Can distance education courses increase academic motivation?

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Conference Information

World Conference on E-Learning in Corporate, Government, Healthcare, and Higher Education (ELEARN) 2008
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November 17, 2008
Curtis J. Bonk, Mimi Miyoung Lee & Tom Reynolds
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Abstract

The goal of this research was to better understand the impact of the implementation of a compulsory Web-based course on preservice teacher motivation. Subjects were enrolled in a four-year teacher education program (n = 429) in the province of Quebec, Canada. Our starting hypothesis was that the Web-based distance education course—designed to promote feelings of self-determination, affiliation, and competence—would positively impact the motivation of preservice teachers registered. The results presented are drawn from both quantitative

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ABSTRACT

CAN DISTANCE EDUCATION COURSES INCREASE ACADEMIC MOTIVATION?

University education faces numerous challenges: the growing diversity of student profiles, the arrival of new technologies, the multiplicity of university programs, as well as the students' lack of motivation. The goal of this research was to better understand the impact of the implementation of a compulsory Web-based course on preservice teacher motivation. Subjects were enrolled in a four-year teacher education program (n = 429) in the province of Quebec, Canada. Our starting hypothesis was that the Web-based distance education course—designed to promote feelings of self-determination, affiliation, and competence—would positively impact the motivation of preservice teachers registered. We used a mixed methods research approach. That is, the results presented are drawn from both quantitative measures (a motivation scale was administered three times to all students who were participating in the project) and qualitative measures (analysis of electronic mail received [n > 5000] and transcripts of conversations held in *chat* [synchronous] mode). It appears important to mention that, according to Johnson and Onwuegbuzie (2004), the combination of both qualitative and quantitative data generally allows for a more complete understanding of a research problem. Based on Deci and Ryan's (1985, 2000) self-determination theory, results show that a technologically rich learning environment such as a distance education course can, eventually enhance preservice teachers' motivation after a few weeks. Results also highlight that such a context promoting self-determination represents somewhat of a *learning dissonance* for participants – i.e. they are not used, in higher education, to such autonomy – which may result, at the beginning, in a decrease in their motivation.

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OBJECTIVE

The objective of the present research was to study and better understand the motivational impact of the implementation of a compulsory Web-based, distance education course in a teacher education program. Our starting hypothesis was that this course, with its nature promoting feelings of self-determination, competence and affiliation (Deci and Ryan, 1985, 1991 ; Ryan and Deci, 2000), would have a positive impact on the motivation of the students.

THEORETICAL FRAMEWORK

In the present study, Deci and Ryan's motivational construct (1985, 1991) has permitted us to assess student motivation in a multidimensional fashion. Their theory goes beyond the usual intrinsic/extrinsic distinction and allows for a more accurate analysis of motivation, thereby opening the door to innovative research. In the theoretical perspective of Ryan and Deci (2000), it seems that a student's academic motivation is modulated by his feelings of self-determination, competence and affiliation, and that what influences these three factors may also have an impact on motivation.

METHOD

We used a mixed methods research approach. That is, the results presented are drawn from both quantitative measures (a motivation scale was administered three times to all students who were participating in the project) and qualitative measures (analysis of electronic mail received [n > 5000] and transcripts of conversations held in *chat* [synchronous] mode). It appears important to mention that, according to Johnson and Onwuegbuzie (2004), the combination of both qualitative and quantitative data generally allows for a more complete understanding of a research problem.

Subjects

In a 15-month span, a total of 9 groups of 35-55 student-teachers (total n = 429 students: 331 females and 98 males) in their second, third or fourth year of a four-year teaching program and enrolled in a compulsory Web-based, distance education course were selected to participate. Preservice teachers participating in the study had a mean age of 21 years old.

Quantitative measures and analyses

An adapted version of a motivation scale was administered three times to all students who were participating in the project. The first measure of motivation took place at the beginning of the first class, before the students fully aware of the learning environment (that is, a distance education course). The second measure was taken after the third week of the course, when students were more familiar with the particular nature of their learning environment. The third measure was taken just after the twelfth week of the course.

Qualitative measures and analyses

Drawn not only from the results of the motivation tests and from interviews conducted with students, results are also a product of the analysis of electronic mail received (n > 5000) and transcripts of conversations held in "chat" (synchronous) mode.

PRESENTATION AND ANALYSIS OF RESULTS

As shown in Table 1 and Figure 1, the students' average score for self-determined types of motivation on the second motivation test, at a time when they were completely aware of the organization of the Web-based course, is significantly lower than the average score obtained in the first motivation test ($p < 0{,}0001$). As well, the students' average score for non self-determined types of motivation is significantly higher than the one on the first motivation test.

Table 1: Average score of students' motivation Change between Week 4 and Week 1 (n = 429)

	Non or little self-determined types of motivation			Self-determined types of motivation	
	Amotivation	(EM) External Regulation	(EM) Introjected Regulation	(EM) Identified Regulation	Intrinsic Motivation
Motivation change (Week 4 – Week 1)	+ 0.51	+ 0.60	+ 0.36	- 1.56	-1.58
Significance of gain (between Week 1 and 4)	*t = 5.11 p < 0,0001*	*t =6.87 p < 0,0001*	*t =8.01 p < 0,0001*	*t = 15.76 p < 0,0001*	*t = 20.58 p < 0,0001*

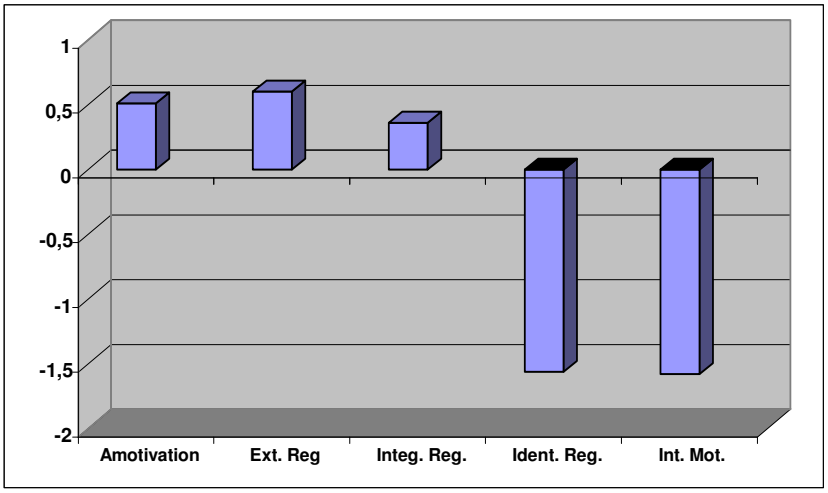

Figure 1
Average score of students' motivation Change between Week 4 and Week 1 (n = 429).

As shown in Table 2 and Figure 2, the average score obtained by the students in the third motivation test, administered just after the twelfth week of the course, highlights a significant increase in self-determined types of motivation, when compared to the average score on both test 1 (week 1) and test 2 (week 3-4). As well, the results highlight a significant decrease in non self-determined types of motivation, also when compared to the average score on tests 1 and 2.

Table 2 : Average score of students' motivational profile for week 1, 4 and 13

	Non or little self-determined types of motivation			**Self-determined types of motivation**	
	Amotivation	**(EM) External Regulation**	**(EM) Introjected Regulation**	**(EM) Identified Regulation**	**Intrinsic Motivation**
Week 1	1.41	2.11	3.04	5.61	5.30
Week 4	1.92	2.71	3.40	4.05	3.72
Week 13	1.14	1.94	2.77	5.94	6.11
Sig. of gain (Week 1 vs 4)	*t = 5.11 p < 0,0001*	*t =6.87 p < 0,0001*	*t =8.01 p < 0,0001*	*t = 15.76 p < 0,0001*	*t = 20.58 p < 0,0001*
Sig. of gain (Week 1 vs 13)	*t=6,28 p < 0,0001*	*t=4,77 p < 0,001*	*t=4.99 p < 0,0001*	*t= 7,08 p < 0,0001*	*t= 13.99 p < 0,0001*
Sig. of gain (Week 4 vs 13)	*t= 15.57 p < 0,0001*	*t=17.02 p < 0,0001*	*t=15.42 p < 0,0001*	*t= 21.90 p < 0,0001*	*t= 29.11 p < 0,0001*

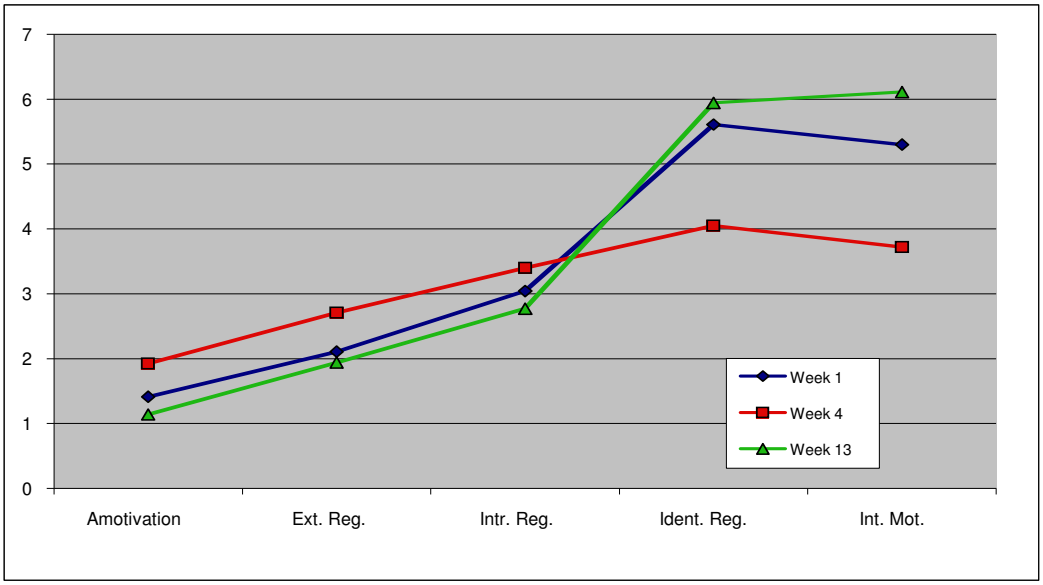

Figure 2
Representation of Students' Average Score for their Motivational Profile in Week 1, 4 and 13.

The results of the students in the three motivation tests were corroborated by the qualitative analyses which will be presented during the conference.

CONCLUSION AND EDUCATIONAL SIGNIFICANCE OF THE RESEARCH

The integration of new information and communications technologies in university teaching presents an enormous challenge and the disruptions inevitably entailed must be faced with both dynamism and caution. While the analysis of the results reveal the positive impact of a Web-based, distance education course on the students' motivation to learn, the analyses conducted also unveil the fact that all students may not be ready to handle such autonomy or self-determination, and that the gap between the university classroom and the virtual classroom is substantial, often difficult to bridge.

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