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Article abstract

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Examining Motivation in Online Distance Learning Environments: Complex, Multifaceted, and Situation-Dependent



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Abstract

Existing research into motivation in online environments has tended to use one of two approaches. The first adopts a trait-like model that views motivation as a relatively stable, personal characteristic of the learner. Research from this perspective has contributed to the notion that online learners are, on the whole, intrinsically motivated. The alternative view concentrates on the design of online learning environments to encourage optimal learner motivation. Neither approach acknowledges a contemporary view of motivation that emphasises the situated, mutually constitutive relationship of the learner and the learning environment. Using self-determination theory (SDT) as a framework, this paper explores the motivation to learn of preservice teachers in two online distance-learning contexts. In this study, learners were found to be not primarily intrinsically motivated. Instead, student motivation was found to be complex, multifaceted, and sensitive to situational conditions.

Keywords: Motivation; self-determination theory; online learning; distance education; e-learning; intrinsic; extrinsic

Introduction

Over the last decade and a half, distance education has undergone a period of considerable change (Larreamendy-Joerns & Leinhardt, 2006). The growth of the Internet and related technologies has resulted in a merging of online teaching and learning into the routine practices of universities. At the same time, it has given distance education a new appeal (Tallent-Runnels et al., 2006). Following Bates (2005), online learning is viewed here as a subcategory of distance education that specifically uses the Internet and the World Wide Web. It is one increasingly popular method being used by institutions in various countries to provide opportunities and meet the needs of a growing and increasingly diverse student population (Rumble & Latchem, 2004). Teacher education is one area which has seen a

dramatic increase in the availability of technology-enabled distance education programmes over the last decade (Robinson & Latchem, 2003).

Online learning has a number of potential benefits, not least of which is the ability to overcome the temporal and spatial restrictions of traditional educational settings (Bates, 2005). Freedom from constraint may also be seen as a defining feature of distance learning, for example freedom of content, space, medium, access (Paulsen, 1993), and relationship development (Anderson, 2006). Notwithstanding the advantages that online learning offers, a variety of factors have been identified as crucial to the success of online courses (McIsaac & Gunawardena, 1996). Motivation is one such factor (Bekele, 2010). Just as motivation is a key factor in learning and achievement in face-to-face educational contexts (Brophy, 2010), so it is in online learning environments (Jones & Issroff, 2007).

Poor motivation has been identified as a decisive factor in contributing to the high dropout rates from online courses (Muilenburg & Berge, 2005). This, coupled with an increasingly diverse and inclusive student population (Rumble & Latchem, 2004), has caused some (McCombs & Vakili, 2005) to question previously held underlying assumptions that view online learners as independent, self-directed, and intrinsically motivated (Garrison, 1997).

Motivation and Learning Online

Schunk, Pintrich, and Meece (2008) define motivation as “the process whereby goal-directed activity is instigated and sustained” (p. 4). Motivation can influence what we learn, how we learn, and when we choose to learn (Schunk, 1995). Research shows that motivated learners are more likely to undertake challenging activities, to be actively engaged, to enjoy and adopt a deep approach to learning, and to exhibit enhanced performance, persistence, and creativity (see Schunk et al., 2008). Contemporary views link motivation to individuals’ cognitive and affective processes, such as thoughts, beliefs, and goals, and emphasise the situated, interactive relationship between the learner and the learning environment (Brophy, 2010).

Studies that explore motivation to learn in online contexts are relatively limited both in number and scope (Artino, 2008; Bekele, 2010). Existing research has had a tendency to adopt a limited view of motivation that does not acknowledge the complexity and dynamic interplay of factors underlying and influencing motivation to learn (Brophy, 2010). Instead, designing motivating learning environments has received attention (ChanLin, 2009; Keller, 2008). More frequently, motivation has been viewed as a personal characteristic that remains relatively stable across contexts and situations. Studies adopting this model have focused on identifying lists of traits of successful online learners (Wighting, Liu, & Rovai, 2008; Yukselturk & Bulut, 2007) and indicate that intrinsic motivation is a common characteristic (Shroff, Vogel, & Coombes, 2008; Styer, 2007). Findings from comparative studies between online students and on-campus students (Rovai, Ponton, Wighting, & Baker, 2007; Shroff & Vogel, 2009; Wighting et al., 2008) also suggest that online students are more intrinsically motivated across the board than their on-campus counterparts at both undergraduate and postgraduate level. While intrinsic motivation may influence initial engagement as well as retention in online study, research that treats intrinsic and extrinsic

motivation as a dichotomy may present an overly simplistic view of both contextual effects and motivation itself.

Viewing motivation solely as an effect of the learning environment or as a learner attribute does not recognise that individuals can be motivated to a greater or lesser degree, and in different ways, in any given context and time (Turner & Patrick, 2008). Few studies of on-line learning environments have acknowledged this contemporary “person in context” situated view of motivation and have done so only in a limited way (Shroff, Vogel, Coombes, & Lee, 2007; Xie, DeBacker, & Ferguson, 2006). Together, these factors point to the need to reconsider motivation to learn in technology-mediated environments.

Self-Determination Theory (SDT)

As suggested by Miltiadou and Savenye (2003), studies of motivation in online learning environments have adopted various frameworks to underpin their research (e.g., Artino, 2008; Shroff et al., 2007; Yukselturk & Bulut, 2007). Of these, intrinsic–extrinsic motivation theory has often been used to explore students’ reasons for engagement in online environments (e.g., Martens, Gulkers, & Bastiaens, 2004; Xie et al., 2006). An influential theory that explicates intrinsic–extrinsic motivation in greater depth is self-determination theory (SDT, Deci & Ryan, 1985). Self-determination theory is a contemporary theory of situated motivation that is built on the fundamental premise of learner autonomy. SDT argues that all humans have an intrinsic need to be self-determining or autonomous (i.e., experience a sense of agency and control), as well as to feel competent (i.e., capable) and connected (i.e., included and linked to others) in relation to their environment. SDT states that if environmental conditions are such that they support an individual’s autonomy then more autonomous forms of motivation will be promoted (Ryan & Deci, 2000).

When intrinsically motivated, students do not need outside incentives, and these may even be counterproductive (Deci, Koestner, & Ryan, 2001) as the reward lies in the doing of the activity. In contrast, students who are extrinsically motivated undertake activities for reasons separate from the activity itself (Ryan & Deci, 2000), for example gaining good grades, avoiding negative consequences, or because the task has utility value, such as passing a course in order to earn a degree. SDT explains extrinsic motivation processes in terms of external regulation as the reasons for undertaking the task lie outside the individual. However, the degree to which an activity is perceived as externally controlled can vary, and therefore different types of extrinsic motivation exist. This model conceptualises a continuum of regulation that ranges from amotivation (lack of motivation) at one end to intrinsic motivation at the other. Between these, there exist different types of extrinsic motivation that vary in the degree to which externally motivated behaviour is autonomously determined (i.e., self-determined).

According to the taxonomy, amotivated individuals lack motivation or intention to act. This may be because of a feeling of incompetence or low self-efficacy (Bandura, 1997), a perception that what they do will not affect the outcome (Peterson, Maier, & Seligman, 1993), or an attribution of low value to the task being undertaken (Brophy, 2008). Beyond this,

extrinsic motivation and intrinsic motivation have often been treated as a dichotomy, especially in earlier research (see Schunk et al., 2008). Within the continuum of human motivation, however, four patterns of extrinsic motivation are identified.

External regulation is the type of extrinsic motivation most often contrasted with intrinsic motivation, where individuals are responsive to threats of punishment or the offer of rewards and tend to be compliant as a result.

Introjection refers to students who engage in a task because they feel they should due to the expectations of others.

Identified regulation is associated with individuals who engage in an activity because the results may have personal value to them or because the activity is regarded as worthwhile. Regulation is internal in the sense that the individual has chosen the goal or identifies with it and is aware of its importance. But the motivational pattern is still considered extrinsic in the sense that it is the utility value (a means to an end), personal importance, and/or relevance of the task rather than interest and enjoyment in the task itself that determines the behaviour (Brophy, 2008). Identified regulation is considered particularly important from a practical viewpoint because the perceived relevance and worthwhileness of learning activities can be influenced by the choices made by teachers and course designers (Brophy, 2010).

Integration is the final and most autonomous type of extrinsic motivation, where learners engage in the activity because of its significance to their sense of self.

Figure 1 shows the elements of the SDT model, described above, that form the basis of the scale used to measure motivation in this investigation. Here, the focus is on the external regulation and identified regulation aspects of extrinsic motivation, as well as on amotivation and intrinsic motivation. The placement of intrinsic motivation on the far right is not intended to suggest that extrinsic motivation can shift to intrinsic motivation as this depends on the intrinsic interest of the activity to the individual. It is placed here to highlight that it is the best example of human autonomy (Deci & Ryan, 2002).

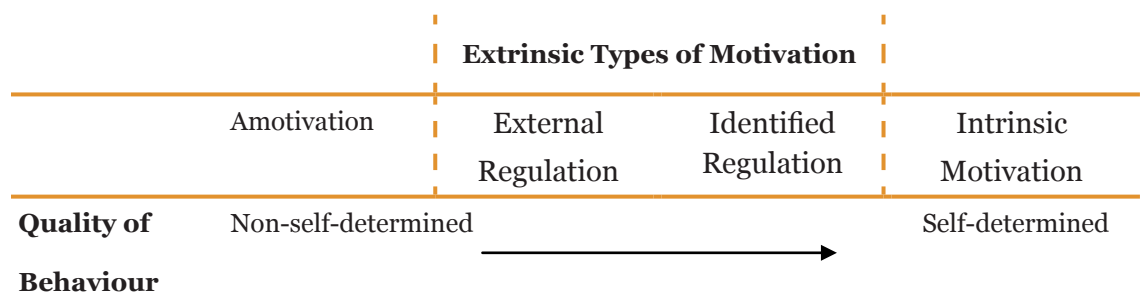


Figure 1. Elements of the SDT model of motivation used to measure motivation in this study.

Research in traditional education contexts has shown that multiple types of motivation (ex-

plicated by this model) can and do co-exist (Lepper, Henderlong Corpus, & Iyengar, 2005). The ways in which a student is intrinsically or extrinsically motivated are important, with more self-determined students experiencing positive learning outcomes even when extrinsically motivated (Reeve, Deci, & Ryan, 2004).

Self-Determination Theory and Motivation in Online Contexts

Recent research (Chen & Jang, 2010; Hartnett, 2010) has demonstrated that self-determination theory provides a useful analytic tool for exploring the complexity of motivation in online contexts. Studies that have adopted this framework are few but starting to appear (Martens et al., 2004; Rovai et al., 2007; Shroff et al., 2007; Shroff et al., 2008; Xie et al., 2006). However, one notable limitation of these studies has been the tendency to focus only on intrinsic motivation. In doing so, the power of the model to explore a broader range of motivation, particularly more autonomous types of extrinsic motivation, has been neglected. This is important because previous research in face-to-face contexts (Lepper et al., 2005) has found that high levels of more self-determined motivation (such as identified regulation) may *act as a buffer* against the more detrimental effects of external constraints.

This paper presents findings of one aspect of a larger study (Hartnett, 2010) that explored the motivation of preservice teachers situated within two separate and different online distance-learning contexts, using SDT to underpin the investigation. Results presented here address the question, *What is the nature of motivation to learn in online contexts?*

Research Method

Case Studies

Case-study methodology was used to explore the complex phenomenon of motivation in a manageable way to advance understanding (Yin, 2009). Purposive sampling methods (Patton, 2002) were used to select two information-rich cases. Even though the broader institutional context was beyond the scope of the wider study, the impact such influences can have at the situational level has been noted previously (Vallerand & Ratelle, 2002). Therefore, potential cases were identified from the same programme within the same institution in order to reduce differential contextual influences at the institutional level. Cases were chosen based on predetermined criteria of importance to ensure relevance to the research question (Patton, 2002). In particular, 1) courses were required to be predominantly web-based, with only limited resources provided by alternative methods, such as print; and 2) course expectations required students to participate within the online learning community as an integral part of assessed coursework.

Procedures

Preceding the collection of data, ethical consent to undertake the study was obtained. Data collection procedures comprised online questionnaires, interviews, archived online data (including online asynchronous discussion transcripts and usage statistics), achievement data, and course resources. Findings presented here draw on a subset of the data collected

via the online questionnaires that were administered after the relevant learning activities had been undertaken. The questionnaire contained three sections: demographic information, a self-report motivation scale, and open-ended questions designed to explore possible relationships between social and contextual influences and learners' motivation. The self-report motivation data is the focus here.

Motivation Measure

Learner motivation was measured using the self-report situational motivational scale (SIMS) developed by Guay, Vallerand, and Blanchard (2000), which operationalises elements of the SDT continuum described earlier (see Figure 1). It measures situational intrinsic motivation, extrinsic forms of motivation (external regulation and identified regulation), and amotivation. Participants were asked to respond to these questions in relation to a specified assignment, and its associated online activities, within each course. Each of the four motivation subtypes was measured using 7-point Likert scales, with four questions for each motivation subscale. For each participant, these subscale scores were then used to calculate a single motivation score called the self-determination index (SDI). This follows the weighted calculation described and used in previous research (Ratelle, Baldwin, & Vallerand, 2005; Vallerand & Bissonnette, 1992; Vallerand & Ratelle, 2002). SDI scores can range from a minimum of -72 to a maximum of +72. While the calculation of the SDI is a useful indicator of overall motivation, subscale scores were also analysed as the SDI may not account for participants' endorsement of more than one type of motivation for engaging in an activity (Vallerand, Pelletier, & Koestner, 2008).

Data Analysis

Yin (2009) argues that while qualitative methods and data remain central in case-study research, quantitative data and analysis can add to the overall picture of the case. This is the perspective adopted throughout the investigation described here. Nonparametric statistical calculations were performed because of the small sample size within each case study and the inclusion of ordinal scores in the SIMS motivation scale (Guay et al., 2000), and because normality could not be assumed in the underlying population (Siegel & Castellan, 1988).

Context and Participants

The two courses that provided the context for the case studies were situated within the larger context of a preservice teacher education programme at a New Zealand tertiary institution. Students in this programme were preparing to teach in New Zealand primary (i.e., elementary) schools. These courses were considered Internet-based rather than fully online because students received some print material (study guide in both case studies) and digital resources (CD-ROM in case study one) at the beginning of their course. The online learning platform used was the WebCT learning management system. The boundary for each case study centred on one assignment and its associated online activities. In both case studies, all participants had similar prior experience of online learning and group assignments.

While both cases were chosen from courses within the same programme, the instructional

design of each was different. Case study one was situated within a compulsory integrated science and technology course. Teaching staff consisted of a course coordinator with science expertise and a tutor with technology expertise. The tutor was responsible for the majority of the online teaching. Students typically took this course in the third and final year of their degree. The case study itself focused on a problem-based learning (PBL) assignment worth 60% of the final mark. This was undertaken over a six-week period in which students were required to work collaboratively in small groups. PBL is an instructional approach built around authentic, ill-structured problems that are complex in nature (Schmidt & Moust, 2000).

Case study two was positioned within an introductory social studies curriculum course that formed a compulsory component of the same programme. Students usually took this course in the second year of their degree. An individual microteaching and reflection assignment (with associated online activities), which required students to plan and teach two consecutive lessons in a school of their choice and then reflect on their experience, formed the boundary for case study two. Students completed this assignment over a four-week period, and it was worth 40% of the final mark. The course coordinator was responsible for all online teaching throughout the semester.

A total of 21 student participants took part in the two case studies (12 in case study one and 9 in case study two) and were recruited from the semester one (February–June) 2008 online distance offering of each course. Participants were located throughout New Zealand and undertook their courses at a distance from the main campus. The respondent group, matching the general demographics of the courses, comprised 2 males and 19 females (1 male in each case study). Participants' ages ranged from 18 to 55, with 90% in the over-24 age group. We should emphasise that the information and statistical data reported here are included to enrich the wider study and explicate the findings. This was a qualitative study to discover whether and what kind of different motivations existed in these learners, not to generalise to the wider population of online learners.

In the sections that follow, participants' results for all motivation types (SIMS subscale scores) and self-determination index (SDI, a composite measure of motivation) scores are presented and discussed with reference to the broader investigation.

Results

Case Study One

Case study one situational motivation scale (SIMS) responses and SDI scores for each student participant are summarised in Table 1. A positive SDI score indicates that, overall, more self-determined forms of motivation are predominant, while a negative score indicates an overall experience of less self-determined motivational types (Vallerand & Ratelle, 2002).

With half of the case study one participants having positive SDI scores and half having

negative scores, it is apparent that the nature of motivation to learn is diverse among this group. For those with positive SDI scores, in general, more internalised forms of motivation, namely identified regulation (IR) and intrinsic motivation (IM), were prominent. This indicates that these participants perceived the activity to be worthwhile and valuable (an indicator of identified regulation) and interesting or enjoyable (an indicator of intrinsic motivation) to some degree. Conversely, learners with negative SDI scores generally reported experiencing more externalised forms of motivation. These included external regulation (ER), signifying they were complying with external demands, and amotivation (AM), indicating they lacked motivation due to a perceived lack of relevance or competence.

Table 1

Case Study One Participants' SIMS and SDI Scores

ID	SIMS Subscale Scores				Weighted Sum
	Amotivation	External Regulation	Identified Regulation	Intrinsic Motivation	SDI Score
	(AM)	(ER)	(IR)	(IM)	
S2	5*	8	22	19	42
S8	4	16	22	22	42
S4	4	15	26	18	39
S10	4	8	20	15	34
S9	8	16	22	20	30
S3	4	27	20	22	29
S6	13	28	19	14	-7
S11	20	28	23	19	-7
S1	21	18	13	13	-21
S7	24	24	14	16	-26
S12	16	28	9	10	-31
S5	27	28	4	4	-70
MEDIAN (Mdn)	10.5	21	20	17	11
INTERQUARTILE RANGE (IQR)	16.25	12.25	8.25	5.5	57.5

* Participant subscale scores can range from a *minimum* of 4 to a *maximum* of 28.

Several notable points also emerged for the case study one group's SIMS subscale scores

(see Table 1). Overall, participants reported being motivated 1) toward complying with requirements and/or reacting to external demands (*ER Mdn* = 21), and 2) by the utility value and relevance of the task (*IR Mdn* = 20), *as well as* (and slightly more than) by the interest or enjoyment (*IM Mdn* = 17) experienced while undertaking the PBL assignment. Furthermore, several of the participants also reported a high degree of amotivation. In other words, participants did not exclusively report only one motivation subtype.

Case Study Two

SIMS subscale response (SDI) scores for case study two participants are summarised in Table 2. All participants had positive SDI scores ranging from 16 to 54.

As with case study one, those participants with the highest SDI scores tended to report higher levels of identified regulation (IR) and intrinsic motivation (IM) and lower external regulation (ER) scores. Almost all participants reported low amotivation scores (a contributing factor to the positive SDI scores).

Table 2

Case Study Two Participants' SIMS and SDI Scores

ID	SIMS Subscale Scores				Weighted Sum
	Amotivation (AM)	External Regulation	Identified Regulation	Intrinsic Motivation	SDI Score
S2	4	15	27	25	54
S3	4	15	24	23	47
S9	8	12	23	26	47
S7	4	28	25	22	33
S8	14*	22	27	25	27
S4	4	26	23	16	21
S6	5	28	23	18	21
S1	8	28	21	20	17
S5	4	18	16	13	16
MEDIAN (Mdn)	4	22	23	22	27
INTERQUARTILE RANGE (IQR)	4	13	2	7	26

*S8's amotivation score was not supported by her interview, open-ended questionnaire responses, and asynchronous discussion data. This may be due to a misunderstanding as English is her second language.

Turning to the subscale results, the low amotivation scores indicate that participants found value in the task and felt reasonably competent in undertaking it. The value, relevance, and importance of the task to participants (i.e., the opportunity to practise teaching social studies within an authentic context) were further reflected in their identified regulation scores. These ranged from moderate to high for the majority of participants within the group, resulting in a high median identified regulation score (*IR Mdn* = 23) and a narrow interquartile range (*IQR* = 2).

But identified regulation was not the only motivation subtype that was strongly endorsed by this group. High levels of external regulation (*ER Mdn* = 22, i.e., complying with external requirements, such as deadlines) and intrinsic motivation (*IR Mdn* = 22, i.e., experiencing interest and/or enjoyment) were also reported by participants, which clearly demonstrates the multifaceted nature of participants' motivation to learn within this context.

Cross-Case Analysis

SDI Results—A Composite Measure of Motivation

The relatively low median self-determination index score for the case study one participant group (*SDI Mdn* = 11, see Table 1) suggests that higher quality, more self-determined types of motivation were only slightly more evident than the traditional type of extrinsic motivation—external regulation (Ryan & Deci, 2000) and amotivation. In comparison, the median SDI score for the case study two participant group (*SDI Mdn* = 27, see Table 2) was noticeably higher, suggesting that autonomous types of motivation (i.e., identified regulation and intrinsic motivation) were more prevalent.

These results suggested noticeable differences in SDI scores between the two cases, but statistical comparison indicated they were not significant. While the calculation of SDI scores was useful, it is a composite indicator of motivation and can therefore hide individual endorsement of more than one type of motivation, as Vallerand et al. (2008) have noted. Exploring the different types of motivation across the two cases provided a more multilayered picture of the nature of motivation.

SIMS Results—Motivation Subtypes

A number of notable patterns of motivation emerged from comparisons of the SIMS subscale scores across the two case studies (see Table 3). While some similarities were evident, several important differences between the two contexts were observed. Although it appears that median amotivation scores between the case studies were quite different (see Tables 1 and 2), statistical comparisons indicated that the two groups' amotivation scores did not differ significantly (see Table 3).

Table 3

Mann-Whitney U Results Comparing SIMS Subscale Scores across the Cases

	Amotivation (AM)	External Regulation (ER)	Identified Regulation (IR)	Intrinsic Motivation (IM)
Mann-Whitney <i>U</i> (2-tailed)	32.5	52.5	19.5*	25.0*
Effect size (<i>r</i>)	-.35	-.02	-.54	-.45

* $p < .05$

Similarly, there was no significant difference in external regulation scores (see Table 3), with both groups reporting moderately high levels. This indicates that in both contexts learners were motivated by some aspects within the learning and teaching system that were not within their control. The wider study indicated that the differing nature of the activity, the roles played by the lecturers, and the support given by peers in the two cases did not significantly affect the external regulation scores reported by each group. It is likely that features common to both tertiary online contexts were influential. For example, students in both case studies were aware of the importance of meeting assignment deadlines and gaining passing grades in order to make progress toward attaining a degree.

While some amotivation occurred in both cases and external regulation scores were similar for both groups, results reported for more self-determined types of motivation (identified regulation and intrinsic motivation) were significantly different (see Table 3).

Differences in identified regulation scores indicate that students situated within the context of case study two experienced the microteaching activity as significantly more important and meaningful compared with case study one participants' experiences of the PBL activity. The open-ended questionnaire data supported by interview data suggested that the major reason for this was the perceived relevance of the task to the learners' goals. While all case study two participants found the microteaching activity relevant (both professionally and personally), only half of the case study one participants saw the relevance of the PBL assignment to their needs. In fact, the remainder actively questioned the purpose of completing the PBL activity.

Situational differences were also apparent in relation to intrinsic motivation. Case study two participants reported significantly higher intrinsic motivation than those in case study one (see Table 3). All case study two participants highlighted situational interest (generated by certain factors within the learning environment) as influencing their intrinsic motivation. In contrast, only around half of the case study one participants experienced situational interest in the PBL context. For the rest, other factors within the environment undermined interest and therefore intrinsic motivation (Hartnett, 2010).

Collectively, SIMS subscale results show that participants in both case studies reported

varying degrees of amotivation, external regulation, identified regulation, and intrinsic motivation. Importantly, in both tertiary online learning contexts investigated, perceptions of external regulation were present alongside more self-determined forms of motivation (identified regulation and intrinsic motivation). This supports the argument for looking more closely at multiple types of motivation rather than just intrinsic or extrinsic motivation. A person can be motivated for several different reasons, and these may not be mutually exclusive. In addition, case study two participants reported significantly higher identified regulation and intrinsic motivation than case study one participants. In other words, the intrinsic motivation of case study two participants was not lowered by the general external constraints and demands (external regulation) salient in the tertiary environment. This was not the case for case study one participants.

An explanation for this can be found in the multiple influences that case study one participants highlighted in the immediate learning environment, which undermined their motivation to learn (see Hartnett, 2010). For example, perceptions of the high-stakes nature of the PBL task, perceived lack of relevance, and insufficient lecturer guidance were all identified in interviews and questionnaires as factors that combined in intricate ways to dynamically undermine participants' motivation. In contrast, relatively few influences were identified in the case study two context that undermined motivation. Instead, other considerations in the broader tertiary context (e.g., time constraints due to other responsibilities outside the immediate study situation) were predominantly responsible for the high external regulation scores. Jointly, these findings demonstrate that in these contexts *motivation to learn is complex, multifaceted, and situation-dependent*.

General Discussion

This was a qualitative study: The research results are associated with two specific contexts, and the sample sizes in both case studies are small, which limits the transferability or usefulness of the findings to other online practitioners in diverse settings. What this study does demonstrate is that motivation in such contexts results from a complex interplay between individuals and the environment in which they are situated.

The participant motivation data presented here is cross-sectional in nature. By adopting this type of approach, motivational changes (in terms of the motivation subscales) among learners across the duration of the activity, course, or programme were not visible. It was therefore not possible to observe variations that probably did occur throughout each course. While different motivational patterns may have occurred over time, this does not invalidate the results. Whether or not the various types of motivation co-existed or occurred sequentially, the central point is that motivation is not a one-dimensional trait, but is complex, multifaceted, and influenced by both person and context. For example, unavoidable influences embedded within tertiary contexts, such as grades and time constraints, were shown to influence the motivation of *some* learners, resulting in the reporting of high external regulation scores *as well as* more autonomous types of motivation.

The fact that these students were studying to become teachers might suggest that the microteaching activity (i.e., case study two) would be viewed as more motivating because it more directly aligned with their perceptions of what that future role would involve. However, the differences between the two assignment contexts alone did not account for the diversity in motivation reported by participants across the case studies. This was revealed from the qualitative data, where relevance to future teaching practice featured in *both case studies* as supporting motivation to learn (i.e., identified regulation). Furthermore, the same features of the learning environment, within the same learning context (i.e., case study one), supported the motivation of some learners and undermined others. This suggests that the nature of motivation to learn is a complex mix of person-context interactions.

The situated nature of motivation should not be surprising. To focus on a limited subset of the learning experience such as the technological aspects makes little or no sense. Whether the context is online or face-to-face is of very limited significance to motivation when compared with factors such as whether the learners' goals and interests align with the subject of study, whether sufficient support and guidance is provided to meet those goals and interests, and so on. The same is true of comparisons that only consider pedagogical models and processes: These are only tools and, like any tool, may succeed or fail depending on how they are used and on differences in the surrounding context.

Motivation was also revealed to be multidimensional. Within a given context, learners were shown to be motivated in many different ways as they engaged in online learning activities around an assignment. A range of extrinsic motivations (i.e., external regulation and identified regulation) as well as intrinsic motivation occurred in varying degrees that differed depending on the online environment in which learners were engaged (i.e., motivation was influenced by situational factors).

Importantly, it was not whether learners were extrinsically motivated in the traditional sense (i.e., externally regulated) that was important because there were influences embedded within educational contexts that were unavoidable (e.g., deadlines and grades). Rather, it was the degree to which this type of extrinsic motivation was counterbalanced by more self-determined types of motivation (i.e., identified regulation and intrinsic motivation) that was crucial to the overall motivation of learners.

Conclusion

Previous research has suggested that online learners tend to be intrinsically motivated. While there is some support for that assertion in this study, it does not represent the whole picture. Instead, both intrinsic and extrinsic types of motivation were found to co-exist and were highly sensitive to situational influences. Taking into consideration the different types of motivation, participants across the two cases reported moderate to high levels of multiple types of extrinsic motivation (i.e., external regulation and identified regulation). Only case study two participants also consistently reported similarly high levels of intrinsic motivation. Therefore, from a quality motivation perspective, the perceived importance,

relevance, and utility value of the activity (associated with identified regulation) were just as important as the interest or enjoyment of the task (associated with intrinsic motivation).

While we should be wary of generalising, these findings clearly show that motivation can be a complex and multifaceted phenomenon that cannot be fully explained from the perspective of motivation as either a learner characteristic or an effect of learning environment design. This has important implications for online instructors. While intrinsic motivation constituted an important part of students' motivation to learn in the contexts described here, identified regulation (i.e., recognising the value and importance of the activity) was also important.

Therefore, practitioners need to be cognisant of the important role they play in influencing learner motivation when designing learning activities. Most importantly, the relevance and value of the task (e.g., online discussions) need to be clearly identified and linked to learning objectives to help learners understand how the activity can aid in the realisation of personal goals, aspirations, and interests, both in the short and longer term. By offering meaningful choices (i.e., not just option choices) to learners that allow them to pursue topics that are of interest to them, the perceived value of the activity is further enhanced. Finally, by establishing frequent, ongoing communication with learners, where they feel able to discuss issues in an open and honest manner, practitioners are in a better position to accurately monitor and respond to situational factors that could potentially undermine learner motivation.

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