

Incorporating the Motivation-Hygiene Theory as a means of Evaluating b-Learning Environments in Higher Education

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This paper examines the plethora of methods developed to evaluate b-learning environments with a view towards highlighting the fact that not many focus directly on the learners involved in the course but include them as part of a wider evaluation which involve practically all stakeholders in the learning process.

This paper purports to introduce a theoretical framework that is widely used in the field of management and in particular the field of employee satisfaction and motivation, the Herzberg Motivation-Hygiene Theory, with a view towards considering it as a potential learner-centred approach for evaluating b-Learning environments. To date, there has been some usage of such a method in the area of faculty satisfaction but there is practically no evidence of its application to learning technologies in higher education.

An exploratory study was carried out with a sample of students attending b-Learning Master's degree programmes at the University of Aveiro in Portugal. The results show that there are certain units of thought that could be considered as being either Motivational (incentives) or Hygienic (disincentives) and are extremely relevant when considering how well the learning environment is functioning.

Keywords: b-Learning; Evaluation; Higher Education; Motivation and Hygiene; Satisfaction

1. Introduction

An abundance of comparative studies have been carried out to examine differing modes of traditional and non-traditional educational environments with a view to examine which could be regarded as the better method of instruction. Unfortunately, in the majority of cases no significant difference was found between them [1].

In an abundance of literature, the method of evaluation used to examine these new learning technologies is often questioned. It is argued that the process of evaluation, judgments about value and worth, is complex, often controversial and challenging [2] [3].

Nowadays, there exists a strong movement towards the importance of authenticity, the adoption of socio-cultural models of learning and the prevalence of practitioner-based evaluation. The implications involved in evaluating learning technologies is clear but not only must one evaluate this impact, the reverse must also be considered; one must also evaluate the impact technology has on evaluation, as well as the consideration of the cost-benefits of such a learning approach. Also, additional information needs to be gathered about the most appropriate approaches to adopt, taking into consideration the differing situations and the strategies for communicating findings effectively.

This study takes the stance that although there has been an abundance of development in the production of toolkits [4] [5], check-lists [6] [7] and fundamental frameworks for evaluating learning technologies [8] [9], the true value of these is yet to be demonstrated and further research into their true effectiveness is required. A major part of evaluation has focused primarily on the structure and content of output and whether learners have learnt, that is, the use of pre and post exams to evaluate competence levels.

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Also, many look at the satisfaction of learners by using a form of Likert scale, which in reality only covers the surface of learner satisfaction.

This study purports to introduce a new theoretical framework to evaluate e-Learning technologies through learner satisfaction that is widely used in the field of management and in particular the field of employee satisfaction and motivation, the Herzberg Motivation-Hygiene Theory [10]. To date, there has been some usage of such a method in the area of faculty satisfaction but there is practically no evidence of its application to learning technologies in Higher Education.

2. Evaluating Technology

Just as mainstream evaluation has recognised that different methodologies have their own strengths and weaknesses, a similar position is now accepted within the context of learning technology in Higher Education. Several authors have advocated using qualitative and quantitative methodologies in order to triangulate results [11], thus enhancing the credibility of evaluation findings [12]. Other important factors that have contributed to this development include the adoption of utility-based approaches from mainstream evaluation [14] and the description of the different strengths and weaknesses of approaches [15].

2.1 Tools for Evaluating

The need for practitioners to carry out their own evaluations, has led to concerns about expertise. Lecturers, for example, may have expertise in their discipline and in teaching, but it is unreasonable to assume that they will have expertise, training, and in many cases even experience of carrying out programme evaluations. As a consequence, several tools have been developed to support practitioners engaging with evaluation, such as, The *Evaluation Cookbook* [15]; the *ELT Toolkit* [16]; the *Flashlight Programme* [17] and the *TILT project* [8] to mention a few.

2.2 Checklists for Evaluating

A common method of evaluation advocated in the area of learning technology is the checklist. Essentially, these consist of a list of issues that commonly arise in the process of designing and implementing learning technology. Users are asked to review resources against them and make their judgement based on this structured consideration.

A wide range of checklists has been developed, each with a slightly different focus. That of Blease [18], for example, involves an initial categorisation of a piece of software into one of five types (drill-and-practice, arcade, simulation games, lab simulations and content-free tools). Another useful illustration of checklists is provided by the staff development pack developed by the Evaluation and Development Review Unity [7]. These resources are intended to allow practitioners lacking experience in evaluation to assess the impact of a project or activity.

Generally, the value of checklists has been called into doubt. A wide range of criticisms has been levelled at them because of their lack of viability, credibility, biasness, reliability etc. [3].

There are ongoing efforts to accumulate lessons learned from faculty studying their own practices using various learning technologies, for example, The Sloan Asynchronous Learning Networks Consortium at <http://www.aln.org/alnweb/aln.htm>. There exist efforts to encourage higher education institutions to improve their own evaluation efforts, for example, the American Association of Higher Education Teaching, Learning, and Technology roundtable group at <http://www.tltgroup.org> and a growing number of affiliates such as the Joint Information Systems Committee's exploration of roundtables in the United Kingdom at <http://www.roundtable.ac.uk>.

Thus, an important lesson from the literature seems to be that higher education uses of learning technologies in particular educational programmes and courses should be evaluated based on the specific

needs and questions of local participants, in other words, the learners. Otherwise, they may be resistant or unable to use the results to improve programme performance.

3. The Motivation –Hygiene Theory

We have basic needs (*hygiene needs*) which, when not met, cause us to be dissatisfied. Meeting these needs does not make us satisfied – it merely prevents us from becoming dissatisfied. The “hygiene” word is deliberately medical as it is an analogy of the need to do something that is necessary but does not contribute towards making the patient well (it only stops them from getting sick). These are sometimes referred to as *maintenance needs*.

There are however, a separate set of needs, according to Herzberg [10], which, when resolved, do make us satisfied. These are called “*motivators*”.

Herzberg asked people, in this case Accountants and Engineers, about times when they felt good and bad about their work. From the results, he constructed a two-dimensional paradigm of factors affecting people's attitudes about work. He concluded that such factors as *company policy, supervision, interpersonal relations, working conditions, and salary* are hygiene factors rather than motivators. According to the theory, the absence of hygiene factors can create job dissatisfaction, but their presence does not motivate or create satisfaction.

In contrast, he determined from the data that the motivators were elements that enriched a person's job; he found five factors in particular that were strong determiners of job satisfaction: *achievement, recognition, the work itself, responsibility, and advancement*. These motivators (satisfiers) were associated with *long-term* positive effects in job performance while the hygiene factors (dissatisfiers) consistently produced only *short-term* changes in job attitudes and performance, which quickly fell back to its previous level.

What struck him the most was that based on his research these were separate groups with separate evaluation and not a part of the same continuum. In other words if a company resolved the dissatisfiers this did not mean that would create satisfaction.

Until recently there has been little research in the adaption or adoption of this theory to technology based learning or in fact to learners confronted with a technology-based learning environment. To date only two cases have been presented which have attempted to examine the motivation and hygiene factors of learners engaged in a form of technology-based learning. [19] [20]

4. Research Approach

4.1 Methodology

It is necessary to point out that at this stage of the research the principle question was whether or not the application of Herzberg's approach would lead to factors that could be considered as being Motivational or Hygienic and that they would indicate a provision of possible factors that should be considered when evaluating a b-learning environment. By approach, we mean asking the students one pertinent question about their experience of studying in a b-Learning environment. The question was: “*I would like you to describe, in as much detail as possible, a time during the study of this subject when you felt especially good and/or bad about your studies. Talk about anything you feel is relevant about the event(s) and your feelings at that time, as well as, any consequences that ensued*”. The students were also provided with a list of considerations to help them in answering the question. This “questionnaire” was posted online, on Blackboard, the Virtual Learning Environment (VLE) in use at the University of Aveiro, over the spring semester of 2006. Data was collected and stored in a database developed to automatically deal with student responses to this particular research. All results were dealt in the strictness of confidentiality and anonymity. As a first step in preparing the analytical scheme all the replies were broken down into “thought units”. A thought unit is defined as a statement about a single event or condition that led to a

feeling, a single characterisation of a feeling, or a description of a single effect. [10] Examples of such were as follows:

“I was frustrated because of the practical work”
“I felt like an extraterrestrial on the first day”
“I suffered a lot but with the help of the teacher I won”
“I was grateful for the good exchange of ideas and the development of friendship”

4.2 Sample

The sample for this study consisted of 83 students enrolled on a Master’s programme in Multimedia in Education at the University of Aveiro, in Portugal. A large majority of the sample was comprised of teachers, while others came from varying backgrounds, such as, full-time post-graduate students; artists, engineers, and journalists. There were 53 responses to the questionnaire, 15 males and 28 females, which implied a 53% response rate.

4.3 Findings

Most of the responses could be grouped into:

1. Those that affected the learner throughout the learning process, and;
2. Those that affected the learner at particular stages in the learning process.

Upon analyses of the varying thought units, certain categories of a positive and negative nature were identified. (See table 1 below)

Table 1 Positive and Negative Categories Derived from Students’ Responses.

Positive Categories	Negative Categories
<ul style="list-style-type: none"> • Course content • Challenges • Developing friendships • Teacher feedback • Group work • Sense of relief • Teacher commitment 	<ul style="list-style-type: none"> • Assessment • Course content • Teacher feedback • Equal treatment • Group work • Health issues • Introductory sessions • Technical issues • Timeframe • Social issues • Workload

As some of these categories overlapped as in the example of “Course content” and “Group work” and the fact that many of these categories could be grouped together into more defined categories, it was necessary to carry out a more in-depth analysis. As a result, a more defined proposed set of Motivators and Hygiene factors was established. (See table 2 below)

Table 2 Motivation and Hygiene Factors derived from Students’ Responses.

Motivation Factors	Hygiene Factors
<ul style="list-style-type: none"> • A Sense of Challenge • Teamwork Spirit • Initial Confidence • Teacher Commitment 	<ul style="list-style-type: none"> • Course Content and Flexibility • External Student Issues • Student Expectations • Mannerisms (behaviourism) • Technical Issues/Access

4.4 Conclusion

As can be seen a clearer set of factors can be derived from the students' thought units, one which depicts a satisfied or motivational state, while the other represents a dissatisfied or hygienic state. In support of Herzberg's theory it would seem that Motivational issues concentrate on the job at hand, for example, teamwork and teacher commitment, while the Hygienic issues concentrate on the environment surrounding the course, for example, external student issues and technical related issues.

While there is no one right way to manage people, all of whom have different needs, backgrounds and expectations, Herzberg's theory offers a reasonable starting point. By creating a learning-centred evaluation system that concentrates on and has as its core objective the promotion of learning satisfaction, we are involving ourselves in the development of learners who are motivated, productive and fulfilled. This, in turn, should lead towards the reduction in drop-out rates and an increase in retention, as well as contributing towards higher quality teaching and teacher satisfaction on the whole.

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