) from Microsoft's educational community in the professional development of teachers in the Sultanate of Oman.
2. The need to pay attention to the distance training of teachers in the use of the widespread open source electronic courses (MOOCs) from the Microsoft educational community in developing their various professional competencies.

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