The surprising truth about how metaphor motivates e-learners

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Abstract

Motivation and engagement is hard to maintain in e-learning. Metaphor entertains and motivates participants in virtual environments. After teaching and researching several courses designed around metaphors, we examined its effect on intrinsic motivation in a course based on a virtual soccer tournament. Using a qualitative methodology to investigate students' use of metaphor in communications, the Cognitive Evaluation Theory (Deci, Koestner, & Ryan, 2001) served as framework to analyse the relationship between the metaphor and intrinsic motivation. We found that there was more copious use of metaphor in the online social discussions, and that it was used for targets of immediate importance and emotional value. Scarce metaphors in reflective journals mapped onto the learning experience. Social constructivist course design required engagement from students that supposed motivation. Unmotivated students were passive, and disrupted the activities of others. Disengaged students can erode motivation of others who become helpless, lose autonomy and feel incompetent.

Keywords: Motivation, metaphor, engagement, competence, autonomy, facilitation

Introduction

Methods to motivate e-learning students is a key issue in higher education, due to poor persistence and completion rates (Morris, Wu, & Finnegan, 2005; Terrell, 2005). Skinner's (n.d.) behaviourist approach to entice students into productive studies has long since fallen out of favour, being replaced by social constructivist and cognitivist learning theories (Anderson & Dron, 2011) that bring learning closer to the individual and his social connectedness. Nevertheless, the notion that rewards drive performance is still alive and well in education with grades the ubiquitous carrot on a stick. Dan Pink dashed the motivational value of rewards in the workplace and the classroom and brought it into the popular domain (2010). He postulates that in cognitively challenging

tasks, rewards undermine motivation, and proposes "the surprising truth about what motivates us" which corresponds loosely with cognitive evaluation theory (Deci et al., 2001) . Solid research from academic psychology suggests that this theory influences motivation in an educational setting (Ryan & Deci, 2000).

Since Aristotle teachers used metaphors to explain new and difficult concepts. Metaphor is a useful pedagogical tool by virtue of its ability to elucidate new and abstract concepts (MacCormac, 1985). For students new in teaching and learning with technology, the online environment is just another new concept that should be explained through metaphor. Therefore we have incorporated metaphors in the design of course over a number of years and studied the effect of the metaphor on student motivation and engagement. The nature of the metaphors we used had different effects, in some aspects beneficial, and in others less positive. All the metaphor-clad courses were part of a Masters in Education degree for students that specialised in teaching with online technology. Web technology was both the topic as the delivery medium of the courses. Over the years we observed that using vivid metaphors in a course inspired students and lecturers. Some of the questions regarding the "how" were still unanswered. In this paper we report on a fully online course that was designed around a virtual soccer tournament metaphor. We compared how students used the metaphor in different types of online communications and sought to uncover the function of metaphor in those kinds of communication.

The research questions are:
1. How do online students use metaphor in different communication media?
2. How does the use of metaphor indicate and influence motivation?

Literature

Motivation

There are several theories about what motivates people. In education, the well-known ARCS motivational model by John Keller (2000) represents the conditions of attention, relevance, confidence and satisfaction that need to be satisfied for students to be fully motivated. Instructional designers often use this model for systematic design of learning events.

Dewey's Practical Inquiry model as operationalised in the Cognitive Presence of the Community of Inquiry Framework (Garrison et al., 2000) proposes four phases, namely Questioning, Exploration, Integration and Satisfaction in a reflective inquiry process. This presence in conjunction with the Social and Teaching presence creates a meaningful learning experience. Comparing ARCS with the Community in Inquiry's Cognitive presence (Garrison, Anderson, & Archer, 2000), shows similarities. The ARCS Attention resembles the CoI's Questioning while its Satisfaction resembles CoI's Resolution. These similarities suggest a strong cognitive component to Keller's motivation model.

Ryan and Deci's Self-determination Theory (SDT) proposes that the most basic needs of belonging, competence and autonomy should be satisfied for people to be motivated and to experience well-being (Ryan & Deci, 2000). Deci, Koestner and Ryan (2001) re-examined the detrimental role of external rewards in education and the nature of intrinsic motivation, as formulated in the Cognitive Evaluation Theory. This theory states that "the innate psychological needs for competence and self-determination" underlie intrinsic motivation (Deci et al., 2001, p. 3). The element of competence that is central in the psychological models corresponds to the Confidence in the ARCS model.

Recently, Pink (2010) adapted the Deci and Ryan theories to explain why people excel in the workplace. He proposed three conditions that motivate people to be innovative and extend themselves: autonomy (engagement); responding to challenges that lead to mastery; and a sense of purpose that makes the world a better place. Pink's autonomy and mastery correspond to the SDT and Cognitive Evaluation Theory's autonomy and competence as prerequisites for motivation, and his sense of purpose to Keller's Significance. The most enduring themes in this brief dissection of the most popular motivation theories can be described as feelings of competence and autonomy.

Events that undermine perceptions of self-determination, will undermine motivation, like rewards with a controlling function (Deci et al., 2001). When students perceive an element of controlling through rewards, factors like evaluations, deadlines, competition, externally imposed goals and the typical classroom atmosphere, decrease intrinsic motivation. Keller (2000) proposes the use of tangible extrinsic rewards to produce

satisfaction and motivation, whereas Deci and co-workers found that tangible rewards tended to be felt as controlling, and decreases motivation. Verbal rewards in the form of positive feedback received in a supportive climate, was experienced as intrinsically motivating, particularly for college-age students. Deci and co-workers propose that educators should increase intrinsic motivation through provision of "more interesting learning activities, to provide more choice, and to ensure that tasks are optimally challenging…to promote creative task engagement, cognitive flexibility and conceptual understanding" (Deci et al., 2001, p. 15).

Metaphor

Educators use metaphor to elucidate foreign, unknown or abstract content. A few words or an image evokes a wealth of information. Metaphor also allows expression of what is otherwise hard to express literally; when it is hard to find the right words, or describe a feeling. Metaphor allows one to describe something in terms of another that possesses the qualities one wishes to convey (Kövecses, 2003). Metaphor means to transfer or to carry over and is essentially a comparison between a vehicle or source (a known entity) and a target (the unknown) (Ortony, 1975). For successful application the listener should have a good understanding of the source or vehicle (Lakoff & Johnson, 1980). Qualities of the source (entailments) are transferred or mapped onto the topic or target (Kövecses, 2003). The learning value from a metaphor resides in these transferred qualities or entailments. In conceptual metaphors the target is an abstract concept and the source a concrete or physical concept. Metaphors are unidirectional, meaning that the process typically goes from the more concrete to the more abstract but not the other way round.

According to Lakoff and Johnson (1980, p. 454), "most of our ordinary conceptual system is metaphorical in nature", implying that we seldom recognise all the metaphors that surround us. Figurative use of language comes "closer to experience and is consequently more vivid and memorable" (Ortony, 1975, p. 53). Metaphors supply compactness, inexpressibility, and vividness. "The function of a metaphor is to express succinctly what can only be said very circuitously if, indeed, it can be said at all" (Ortony, 1975). Compactness of metaphors allows large chunks of information to be constrained or bound together and transferred (Ortony, 1975). The inexpressibility of metaphors offers insight, guide future actions and reinforces experiential coherence (Dodd, 2002). As conceptual transfer is never complete; this hypothesis also enables one to present a concept in a deliberately more acceptable light; thereby adding reinforcement or deliberately hiding aspects of the target concept, as in euphemism (Lakoff & Johnson, 1980). The vividness of metaphors capture the brightness of a unique experience; they conjure up perceptual and sensory images and emotions in the listener (Ortony, 1975). Intense emotions lead to copious metaphorical use when describing feelings because metaphors also indicate emotionality (Fainsilber & Ortony, 1987). Figurative language is part of the way people express emotions, or evoke emotions in others (Gibbs, Leggitt, & Turner, 2002).

Both visual as extended metaphor improves online learning by enhancing success and motivation.

> It would seem, therefore, that placing learning materials for adult learners in a pre-packaged instructivist learning shell, such as those that are currently winning popularity, may create an empoverished learning environment in which the creativity and imagination remains unchallenged. The main contribution of the strong use of familiar metaphors in the examples shared here show that, in Internet-based distance education, covering distance is not as important as enhancing contact (Cronjé, 2001, p. 155).

Research into the use of figurative language in e-learning, showed that students used it "to express the social dimension either to refer to the self, feelings and emotions, or to conceptualise the components of the virtual learning setting" (Delfino & Manca, 2007, p. 2190). They confirmed that the use of figurative language accompanied meaningful and critical events, with more use when emotional involvement increased (Fainsilber & Ortony, 1987). Game-based online courses are particularly vivid and inspirational, producing more successful students who were positive about their courses (Burguillo, 2010).

Background of the study

The history

For many years the University of Pretoria has implemented and researched metaphors (Cronjé, 2001; Cronjé, Adendorff, Meyer, & Van Ryneveld, 2006; Cronjé & Clarke, 1999) that were used in the design of courses in an online Masters in Education programme for students of computer –integrated education. These courses acted as a laboratory for innovative teaching practices in order to explore and exploit new ICT's for teaching. Metaphor had to stimulate creativity, motivation and collaboration (Cronjé, 2001).

We follow the tradition of development design described by Tom Reeves (2006). Lessons learnt from previous courses informed the design of subsequent courses. Some metaphors used in the previous courses were more successful than others. The background to the present study included analysing the previous courses presented in this programme that were designed around metaphor. The initial analysis (not given in detail) used the characteristics of metaphor (Lakoff, 1993; Lakoff & Johnson, 1980) to judge the suitability of each particular metaphor. The previous research on different aspects of these courses provided ample documentation to study the students' experience of each course, as well as the success rates of those courses. Table 1 summarises the characteristics of some of the best-documented course metaphors. The benefits and drawbacks formulated in retrospect indicate how well the online class represented a stimulating and supportive environment conducive to learning.

Table 1: Metaphors previously used in M.Ed (CIE)

Metaphor	Benefits	Drawbacks	Motivation
Virtual classroom	Easy to design and adapt	Classroom replicates real classroom, lecturer centred. Little student interaction	Controlled environment, little autonomy
Rag carnival procession	Highly individualised artefacts	Little collaboration	Autonomy
Virtual opera	Collaborative	Less familiar	Autonomy, little belonging
Halloween party	Original	Culturally objectionable	Autonomy, no belonging
CyberSurfivor game on a virtual island	Game was interesting and inspiring	Voting students off caused undue stress, high drop-out	Controlling undermined autonomy, little competence
Soccer World Cup tournament	Extended metaphor, supports collaboration	Sport not generally accepted in all cultures	Less control, more autonomy, more belonging than previous courses

From the documented student experiences, it was possible to form an impression of whether the elements of motivation theory (Ryan & Deci, 2000) were present in each course as shown in the last column of table 1. Superficial analysis suggested that suitability or failure of the metaphors might influence course success and motivation of the students.

All metaphors were vivid and accomplished their goal of catching attention and motivating students to engage with the course activities. Even though they served as stimulating or contentious themes for assignments, the Halloween Party was an unsuccessful metaphor, judged by the students' reactions. It was culturally alien to the South African students, who were mostly conservative with traditional values; students were particularly offended by the Halloween theme, and trashed the undesirable web pages. Describing their reaction in terms of motivational theory, students did not "belong" in this setting. The metaphor displayed the vividness and compact characteristics of metaphor, but did not explain any unfamiliar terrain, being unfamiliar itself.

Other metaphors also had limited benefits, as neither the classroom nor the Surfivor Island successfully supported an online learning community. Games have huge motivational value; in the virtual environment even more so (Burguillo, 2010; Rieber, 2005). Some students persisted in the highly challenging online course which was based on the Survivor reality television show, because the vivid game metaphor increased their motivation and curiosity through the elements of challenge and fantasy (Cronjé, 2006). On the other side, the course was highly competitive, with the metaphor that threatened students with expulsion off their virtual islands. Therefore few students persisted, and everybody reported excessive anxiety. It is known that competition and control decrease motivation (Ryan & Deci, 2000), and subsequently, persistence. The findings of the background study informed the teaching approach and suggested the characteristics of the metaphor for the present study.

The course

The objectives of the post-graduate course described in this paper were for students in Education to learn how to design an online course and facilitate learning. They had to explore the teaching possibilities of a learning management system, as well as open resources that are useful for teaching, like online games, polls, blogs, personal websites, repositories of resources and many more. The most effective way to learn about learning on the web was to be students in a fully online course with communication limited to web-based tools. The course included theory for which students had to compile online content. Each week had a peer-review activity wherein two peers reviewed each posting and provided formative feedback. After the theoretical part of writing and peer review, students had to apply the theory in practice by creating suitable web-based teaching artefacts. In order to

stimulate interaction, they worked in 3 different teams on week-long collaborative practical assignments. Online facilitation played a central role in the course, as the course simulated students living in all corners of the globe.

We designed the course around a non-threatening game-based metaphor, encouraging students to participate actively in their course. A game is an excellent metaphor to foster interaction amongst students and down-playing the dominance of the instructor (King, 2002). At the point of course design, South Africa was preparing to host the 2010 World Cup Tournament, and on the hype of enthusiasm for soccer we selected a World Cup Soccer Tournament as metaphor. The metaphor would unite the multicultural student group. Like Manca and Delfino, we aimed to show that figurative language helped students to understand their online environment better.

This course lasted for eight weeks, and was delivered via WebCT and a selection of open web resources without any contact classes. We used the metaphor, "*ONLINE LEARNING IS SOCCER TOURNAMENT*" and aimed to transfer characteristics from *Soccer Tournament* as vehicle onto the target or unknown domain of *online learning*. The course wherein students experienced the stress of web-based learning followed constructivist pedagogy. For everybody's benefit all online communication took place via the WebCT™ platform.

Each student represented a country that participated in the real soccer world cup tournament. Each student had to tailor all web artefacts and assignments to reflect the personality, culture, colours and language of his/her country. The online discussion forum was the hub of the learning activities, designated as the "pitch" or "stadium" with weekly posts and peer feedback on designated topics, as "matches". The social forum was not moderated, and provided an informal discussion on topics of choice, called the "gym" or "practice field". It yielded important communications that portrayed the climate in the class. The online facilitator followed the model of *guide on the side* (Collison, Elbaum, Haavind, & Tinker, 2000; Mazzolini & Maddison, 2003), and was portrayed as "coach or referee", depending on the situation. For the collaborative group assignments (Johnson, 2001; Panitz, 1996), teams had private discussion forums and chatrooms " gyms". Students hosted their learning blogs on the open web, and re-used the reflective writings from the blog as source for their final reflective essays. Numerous assignments and tasks required web design either in the LMS or the open web, or on an experimental server in the Faculty. Students found those tasks very challenging, and had to contend with erratic servers and unreliable connectivity, situations that are ever-present in this part of the world (Unwin et al., 2010).

The students
The students were all South African, mostly in full-time teaching, with a few employed in the e-learning industry, higher education or library sciences. The majority of the class lived within a 100 km radius of the University, with three in other provinces. Being a fully online course made it possible for the remote students who only needed one or two subjects to complete their degree. The majority of the students were female reflecting the demographics of the teaching profession in the country, and their ages ranged from in their twenties to nearly fifty. Language-wise the group was very diverse, with six English first-language speakers. For one-third of the class who were black, English was a third or at best second language in which they had little formal schooling. Open communication was therefore a challenge in this very diverse cohort. Seventeen students (80%) completed this course.

Methodology

In-depth analysis of an online course that represented a virtual soccer tournament as metaphor followed an interpretive approach (Hatch, 2002). From the artefacts created by the students during the duration of the course, we present analysis of the following primary documents: 1353 student discussion postings (we filtered out the facilitator posts) seventeen blogs that were created on an open blog site outside the LMS, and the reflective essays that students submitted as part of their end-of-course examination. Those documents were analysed qualitatively with the aid of Atlas Ti™ computer-based qualitative analysis software. In the first round of analysis, we identified metaphoric expressions relating to the soccer tournament metaphor used in the course and coded them deductively according to the metaphor target they referred to. In this process, we took the context of the expressions into account, as revealed by the particular task the students were occupied with at that stage, information from other contemporaneous course documents and the facilitator's documented observations. These codes were then grouped into themes that reflected what the students meant to express by their use of metaphor. A simple tally of metaphorical expressions in the different types of documents reflected the importance of those themes. In the second round of analysis, only metaphorical expressions were

considered, and analysed inductively according to the constructs of Deci and Ryan's theory of motivation (Deci et al., 2001; Ryan & Deci, 2000). All coding and analysis was performed by the first author, which contributed to reliability, as did several revisions of the coding.

In the Discussions, we use the following code to track participants: w=white,b=black, f=female, m=male, l=local, d= distant, e=English, a= Afrikaans, o=other African language

Findings and Discussion

Metaphors were part of the vocabulary of the course, as described by this student in a reflective essay:
"I love the use of metaphors – it's part of my own learning style to associate, compare or tie new knowledge and concepts with something I already know. In this game the use of a metaphor is taken a step further – not only to explain a new concept, but rather to create context and to make the 'playfield' interesting and interactive" [wfle]

Table 2: Comparing the numbers of metaphor-containing messages in discussions and narrative essays

Code	Number of metaphors in Social Discussions	Number of metaphors in Narrative essays
Class, co-learners	11	4
Student problem	10	0
Technical problem	10	1
Falling behind	9	2
Facilitator	8	4
Course work	7	12
Competition	2	7
New metaphors	0	6
	57	36

Students also used the metaphor for other topics than originally given, as shown in table 2. We compared the use of metaphor in the social discussion posts and narrative essays by sorting salience of the leading codes in discussion topics in descending order. The most fertile ground for using the soccer-related metaphorical expressions occurred in the social discussion forum. Students often addressed each other or wrote about other students as *players, team mates, opponents;* the facilitator as the *coach, referee, team doctor*; technical problems like programmes, online tools, connectivity, firewalls and falling behind as *injuries, being on the bench, receiving a red/green/yellow card*, *being in sick bay*. In the discussion that follows, we show illustrative selections from the discussions in quotation marks.

Metaphor in online social discussions

Table 2 shows that the highest frequency of using metaphor was for other students, whether just addressing them or referring to problems. The metaphors students used for co-learners in the first code, were positive and indicated feelings of belonging, as shown in the typical quotation.
"Welcome to the team. It's good to have a fresh player on board (as the coaches say, 'A fresh pair of legs!')" [wfle]

The second code targeting student problems showed that metaphor was used when students did not wish to describe the peer's conduct in literal terms, and soften the criticism. Metaphor allowed them to let off steam, mostly when those students did not engage sufficiently in peer review or group activities.
"both of my opponents did not arrive at the stadium in time for the kick-off" [wfla]

Those problems were always immediate, and caused fair amounts of stress, confirming that people used more metaphors when describing topics that cause emotional reactions (Delfino & Manca, 2007; Fainsilber & Ortony, 1987; Manca & Delfino, 2007).

Metaphors for technical problems indicate frustration and feelings of disempowerment, whereas metaphors indicating falling behind masked the embarrassment. The high use of metaphor in the iscussions therefore indicated the emotional content of the incidents they referred to.
"but my ADSL line is soooo sloooowww!!I think at this stage you must regard me as a seriously

injured player!" [wfla]
"Ref/Coach I somehow get the idea that I am not fit enough to be selected for any soccer team at this moment! I think I should rather take up a managerial position" [wfde]

The described metaphorical expressions also corresponded to topics that can influence students' motivation. One can group the codes for class, co-learners and student problems and classify them as a theme represented by peers. In SDT, significant others can provide the conditions for self-determination, well-being and motivation, under the "belonging" construct (Ryan & Deci, 2000); conversely, rejection undermines motivation. Problem students posed a great threat. They posed the risk that others would not complete certain tasks optimally or on time, undermining feelings of autonomy, as they were helpless to force unresponsive students to contribute their required part. The effect of events feeling out of control (low autonomy) also engendered feelings of incompetence.

The instances where the facilitator was described in metaphor did not show a controlling, motivation-sapping persona. The facilitator as coach was more on the sidelines than on the field, a role of facilitation that was unknown to the students and felt strange in the beginning:
"Ref……the watchdog…..hope this one's not missing in this game"[wfla]
The unobtrusive style of facilitation caused students to assume more control in enforcing guidelines, correcting others, helping where they could. As students participated in the facilitation, it empowered them (Collison et al., 2000; Kettner-Polley, 2005), increased their feelings of autonomy and built up motivation.

Students owned the social discussion forum. They also owned their own intrinsic motivation to perform well in the course. Any course aspect that interfered with or threatened their intrinsic motivation caused stress, and many of those stressors were disguised in the discussions in metaphorical terms. Some students contributed very few metaphors or social posts, with erratic access to the online course. Crystallisation of students' posting frequencies with the content of their blogs indicated that some expected to obtain credits without real effort. A few were not sufficiently ICT literate. It was not surprising that students who started the online course with appropriate preparation and expectations were better motivated to participate in all aspects of their online studies and were more successful.

Metaphor in reflective essays

By the time the narrative essays were written at the end of the eight weeks of challenging, fast-paced coursework, the stresses and uncertainties had been resolved. Whereas the readers of their discussion posts were peers, who understood the metaphors, the readers of their reflective essays were not initially the students; they were the lecturers, the external examiner and the facilitator. Students were much more matter-of-fact about the incidents that caused such havoc during the course, not using metaphor to describe them.
"Working in a team online, there are still those who just don't get the meaning of the word team."[wfla]

Students used the metaphor to describe the coursework, as it had become the terminology used by everybody.
"we had to participate in certain activities to become "super fit virtual soccer players"[bflo]
"Assessing each other is another ball game! Doing a proper assessment is a challenge".[wmle]
"so we played soccer all over the topics and tools of the e-learning industry" [wfla]
"My first injury was on field… when I bumped into JavaScript!"[wmle]

Reflecting on the role of the facilitator was also easier to do clad in metaphor:
"I wondered whether the coach was also acting as team doctor or if they had, in the meantime, appointed a permanent team doctor" [wfla]

Students reflected on their learning process and what they achieved. Their use of metaphor also shows this shift in affect.
"What I liked about these is that the structure was fairly predictable. Like a 'set piece' in a soccer game (a pre-planned set of moves on the field), we knew what we had to do, and the format it would take"[wfde]

The dimension of competition came out much more strongly in the essays than in the discussions.
"I was always aware of the fact that I, too, was being closely observed by my opponents. I knew and they knew that I was always on the move to score a goal."[wfla]

In retrospect, many were quite emotional about how much they had learnt in such a short period of time, due to the high level of challenge that was maintained throughout and the amount of sacrifice that everybody had to make to complete the course.

> "My game plan was to learn as much as possible, to extend myself technically and go into extra time doing this."[bflo]

This was also evident in new metaphors they coined to explain the emotional content of the learning journey.

> "Experience is not always the kindest of teachers, but surely is the best! – A Spanish proverb"[wfla]
> "I'm no longer a digital immigrant. I'm a settler now"[wfla]
> "the 'Dreamweaver' could help me weave and reach the dream!"[wfde]
> "Looking back now, I am reminded about the three-month basic training done by new military recruits"[wmle]

In terms of motivational theory, the use of metaphors in the essays clearly indicated how optimal challenges contributed to feelings of competence (Deci et al., 2001), confidence and satisfaction (Keller, 2000), and resolution (Garrison et al., 2000).

Conclusions

We used a qualitative methodology to analyse students' use of soccer tournament related metaphorical expressions in an online post-graduate course on web-based learning which was designed to reflect a soccer tournament metaphor . The circumstances of the postings strongly dictated the frequency and targets of those metaphors.

The immediacy of the medium and the intended audience plays a large role in how students discuss issues. We found that there was more copious use of metaphor in the online social discussions, than in the essays. In the social discussion forum posts were not moderated and students were allowed to express their opinions and feelings freely. This is where social presence was evident and where a sense of community originated, where the highest number of metaphorical expressions was found. In this forum, metaphors often pointed to challenging events in the online course. Challenges included problems with other students who failed to deliver what was expected; technical problems; falling behind schedule. The spontaneous use of metaphor often indicated emotions regarding the topic, many times pointing to peers. In this forum, metaphorical expressions were also used for targets of immediate importance and emotional value, like technical problems and falling behind schedule. Analysing these metaphors through the framework of the Cognitive Evaluation Theory (Deci et al., 2001) shows the relationship between the metaphors and intrinsic motivation. Emotions caused by problems, whether students, technical or time constraints, contributed to feelings of inadequacy, and undermined a student's feelings of competence, and therefore intrinsic motivation. The importance of social presence is underscored by the metaphors for co-students, whether in a positive or negative connotation, as students intuitively realised how much they depend on peers for success in the online environment. Emotions regarding peers reflect students' feelings of belonging, or challenges to such feelings.

Students compiled an essay as part of their final examination, reflecting on the learning that took place in the course, and drawing from the blogs they wrote continuously during the eight weeks of the course. The primary audience for this essay consisted of the two examiners who did not participate directly in the course. While students often used the soccer tournament metaphor in the social discussions, there were notably fewer metaphors in the essays. Metaphor was most often used to describe aspects of the course and activities for which the soccer-related terms have become embedded. This finding illustrates that a successful metaphor describes a concept more vividly than conventional language (Ortony, 1975). Closer analysis and showed that metaphor use in the essays for coursework were unemotional, therefore the absence of emotion regarding the topic (Fainsilber & Ortony, 1987) removed them from indicating motivation.

We observed that the emotions online students experienced were often quick flare-ups of anger or frustration, caused by feelings of helplessness due to insufficient participation by co-students on whose contributions they relied, as well as helplessness in the light of communications technology that did not function as anticipated.

Research in e-learning emphasises the importance of social presence in online classes, with students forming distinct impressions of co-students and developing affective bonds with them (Garrison, Anderson, & Archer, 2010), forming a close learning community. Metaphor use show up a duality in the affective relationship with peers: a beneficial relationship wherein the student has a sense of belonging to the group and experiencing satisfaction in the learning relationship; and negative emotions of helplessness when online peers fail to perform

as expected, or are absent from activities, undermining the student's feeling of belonging and hence motivation.

Social constructivist online course design includes activities that require ample engagement among students, which assumes sufficient and unwavering motivation. Unmotivated students are passive (Ryan & Deci, 2000), and in this course they disrupted the collaborative activities of other, more motivated students. Passive peers who disrupted and delayed activities with peers could have devastating effects on the motivation of diligent students, as they were helpless to engage the passive students, causing feelings of loss of autonomy. Incomplete or late completion of tasks involving others in peer reviews or collaborative activities also lessened feelings of competence. Highly motivated students therefore risked losing their motivation when forced to collaborate with passive peers.

We know that metaphor in a web-delivered class can support cognitive frameworks for understanding of content and the environment, can introduce opportunities for creativity and self-expression. A game metaphor can, through its vividness, contribute to general motivation as indicated in this essay excerpt: "The metaphor turned what is often regarded as monotonous and boring task into often exciting competition". Metaphor motivates online students in other, surprising ways. It can help students to address problems that would have been sensitive to address by literal names and vent emotions. Well-chosen metaphors can help online students to experience and express feelings of belonging in the class, to strengthen perceptions of autonomy and engender feelings of competence, as those feelings need to foster and safeguard students' intrinsic motivation.

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