Student motivation in learning and perceptions of online teachers

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Abstract

The goal of this study was to examine the relationship between students' motivation for learning in an online course and their perceptions regarding the teacher's role. 520 undergraduate students at a college participated in asynchronous online courses and responded to a closed-ended questionnaire about their motivation for learning and their expectations regarding the teacher's role in online courses. The study's findings indicate significant relationships between the students' different types of motivation for learning in the online course and their perception of the teacher's role in these courses. For example, students with high levels of self-efficacy and control over their learning beliefs expect the teacher to meet their pedagogical and differentiating roles. However, students with high levels of test anxiety expect the teacher to meet affective and technological needs. Therefore, when preparing online courses, these differences must be taken into account and teachers must carefully consider how they fulfill their role. For example, if teachers focus solely on the pedagogical role, it is likely to negatively affect the success of students facing high levels of anxiety. However, teachers who primarily promote affective social interactions will disappoint another group of students. Enhancing teachers' awareness of the association between students' motivation and their expectations of their teachers could help teachers plan their courses to best meet their students' needs and perhaps reduce dropping out.

Keywords: Asynchronous courses, Higher education, Motivation for learning, Online learning, Self-regulated learning, Teacher's role.

Contents

Contribution of this paper to the literature
The findings of this study show a relationship between student motivation and their perceptions of online courses. It has important implications that can impact how teachers plan and manage their courses as it has not been shown in previous studies.

1. Introduction

The COVID-19 epidemic has significantly impacted traditional educational teaching methods (Lipsitch, Swerdlow, & Finelli, 2020). Higher education institutions switched from face-to-face teaching to online teaching to respond to the wide-ranging effects of COVID-19 in a flexible way and prevent disruption. Numerous studies of this learning approach's difficulties such as its characteristics, challenges and optimal methods have been conducted (Cheok & Wong, 2015; Huang, 2017; Kop, Fournier, & Mak, 2011; Snyder, Hammond, Grohman, & Katz-Buonincontro, 2019).

1.1. Online Courses

Recently, learning in various disciplines has been offered through online courses (Allen & Seaman, 2013; Huang, 2017) by using internet technologies for instruction and learning (Cole et al., 2017; Tynan, Ryan, & Lamont-Mills, 2015) (Allen & Seaman, 2013; Huang, 2017). Higher education institutions view online learning as an essential alternative (Huang, 2017; Lee, 2011).

Recent studies (Morais et al., 2017; Snyder et al., 2019; Soulé & Warrick, 2015) have indicated that learning has changed because students can access learning material through the internet. Teachers no longer simply transmit knowledge but also teach students how to find existing knowledge and use it to learn, construct new knowledge and navigate the problems of the modern world.

Online teaching has changed communications, learning and instruction methods (Cheok & Wong, 2015; Yerby, 2017). These changes have resulted in a significant shift in obtaining knowledge, evaluating sources, forming ideas and communicating those ideas to learners (Huang, 2017; Kop et al., 2011).

In studies of online courses, the word "instructor" is often used for the person who guides students through their learning process (Cheok & Wong, 2015; Hult, Dahlgren, Hamilton, & Söderström, 2005; Kang & Im, 2013). In this study, we use the term "teacher" as this is the term used in the questionnaire (Lee, 2011) that was the source of the statements and criteria for the study. However, we use the word "teacher" in the broad sense as a figure who goes beyond transmitting knowledge to guide, direct and enable students to self-learn.

A teacher's role is important for successful online learning. It is not the technology itself but how it is employed by a teacher that determines learning effectiveness (Huang, 2017; Lee, 2011; Yerby, 2017). According to Kang & Im, (2013), elements of instructional interactions influence how well students learn and how satisfied they are with an online course.

Thus, student involvement in an online course and discussion group is insufficient to develop autonomous, self-directed learners. More active teacher participation is needed in online learning. Consequently, researchers have attempted to define the components of a teacher's role in online courses. Coppola, Hiltz, and Rotter (2002) listed three functions of online teachers: a *cognitive function* that addresses the mental processes of learning, data storage and thinking and the transition to more profound and complex thought. An *affective function* related to the relationships between students and instructors and the general class environment. A *managerial function* that involves managing the class and students. They argue that online instruction demands more careful observation, organisation and student monitoring.

Lim and Lee (2008) reviewed earlier studies to examine the role of teachers in online learning. They found that most studies in this field divide the teacher's role into *technical*, *managerial* and *facilitative* components. The *technical* role involves using learning environments with technological and technical support. The *managerial* role describes the ability to manage students and the online learning environment. The *facilitative* role emphasizes student involvement in online learning environment based on the teacher's *pedagogical* skills. According to Lee (2011) research on the subject, affective and distinguishing roles were shown to be important in multicultural online learning settings. The *affective* role refers to emotional and social support from the teacher and the *differentiating* role refers to teacher responsiveness to students' different individual needs. According to Ali (2007), an online learning setting adds an advantage for differentiated learning because students can learn at their own pace and in their own style. According to Lee (2011)study's questionnaire, the teacher's function is measured into five categories: pedagogical, managerial, technical, emotive and differentiating.

There are numerous opportunities for online learning but having difficulties. These include difficulty with managing and regulating learning (Greene & Azevedo, 2009), difficulty with using technological tools (Bolliger & Halupa, 2012) and difficulty coping with independent learning without a teacher's help. Such difficulties lead to a lack of persistence in these courses and higher dropout rates (Hall, 2011; Lee & Choi, 2011; Roper, 2007) than those in frontal teaching (Su & Waugh, 2018).

Numerous studies are attempting to develop strategies to enhance training in order to reduce the percentage of dropouts as a result of such findings. Students' self-regulation and motivation play a major role in online courses (Cho & Shen, 2013; Kizilcec, Pérez-Sanagustín, & Maldonado, 2017) and in persistence in distance learning (Aragon & Johnson, 2008; Park & Choi, 2009). Researchers have pointed out that students who are more eager to study are less likely to quit online courses (Liu, Gomez, Khan, & Yen, 2007; Park & Choi, 2009).

1.2. Motivation and Self-Regulated Learning

Self-regulated learning (SRL) refers to metacognitive, motivational and behavioral characteristics that indicate the learner's active participation in the learning process (Pintrich, 2000, 2004; Zimmerman, 2001). These characteristics enable learners to regulate their thoughts, feelings and actions in order to achieve learning goals. Students who successfully self-regulate their learning use techniques for managing their motivation reducing the

743

impact of negative feelings, having a more extrinsic and intrinsic goal orientation   and better control over their learning beliefs.

These students achieve success more because they are more conscious of organising their learning activities and taking control of their own self-direction (Cho & Shen, 2013).

In online courses, students' progress and sustained effort are greatly impacted by their motivation which is a key component of SRL. According to Zimmerman (2008), self-regulation abilities have no value if students are not motivated to use them. Motivational beliefs and concepts such as self-efficacy (Bandura, 1997), goal orientation (Deci & Ryan, 2002; Ryan & Deci, 2000) and task value (Eccles & Wigfield, 1995) have a considerable influence on the regulatory processes students employ and on their achievements.

Students who are motivated to complete their tasks can manage their learning more successfully. They employ more cognitive and metacognitive strategies, work harder and are committed to their goals even in the face of challenges (Efklides, 2011; Pintrich, 2004).

According to studies on online courses, high motivation among students of different ages is a predictor of success (Duncan & McKeachie, 2005; Kim & Frick, 2011; Samruayruen, Enriquez, Natakuatoong, & Samruayruen, 2013). The same is true of student teachers (Hartnett, George, & Dron, 2011; Izmirli & Izmirli, 2015). Self-efficacy has been found to be a predictor of higher achievements in these courses (Alqurashi, 2016; Bradley, Browne, & Kelley, 2017; Joo, Lim, & Kim, 2013). Goal orientation is a primary and essential component of online learning success (Klein, Noe, & Wang, 2006) particularly intrinsic goal orientation (Cho & Shen, 2013; Samruayruen et al., 2013). Duncan and McKeachie (2005) explained that students with positive motivational beliefs such as *intrinsic goals for learning*, high *self-efficacy* and *task value* and lower levels of test anxiety tend to engage more in deep-processing strategies and metacognitive regulation compared to students with less adaptive motivational beliefs.

SRL studies in online courses argue for a relationship between teacher functioning and student motivation in a course such as a relationship between rewards, communication or feedback and a sense of capability and motivation to learn (Artino, 2008; Joo et al., 2013; Lee & Hwang, 2007; Wu, Tennyson, & Hsia, 2010) or a relationship between the emotional support teachers provide and student motivation (Frith, 2001; Mann, 2005; Smith, Ferguson, & Caris, 2001; Visser, Plomp, & Kuiper, 1999).

In an online course, students' opinions of their teacher have a significant influence on the strategies they use (Howland and Moore 2002). Students with positive approaches to learning and motivation regulated themselves better in online learning while those with a negative approach to learning and a lack of motivation were less capable of understanding the course content and reported a need for more instruction. Styer (2007) argued that teacher support should depend on student character. He found social interactions in online settings had impacts on student motivation in online learning; thus, in Styer's view, teacher support should be tailored to individual student needs.

In this study, we examine the relationship between student motivation and its various components and student perceptions of their teachers in online courses. We expect that knowing more about this relationship can help teachers meet the needs of different students with various types of motivation. Teachers should thus be able to better plan and manage learning and help their students cope with online courses. According to studies (Liu et al., 2007; Park & Choi, 2009), students leave classes for various reasons including unhappiness and a lack of desire. Reduced dropout rates may result from course design that meets students expectations of instructors. Thus, our research hypothesis is that student motivation and student perceptions of teachers' roles in online courses will be correlated.

We assume there will be small differences in the relationship between types of motivation and expectations of teachers' roles. The association between the five factors of motivation for each of the teacher's tasks is predicted to be favourable (with the exception of test anxiety). Students with high motivation to pass a course successfully should have the desire and expectation that teachers will fulfil each of the roles leading to their high achievements.

We further assume there is a positive relationship between the test anxiety component and technical, affective, and pedagogical roles. Anxiety (test anxiety) can be related to the technical role because students anxiety in an online course often stems from technical difficulties. Such students require teachers to play the affective role to reduce their anxiety while the pedagogical role is important to help anxious students grasp the material.

2. Method

2.1. Participants

Questionnaires were distributed to 1,000 students who were taking part in online courses. There were 520 respondents whose average age was 26.2 and 52.6%.

2.2. Tools

The research tool used for this study was a two-part questionnaire.

Part 1: The perception *of a teacher's role in an online course* questionnaire (Lee, 2011) consisted of 20 statements regarding five teacher roles: pedagogical, managerial, technical, affective, and differentiating. The managerial role was not included in our factor analysis because one statement ("be clear") was categorized as pedagogical, another ("manage time properly") was categorized as technical and two statements (" be patient" and " don't overload") were removed due to low loading.

The *pedagogical role* reflects the teacher's pedagogical abilities, content knowledge and how that knowledge is relayed ($\alpha = 0.74$). *The technical role* refers to the teacher's ability to make good use of media which is indicative of the technical skills needed to develop online learning environments and effective technical tools ($\alpha = 0.71$). The *affective role* includes the interpersonal aspects of the teacher's role that are not directly related to the content ($\alpha = 0.69$). The *differentiating role* refers to the teacher's ability to provide instructions adapted for different types of learners ($\alpha = 0.56$).

Part 2: The motivation *questionnaire* was derived from Duncan and McKeachie (2005) *Motivated Strategies for Learning Questionnaire* (MSLQ). According to Pintrich (1988) and Pintrich (1989), the motivation questionnaire addressed the social cognitive perspective which relates to motivation and learning strategies as dynamic and context-related (Duncan & Mc Keachie, 2005).

The questionnaire is an 81-item instrument that addresses motivation and learning strategies, though we used only the motivation section in this study. The 31 motivation items examine six types of motivation: *self-efficacy*, i.e. "beliefs in one's capabilities to organize and execute the courses of action required to produce given attainments" (Bandura, 1997) (α = 0.93), *control of learning beliefs*, i.e. students' beliefs that outcomes are contingent upon one's own effort rather than external factors such as the teacher or luck (α = 0.68), *intrinsic goal orientation* which focuses on intrinsic interest in and perceived importance of course work as well as a preference for challenge and mastery goals (α = 0.74), *extrinsic goal orientation* referring to grades and approval of others (α = 0.62), *task value beliefs*, namely judgments on how interesting, useful and important the course content is to the student (α = 0.90) and the *test anxiety scale* which taps into students' concerns about taking exams (α = 0.80).

Two statements were removed from analysis due to low loading: one related to control of learning beliefs ("If I don't understand the course material because I didn't try hard enough") and the other to extrinsic goal orientation ("I want to do well in this course because it is important to prove my abilities to my family, friends, employer or others").

2.3. Procedure

Questionnaires were distributed by email at the end of the school year to all students who had participated in online courses at the college. The students were asked to complete the questionnaire and email it to the researchers. 520 fully answered questionnaires were returned within two weeks.

2.4. Ethical Procedures

This study was reviewed and approved by our college's institutional review board and the college's ethics committee. Participants provided written informed consent.

3. Findings

3.1. Factor Analysis

Two variables were examined: student motivation for learning and student perception of the teacher's role in an online course. A factor analysis using the varimax method was conducted for each variable. The analysis for the variable "*student motivation for learning*" *is* presented in Table 1.

Table 1. Factor analysis using varimax for variables (N = 520).

Motivation for learning statements	Self-efficacy	Task value	Test anxiety	Intrinsic motivation	Extrinsic motivation	Control of learning beliefs
I can understand the most complex material presented by the instructor in this course.	0.79	_	_	_	_	_
I can understand the most difficult material presented in the course.	0.76	_	_	_	_	_
I think I will be successful in this class considering the difficulty of the course.	0.71	_	_	_	_	_
I can do assignments and tests in this course.	0.68	_	_	_	_	_
I can learn the basic concepts taught in this course.	0.65	_	_	_	_	_
I can master the skills being taught in this course.	0.64	_	_	_	_	_
I will understand the course material.	0.62	_	_	_	_	_
I will receive an excellent grade in this course.	0.49	_	_	_	_	_
It is important for me to learn the course material in this class.	_	0.81	_	_	_	_
I'm very interested in the content area of this course.	_	0.79	_	_	_	_
I like the subject matter of this course.	_	0.79	-	-	-	-
I think the course material in this class will be useful for me to learn.	_	0.78	_	_	_	_
Understanding the subject matter of this course is very important to me.	_	0.73	_	_	_	_
I will be able to use what I learn in this course in other courses.	_	0.49	_	_	_	_
I feel my heart beating fast when I take an exam.	_	_	0.75	_	_	_
When I take a test, I think about the consequences of failing.	_	_	0.75	_	_	_
When I take an exam, I feel anxious and unhappy.	_	_	0.74	_	_	_
When I take a test, I consider how poorly I performed in comparison to other students.	_	_	0.64	_	_	_
When I take a test, I consider the questions	_	_	0.60	_	_	_

Motivation for learning statements	Self-efficacy	Task value	Test anxiety	Intrinsic motivation	Extrinsic motivation	Control of learning beliefs
in the sections I can't answer.						
When given the chance in this class, I prefer course tasks that will help me learn.	_	_	_	0.65	_	_
In a class, I prefer course material that arouses my curiosity, even if it is difficult to learn.	_	_	_	0.63	_	_
The most satisfying thing for me in this course is trying to understand the content as thoroughly as possible.	_	_	_	0.62	_	_
In class, I prefer course material that really challenges me so I can learn new things.	_		_	0.61	_	_
The most important thing for me right now is to improve my overall grade point average, so my main concern in this class is getting a good grade.	_	_	_	_	0.7	_
Getting a good grade in this class is the most satisfying thing for me right now.	_	_	_	_	0.67	_
I want to get better grades in class than most of the other students.	_	_	_	_	0.49	_
I expect to do well in this course.	_	_	_	_	0.46	_
It is my own fault if I don't learn the material in this course.	_	_	_	_	_	0.72
If I study in appropriate ways, then I will be able to learn the material in this course.	_	_	_	_	_	0.60
Cronbach's alpha reliability	0.88	0.89	0.78	0.72	0.58	0.43
Explained variance	15.73%	14.58%	10.17%	7.39%	6.68%	5.64%
Average	5.07	4.69	3.35	4.31	4.79	5.37
Standard deviation	0.97	1.16	1.24	1.2	1.04	1.11

Table 1 presents an analysis of the variable *"motivation for learning"* with regard to six factors: self-efficacy, task value, test anxiety, intrinsic and extrinsic motivation and control of learning beliefs. Factor reliability ranges from 0.43 to 0.88, and the factor averages range from 3.35 to 5.37.

Table 2 presents the Pearson correlations of the six factors of motivation for learning.

Table 2. Relationships among the six factors of motivation for learning.

Motivation for learning factors	Self-efficacy	Task value	Test anxiety	Intrinsic motivation	Extrinsic motivation	Control of learning beliefs
Self-efficacy	1	0.52**	-0.24**	0.47**	0.32**	0.43**
Task value	_	1	0.02	0.59**	0.31**	0.43**
Test anxiety	_	_	1	0.079	0.28**	-0.034
Intrinsic motivation	_	_	_	1	0.23**	0.39**
Extrinsic motivation	_	_	_	_	1	0.22**
Control of learning beliefs	_	_	_	_	_	1

Note: **$p < 0.01$.

The relationships among the six factors were moderately significant (0.43, 0.22, 0.39, 0.47) as shown in Table 2.

Table 3 presents a factor analysis using the varimax method for the variable perceptions of the teacher's role in an online course.

Table 3. Factor analysis using varimax for the variable *"perceptions of the teacher's role in an online course"* (N = 520).

Statements of the role of the teacher	Pedagogical role	Technical role	Affective role	Differentiating role
Be clear	0.80	_	_	-
Clear directions	0.78	_	_	-
Be culturally neutral regarding content	0.75	_	_	-
Develop user-friendly web pages	0.65	_	_	-
Undertake a review of the teaching and learning processes	0.46	_	_	-
Have fluent knowledge of the related subjects	0.4	_	_	-
Use discussion forums effectively	_	0.74	_	-
Use video and audio conferencing tools effectively	_	0.72	_	-
Develop and support learning communities	_	0.71	_	-
Use the chat program effectively	_	0.56	_	-
Manage time properly	_	0.34	_	-
Give effective support	_	_	0.74	-
Establish rapport	_	_	0.7	-
Be social or provide off-task activities	_	_	0.62	-

Statements of the role of the teacher	Pedagogical role	Technical role	Affective role	Differentiating role
Accommodate individual needs	_	_	0.62	-
Offer multiple perspectives	_	_	_	0.70
Encourage self-directed learning	_	_	_	0.70
Cronbach's alpha reliability	0.74	0.71	0.69	0.56
Explained variance	18.85%	13.32%	12.49%	9.19%
Average	6.42	4.08	4.37	5.48
Standard deviation	0.62	1.17	1.16	1.13

Table 3 presents an analysis of "*perceptions of the teacher's role in an online course*". Factor reliability ranges from 0.56 to 0.74, and the averages of the factors range from 4.08 to 6.42. The pedagogical role explains the highest percentage of variance.

Table 4 presents the Pearson correlations of the four factors for "*perceptions of the teacher's role in an online course*".

Table 4. Interrelationships among the four aspects of perceptions of the teacher's role in an online course.

Teacher's role factors	Pedagogical role	Technical role	Affective role	Differentiating role
Pedagogical role	1	_	_	_
Technical role	0.213**	1	_	_
Affective role	0.235**	0.483**	1	_
Differentiating role	0.310**	0.247**	0.241**	1

Note: ** $p < 0.01$.

Table 4 demonstrates that the relationships among the four factors are moderately significant (0.31, 0.213, 0.235, 0.483, 0.247) as they are tied to the same conceptual arena. However, each factor stands on its own.

The underlying assumption in this study is that there are relationships between students' motivational components and their perceptions of the teacher's role in an online course. Relationships were computed between the factors of "*motivation to learn* and the *perceptions of the teacher's role*". Regression analyses were performed to predict the perceptions of the teacher's role in an online course based on the components of motivation for learning. Table 5 presents the relationships between the components of "*motivation for learning*" and those of "*perceptions of the teacher's role in an online course*".

Table 5. Pearson correlations between components of motivation for learning and perceptions of the teacher's role in an online course.

Teacher's role/Motivation for learning		Self-efficacy	Task value	Test anxiety	Intrinsic goal orientation	Extrinsic goal orientation	Control of learning beliefs
Pedagogical role	Pearson correlation	0.128**	0.154**	0.048	0.108*	0.226**	0.213**
Technical role	Pearson correlation	-0.017	0.148**	0.257**	0.191**	0.177**	0.008
Affective role	Pearson correlation	-0.055	0.152**	0.272**	0.114*	0.204**	-0.027
Differentiating role	Pearson correlation	0.300**	0.332**	0.028	0.393**	0.133**	0.331**

Note: *Correlation is significant at the 0.05 level (2-tailed), **Correlation is significant at the 0.01 level (2-tailed).

Table 5 indicates that there are significant relationships between the following factors:

(1) The perceived pedagogical role of the teacher and the motivational factors of self-efficacy, task value, intrinsic and extrinsic goal orientation and control of learning beliefs are positively correlated. Their relationship is significant, ranging from $r_p=0.10$ to $r_p=0.23$, ($p < 0.01$), indicating that as motivational factors increase, the perceived level of the teacher's pedagogical role increases.

(2) The perceived technical role of the teacher and the motivational factors of test anxiety, task value and intrinsic and extrinsic goal orientation are positively correlated. The relationships are significant and range from $r_p=.15$, (p<0.05) to $r_p=.25$, ($p < 0.01$) indicating that as motivational factors increase, the perceived level of the teacher's technical role increases.

(3) The perceived affective role of the teacher and the motivational factors of task value, intrinsic and extrinsic goal orientation and test anxiety are positively correlated. The relationships are significant and range from $r_p=.12$, ($p < 0.05$) to $r_p=.27$, ($p < 0.01$) indicating that as motivational factors increase, the perceived level of the teacher's affective role increases.

(4) The perceived differentiating role of the teacher and the motivational factors of task value, intrinsic and extrinsic goal orientation, self-efficacy and control of learning beliefs are positively correlated. The relationships are significant and range from $r_p=0.13$ to $r_p=0.33$, ($p < 0.01$) as motivational factors increase, the perceived level of the teacher's differentiating role increases.

3.2. Regression Analysis

VIF (variance inflation factor) values were calculated and examined to test multicollinearity following the interrelationships found between the predictive factors. All VIF values ranged from 1.31 to 1.88 (23.7% to 46.7% of the variance of each predictor is explained by all other predictors). These indices indicate low concern about multicollinearity.

Table 6 presents the regression analysis for predicting students' perceptions of teachers based on motivation for learning components and Table 7 summarizes the predictors.

Table 6. Regression analysis for predicting students' perceptions of teachers based on motivation for learning components (N = 520).

Explanatory variables	Students' perceptions of teachers' (Predicted variables)												
	Differentiating role			Affective role			Technical role			Pedagogical role			–
	B	β	T	B	B	T	B	B	T	B	B	T	VIF
Fixed	2.71	–	8.34	3.26	–	9.16	2.81	–	7.82	5.40	–	27.93	–
Self-efficacy	0.11	0.09	1.70	-0.17	-0.14	-0.25*	-0.13	-0.11	-1.91*	-0.01	-0.02	-0.28	1.88
Task value	0.07	0.07	1.34	0.18	0.18	3.12**	0.09	0.09	1.61	0.02	0.04	0.76	1.83
Test anxiety	0.04	0.05	1.04	0.18	0.19	3.94**	0.18	0.19	3.92**	0.00	0.00	-0.04	1.31
Intrinsic goal orientation	0.23	0.24	4.67**	0.07	0.07	1.26	0.18	0.18	3.34**	-0.01	-0.02	-0.39	1.71
Extrinsic goal orientation	-0.03	-0.03	-0.64	0.16	0.15	3.00**	0.11	0.10	2.10*	0.11	0.19	3.73**	1.34
Control of learning beliefs	0.17	0.17	3.74**	-0.10	-.09	-1.92+	-0.07	-0.07	-1.41	0.09	0.17	3.36**	1.36
R	0.450			0.356			0.344			0.283			
R²	0.204			0.127			0.118			0.080			
R²_adj	0.194			0.116			0.108			0.069			

Note: * $p < .05$, ** $p < .01$, + $p = .056$

Table 7. Summary of predictors.

Factors	Predictor variables					
Differentiating role	–	–	–	Intrinsic goal orientation**	–	Control of learning beliefs**
Affective role	Self-efficacy*	Task value**	Test anxiety*	–	Extrinsic goal orientation**	–
Technical role	Self-efficacy*	–	Test anxiety**	Intrinsic goal orientation**	Extrinsic goal orientation*	–
Pedagogical role	–	–	–	–	Extrinsic goal orientation**	Control of learning beliefs**

Note: * $p < .05$, ** $p < .01$.

3.3 Differentiating Role

The components of motivation for learning can predict the student's perception of the teacher's differentiating role. The question was investigated using multiple regression and the enter method. The variable *"differentiating role"* was entered in the regression as the dependent variable while the components of motivation for learning (control of learning beliefs, test anxiety, extrinsic and intrinsic goal orientation, task value and self-efficacy) were entered as independent variables.

Table 6 shows that the regression is statistically significant ($F(6, 501) - 21.23$, $p < 0.01$) with a multiple correlation coefficient of 0.45 and an explained variance of 20.4%. The findings indicate that intrinsic goal orientation and control of learning beliefs are significant explanatory factors for the teacher's differentiating role.

3.4. Affective Role

The components of motivation for learning can predict the student's perception of the teacher's affective role. This was investigated using multiple regression and the enter method. The variable *affective role* was entered into the regression as the dependent variable while the factors of motivation for learning (control of learning beliefs, test anxiety, extrinsic and intrinsic goal orientation, task value, and self-efficacy) were entered as independent variables.

Table 6 shows that the regression is statistically significant ($F(6, 501) - 12.070$, $p < 0.01$) with a multiple correlation coefficient of 0.35 and explained variance of 12.7%. The findings indicate that the components of self-efficacy, task value, test anxiety and extrinsic goal orientation are significant explanatory variables for the teacher's affective role.

3.5. Technical Role

The components of motivation for learning can predict the student's perception of the teacher's technical role. This was investigated using multiple regression and the enter method. The variable *technical role* was entered into the regression as the dependent variable while the factors of motivation for learning (control of learning beliefs, test anxiety, extrinsic and intrinsic goal orientation, task value, and self-efficacy) were entered as independent variables.

Table 6 shows that the regression is statistically significant ($F(6, 501) = 11.167$, $p < 0.01$) with a multiple correlation coefficient of 0.34 and explained variance of 11.8%. The findings indicate that the components of test anxiety, intrinsic goal orientation and self-efficacy are significant explanatory variables for the teacher's technical role.

3.6. Pedagogical Role

The components of motivation for learning can be predicted by the student's perception of the teacher's pedagogical role by using multiple regression and the enter method. The variable *technical role* was entered into the regression as the dependent variable while the factors of motivation for learning (control of learning beliefs, test anxiety, extrinsic and intrinsic goal orientation, task value and self-efficacy) were entered as independent variables.

Table 6 shows that the regression is significant ($F(6, 501) = 7.243$, $p < 0.01$) with a multiple correlation coefficient of 0.28 and explained variance of .8%. The findings indicate that the components of control over learning beliefs and extrinsic goal orientation serve as significant explanatory variables for the teacher's pedagogical role.

4. Discussion

Many people worldwide now have the option to pursue academic studies that were previously unavailable. Scholars are still trying to identify the factors that contribute to student success and the reasons for dropping out. This study is another step towards this goal.

This study examined the relationship between different types of student motivation for learning and their perceptions of the teacher's role.

The responses to the questionnaire on the "teacher's role in an online course" were used to identify student perceptions of teachers of such courses and the motivation questionnaire allowed us to identify the components of motivation that characterized the students.

A confirmatory factor analysis of the results of the questionnaire on the teacher's role in online courses identified four independent roles: pedagogical, technical, affective and differentiating. Factor analysis was also performed on the results of the MSLQ questionnaire which identified six factors: self-efficacy, intrinsic goal orientation, task value, test anxiety, extrinsic goal orientation and control of learning beliefs.

A Pearson correlation shows significant relationships between motivation components and student perceptions of the teacher's role. A significantly positive relationship was found between students' intrinsic and extrinsic goal orientation, task value and all teachers' roles in an online course: pedagogical, technical, affective and differentiating. When a student is motivated in this way, they expect their teacher to fulfil all four of the responsibilities listed in the teacher's role questionnaire. Learners with these types of motivation appreciate the learning process. They have both internal and external motivation to learn because they understand the importance of assignments. Succeeding in the course is important to them, so they expect the teacher to fulfil all roles. Similarly, Kang and Im (2013) and Lee (2011) found that students in online courses expect teachers to play various roles.

A significantly positive relationship was found between students' self-efficacy or control of learning beliefs and expectations that teachers will fulfil differentiating and pedagogical roles. The pedagogical role includes a demand for contents that are clear and relevant and the use of advanced teaching methods. The differentiating role includes the teacher's ability to expand on course material, point to other areas of interest and foster independent learning. Learners with high self-efficacy and belief in their ability to learn seek high-quality instruction that is directed towards their needs is practical and precise and enhances independent learning. They do not have a special need for affective and technical support from the teacher.

On the other hand, a significantly positive relationship was found between test anxiety and expectations that the teacher would perform both technical and affective roles. Students require affective support to reduce anxiety and technical support because online courses may raise anxiety levels (Bolliger & Halupa, 2012). The instruction-related roles of pedagogical and differentiating have less meaning for them.

This study's results confirm Duncan and McKeachie's (2005) findings that the six components of motivation constitute three different constructs: expectancy, value and affect. According to Duncan and McKeachie (2005).

a. Expectancy components are students' beliefs that they can accomplish a task. These include self-efficacy and control of learning beliefs.

b. Value components are those that focus on the reasons students engage in an academic task. These include intrinsic and extrinsic goal orientation and "task value" beliefs.

c. The affective component includes test anxiety. taps into students' worries and concerns about taking exams.

Our research revealed that each of these three constructs has different relationships with the teacher's role. Expectancy components are positively correlated with differentiating and pedagogical roles while value components are correlated with *all* teachers' roles. Finally, the affect component is correlated to the technical and affective roles.

A multiple regression analysis (using the Enter method) was performed in addition to the factor analyses and Pearson correlations. It examined motivational factors regarding the teacher's roles: pedagogical, technical, affective and differentiating.

High levels of anxiety, an extrinsic goal orientation, a low sense of task worth and low self-efficacy are traits of students who expect that the instructor will play an effective role. Other studies have demonstrated that emotional support is very important in online courses (Frith, 2001; Mann, 2005; Smith et al., 2001).

However, students with intrinsic goal orientation and control of learning beliefs apparently do not require the teacher's emotional support because their intrinsic motivation for learning is strong. There is a negative relationship between high self-efficacy and the expectation of emotional support likely due to their confidence in their ability to succeed in a course.

Online learning requires a command of technological skills, so students with a goal orientation (intrinsic or extrinsic) for success in these courses expect technical assistance from the teacher. Students with test anxiety, which may stem in part from technological difficulties associated with online courses (Bolliger & Halupa, 2012) also expect technical support. In contrast, our finding could indicate that students with high self-efficacy do not expect technical support from the teacher. However, no prior research confirms this, so it requires further investigation.

Students who control and manage their learning beliefs and have true intrinsic motivation to learn are those who are interested in the subject matter and differential learning helps broaden their horizons and enhance individually tailored independent learning.

Students who expect teachers to play the pedagogical role have extrinsic goal orientation and control of learning beliefs. Students with extrinsic orientation want to succeed, so they expect pedagogical assistance through clear, understandable and focused teaching without overload. When motivation is extrinsic, students expect the

749

teacher to assist them in completing the course with maximal pedagogical support. Students with a high level of control over their learning beliefs also expect the teaching to be clear, understandable and focused because they believe success depends on the nature of their learning which in turn depends on the teacher's pedagogy.

Styer (2007) argues that teachers in online courses should take note of student differences and adapt their social interactions with different students. He suggests the teacher's interactions during an online course must depend on the nature of the students and their individual needs. This study's results strengthen the argument and point out that motivational differences between students may be the source of differing perceptions and teacher expectations in online courses. This study's main contribution is the exploration of how student motivational types (intrinsic, extrinsic, self-efficacy, etc.) influence their perceptions of the teacher's role.

5. Conclusion

In recent years, scholars have conducted research that attempts to define the unique quality of a teacher's presence in online courses specifically highlighting the importance of interactions between teacher and students (Kang & Im, 2013; Yerby, 2017).

The interactions between teachers and students are important in the learning process and influence student satisfaction and success (Huang, 2017). In an online course, face-to-face interaction, the role of teachers and their interactions with students must be constructed differently. This study's findings suggest teachers would do well to carefully consider how they fulfil their role. For example, if teachers focus only on the pedagogical role, it will negatively affect the success of students grappling with high levels of anxiety. However, teachers who primarily promote affective social interactions will disappoint another group of students. Teachers should be conscious of differences between student motivational styles and provide them with appropriate responses to direct their learning in the best way.

This study's results suggest that students drop out of online courses because of an incompatibility between the student's expectations of the teacher and the different components of motivation and the role teachers play in online courses. Based on our findings, we recommend that teachers meet all the expected roles while giving students the ability to choose whether they want to rely on the teacher for pedagogical, technical, affective or differential help.

When developing an online course, teachers should consider that they may not be able to meet students' different needs on their own and request support that could meet future expectations. For example, a friendly, available tech-support system could reduce the anxiety associated with technical difficulties and reduce expectations.

A teaching assistant who could provide quick and supportive feedback could fulfil students needs for emotional support. Such support should be provided in such a way that students do not perceive it as doubting their abilities while emphasizing independent, broad-minded learning for highly motivated students. Such assistance with the teacher's pedagogical role could greatly contribute to student success and their satisfaction with online courses.

6. Limitations and Future Directions

This study was conducted at a single academic college. It should be replicated in other institutions and tested with a broader range of ages in order to broaden the validity of its findings.

In addition, it did not consider the number of online courses a student had taken, the student's achievements in online courses or how these impacted their perceptions of teachers in online courses. These factors might influence the results and increase their precision.

We also recommend broadening the research direction by identifying relationships between learners and their perceptions of teachers.

Intervention studies should be conducted to examine the roles of teachers and their relationships with types of student motivation in terms of gender, ethnicity and culture. Such an investigation is especially pertinent given the growing worldwide need for distance learning.

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