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Effect of Work Status, Experience and Job Sector on E-Learning Style in Hybrid Classrooms: GCC Case Study

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Abstract

Online education is spreading, and gaining an understanding of the different styles and factors that affect student performance online is gaining attention by universities as well as researchers. This paper aims to explore the role of three factors related to student performance in hybrid courses. Hybrid courses are courses taught in a classroom environment but takes advantage of online tools such as online quizzes, online lectures and online feedback. The three factors this paper explores include student work status (employed or unemployed), years of work experience, and job sector (public or government). To measure the impact of these attributes on student performance in hybrid courses a sample from Al Ain University of Science and Technology was collected; the data then was analyzed to ensure its significance and reliability. The research finds a strong relationship between (work status, job experience, and job sector in which students work in) and student performance in hybrid classrooms.

Keywords: Online education, e-Learning, learning styles, social impact on online learning

1. Online Education: A Growing Market

Online education is gaining momentum over traditional modes of education (Hoskins & van Hooff, 2005). This increase in attention to online learning is largely because the quality of online courses is easier to control and measure (Alnaji, 2015), enabling faculty to provide feedback with relative ease (Collis, De-Boer, & Slotman, 2001), and reaching much larger populations in quantity and diversity (Plous, 2000). Furthermore, online learning provides students with greater anonymity, enabling all types of students to participate, share, and learn from the course, regardless of their learning style or behavior (Howe, 1998).

Researchers explored many attributes to properly understand the effect of online learning on students. For example, Owston (2000) measured students' perceptions of online learning, whereas Ross (2000) explored the different tools used to strengthen students' learning experience. Some researchers explored the role of course structure and design in improving the learning experience (Ellis & Calvo, 2004, 2006; Ellis, Calvo, Levy, & Tan, 2004; Ellis, Goodyear, Calvo, & Prosser, 2008). Other researchers looked at the effect of Age, Gender and social status on students in an E-Learning environment. (Alnaji, Salameh, Al Khatib & Yousef, 2014) found a strong relationship between the age, social status and gender and performance in online classes.

2. Student-Learning Styles

Students have different learning styles, making it challenging for faculty to control an online class that can hold the attention of students from different states or countries. Some researchers explored the relationship between students' learning styles and factors influencing students' participation in class (Kucuk, Genc-Kumtepe, & Tasci, 2010; Richardson & Newby, 2006; Wu & Hiltz, 2004). Shiue (2003) investigated the effects of students' learning styles and computer literacy on computer self-efficacy. In their research, (Alnaji, Salameh, Al Khatib & Yousef, 2014) found strong relationship between social status and performance in hybrid (online and onsite) classes.

To enable faculty to provide students with the proper tools and education experience, researchers explored different attributes that can help determine a student's learning style in class. For example, Jackson, Ervin, Gardner, and Schmitt (2001) found that men are less inclined to enter into dialogue on the web; similarly, Arbaugh (2000) showed that men reported greater difficulty interacting in an asynchronous Internet-based course. In contrast, Chmielewski (1998) found that men have significantly more knowledge of the web than women. Other researchers explored the effect of attributes such as age (Hoskins & van Hooff, 2005) and Internet use.

3. Study Attributes

The objective of this research was to shed light on the relationship among three attributes: work position, work status (employed/unemployed), and work experience in years on performance in an online classroom. The study was a descriptive presentation of online education and its impact on adult learners, exploring the relationships between learner attributes (gender, online tools used, and perceptions of technology) and the chances of student success in a course.

The study was conducted with a group of students in three separate classes. Two classes attended lectures (face-to-face learning) 3 times a week, 1 hour per session, and one class attended twice a week, 1.5

hours per session. Students were introduced to Moodle,[1] an open-source course-management system. Moodle provides faculty and students with appropriate tools to conduct virtual or online classes. It allows faculty to create online classes, providing faculty with course material, quizzes, and grading tools to provide students with grades and feedback. A free version of an online class system is used by the university to facilitate online learning. The online class was divided into 11 sections, one section per week. Each section included the following:

1. Reading material
2. Extra-credit assignments (each assignment reinforced the information covered in the classroom face-to-face discussions).
3. Quizzes (each quiz tested students on material from the previous week).
4. Multimedia material like videos and tutorials.

No textbook was used for the course; thus, all students had to access the online course to get the reading material, which was collected from several online sources. The online classes also included one ungraded discussion thread that played a role as a "student lounge," allowing students to discuss their problems, post interesting materials and thoughts, ask questions, and communicate.

4. Research
4.1 Research Sample
The study was conducted with 115 students taking face-to-face e-management courses at Al Ain University. The sample consisted of students in a morning program and those in an evening program. Both programs were given the same material, online as well as onsite. Students completed a total of 115 questionnaires. The survey yielded 12 unusable responses, yielding a response rate of 89.6%, which can be considered a good response rate. The questionnaire focused on the two main research aims of the study.

4.2 Research Tools
To achieve the objectives of the study, I designed a questionnaire. To ensure the questionnaire met the research requirements and focused on study objectives, it was evaluated by five experienced faculty members at the university. I implemented their recommendations to modify certain aspects of the questionnaire. The questionnaire was divided into two parts. The first focused on the demographics of the sample; the second part was divided into six sections: electronic tools, course content, evaluation process, difficulties, classroom discussion, and materials.

4.3 Research Hypotheses:
To explore the effects of age, gender, and social status on students in using e-learning tools in an online environment, I formulated the following three hypotheses:

H1: There is a statistically significant difference between sector type (private, public) and e-learning style and perception in hybrid classes.

H2: There is a statistically significant difference between work status and e-learning style and perception in hybrid classes.

H3: There is a statistically significant difference between number of years of work experience and e-learning style and perception in hybrid classes.

4.4 Research Methodology
The data used in this research were gathered from students attending business courses in Al Ain University of Science and Technology in the United Arab Emirates. To measure internal consistency ("reliability"), I used Cronbach's alpha, which is the most common measure when using multiple-choice Likert-type questions in a survey questionnaire that forms a scale. The tool used to perform the analysis was SPSS 18. The frequencies of demographic information about undergraduate work position, employment type, and years of experience are shown in table 1.

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[1] Moodle can be downloaded from https://moodle.org

Table 1. *Employment Distribution*

Category	Element	Percent
Employment **(Total 100%)**	Public-sector work	13.6%
	Private-sector work	25.2%
	Unemployed	61.2%
Work-Status **(Total 100%)**	Ordinary employee	22.3%
	Supervisor	12.6%
	Manager	3.9%
	Jobless	61.2%
Years of experience **(Total 100%)**	< 5 years	26.2%
	6–10	11.7%
	11–15	2.9%
	16 years or more	1.0%
	No experience	58.3%

5. Statistical Analysis:

5.1 Analysis of Variance:

I used a simple one-way analysis of variance (ANOVA) to determine whether there was a significant difference between two or more means at a selected probability level. The concept underlying an ANOVA is that the total variance in scores can be attributed to two sources: variance between groups (variance caused by the treatment) and variance within groups (error variance). As with the t test, a ratio is formed (the F ratio) with group differences as the numerator (variance difference groups) and an error term as the denominator (variance within groups).

Table 2. *Analysis of Variance Work-Position-Analysis Results*

	Sum of squares	*df*	Mean square	*F*	Sig.
Between groups	11.147	18	.619	1.223	.263
Within groups	42.542	84	.506		
Total	53.689	102			

The value of $F = 1.223$ required for significance (0.263) if α = 0.5 with 18 and 84 degrees of freedom means there is a significant difference between the work-position group and the e-learning group and within the two groups. Therefore I accept Hypothesis 1.

Table 5 shows the ANOVA used to measure if there is any statistical significant difference between work status and e-learning tools. Table 3 also shows the mean square for each group.

Table 3. *Analysis of Variance Work-Status-Analysis Results*

	Sum of squares	*df*	Mean square	*F*	Sig.
Between groups	27.935	18	1.552	.932	.544
Within groups	139.909	84	1.666		
Total	167.845	102			

The value of $F = 0.923$ required for significance (0.544) if α = 0.5 with 18 and 84 degrees of freedom means there is a significant difference among the work-status group and e-learning group and within the two groups. Therefore we accept Hypothesis 2.

Table 4 shows the ANOVA used to measure if there was any statistically significant difference between work experience and e-learning tools. Table 6 also shows the mean square for each group.

Table 4. *Analysis of Variance Work-Experience-Analysis Results*

	Sum of squares	*df*	Mean square	*F*	Sig.
Between groups	54.044	18	3.002	.909	.570
Within groups	277.587	84	3.305		
Total	331.631	102			

The value of $F = 0.909$ required for significance (0.570) if α = 0.5 with 18 and 84 degrees of freedom means there was a significant difference between the work experience group and e-learning group and within the two groups. Therefore we accept Hypothesis 3.

6. Discussion

Table 5. *Responses Based on Job Sector, by Percentage*

Question	Sector	
	Private	Public
I feel the tool used for our eLearning class is adequate	62%	50%
Used my iPhone or iPad to access my course online	38%	29%
I would like to use the same tool for my future courses	62%	57%
I use the internet on a daily basis for reasons other than our online class	69%	43%
The course material was simplified using the online tool	96%	71%
I prefer to take course material online rather than in a class room	77%	50%
I tried to learn the extra features our online environment offers	77%	57%
Course tests were easy to complete	61%	50%
Course tests online are easier than onsite tests	65%	43%
The discussions in the class helped me better understand the online material	88%	86%

Looking at Hypothesis Ho1, the effect of sector type the student is working in on e-learning style and perception on hybrid classrooms, students working in the private sector surpassed those working in the public sector on every question asked about style and tools. Table 5 shows the summary and analysis of each answer. In general, students working in the private sector were more open to working with new technology than those working for the public sector. Public sector work does not encourage the use of computers, making it difficult for employees to learn or improve themselves. When asked whether students used other tools, like iPads, to do classwork, 38% of those working in the private sector said yes compared to only 29% in the public sector. Furthermore, students working in the private sector seemed more enthusiastic about learning new features offered in the online environment (77%) compared to only (57%) who tried to explore new features in the system, this is due to the fact that those working in private sectors have to challenge themselves constantly in order to maintain their job, opposite to public sector employees who have a more secure job!

An interesting find in the case of both students (working in public or private sector) is that both types agreed on the benefit of in-class discussions in understanding the course material: (88%) students working in the private sector found onsite discussion useful, whereas (86%) of students working in the public sector agreed. The discussion thread tool was very useful to help synchronize communication and explain course material, as well as post useful information accessible by students 24/7.

Table 6. *Responses Based on Job Position, by Percentage*

Questions	Job position		
	Manager	Supervisor	Employee
I feel the tool used for our eLearning class is adequate	50%	62%	57%
Used my iPhone or iPad to access my course online	25%	31%	39%
I would like to use the same tool for my future courses	50%	69%	57%
I use the internet on a daily basis for reasons other than our online class	50%	54%	65%
The course material is properly distributed throughout the weeks	75%	92%	78%
I prefer to take course material online rather than in a class room	100%	77%	87%
I tried to learn the extra features our online environment offers	75%	69%	70%
Course tests were easy to complete	75%	46%	43%
Course tests online are easier than onsite tests	75%	62%	52%
Discussions in the class were in synch with the online course material	100%	85%	74%

As for Hypothesis Ho2, the effect of work status on student perception of hybrid learning. Looking at Table 6, 100% of managers preferred to take course material online. This is due to the fact that managers have better time-management skills than employees. When asked about external tools used to access the class, regular employees (39%) seem to be more enthusiastic about using iPads and iPhones access their classroom materials than managers (25%) or supervisors (31%), this can be explained by employees having more free time to spend using these devices, whereas managers spend most of their work time working in their offices using the desktops making the computer their preferred tool to access the online class. When asked about course distribution, supervisors (62%) found it well organized compared to only 50% of managers and 57% of employees. This is due to the fact that a supervisors' job is to broadly judge the whole-class objectives and outcomes (see Rifai, Taleb & Alnaji, 2016), not simply grades or how he/she performed in the class which is something employees look at when using an evaluation system.

Table 7. *Responses Based on Years of Experience, by Percentage*

	Experience category	
Questions	No experience	5 years or more
I feel the tool used for our eLearning class is adequate	52%	100%
Used my iPhone or iPad to access my course online	32%	50%
I would like to use the same tool for my future courses	65%	100%
I use the internet on a daily basis for reasons other than our online class	72%	75%
The course material is properly distributed throughout the weeks	85%	100%
I prefer to take course material online rather than in a class room	83%	75%
I tried to learn the extra features our online environment offers	83%	75%
Course tests were easy to complete	65%	25%
Course tests online are easier than onsite tests	77%	50%
Discussions in the class were in synch with the online course material	72%	100%

As for Hypothesis Ho3, the effect of years of work experience on student perception of hybrid learning. Table 7 shows mixed results. For tools, 50% of work-experienced students used an iPhone or iPad to access course material, compared to only 32% of students with no work experience; this is understandable because students who have work experience use these tools to in their jobs, making the iPhone, iPad, and other tools more accessible to them to use. All students with work-experience favored the use of online tools in future courses, compared to 65% of those with no work experience due to the need to go through a learning scale to get used to the new online tools used in class. A strange result can be seen when asked about tests. When asked whether tests were easy to complete, 65% of students with no work experience found the tests easy to complete, compared to only 25% of those with work experience. This can be tied to the fact that students with no work experience do not currently hold a job giving them more time to focus on their school work compared to those with work experience (who actually currently work) who spend most of the time at their job rather than studying.

7.   Conclusion

Online education is on the increase (Allen & Seaman, 2008). It's important to have a supportive, open and respectful learning environment in order to encourage student interactivity (Durrington, Berryhill, & Swafford, 2006). It's very important to understand the different variables and factors that affect student learning, especially in an online (or hybrid) environment. Understanding the students' learning style can help us provide students with customized support that can ensure their success. This paper demonstrated a strong relationship between three factors that can help improve student learning experience. There is a strong relationship between the job type (private vs. public), years of work experience and employment status and how students perceive online/hybrid classrooms. Faculty can focus on pushing students to use new technology to get their school work done; furthermore, taking advantage of students working as managers or supervisors and sharing their experience with the class can help others improve their view on online education and the tools used to learn.

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