Universidade de Aveiro Departamento de Educação
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AVALIAÇÃO EM CONTEXTOS DE *BLENDED LEARNING* NO ENSINO SUPERIOR

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Tese apresentada à Universidade de Aveiro para cumprimento dos requisitos necessários à obtenção do grau de Doutor em Educação, ramo de Supervisão e Avaliação, realizada sob exclusiva responsabilidade da candidata.

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palavras-chave

Avaliação do Ensino, Avaliação da/para a Aprendizagem, Avaliação por pares, *Blended Learning*, Pós-graduação, Ensino Superior.

resumo

A complexidade crescente da Sociedade da Informação e a Declaração de Bolonha, no contexto Europeu, tem levado as instituições do Ensino Superior (ES) a rever os *curricula* dos seus cursos, preconizando-se a adoção de novas estratégias de ensino e de aprendizagem, bem como de avaliação. Realce-se também que tem havido uma crescente exploração do *eLearning* e do *blended learning* (*bLearning*) no ES, dado que estas modalidades de formação parecem constituir uma opção muito conveniente para a aprendizagem ao longo da vida. Neste contexto, a qualidade assume-se como meta imprescindível na construção do espaço Europeu da Educação e da Formação, onde as instituições do ES competirão, sendo determinante a avaliação como promotora dessa qualidade.

Considerando a problemática acima sintetizada, a investigação desenvolvida, tendo por base quatro artigos científicos publicados, procurou dar resposta a um conjunto de questões de investigação relacionadas com a avaliação em contextos de *bLearning* no ES. Recorreu-se a técnicas e instrumentos diversificados (questionários, análise documental, observação mediada pelas tecnologias) abarcando duas abordagens metodológicas: i) estudo de natureza descritiva e exploratória e ii) estudos de caso relativos a módulos lecionados em *bLearning*.

No primeiro desenvolveu-se um modelo de avaliação de cursos em *bLearning*, e recolheram-se e analisaram-se, a nível nacional, as perspetivas de docentes com experiência de ensino nesta modalidade, sobre as dimensões do modelo. Os estudos de caso apresentados dizem respeito a unidades curriculares de pós-graduação, onde foram exploradas e avaliadas estratégias de ensino, aprendizagem e avaliação em *bLearning*, nomeadamente a avaliação por pares.

Como principais contributos do primeiro estudo destacam-se: o processo de questionamento em torno da avaliação de cursos em contexto de *bLearning*, nomeadamente sobre critérios de garantia de qualidade do *bLearning*, e o próprio modelo desenvolvido, fornecendo um quadro de elementos teóricos, metodológicos e empíricos que podem ser adaptados em contextos similares. Dos estudos de caso, salientam-se os referenciais de avaliação desenvolvidos e os instrumentos de recolha de dados, para além da disseminação de "boas práticas" de avaliação que poderão ser transversais e utilizáveis por outras unidades curriculares em contextos semelhantes.

Como principais recomendações para a avaliação do ensino de cursos em regime de *bLearning* realçam-se: o uso de objetos de avaliação multifacetados; a avaliação ao longo do processo e não apenas no final; e o envolvimento de vários intervenientes, incluindo os estudantes (cujo *feedback* é essencial para monitorizar a qualidade do ensino e da aprendizagem). Quanto aos estudos de caso sublinha-se: a necessidade de discussão dos referenciais de avaliação a explorar, e consequente aumento da transparência do processo de avaliação; o incremento da interação entre os grupos; e a avaliação por pares como estratégia de promoção de uma aprendizagem ativa e autónoma.

Para além dos contributos e recomendações para a prática e a investigação na área de avaliação em contextos de *bLearning* no ES, acima elencados, entende-se que emergem deste estudo orientações relevantes no que concerne à avaliação educacional em contextos de *bLearning*, com vista à melhoria da qualidade do ensino, da aprendizagem e da avaliação.

keywords

Evaluation of Teaching, Evaluation of/for Learning, Peer Assessment, Blended Learning, Post-graduation, Higher Education

abstract

The increasing complexity of the Information Society and the Bologna Declaration in the European context has led Higher Education (HE) institutions to revise their curricula courses, as far as the adoption of new strategies for teaching and learning as well as evaluation are concerned. It can also be emphasized that there has been a growing use of eLearning and of blended learning (*bLearning*) in HE, since these modes of training seem to be a very convenient option for lifelong learning. In this context, quality is taken as an essential goal in the development of the European Space for Education and Training, where HE institutions compete among themselves, and where evaluation is determinant as a promoter of this quality.

Considering the problems summarized above, the research developed, based on four published scientific papers, intended to answer a set of research questions related to evaluation of bLearning contexts in HE. The study used diverse techniques and instruments (questionnaires, document analysis, and observation mediated technologies) spanning two methodological approaches: i) study of descriptive and exploratory nature and ii) case studies of bLearning modules.

In the first approach an evaluation model for bLearning courses was developed, where we collected and analyzed, at a national level, the opinions of teachers with bLearning experience about the model dimensions. The case studies presented are post graduation curricular units, where bLearning teaching, learning and evaluation strategies were explored and evaluated, namely peer assessment.

The main contributions of the first approach are: the process of questioning around the evaluation of bLearning courses, namely the quality assurance criteria for bLearning, as well as the model developed, providing a framework of theoretical, methodological and empirical elements that can be adapted in similar contexts. From the case studies emerged: the developed evaluation guidelines and the data collection instruments, in order to disseminate evaluation “best practices” that may be useful for other units in similar contexts.

Regarding the recommendations about the evaluation of teaching of bLearning courses we emphasize: the use of versatile evaluation objects; the evaluation throughout the process and not just at the end; and the involvement of multiple evaluators, including students (whose feedback is essential to monitor the quality of teaching and learning). From the case studies we highlight: the need for discussion of evaluation frameworks to explore, and consequent increase in the transparency of the evaluation process; the increased interaction between groups; and the peer assessment as a strategy to promote active and autonomous learning.

In addition to the contributions and recommendations for practice and research in the area of evaluation in bLearning contexts in HE, listed above, it also emerged from this study useful guidelines regarding educational evaluation in bLearning contexts, in order to improve the quality of teaching, learning and evaluation in such contexts.

"*Blended learning is a nascent and rapidly developing field*."

Clayton Christensen Institute

Índice

1. INTRODUÇÃO

O presente documento emerge da investigação realizada enquanto tutora e docente de módulos de programas de pós-graduação em regime de *blended Learning* (*bLearning*) e Investigadora Auxiliar no Centro de Investigação "Didática e Tecnologia na Formação de Formadores" da Universidade de Aveiro, ao abrigo do Programa Ciência 2007, financiado pela Fundação para a Ciência e a Tecnologia (FCT). A investigação desenvolvida centrou-se na avaliação em contextos de *bLearning* no Ensino Superior (ES), abarcando estudos com diferentes abordagens metodológicas: i) sobre avaliação de cursos em *bLearning* e ii) estudos de caso relativos a módulos lecionados em *bLearning*. No primeiro desenvolveu-se um modelo de avaliação de cursos em *bLearning*, onde se recolheram e analisaram as perspetivas de docentes com experiência no ensino nesta modalidade em instituições portuguesas, sobre as dimensões do modelo, culminando em recomendações que poderão constituir contributos importantes para aqueles que se preocupam com as questões da avaliação do ensino em contextos de *bLearning*. Os estudos de caso dizem respeito a unidades curriculares de pós-graduação, onde foram exploradas e avaliadas estratégias de ensino em *bLearning*, (nomeadamente o trabalho colaborativo e a utilização da avaliação por pares, enquanto estratégias que promovem a qualidade da aprendizagem, em contexto de *bLearning*) com o intuito de disseminar boas práticas de avaliação que poderão ser transversais e utilizáveis noutras unidades curriculares em contextos semelhantes.

O **corpo do trabalho** tem por base um conjunto de artigos científicos já publicados, perfazendo um total de quatro (dois artigos publicados em revistas científicas internacionais e dois em capítulo de livro), que tomam a forma de um conjunto considerado coerente e relevante para a área científica do doutoramento em causa, ao abrigo do artigo 64º do Regulamento de Estudos da Universidade de Aveiro. A **temática** desta investigação surgiu face, não só, ao *background* académico da investigadora que, após conclusão do seu doutoramento em Biologia, desenvolveu um projeto de pós-doutoramento na área da avaliação do impacte de cursos de pós-graduação no desenvolvimento profissional de professores de Biologia, aprofundando fundamentos da área de avaliação educacional, mas também considerando a sociedade de informação em que vivemos e as suas implicações para o ES, onde os padrões de qualidade e de eficácia

terão que aumentar, atendendo às diretrizes europeias e nacionais que vão sendo veiculadas. De acordo com essas orientações, espera-se que o ES seja perspetivado de forma ampla e complexa, ou seja, deverá levar a que se desenvolvam competências transversais e específicas ao longo de um escopo temporal alargado, com ou sem interrupções. A esta conceção de ES estão subjacentes dois conceitos fundamentais: o de aprendizagem ao longo da vida e o de mobilidade – aliás, presentes no compromisso que as instituições de ES Europeias têm vindo a assumir desde a Declaração de Bolonha (EU, 1999; EU, 2009; Eurydice, 2009; EU, 2010; EU, 2013a; EU, 2013b).

A complexidade crescente da Sociedade da Informação e a Declaração de Bolonha, no contexto europeu, tem levado as instituições do ES a rever os *curricula* dos seus cursos, preconizando-se a adoção de novas estratégias de ensino e de aprendizagem, bem como de avaliação. Realce-se também que tem havido uma crescente exploração do *eLearning* e do *bLearning*, dado que estas modalidades de formação parecem constituir uma opção muito conveniente para a aprendizagem ao longo da vida (Carneiro, 2003; Carvalho, 2006; Graham, 2006; Bottentuit Junior & Coutinho, 2007; Kaznowska, Rogers & Usher, 2011; Loureiro & Pombo, 2012). Neste contexto, designado por "Europa do conhecimento", a qualidade assume-se como meta imprescindível na construção do espaço Europeu da Educação e da Formação, onde as instituições do ES competirão, sendo a qualidade determinante para o sucesso das instituições de ES (ENQA-UE, 2005; Eurydice, 2009; EACEA; Eurydice; Eurostat; Eurostudent, 2012).

Ao nível das **estratégias de ensino e de aprendizagem**, tal como referem Loureiro & Pombo (2012), tem havido um enfoque crescente na aprendizagem personalizada e na aprendizagem colaborativa, enquanto estratégias que potenciam o desenvolvimento de competências pessoais e profissionais que envolvem iniciativa, responsabilidade e criatividade, entre outras, assim como competências sociais necessárias à construção conjunta do conhecimento, que poderão ser desenvolvidas proativamente em ambientes sociais e/ou em contexto de trabalho (Redecker, Leis, Leendertse, Punie, Gijsbers, Kirschner, Stoyanov & Hoogveld, 2011).

De uma forma geral em Portugal, tradicionalmente, a lecionação ao nível do ES tem vindo a ser um ato centrado no docente, sendo a matriz educacional controlada, de uma

forma geral, por modelos relativamente conservadores (Carneiro, 2003; Carvalho, 2006; Pacheco, 2009). No entanto, Costa & Fradão (2012) e Gomes, Amante & Oliveira (2012) referem a importância das práticas de ensino e de aprendizagem se afastarem das práticas de natureza predominantemente transmissiva, privilegiando uma perspetiva que promova um papel mais ativo do estudante, dando-se ênfase à sua aprendizagem, às competências a desenvolver, e não apenas ao que o professor ensina. Torna-se, assim, necessário desenvolver programas de avaliação de competências que considerem novas formas de avaliação das aprendizagens, substituindo a "cultura do teste" pela "cultura de avaliação" que recorre a múltiplas metodologias, momentos, intervenientes e processos de avaliação, tal como referem Dierick & Dochy (2001) e Gomes, Amante & Oliveira (2012).

Ainda relativamente à avaliação das aprendizagens, vários autores têm preconizado a avaliação formativa que tem assumido outras denominações como avaliação alternativa (Fernandes, 2008) ou participativa (Soeiro, Figueiredo & Ferreira, 2011), enquanto estratégia de aprendizagem. A avaliação por pares, entendida como um processo em que os estudantes avaliam e são avaliados pelos seus pares (Topping, 2008), é considerada como estratégia de avaliação inovadora que possibilita uma avaliação para a aprendizagem, dado integrar diferentes perspetivas sobre o trabalho em curso (Gielen, 2007; Topping, 2008; Zundert, Sluijsmans & Merriënboer, 2010; Loureiro & Pombo, 2012).

Os benefícios da avaliação por pares na aprendizagem são apontados por diversos autores (por exemplo, Li, Liu & Steckelberg, 2010; Topping, 2008, 2010; Zundert, Sluijsmans & Merriënboer, 2010; Loureiro, Pombo & Moreira, 2012 ou Loureiro & Pombo, 2012) e podem situar-se ao nível cognitivo (ganhos na aprendizagem) ou afetivo (aumento de motivação e sentimentos de eficácia e satisfação). No que respeita ao processo de aprendizagem, a avaliação formativa por pares pode desencadear processos de autorregulação da aprendizagem, ou seja, processos de reflexão sobre o que se aprendeu. No entanto, os benefícios da avaliação por pares, acima referidos, dependem das atitudes dos estudantes, pois este tipo de atividades podem acarretar sentimentos de desconforto, se os estudantes não se sentirem à vontade para emitir juízos de valor sobre

o trabalho dos colegas. Consequentemente, a avaliação por pares pode causar ansiedade e resistência da parte dos estudantes (Kaufman & Schunn, 2011; Mok, 2011; Patton, 2012; Loureiro & Pombo, 2012). Por outro lado, a literatura da especialidade aponta também que a avaliação por pares requer tempo, dado ser necessário desenvolver as competências específicas, preparar e monitorizar o processo, embora possa resultar em ganhos de tempo para os docentes, principalmente em situações em que a avaliação por pares substitua o *feedback* dos docentes, em vez de o complementar (Gielen, 2007; Topping, 2010). Joordens, Desa & Paré (2009) referem também que a exploração de ferramentas de comunicação a distância, na avaliação por pares, pode aumentar a sua eficiência (por exemplo, do ponto de vista logístico) e enriquecer os processos de aprendizagem. Contudo, uma vez que em muitas instituições do ES a avaliação da aprendizagem é ainda efetuada por recurso a instrumentos de avaliação "tradicionais", testes e relatórios, que são classificados pelos professores (Blin & Munro, 2008; Peng, 2008; Loureiro & Pombo, 2012), as estratégias de avaliação utilizadas são limitadas. Nesta linha de preocupação, o trabalho desenvolvido tem promovido a exploração de estratégias de avaliação formativa tendo em vista a melhoria da qualidade dos processos de formação, em particular no contexto de pós-graduação em regime de *bLearning*.

Para além do exposto, e como acima referido, um dos grandes desafios atuais é o uso conjugado de recursos multimédia e da Internet para desenhar e tornar disponíveis os conteúdos educacionais e desenvolver competências em contextos de *eLearning* (APDSI, 2007; Moreira, Ferreira & Almeida, 2013). Com a crescente facilidade de acesso e de utilização das Tecnologias da Informação e da Comunicação (TIC), e mais recentemente, a divulgação das ferramentas da *Web 2.0*, chegam ao ES estudantes designados por "*net generation*" ou "*digital natives*" (Oblinger & Oblinger, 2005, Kennedy, Krause, Gray, Judd, Bennett, Maton, Dalgarno & Bishop, 2006). Esta realidade gerou uma nova vaga de estudos, nomeadamente no ES, em que se questiona se os modelos de formação "tradicionais" são adequados às necessidades e perfis dos estudantes (ver, por exemplo, os relatórios de estudos desenvolvidos com financiamento da Joint Information Systems Committee - JISC - em http://www.jisc.ac.uk ou Conole, Laat, Dillon & Darby, 2008). Esta corrente defende a adoção de modalidades de formação

em *bLearning*, dado constituir um forte desafio para o desenvolvimento e inovação no campo da educação, bem como para a integração curricular das TIC (Graham, 2006; Garrison & Vaughan, 2008; Pereira & Figueiredo, 2010).

O ***bLearning*** é muitas vezes considerado como um modelo híbrido ou misto de componentes de aprendizagem *online* combinadas com sessões presenciais (Graham & Robison, 2007). No entanto, sublinhe-se que o conceito de "*blend*" tem sido interpretado de várias formas, tal como exposto em Pombo & Moreira (2012). Assim, *blend* pode referir-se a uma combinação de: i) estratégias pedagógicas, combinando atividades de resolução de problemas com debates, por exemplo, tal como refere Donnelly (2006); ii) tecnologias de suporte, utilizando diferentes ferramentas, tais como os fóruns, *podcasts*, *wikis*, *blogs*,…, como referem Walker & Beats (2008); ou ainda iii) estratégias de ensino, onde sessões presenciais e atividades *online* estão organizadas de forma a tirar o melhor partido de ambas as estratégias (Garrison & Vaughan, 2008; Stacey & Gerbic, 2008). É no *blend* destas várias vertentes que este estudo se posiciona, pois considera-se que o *bLearning* constitui um ambiente de ensino e de aprendizagem que pretende ser mais rico do que o "tradicional" ambiente transmissivo tirando partido das tecnologias disponíveis (seja em ambiente *online* ou presencial).

Como acima referido, as instituições do ES, tanto no país como internacionalmente, estão preocupadas com a implementação e desenvolvimento do *bLearning*, bem como com a sua avaliação e qualidade (ENQA-EU, 2005; EURYDICE, 2009). No processo de ensino e de aprendizagem, a **avaliação** pode ser perspetivada de duas formas: ou como um meio de verificação; ou, segundo o *Paradigma do Enhancement* (Withers, 1995), como um processo de procura de sentidos conducentes à melhoria da qualidade do objeto em avaliação. Pode definir-se a avaliação como um procedimento que envolve a dialética entre o objeto de avaliação - o referido - e o que dele (de elevado) se espera – referente -, segundo a terminologia usada por Hadji (2001). Assim, as práticas de avaliação são norteadas por um conjunto de referentes teóricos sobre o objeto em avaliação e da qual derivam os critérios e indicadores a ser usados nas mesmas – processo de referencialização (Hadji, 1992; 2001; Figari, 1996). A complexidade dos objetos de avaliação impõe diversas perspetivas sobre eles, usando várias

fontes/instrumentos (como se avalia) e diversos atores (avaliadores), bem como um processo subjetivo de negociação entre os atores envolvidos.

Aparentemente parece paradoxal falar-se sobre a **qualidade** do *bLearning*, uma vez que a qualidade é frequentemente associada à verificação das normas impostas externamente (Harvey & Williams, 2010; Pombo & Moreira, 2012). No entanto, tal como referido anteriormente, a qualidade também pode ser entendida a partir de uma perspetiva orientada para o desenvolvimento, promovendo uma melhoria no processo de ensino e de aprendizagem e, consequentemente, produzir melhores resultados, considerando os padrões de qualidade em causa (Ehlers, 2009). Sob este ponto de vista, a autoavaliação, a reflexão e a avaliação por pares são consideradas muito importantes devido aos seus benefícios na aprendizagem, como apontado por vários autores (Topping, 2008; Ehlers, 2009; Zundert, Sluijsmans & Merriënboer, 2010; Loureiro & Pombo, 2012).

Em termos institucionais são reconhecidas as iniciativas de garantia de qualidade no *eLearning*, e particularmente no *bLearning* do ES (Weaver, Spratt & Nair, 2008; Ireland, Correia, & Griffin, 2009), uma vez que as instituições do ES procuram a qualidade nas suas ofertas de cursos em e- ou *bLearning*. Por exemplo, a *European Association of Distance Teaching Universities* (EADTU) é uma rede institucional Europeia que abrange mais de 200 universidades e cerca de três milhões de estudantes em toda a Europa (Pombo & Moreira, 2012). Esta associação integra o *E-Xcellence Associates* que é um movimento europeu que procura a garantia de qualidade em *eLearning*, mais especificamente na construção de um referencial de qualidade em *eLearning*. O *E-Xcellence Associates* apresenta como elementos prioritários para o ES: a acessibilidade, a flexibilidade, a interatividade e a personalização. As estratégias da EADTU integram-se na Declaração de Bolonha e na Estratégia de Lisboa da União Europeia. Os objetivos da EADTU perspetivam: i) a aprendizagem ao longo da vida; ii) o desenvolvimento institucional dos membros, e iii) a investigação e inovação de uma educação aberta e flexível (http://www.eadtu.nl/e-xcellencelabel/default.asp?mMid=1).

Outro exemplo é o *Open & Distance Learning Quality Council* (ODL-QC) (Pombo & Moreira, 2012), cuja finalidade é a garantia da qualidade do ensino aberto e a distância, incluindo o *eLearning* e o *bLearning*. Para este Conselho, as normas que garantem a

qualidade da aprendizagem aberta e a distância integram seis categorias: i) resultados, ii) recursos, iii) apoio; iv) oferta, v) interlocutores e vi) colaboração (http://www.odlqc.org.uk/index.htm).

Realça-se, do acima exposto, que apesar dos esforços que têm vindo a ser realizados, as questões da avaliação e da qualidade em contextos de *bLearning* não são consensuais, como se pode inferir dadas as diferentes normas adotadas pelas instituições acima referidas. Permanecem ainda em discussão questões fundamentais, como: O que deve ser avaliado? Quais devem ser os valores de referência para o controle de qualidade? E como podemos garantir a qualidade dos cursos em *bLearning* com características tão específicas?

Neste contexto, a questão-chave da investigação desenvolvida prende-se com a forma como se pode avaliar um ambiente de aprendizagem em *bLearning*. Perspetiva-se que tanto estudantes como docentes são atores do processo de ensino e de aprendizagem e devem estar envolvidos na avaliação da qualidade do ensino (Arbizu, Olalde & del Castillo, 1998; Jara & Mellar, 2009). Vários autores, tais como Hummel (2006), Jara & Mellar (2010) ou Zundert, Sluijsmans & Merriënboer (2010) consideram que um ciclo de avaliação que se baseia no *feedback* dos estudantes e de pares é fundamental para a melhoria da qualidade do ES. No entanto, no que respeita a contextos de *bLearning*, permanecem questões como, por exemplo: Como se define a qualidade do ensino em *bLearning*? Como recolher, selecionar e potenciar a informação proveniente dos estudantes e dos pares?

Considerando a problemática acima sintetizada, o presente trabalho insere-se na área de investigação sobre Avaliação em contextos de *bLearning* no ES e tem como **finalidades**: i) propor um modelo de avaliação de cursos em *bLearning* no ES; ii) analisar e divulgar "boas práticas" de ensino, aprendizagem e avaliação adequadas a esta modalidade de ensino, tais como o trabalho colaborativo ou a avaliação por pares; e iii) delinear recomendações sobre metodologias de avaliação que visem a melhoria da qualidade do ensino e da aprendizagem e que poderão constituir contributos importantes para aqueles que se preocupam com as questões da avaliação do ensino e da

aprendizagem em contextos de *bLearning*, assim como contribuir para a investigação na área da avaliação do ensino e da aprendizagem em contextos de *bLearning* no ES.

Face ao exposto, enunciam-se as seguintes **questões de investigação**:

i) Como devem ser avaliados os cursos em regime de *bLearning* (finalidades, executores, instrumentos, *timings* e objetos de avaliação)?

ii) Como promover a qualidade dos processos de ensino, aprendizagem e avaliação em contextos de *bLearning*, explorando ferramentas da *Web 2.0*?

iii) Como explorar a avaliação por pares em contextos de *bLearning*, tendo por base os princípios de uma avaliação formativa e para a melhoria da aprendizagem?

Os principais **objetivos** delineados para o estudo são: (i) analisar e refletir sobre a avaliação do ensino em cursos em regime de *bLearning*, face ao enquadramento teórico da área e ao quadro dos desafios lançados pela Declaração de Bolonha; (ii) descrever e analisar práticas de ensino, de aprendizagem e de avaliação em módulos de pós-graduação em regime de *bLearning* consideradas de qualidade; (iii) desenvolver (conceber, implementar e avaliar) estratégias de avaliação por pares num estudo longitudinal em módulos de pós-graduação em regime de *bLearning*.

Na tabela 1 pretende-se dar uma perspetiva geral do trabalho desenvolvido, procurando-se articular as publicações que o constituem com as questões e os objetivos de investigação, bem como as técnicas e instrumentos explorados. Seguidamente, ainda que de forma sintética, descrevem-se os eixos do trabalho desenvolvido, remetendo para as publicações efetuadas em cada um deles.

Num primeiro eixo do estudo recorreu-se à revisão de literatura sobre modelos e estratégias de avaliação que têm sido usados em ambiente de *bLearning* no ES, culminando com uma proposta de modelo de avaliação de garantia de qualidade neste regime de ensino. O modelo de avaliação desenvolvido está organizado em torno de quatro dimensões (Pombo & Moreira, 2012):

- finalidades da avaliação (para que é que se avalia);
- executores da avaliação (quem avalia);
- instrumentos utilizados na avaliação e momentos da sua aplicação (a forma como se avalia e quando);
- objetos de avaliação (o que se avalia).

Tabela 1 - Síntese da investigação articulando as questões de investigação com os objetivos propostos, as técnicas e instrumentos de recolha de dados e as publicações resultantes do trabalho desenvolvido.

Questão de investigação i)- Como devem ser avaliados os cursos em regime de *bLearning* (finalidades, executores, instrumentos, *timings* e objetos de avaliação)?		
Objetivos	Técnicas e instrumentos	Publicações
• analisar e refletir sobre a avaliação do ensino em cursos em *bLearning*, face ao enquadramento teórico da área e ao quadro dos desafios lançados pela Declaração de Bolonha	• Revisão sistemática de literatura da especialidade • Inquérito por questionário a 100 docentes do ES (79 válidos) em *bLearning* de 11 instituições portuguesas	• Pombo & Moreira (2012) (http://link.springer.com/chapter/10.1007%2F978-1-4614-3175-6_4#page-1)
Questão de investigação ii)- Como promover a qualidade dos processos de ensino, aprendizagem e avaliação em contextos de *bLearning*, explorando ferramentas da *Web 2.0*?		
• descrever e analisar práticas de ensino, de aprendizagem e de avaliação em módulos de pós-graduação em regime de *bLearning* consideradas de qualidade	• Análise documental interna dos documentos e orientações fornecidos aos estudantes • Inquérito por questionário a 19 mestrandos (num total de 28) a frequentar "Avaliação de Software Educativo" em 2006/07 • Inquérito por questionário a 22 doutorandos (num total de 24) a frequentar "Educação a Distância" em 2008/09 • Observação mediada pelas tecnologias e recolha de artefactos (reflexões individuais desses estudantes, no início e no final do módulo)	• Pombo, Loureiro, Balula & Moreira (2009) http://www.iste.co.uk/index.php?f=a&ACTION=View&id=284 • Pombo, Loureiro & Moreira (2010) http://www.tandfonline.com/doi/pdf/10.1080/09523987.2010.518814
Questão de investigação iii)- Como explorar a avaliação por pares em contextos de *bLearning*, tendo por base os princípios de uma avaliação formativa e para a melhoria da aprendizagem?		
• desenvolver (conceber, implementar e avaliar) estratégias de avaliação por pares num estudo longitudinal em módulos de pós-graduação em regime de *bLearning*	• Análise documental interna dos documentos e orientações fornecidos aos estudantes • Inquéritos por questionário a doutorandos a frequentar "Educação a Distância" em 2008/09 (22, num total de 24); 2010/11 (18, num total de 18) e 2011/12 (13, num total de 14) • Análise documental interna das conclusões e reflexões sintetizadas em artigos publicados anteriormente	Pombo & Loureiro (2013) http://dx.doi.org/10.3991/ijac.v6i2.2829

Ressalva-se que o modelo, apesar de apresentar as suas dimensões separadas, deve ser perspetivado como um todo articulado, ou seja, as diferentes dimensões e sua especificação devem ser consideradas peças de um puzzle (Pombo & Moreira, 2012). Este modelo pode ser útil para quem está envolvido na criação de cursos com estas especificidades, onde a aprendizagem envolve o uso de tecnologias em rede e atividades de trabalho colaborativo, refletindo os princípios de Jara & Mellar (2009) que estiveram subjacentes ao desenvolvimento do modelo proposto. Ainda neste eixo, foi feito o levantamento, a nível nacional, das perceções de docentes, considerados peritos dada a sua experiência em ensino em *bLearning*, sobre a avaliação do ensino naquele contexto, recorrendo a um inquérito por questionário (ver anexo 1).

O questionário foi construído tendo por base o modelo acima referido e validado por 3 especialistas. Foi enviado personalizadamente, através de correio eletrónico, a 100 docentes com experiência na lecionação de módulos em *bLearning* de todo o país, sendo a taxa de respondentes de 79%. Estes docentes contactados foram identificados após a seleção das instituições públicas Portuguesas que oferecem cursos em regime de *bLearning*, através dos coordenadores dos referidos cursos.

O modelo e os resultados do inquérito aos peritos nacionais foram apresentados sob a forma de comunicação oral na *ICEM&SIIE Joint Conference* "*Old meets new – media in education"*, que teve lugar no Departamento de Educação da Universidade de Aveiro, entre 27 e 30 de Setembro de 2011. Esta comunicação foi selecionada pela Comissão Científica como uma das melhores do encontro e os autores foram convidados a publicá-la sob a forma de artigo num livro editado pela *Springer* (Pombo & Moreira, 2012). Deste trabalho surgiram outros, com diferentes enfoques, tais como a opinião de coordenadores de cursos em *bLearning* (Pombo & Moreira, 2011) e de especialistas internacionais com experiência em *bLearning* (Pombo & Moreira, 2012b). Considerou-se pertinente apenas apresentar nesta tese o artigo referido acima (Pombo & Moreira, 2012) por ser o que apresenta o modelo de avaliação na sua globalidade, de onde emergiram recomendações sobre modelos de avaliação que visam a melhoria da qualidade do ensino em contextos de *bLearning*.

Num segundo eixo do trabalho, pretendeu-se avaliar módulos em regime de *bLearning*, tanto de Mestrado como de Doutoramento. Na presente tese são apresentados apenas dois artigos de vários que têm vindo a ser publicados nesta área, por incluírem módulos dos dois ciclos. Um dos artigos (Pombo, Loureiro, Balula & Moreira, 2009) pretendeu apresentar e discutir estratégias de ensino, de aprendizagem e de avaliação, assim como de ferramentas exploradas no módulo de Mestrado em Multimédia em Educação (Pré-Bolonha) em regime de *bLearning*. Descreveu-se a forma como foi avaliado o processo de aprendizagem e foram analisadas as opiniões dos estudantes no que se refere ao seu interesse pelo módulo, às atividades e ferramentas exploradas, à relevância *versus* dificuldade das tarefas propostas. Foram também analisadas as suas reflexões sobre a sua aprendizagem aquando da frequência do módulo em análise. A partir da revisão de literatura foi desenvolvido um inquérito por questionário (ver anexo 2) que foi respondido por 19 mestrandos (num total de 28) que estavam a frequentar o módulo "Avaliação de Software Educativo" em 2006/07 do Mestrado em Multimédia em Educação, onde a investigadora era também tutora. O artigo foi apresentado primeiro no "*Fifth EDEN 2008 Research Workshop - Researching and promoting access to education and training: the role of distance education and elearning in technology-enhanced environments"*, na UNESCO, Paris, de 20 a 22 de outubro de 2008. Foi considerado como um dos "*six best papers*" para o "*Best Paper Award competition*" e posteriormente publicado sob a forma de capítulo de livro editado pela *ISTE & John Wiley & Sons, Inc.* (Pombo, Loureiro, Balula & Moreira, 2009).

Na sequência do trabalho acima referido, surgiu outro, em que a investigadora esteve envolvida como docente no Programa Doutoral em Multimédia em Educação na Universidade de Aveiro. Neste seguiu-se a mesma metodologia de ensino, desempenhando os estudantes um papel fundamental na avaliação dos módulos em *bLearning*. O artigo apresenta a metodologia de ensino, as ferramentas, as atividades e as estratégias de avaliação das aprendizagens. O módulo foi avaliado pelos estudantes através do preenchimento de um inquérito por questionário aplicado no final do módulo (ver anexo 3). Responderam ao inquérito 22 doutorandos (num total de 24) a frequentar o módulo de "Educação a Distância" em 2008/09. Os resultados foram publicados na

revista "*Educational Media International*" (Pombo, Loureiro & Moreira, 2010) e têm implicações práticas no desenho das atividades que priorizam a colaboração e atividades inovadoras de avaliação das aprendizagens, tal como a avaliação por pares.

Na sequência destes dois trabalhos, outros se seguiram, tendo em conta os resultados dos estudos antecedentes e envolvendo sempre os estudantes na avaliação do trabalho realizado pelos seus pares. A crescente integração das tecnologias digitais na educação, em Portugal, tem permitido novos contextos e cenários em termos das abordagens pedagógicas (Pombo, Morais, Batista, Pinto, Coelho, & Moreira, 2013), o que implica necessariamente uma alteração nos processos, estratégias e atividades de ensino e de aprendizagem, assim como nos próprios processos de avaliação das aprendizagens (Gomes, Amante & Oliveira, 2012). Por isso, torna-se relevante divulgar práticas de avaliação diversificadas e adequadas à crescente integração de ambientes digitais de aprendizagem no ES, tal como a avaliação por pares em regime de *bLearning*, e refletir sobre os seus resultados.

No **terceiro e último eixo da investigação** pretendeu-se apresentar um estudo longitudinal com uma abordagem do tipo "*design-based*", ao longo de 3 anos, no módulo de "Educação a Distância", lecionado em *bLearning*, do Programa Doutoral em Multimédia em Educação da Universidade de Aveiro. Este estudo (Pombo & Loureiro, 2013), publicado na revista "*International Journal of Advanced Corporate Learning*", resume as alterações que têm vindo a ser consumadas de um ano para o ano subsequente, tendo em vista a melhoria das estratégias de avaliação exploradas para a aprendizagem. A partir da análise das estratégias implementadas, em particular no que respeita à autoavaliação e à avaliação por pares, em contexto *online*, os ciclos de *design* possibilitaram a identificação de problemas relacionados, por exemplo, com as tecnologias utilizadas ou com a falta de familiarização dos estudantes com conceitos e referenciais de avaliação. Os ciclos de *design* possibilitaram também a implementação e avaliação de soluções para os referidos problemas. Considera-se que tanto o percurso como os instrumentos desenvolvidos, a saber: i) instrumentos de recolha de dados (ver anexo 3); ii) instrumento de avaliação da qualidade da avaliação por pares (ver tabela 2 do quarto artigo, página 98); e iii) instrumento de avaliação do trabalho de grupo sobre

revisão de literatura (ver anexo 4), assim como os resultados obtidos são contributos relevantes para a área da avaliação educacional em contextos de *bLearning*, dada a escassez de estudos similares, e do estudo resultarem recomendações sobre o que funciona e em que condições, que podem facilitar o teste da aplicabilidade das estratégias exploradas em contextos de *bLearning*.

A **seleção das quatro publicações** aqui apresentadas, de entre outras que foram sendo produzidas, teve por base os seguintes critérios: i) o tipo de publicação (artigos em revistas científicas internacionais com *referees* e artigos que tendo sido apresentados em congressos internacionais da temática, foram selecionados pelas respetivas comissões científicas para serem publicados em capítulos de livros, dada a sua qualidade); ii) a relevância dos resultados e contributos para a comunidade científica e académica, tanto do ponto de vista social como do ponto de vista institucional; e iii) a sua articulação com as questões de investigação que emergiram da investigação feita ao longo destes últimos cinco anos. Efetivamente considera-se que os artigos selecionados, de alguma forma, permitem que se perceba o percurso do trabalho que tem vindo a ser desenvolvido, perspetivando, sempre que possível, dar contributos relevantes para a área da avaliação em contextos de *bLearning* no ES. Ao abrigo do artigo 64º do Regulamento de Estudos da Universidade de Aveiro importa explicitar que o contributo da investigadora foi fundamental para a produção das publicações apresentadas, assumindo o papel de primeira autora. No primeiro artigo, a autora conduziu a investigação, tendo discutido o enquadramento teórico e o modelo desenvolvido com o segundo autor, que teve um contributo ativo nas opções metodológicas e na revisão do texto. Quanto aos estudos de caso, o trabalho foi desenvolvido em colaboração estreita com a segunda autora, enquanto docente responsável pelas unidades curriculares, nomeadamente no que respeita ao desenvolvimento das estratégias de ensino e avaliação exploradas, dos referenciais e instrumentos de avaliação usados (quer do ensino quer *de* e *para* a aprendizagem), assim como do tratamento e análise dos dados. Os outros co-autores tiveram um papel fundamental mais centrado na validação da leitura e interpretação dos resultados dos estudos e na revisão dos textos. De referir, ainda, que as publicações apresentadas neste documento não apresentam quaisquer alterações de conteúdo

relativamente às publicações originais. As únicas alterações que se podem encontrar referem-se ao posicionamento de figuras e tabelas, a notas de rodapé que remetem para anexos, e à referenciação bibliográfica, tendo-se optado por uniformizar as normas, usando as da 6ª edição *American Psychological Association* (APA), por uma questão de consistência do documento.

Relativamente à **organização do documento**, nesta nota introdutória procurou-se fazer a contextualização do estudo, definir a problemática e clarificar as questões e objetivos de investigação. Uma vez que cada publicação apresentada contém uma revisão de literatura sobre a temática em estudo, o enquadramento teórico é sucinto para evitar repetições. Assim, abordam-se algumas estratégias de ensino e de aprendizagem, dando especial enfoque à aprendizagem colaborativa e à avaliação por pares, enquanto estratégias que potenciam o desenvolvimento de competências pessoais e profissionais. Seguidamente refere-se o uso conjugado de recursos multimédia e da *Internet* para desenhar e tornar disponíveis os conteúdos educacionais e desenvolver competências em contextos de *e*- e *bLearning*. Faz-se também a definição e clarificação de conceitos considerados chave para este estudo: *bLearning*, Avaliação e Qualidade.

Após a contextualização é apresentado o problema do estudo, as questões e os objetivos de investigação. Procurou-se ainda explicitar a articulação entre as publicações apresentadas nesta tese, segundo as etapas desenvolvidas durante o trabalho e considerando as questões e objetivos da investigação. Após a introdução, são apresentados os quatro trabalhos de investigação que constituem o corpo da tese. O documento termina com as principais conclusões, onde se responde às questões de investigação equacionadas e se apresentam os contributos e elementos de inovação numa perspetiva integradora, sintetizando-se as principais recomendações que advêm dos estudos apresentados, e tecem-se algumas considerações sobre implicações dos resultados e das metodologias exploradas num quadro mais amplo. Finalmente faz-se uma reflexão sobre o trabalho desenvolvido e sugerem-se orientações para trabalho futuro. Por fim, apresenta-se a lista bibliográfica referente aos capítulos "Introdução" e "Conclusões", de acordo com as normas da 6ª edição APA, e os anexos que dizem respeito aos instrumentos desenvolvidos e aplicados nos estudos.

2. APRESENTAÇÃO DOS TRABALHOS DE INVESTIGAÇÃO

2.1 An evaluation model for quality assurance of blended learning – exploring the lecturers' perspectives

Lúcia Pombo & António Moreira (2012)

António Moreira, Otto Benavides & António José Mendes (Eds.)

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AN EVALUATION MODEL FOR QUALITY ASSURANCE OF BLENDED LEARNING – EXPLORING THE LECTURERS' PERSPECTIVES

ABSTRACT

This paper will discuss the process of evaluation in blended learning courses, offering an evaluation model for those particular courses and also showing the lecturers' views about how they think evaluation of bLearning courses should be done, taking into account the curricular proposals of the three cycles of Higher Education (HE). Questions like 'what is evaluation for?', 'who should evaluate?', 'how and when to evaluate?', and 'what should be evaluated?' are combined together integrating a model with all those variables, whose guidelines provide a practical tool to help designers and decision makers to assure an effective, efficient and flexible teaching and learning environment. In addition, the same questions were asked in a survey conducted with 100 bLearning lecturers (79 valid responses) of the 11 Portuguese HE institutions that offer this kind of courses. The study highlights the need for those institutions to reassess their approach to the quality assurance of bLearning courses, and brings some contributions to those who are in charge of bLearning courses, providing a useful framework for the evaluation of bLearning courses in order to assure and enhance their teaching and learning quality.

Keywords: evaluation model, bLearning courses, Higher Education.

1. INTRODUCTION

The development of technologies and faster internet connections have resulted that more and more Higher Education Institutions (HEIs) adopt online learning, which allows learners to have access for educational content and communicate with other learners and instructors, using computer networks, intranet, internet, which provides quick, easy and flexible access for all kinds of content through digital devices, such as CD-ROMs, DVDs, computers and mobile phones (Uğur, Akkoyunlu & Kurbanoğlu, 2011). There have been a number of factors propulsive of the use of a large quantity of technology in education across all sectors, as well as in HE. In recent years factors as

information development, twenty first century skills, demands of workplaces, and easy access to technology have emerged, which have strengthened and encouraged the adoption of technologies into classrooms and learning settings (Kaznowska, Rogers & Usher, 2011).

Although online learning has many benefits in means of flexible interaction, various media available, among many others, standards and methods that have been used to teach in f2f sessions cannot simply be doubled-clicked into an online environment.

For Means et al. (2009, p.9), online learning is defined as 'learning that takes place partially or entirely over the Internet'. This definition excludes purely print-based correspondence education, broadcast television or radio, videoconferencing, videocassettes, and stand-alone educational software programs that do not have a significant Internet-based instructional component. These authors distinguish between two purposes for online learning: i) Learning conducted totally online as a substitute or alternative to face-to-face learning; and ii) Online learning components that are combined or blended (sometimes called 'hybrid') with face-to-face instruction to provide learning enhancement.

Although blended learning (bLearning) has become somewhat of a buzzword in corporate and HE settings, there is still quite a bit of ambiguity about what it means (Graham, 2006). The different definitions of bLearning show us the diversity and strength of this type of learning. Generally, bLearning is defined as a combination of learning delivery methods, which include f2f instruction with asynchronous and/or synchronous computer technologies (Graham & Robison, 2007) but the concept of blend can be interpreted in various ways. Its conceptualization, considering that to blend is to mix or combine things together, depends on the focus of the definition and can consider, for instance, a blend of: (i) **pedagogical strategies**, combining problem solving activities and debates, as proposed by Donnelly (2006); (ii) **supporting technologies**, using different tools, such as forum, podcast, wiki, blog, and twitter, as referred by Walker & Beats (2008); or (iii) **delivery modes** in which f2f and online activities are organized taking the strengths of both approaches (Garrison & Vaughan, 2008; Stacey & Gerbic, 2008).

The literature highlights that when designing blended modes of teaching and learning, strategies and/or tools, we need to consider the teaching and learning context to obtain the most appropriate mix or blend. In this contribution, and since we think Graham's (2006) definition is the most accurate and widely accepted, bLearning is taken as the integration of f2f activities with technology-supported activities at a distance (Graham, 2006; Conole et al., 2007). By practicing bLearning the conveniences of online courses are gained without the loss of f2f contact (Ginns & Ellis, 2007). Thus, a learning environment is created which is richer than either a traditional f2f environment or a fully online environment (Harding, Kaczynski & Wood, 2005).

Furthermore, HEIs adopt bLearning for several reasons: i) they recognize that students may not be able to deal with a fully online course; ii) they wish to introduce students to technology; iii) they propose to offer extra support to weaker students; iv) they intend to reduce the f2f component of the teaching so that part time students and those with family responsibilities have better access to learning, or v) for many universities the move to bLearning occurs for financial and staff management reasons (Harding, Kaczynski & Wood, 2005).

Independently of the above-mentioned reasons as to why bLearning is more and more used in HE, the imperative for quality assurance initiatives for eLearning, or particularly for bLearning in HE is highly acknowledged (Weaver, Spratt & Nair, 2008; Ireland, Correia, & Griffin, 2009). Oliver (2005, p. 183) explains this 'quality agenda' in the following terms: "As more and more universities seek to use e-learning as a mode of delivery for their units and courses, and as more and more they are held accountable for the quality of the services they provide, the need grows for accepted standards and benchmarks against which performance can be judged." Indeed, HE leaders are challenged to position their institutions to meet the connectivity demands of prospective students and meet growing expectations and demands for HE quality learning experiences and outcomes (Garrison & Vaughan, 2008).

In Portugal, some institutions, in part due to the Bologna Declaration, reorganized the HE system, encouraged people to go to university as well as promoted students' mobility, which is highly related to the need of assuring (and also enhancing) teaching and

learning quality. Currently, in Portuguese HE systems, almost all or even all Universities and Polytechnics already have eLearning initiatives, although they are more focused in the use of eLearning platforms as a complement to f2f modules (Magano & Vaz de Carvalho, 2008) to support the learning process in order to improve the quality of training and to allow access and learning opportunities to other potential users. As far as bLearning is particularly concerned, there are eleven institutions that already have bLearning course offers implemented in their curricula. Thus, bLearning is pervading HE, compelling educators to confront existing assumptions of teaching and learning.

Most studies about evaluation of teaching concerning the specificities of bLearning tend to report more varied aspects of the students' learning experience (Bliuc, Goodyear & Ellis, 2007; Kaznowska, Rogers & Usher, 2011), and a small number of studies take a more holistic approach considering also academics or lecturers' perspectives. Moreover, among several and different terms, concerning the areas of online, eLearning, bLearning or hybrid Learning, we select the mode of bLearning to explore in this paper because this study is part of a wider project that seeks to develop and test evaluation and assessment strategies in bLearning contexts. This paper is also related to a previous one (Pombo & Moreira, 2010) that examined the evaluation practices of teaching and learning, concerning the perceptions of course directors.

This work aims at offering: (i) an evaluation model to help decision makers and bLearning course designers in terms of assuring an effective, efficient and flexible teaching and learning environment; and also (ii) the lecturers' views about how they think evaluation of bLearning courses should be done taking into account the curricular proposals of the 1st, 2nd and 3rd cycles of HE. First we provide a framework about evaluation goals, quality assurance and quality criteria presenting the evaluation model, which combined together four essential dimensions of evaluation; and secondly, we introduce the empirical study, including the adopted methodological approaches and the main findings on exploring the model with the lecturers who have wide experience on online Teaching and Learning, specifically on bLearning. Finally, we present the final considerations and recommendations.

2. EVALUATION, QUALITY ASSURANCE AND QUALITY CRITERIA

The evaluation goals and process might be either to provide a means to check (process evaluation) or to improve (result evaluation) the teaching and learning process. Evaluation is a procedure that involves the comparison between a real situation and what is (highly) expected; it is guided by a theoretical referential (Hadji, 2001) about what is expected of the evaluation object. The complexity of the evaluation objects imposes diverse perspectives about them (using various sources and actors) as well as a subjective process of negotiation among the actors involved. Evaluation is also taken as a process of finding ways to improve the quality of the object under evaluation, i.e., quality enhancement.

Initially it seems paradoxical to talk about the quality of bLearning as quality is often linked with checking against externally imposed standards. However, quality can also be understood from a development-oriented perspective, which means enabling learners to develop themselves in their own learning process and consequently produce better results as far as quality is concerned. In this view, methods of self-evaluation, reflection and peer-evaluation are seen as very important. This kind of quality methodology does not have anything to do with normative, universally valid standards, but aims at improving the quality of learning process (Ehlers, 2009). The imperative for quality assurance (QA) initiatives for eLearning, and particularly for bLearning in HE, is highly acknowledged (Weaver, Spratt & Nair, 2008; Ireland, Correia, & Griffin, 2009). HEIs are looking for QA for their e- or bLearning offerings. For example, the European Association of Distance Teaching Universities (EADTU) is a Europe's institutional network for open and flexible HE. At present its membership comprises the open and distance teaching universities, national consortia which connect conventional universities and associate members from non-European countries. Its membership covers over 200 universities and around three million students across Europe. E-xcellence, EADTU is leading a European movement on QA in e-learning; more specifically, the building of an e-learning benchmarking community of Associates in Quality. The E-xcellence Associates are focusing on the improvement of four priority elements of progressive HE: **Accessibility**, **Flexibility**, **Interactiveness** and **Personalization**. The EADTU strategies fit into the

European Area of HE (Bologna Declaration) and the Lisbon Strategy of the EU. The objectives of EADTU address: i) the advancement of open and flexible education in Europe in a lifelong learning perspective; ii) the institutional development of the members; and iii) research and innovation of open and flexible education (http://www.eadtu.nl/e-xcellencelabel/default.asp?mMid=1).

Other example is the Open & Distance Learning Quality Council (ODL QC), which is the UK guardian of quality in open and distance learning, including home study, correspondence courses, e-learning, blended and work-based learning. ODL QC standards guarantee quality in all open or distance learning. The standards are subdivided into six categories: i) outcomes; ii) resources; iii) support; iv) selling; v) providers; and vi) collaborative provision (http://www.odlqc.org.uk/index.htm).

But, what should be evaluated? What should be the benchmarks for QA? Is it the cost effectiveness? Is it the practical benefits for particular groups of students? Is it the attitude of students? Is it the improvement in learning? And how can we assure the quality of those particular courses? The key question of this contribution is how can we evaluate a learning environment to ensure effective, efficient and flexible learning for the learner? Combining the general variables mentioned in previous studies (Pombo et al., 2008; 2009; Pombo, Loureiro & Moreira, 2009; Pombo & Moreira, 2010), with the extra perspective of the workplace environment, we suggest an evaluation model, shown in Figure 1. This framework can be useful to guide the evaluation of bLearning for technical professionals, where learning involving network technology and work-based activities reflect Jara & Mellar's (2009) first principles for an important part of the course.

Our aim is to prepare these guidelines to provide a practical tool to help students, parents, educators and policymakers to create, use and evaluate bLearning courses (see Figure 1). To evaluate a course, first of all we have to know **what for**, ie, what evaluation is for; what are the main goals of evaluation. The model shows four main reasons, but the model does not pretend to be exclusive (there might be other reasons), so the model always contemplates suspension points in each category. Evaluation is also considered as a process of finding ways to improve the quality of the object under evaluation, i.e., quality enhancement. The literature (Jara & Mellar, 2009) discusses the difference

between assurance and enhancement. While some opinions tend to look at them as two mutually exclusive positions where improvement is mainly seen as the result of internally focused enhancement processes led by academics (Harvey, 2005), there are other perspectives which integrate assurance and enhancement, recognising their differences, but seeing them as parts of the same process. Assurance is concerned with determining whether objectives and aims have been achieved and enhancement being concerned with making improvements; both should be seen as part of a wider framework, as stages in the management of quality.

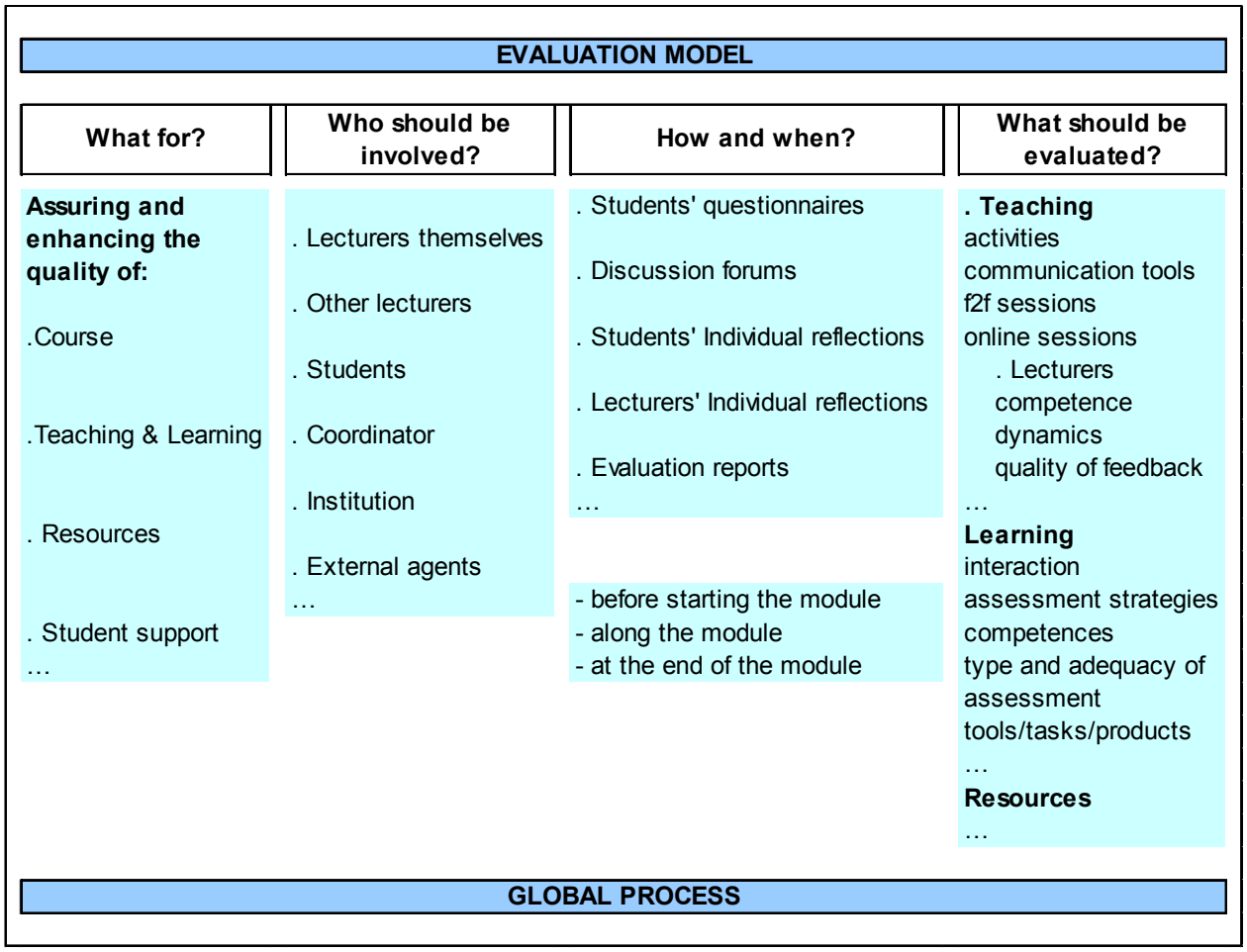

Figure 1 – Model for evaluating blended learning courses.

As evaluation should be linked to the concept of **quality assurance**, reinforcing the relevance of internal quality assurance procedures and their effectiveness in improving the quality of: (i) the **course**, for example, the external image of the course, syllabus,

adequacy to the students' profile, etc.; (ii) **teaching and learning**, for example, students' learning outcomes, adequacy of faculty profile, adequacy of teaching strategies (e.g. inclusion of individual/group work), students' success, expectations of students before entering the course, etc.; (iii) **resources**, for example, support of non-teaching staff (secretarial, photocopying, library...), support structure (LMS, network, bandwidth, help desk), logistics (availability of computers, wireless access, adequate rooms...), etc; (iv) **student support**, for example, before entering the course (access), during the course (skills development), at the end of the course (career opportunities), etc.

When focusing on the process of evaluating, we have to think about **who should be involved in the evaluation** (e.g. the actors of evaluation) and the model suggests: **lecturers** who are lecturing the course, **other lecturers** (peer evaluation), **students**, course **coordinator**, the **institution** itself or **external agents** (other entities outside the institution). The model underlines that subjectivity decreases when there are several evaluators; the evaluation should not only be made by the lecturer, but also by students, teaching peers and external evaluators. We also have to think about the instruments that should be used in the evaluation process; e.g. **how and when to evaluate**. The model proposes five main instruments: (i) **students' questionnaires**; (ii) **discussion forums**; (iii) **students' individual reflections**; (iv) **lecturers' individual reflections**; and (v) **evaluation reports**. When designing those instruments, we also have to considerer **when** they will be applied: a) **before** starting the module, as an early-diagnosis of curricular units (e.g. of students' profiles and expectations about the course; b) **along** the curricular units (e.g. discussion forums that can be held among students and among lecturers throughout the process and also between lecturers and students throughout the process); c) **at the end** of the module (for example, evaluation reports can be periodical or only final). The general tendency is to evaluate only at the end of the course, but our evaluation framework recommends, also considering results from previous studies (Pombo et al., 2008; 2009; Pombo, Loureiro & Moreira, 2009), that quality evaluation of bLearning should be focused on the learning process, during the development of the tasks, and not just at the end, providing a means to check the process in order to have the opportunity to improve it before its end.

Last but not least, another important dimension is **what should be evaluated**, e.g., the evaluation objects or the evaluation criteria. In this category the model includes three main categories: (i) **Teaching** (which includes teaching but also the lecturers), (ii) **Learning** and (iii) **Resources**. In the Teaching category, we might evaluate the relevance of the proposed activities/tasks, the quality of available teaching materials, the communication tools used, the organization of f2f or online sessions, the organization of the curricular units (e.g. if the activities reach the objectives, etc.), among others. Concerning specifically the 'Lecturers' category we can evaluate their scientific or pedagogical competence; their dynamism and monitoring in conducting f2f and online activities, their kills at motivating students, the quality of the feedback they give to students, etc. In the **Learning** category, we may evaluate the interactions (communication between students) within groups, among groups, the assessment strategies adopted, the development of specific competences defined for the curricular unit; the development of transversal competences (e.g. development of values and attitudes, autonomy, capacity for research and group work, etc.), type and adequacy of assessment tools/tasks/products (if the literature tools are appropriate to the proposed tasks), etc. As to the **Resources** category we may evaluate support provided by non-teaching staff, the support structure (LMS, network, wireless access, adequacy of rooms...), etc.

In this contribution, researchers/senior teachers/lecturers with experience in bLearning were asked about their understanding of the evaluation goals of a course, and the whole processes, obtaining information that can be related to the above-mentioned model and, therefore, obtain a wider spectrum of opinions about the importance of each dimension and categories contemplated in the model.

3. THE STUDY

3.1. Methodology

The study has an exploratory and descriptive nature. The research method is mixed, using mainly quantitative techniques of data collection and analysis (Creswell, 2003). The aim was to design the evaluation model presented above and gather lecturers'

perspectives about the dimensions of the model. The data used in the study was collected through the administration of an online questionnaire[1] to researchers/lecturers with experience in bLearning at national level. The instrument was sent directly using the institutional email of each respondent, personalising the request and raising the importance of filling in the form, exposing the main aims of the study. The questionnaire was answered by 79 of 100 lecturers (95% confidence level, according to Cohen, Manion & Morrison, 2007) from 11 public Higher Education institutions that offer courses in a bLearning mode. The selection of lecturers had into account their experience and expertise in bLearning courses. The questionnaire designed for the above-mentioned purpose included 4 main topics in a total of 54 closed questions, except for the items where other topics that were not considered in the questionnaire (a total of 7 open questions) were required from respondents if they so wished. The data presented here only show the analysis of the closed questions. The instrument was divided into the four dimensions contemplated in Figure 1. Despite the lecturers' evaluation practices, lecturers were asked about their perceptions of what should be changed in the evaluation in order to improve the quality of the course. The questions were: (i) what the evaluation goals should be?; (ii) who should be involved in the evaluation for the improvement of the course?; (iii) how and when the evaluation of the modules should be made?; and (iv) what should be evaluated? The data were analysed using quantitative techniques, namely descriptive statistics, using 'Paws Statistics 18' and 'Microsoft Excel'.

3.2 Findings and discussion

Lecturers were asked about the **goals of the evaluation** that they thought should be implemented in their courses, i.e. what to evaluate for? (Figure 2). Most lecturers (more than 50%) found "students' success", "students' learning outcomes" and "students' skills development" a very relevant goal. In the categories "students' expectations before entering the course", "adequacy of faculty profile" and "external image of the course" more than 50% of the lecturers found those goals relevant.

[1] Ver anexo 1, onde se apresenta o questionário aplicado.

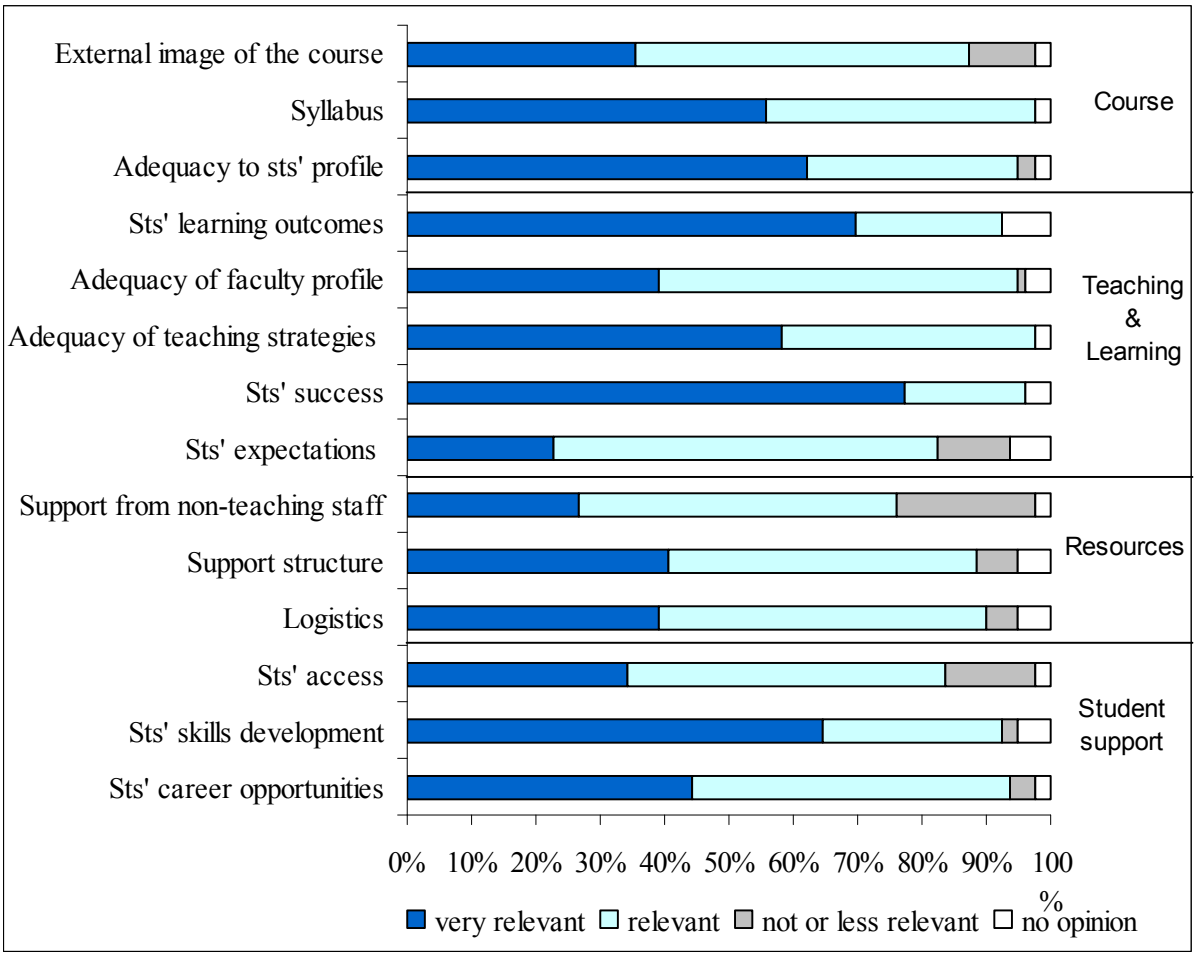

Figure 2. Lecturers' opinions about what the evaluation goals should be (Sts- students).

When asked about the degree of relevance of **who should be involved** in the evaluation for the enhancement of the quality of the bLearning course (Figure 3), the majority of lecturers responded that "lecturers' (68 respondents, 86%) should have an important role in the modules' evaluation" (Figure 3). However, less respondents considered "students" (29 respondents, 37%) and "external agents" (20 respondents, 25%) *very relevant* to be involved in the evaluation. They almost equally considered the other topics (around 40 respondents) as *relevant*. Only 20 respondents (about 25%) considered "other lecturers", the "coordinator", the "institution" and "external agents" as *less relevant*.

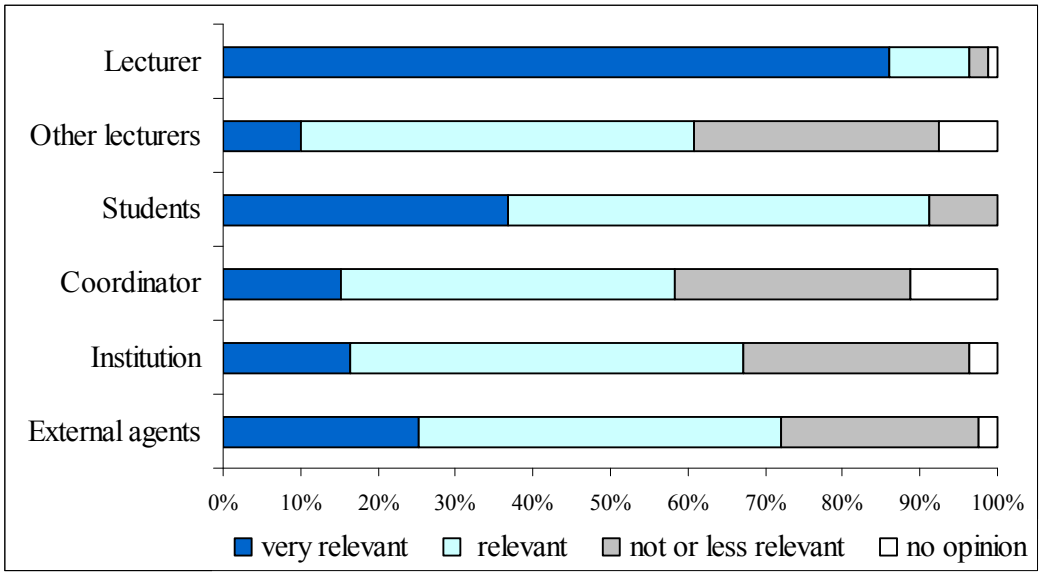

Figure 3. Lecturers' opinions about who should be involved in the evaluation for the improvement of the course.

As to **how and when the evaluation** of the modules should be made, i.e. what instruments should be used in the evaluation (Figure 4), and according to the lecturers' opinions, final instruments are more valued than the during-modules ones. For example, most respondents valued as very relevant the "students' questionnaires applied at the end of the modules" (58 respondents, 73%), ascribing less relevance to "questionnaires applied by students at the start and during the modules" (23 and 39 respondents respectively). These results show that few lecturers considered diagnostic questionnaires very relevant for the evaluation of bLearning courses, but they consider them important at the end of the modules. Then, where is the comparison about the development of skills before and after the modules, and what are the learning achievements proposed for each module? Furthermore, we can infer that evaluation is strongly associated with final products and less with the process itself, i.e. with the development of skills during the tasks. As to the lecturers' opinions about the degree of relevance of using discussion forums as evaluation instruments, some consider them very valuable for the improvement of the modules, namely "discussion forums between students and lecturers" (56 respondents), "between students" (36 respondents), and "between lecturers" (15 respondents). This might be related to the importance of collaboration between lecturers and students and also to inter and intra group collaboration, providing

opportunities for students to acquire the skills of working in teams and to negotiate, discuss and constructively criticize solutions to problems (Naismith et al., 2007).

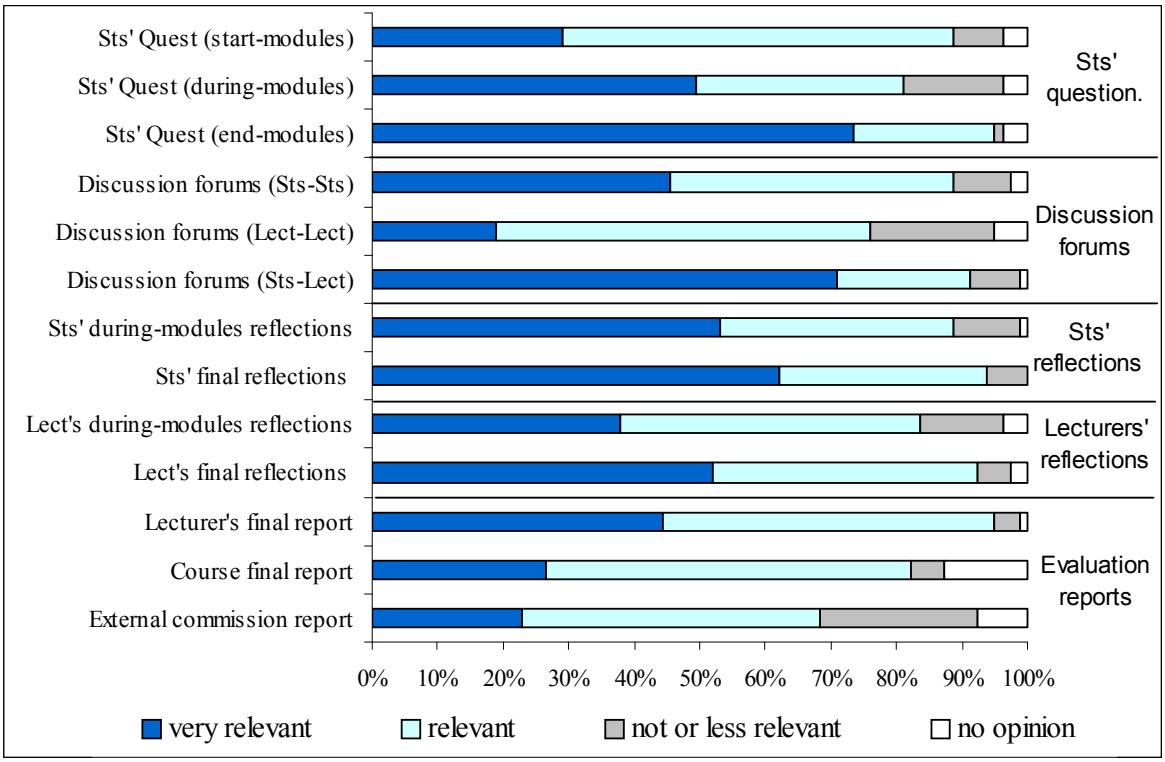

Figure 4 - Lecturers' opinions about how and when the evaluation of the modules should be made for the improvement of the course (Sts- students; Lect – lecturers).

Now, as to the degree of relevance of using individual reflections as evaluation instruments more lecturers considered very relevant rather then relevant, with the exception of "during-modules lecturers' reflections", probably due to the assumption that lecturers' reflections during the process do not enable students to develop their knowledge individually and/or collaboratively by re-thinking and re-discussing the module contents over and over again, as Draper (2007) defends. Once more, "final lecturers' reflections" are valued by more respondents at the end of the module (41 respondents, 52%), as compared to the "during modules reflections" (30 respondents, 38%).

The "evaluation report made by an external panel" is considered *less* or *not relevant* by 19 respondents (24%) but the "course final report" and the "lecturers' final report" are also considered *relevant* (by 44 and 40 respondents, respectively) or *very relevant* (by 21 and 35 respondents, respectively). This could be interpreted as a result of bLearning

courses being very recent and associated practices not yet fully implemented at an institutional level, although directors find them important. In addition, Harvey (2005, p.273) argues that the internal quality procedures are the place where an enhancement process can be carried out: "… In most institutions where it occurs, improvement of the student experience is a function of internal review and monitoring processes, usually heavily reliant, nowadays, on student feedback, examiners reports, internal improvement audits, periodic revalidation of programs of study and staff teams critically self-reflecting on their everyday practice."

Finally, considering the topic "**what should be evaluated**", i.e. which evaluation objects should be adopted in Portuguese institutions (Figure 5), most lecturers (46 respondents, 58%) mentioned the "pertinence of the tasks" and the "organization of online sessions" (42 respondents, 20%) as *very relevant* in the "Teaching" category. When asked about the lecturers' evaluation, most respondents mentioned their "quality feedback" and "lecturers' motivation" (60 and 59 respondents, respectively) as *very relevant*, which is in accordance with Hummel (2006) who defends that feedback can be considered an important, if not the most important support mechanism in a variety of educational contexts as bLearning calls for individualized support to reach the learner's needs of heterogeneous groups.

With respect to learning strategies, 43 lecturers mentioned the "adopted assessment strategies" and 42 respondents mentioned the "type and adequacy of assessment instruments" as *very important* categories. 39 lecturers considered "Communication between students" *very relevant*. "Logistic resources" was mentioned by 20-36 respondents as *very relevant* when compared to all the other categories.

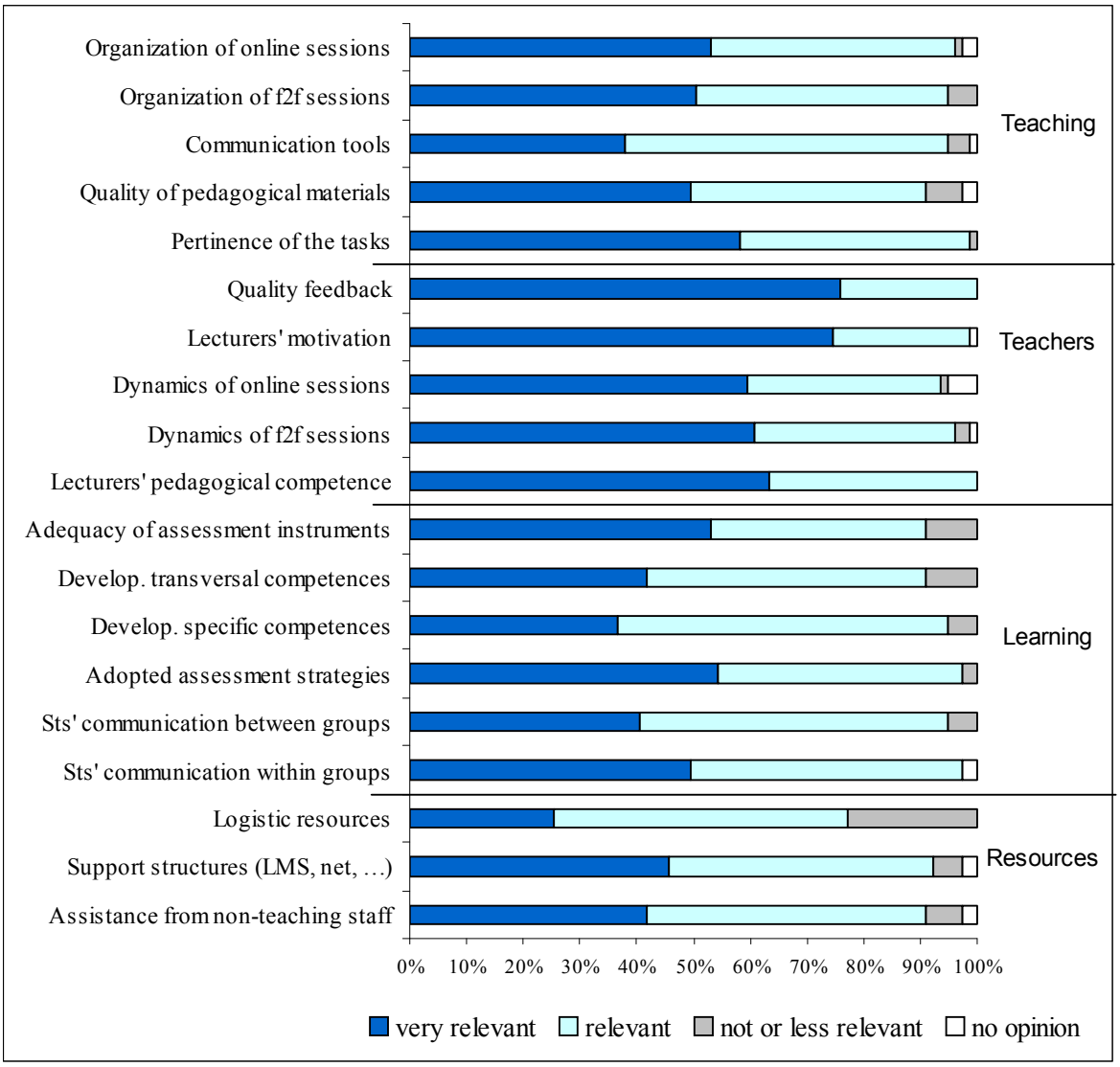

Figure 5. Lecturers' opinions about what should be evaluated.

4. FINAL CONSIDERATIONS

The need for determining and maintaining quality in the process of designing, developing and delivering bLearning courses is becoming an important issue for universities and institutions worldwide. Course leaders and the other directly involved entities need to distribute responsibilities explicitly and collect feedback to be used for the enhancement of the quality of the course. Online learning evaluation should be implemented to serve a variety of functions, such as to explore the potential effectiveness of online courses, compare online courses, and also as a formative tool to guide and inform the development of online learning materials. It is a process that some

Portuguese institutions have recently taken seriously and are now in the process of formalizing. Course leaders and the other directly involved entities need to distribute responsibilities explicitly and collect feedback to use it for the enhancement of the quality of the course.

The evaluation model proposed in this paper aims to be a guide for the main evaluation dimensions, which are linked together, that decision makers might consider when planning evaluation of bLearning courses. Our evaluation framework recommends, also considering results from previous studies (Pombo et al., 2008; 2009; Pombo, Loureiro & Moreira, 2009; Pombo & Moreira, 2010), that quality evaluation of bLearning should be focused on the learning process, during the development of the tasks, and not only at the end. For example, it is clear that one end-modules students' questionnaire will not be enough to capture the data that will be needed for either formative or summative evaluation. When it comes to evaluation, subjectivity decreases when there are several evaluators; evaluation should be made not only by the lecturer but also by students and teaching peers.

Lecturers also pointed out that bLearning require a stronger definition of planning strategies, namely the organization of the modules. It is also noted that they emphasise the coordination of online sessions as more relevant than the f2f sessions, which is in accordance to Jara & Mellar (2009) who mentioned that in eLearning courses, whether fully online or blended, the risk of a lack of ownership, and a shifting of responsibilities between parties may affect the quality of the course. Moreover it is also highlighted that the communication between the involved people (within and between students and among students and lecturers) have to be considered when evaluating the course, as the opportunities to directly interact with students become more limited and tutors increasingly have to depend on the students' willingness to login and respond in order to establish communication with them (Walmsley, 2004).

The quality of feedback is also largely mentioned as a very relevant criteria, which is in accordance with Hummel (2006) who defends that feedback can be considered an important, if not the most important, support mechanism in a variety of educational

contexts; as bLearning calls for individualized support to reach the learner's needs of heterogeneous groups.

The type and adequacy of assessment instruments is considered also very important, because of the particularities of this kind of provision that can allow a more in-depth continuous and accurate monitoring of activities, when compared to more traditional provision, as content, resources and communication among participants are mainly text-based and are usually automatically saved in the online environment (Fielding, Harris & King, 2004), so the assessment strategies to adopt in bLearning should also take that into consideration.

Using more than one instrument allowing for triangulation of data and using several different quality criteria having in mind the improvement of teaching and learning quality, also guarantees the quality of the course.

As more and more educators and researchers realise that effective teaching and learning with technology must be driven by pedagogical principles, it is of paramount importance to ask questions such as how this could be achieved and what aspects should be considered for a more effective evaluation that ensures the quality of web-based teaching environments. These findings, linked to the evaluation categories mentioned in the model and added to the opinions of lecturers (directly involved in the process), bring some contributions to those who are in charge of bLearning courses, providing a useful framework that covers all aspects of quality assurance in order to improve the enhancement of teaching and learning.

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2.2 Diversity of strategies to promote effective b-learning - a case study in Higher Education

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Ulrich Bernath, András Szücs, Alan Tait and Martine Vidal (Eds)
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DIVERSITY OF STRATEGIES TO PROMOTE EFFECTIVE B-LEARNING: A CASE STUDY IN HIGHER EDUCATION

ABSTRACT

This work is part of a wider study that seeks to develop and test evaluation and assessment strategies in online contexts to promote effective b-Learning. It aims at studying the module Educational Software Evaluation (ESE), with 24 hours of face-to-face instruction over a five week period, which is part of the Master's Course on Multimedia in Education of the University of Aveiro (Portugal). The paper intends to (i) present the teaching/learning strategies and tools explored in a post-graduation course to promote effective b-Learning, (ii) describe the way the learning process and learning products were assessed, and (iii) analyze the students' opinions concerning the module, the explored strategies and tools as well as their reflections about their learning. Data was collected through (i) an online questionnaire answered by 19 (out of 28) students who attended the module during the 2006/07 academic year and (ii) two moments of individual reflection during the frequency of the module. The results indicate that the majority of the students felt interest for the module and considered it academically and professionally relevant. However, students' perceptions about some aspects were less positive. For instance, they felt that there was scarce monitoring of the activities. Moreover, they seem to be uncomfortable with peer evaluation, which might be interpreted as a reflection of the lack of an evaluation culture among teachers.

Keywords: bLearning, teaching strategies, Higher Education

1. INTRODUCTION

The Bologna Declaration, the creation of a common European space for Higher Education (HE) and consequently a unique HE market, where HE institutions all around the continent will compete, implies that "quality" is now taking on a new role for the

success or failure of those institutions. Keeping this market and its vast territorial dimension in mind, the e-Learning (and e-Teaching) option seems a very convenient one for lifelong learning because it makes it possible to overcome geographic distances, barring out the frontiers of space and time. Flexibility, achievement, time and training costs can be recognised as sensible outcomes (Carneiro, 2003). Therefore, institutions are nowadays concerned about the design and the development of e-Learning and about the quality of their teaching. This topic has acquired a relevant importance and it is expected to focus efforts in this way in the forthcoming period in Europe (European Association for Quality Assurance in Higher Education, 2005).

According to Keane & Labhrainn (2005), good teaching is promoted by someone who actively facilitates student learning. Since both teachers and students are involved in the teaching/learning process, the views of both should be taken into account when determining the quality of teaching (Felder & Brent, 2004). Learning is not necessarily an outcome of teaching. Cognitive research reveals that even with what is taken to be good teaching, many students, including academically talented ones, understand less than we think they do. Students have to construct their own meaning regardless of how clearly teachers or books “teach” them things. Effective learning often requires more than just making multiple connections of new ideas to old ones; it sometimes requires that students restructure their thinking radically (American Association for the Advancement Of Science, 2006). Regardless of the formal role of the teacher, online learning creates an opportunity for flexibility and revision of content in situ that was not provided by older forms of mediated teaching and learning (Anderson, 2004). The vast educational and content resources of the net and its capacity to support many different forms of interaction, allow for negotiation of content and activity and a corresponding increase in autonomy and control (Anderson, 2004). Thus, the effective online learning teacher makes provision for negotiation of activities, or even content, to satisfy unique learning needs. However, within this flexibility, the need to stimulate, guide and support learning remains. Doing so, the teacher has the opportunity to reflect upon the teaching situations by evoking his/her own point of view as regards his/her vision of reality, even if this might be judged as a complementary view as opposed to other views, such as those of the

students and of their peers. The goal of the evaluation process might be either to provide a means to check (process evaluation) or to improve (result evaluation) the teaching/learning process.

Various authors, such as Coughlan (2004) and Keane & Labhrainn (2005), claim that a cycle of evaluation and improvement based on student feedback is a fundamental component of the process of quality improvement in HE. Whilst this fits a 'consumer' orientation of education, the questions remain: how do we define quality and what information is needed from students and how to use it to improve that quality? The issue of quality teaching, while central to the HE institutions' missions, is now taking on a new role. In the past, quality was a way for lecturers to improve their own practices as part of their professional responsibilities. Nowadays, the new pressures brought about by competition, globalisation and the changing role of government with respect to university governance are changing the purposes of the mechanisms that aim at evaluating the quality of teaching.

E-Learning constitutes a strong challenge for the development and innovation in the educational field and for the curricular integration of Information and Communication Technologies (ICT). The reply to this challenge also implies evaluation studies and validation of the use of ICT for evaluation purposes. Recently, several studies have been carried out in order to explore the potentialities of ICT in learning assessment and in teaching evaluation. However, teachers need instruments with which it is easy to create, administer and aggregate data. Several evaluation devices have been constructed for these purposes around the world, including online construction, online submission of responses, online aggregation and reporting, and online data analysis (European Commission, 2006).

In Portugal, the educational and teacher education matrix are still managed, globally speaking, on the basis of relatively conservative models. The institutions and the forces that act in terms of offer are a strong barrier to the implementation of pedagogical innovation. On the other hand, demand is culturally determined by traditional patterns. Due to the Bologna Declaration, there are signs of change in Portugal. One of the devices that can foster this transformation is e-Learning or b-Learning (Carneiro, 2003). According

to Association for the Promotion and Development of the Information Society (2007) "the conjugated use of multimedia and the Internet to design and make educational contents available and develop competences at a distance (e-Learning) is one of the big challenges for the coming years" (in Portugal). In our view and considering the quality of teaching issues stated above, another area that should be stimulated is the evaluation of teaching and learning in online contexts, thus the context of this study.

This work aims at (i) presenting the teaching/learning strategies explored in a post-graduation module to promote effective b-Learning, (ii) describing the way the learning process and learning products were assessed, and (iii) analyzing the students' opinions concerning the module, the explored strategies and tools as well as their reflections about their learning. The post-graduation module under analysis was the Educational Software Evaluation (ESE), with two face-to-face sessions (the first and last) over a five week period with extensive online elements, which is part of the Master's Course on Multimedia in Education of the University of Aveiro. The e-assessment practices of this module, involving both teachers and students, are described and analysed taking into account the current thinking regarding e-assessment and Higher Education – i.e. the orientations inherent to the Bologna Declaration and the literature.

2.1 Description of the Educational Software Evaluation (ESE) Module

Educational Software Evaluation (ESE) is offered in a blended-Learning mode and it is part of the Master's Course on Multimedia in Education at the University of Aveiro, created in 2002/03, which is primarily delivered online. This Master's Course aims at responding to several educational/training needs of personnel from various professions: (i) education professionals in general, (ii) teachers with specific responsibilities for ICT, (iii) teachers with responsibilities in the area of educational technology, (iv) professionals with responsibilities in the design and production of educational multimedia contents, namely in the multimedia courseware industry, (v) vocational education professionals and (vi) professionals with responsibilities in human resources departments.

The ESE's main goal is that students develop evaluation competences, in particular of educational software evaluation. Considering the learning outcomes defined for the

module, the purpose was to lead students to develop an educational software evaluation project, in which they had to define and describe: (i) the evaluation object and the purpose of the study, (ii) the nature of the study, (iii) the evaluation goals, (iv) the participants, (v) criteria and indicators, (vi) the data gathering strategies and tools, (vii) the data collection itself, (viii) the analysis of the data, and (ix) the conclusions reached.

Bearing in mind that we live in an Information Society, apart from the competences needed to face the challenges this raises, the ESE module also aims at promoting the development of general competences, such as (i) critical use of ICT in educational context (blogs, concept maps…), (ii) collaboration, (iii) research, (iv) information search, organization and treatment, (v) development and evaluation of work/education plans, among others.

The ESE module covered the time span of five weeks – January and February 2007, and it had two face-to-face sessions (twelve hours each). The remainder of the activities took place online. The proposed activities and tasks are fully described in Loureiro, Pombo, Balula & Moreira (2007b) and were conducted as shown in table 1.

Table 1. Tasks schedule of the module.

Weeks/sessions	**Activities**
1st week online	1 – Diagnosis of students' perceptions of the concepts "evaluation", "educational software" and "educational software evaluation" (individual work) – T1. 2 – Readings of literature related to the module subject (individual work) – T2).
1st week 1st face-to-face session	3- Teacher, tutor and students' introduction and definition of work groups. Discussion concerning the ICT tools to be explored. 4 – Presentation about evaluation in educational contexts (teacher). 5 – Discussion and syntheses of the readings and elaboration of the 1st version of the concept map (group work) – T3. 6 – Presentation about educational software evaluation (teacher). Follow up on activity 4. 7 – Presentation and discussion of T3 (all together).
2nd week online	8- Discussion of the proposed assessment guidelines and competences to be developed during the module. 9 – Reflection about the first tasks (individual work) – T4. 10 – Elaboration of a project plan about software evaluation to be analysed by the teacher and the tutor (online group work) – T5.

3rd and 4th weeks online	11 – Development of the work plan and elaboration of the 1st version of the final report to be submitted by the end of the 4th week (online group work) – T6.
5th week online	12 – Final adjustments to the report considering the teacher's and tutor's feedback (online group work) – T7.
5th week 2nd face-to-face session	13 – Presentation, discussion and peer assessment of the developed projects (all together) – T8. 14 – Final adjustments to the concept map (group work) – T9. 13 – Self and peer-assessment of the collaboration competences developed and production of the final reflection concerning own learning during the module (individual work) – T10.

Prior to the start of the module, the teacher and the tutor prepared the documents and the activities related to the module itself and made them available in the LMS Blackboard. This e-Learning platform was also used to deliver information on bibliography, to discuss the tasks, clarify doubts and evaluate the module (a specific forum was created for that purpose). The first documents that were made available were the tasks schedule and module guidelines, which included the goals and the competences that students were supposed to develop, relative to the tasks (see Table 2). As to the tasks schedule it was re-arranged after it was submitted for discussion with the students.

Besides the LMS, a blog was also created for this particular subject and it aimed at supervising the students' work, sharing information, discussing topics related with the tasks and the tasks themselves (http://ase07.blogspot.com). The diagnoses of initial students' understanding of the subject as well as the reflection carried out during the module (T1, T4 and T10) were undertaken using the blog.

Table 2. Competences students were supposed to develop and tasks involved.

Competences	Tasks (T)
Information search, organisation and treatment	T2, T4, T12, T8
Assessment and evaluation	T1, T7, T10
Educational software evaluation	T8, T9, T10
Development and evaluation of work plans	T8, T9, T10
Collaboration and ICT exploitation	Almost all

The first task was designed to lead students to reflect upon the theoretical concepts of the module. The second task involved the analysis of some research papers that were made available in Blackboard and students were asked to summarise at least one of them.

The next task to accomplish, the one with a greater workload, was to select a theme for the group project to be developed until the end of the module. The guidelines given only mentioned that the project had to be related to software evaluation. The themes and the projects' organisation were discussed using the module blog, so as to avoid the emergence of similar projects and therefore encourage a wider scope of the subject matter. A first version of the projects' reports was shared and also discussed two weeks later.

The projects were presented orally during the second face-to-face session and a wide discussion followed each group presentation. During this session several assessment tasks where completed by the students. After each presentation, the groups assessed the project, according to the discussed criteria (e.g. innovation and creativity, the use of media, etc.). Each student also made his/her self assessment of the competences developed during the module (third reflexive task) and evaluated the other members of the group, aiming at the self and peer assessment of the collaborative competences developed.

As was implicit in the module presentation, assessment included formative (for instance, during the discussions of ongoing work) and summative components. The underlying principles of the assessment framework are presented elsewhere (Loureiro, Pombo, Balula & Moreira, 2007). In terms of percentage and of the elements involved, the agreed assessment framework, following discussions with the students, was as follows: collaborative work (students) – 5%, self and peer evaluation (students and teachers) – 20%, project work and oral presentation (students and teachers) – 40%, concept map (team work) – 20%, and final considerations (students) – 15%.

3. EMPIRICAL STUDY – RESULTS AND CONSIDERATIONS

Given the lack of studies in the area of the evaluation of teaching in online contexts (European Commission, 2006) this study has an exploratory and descriptive nature.

The data used in the study was collected and analysed using the triangulation of two instruments: (i) an online questionnaire[2] (http://wsl2.cemed.ua.pt/ase) (Pombo, Loureiro, Balula & Moreira, 2008), and (ii) the initial and final students' written reflections in the module blog (http://ase07.blogspot.com). The questionnaire was anonymous and from the 28 students enrolled in the module, a total of 19 (68%) responses were submitted and analysed.

The questionnaire designed for the above mentioned purpose included three sections. The first section aimed at collecting students' opinions about the module, and the teacher and the teaching and learning strategies in general. The second section aimed at gathering students' opinions about the tasks and their assessment. The third and final section aimed at gathering the respondents' perceptions concerning the communication tools explored. From the 28 students enrolled in the module, a total of 19 (68%) responses were submitted and analysed. These data were analysed using quantitative techniques, namely descriptive statistics, and for that purpose Microsoft Excel was used.

The content of the other information source, the students' initial and final reflections on the teaching/learning process, was analysed using NUD*DIST (Non-numerical Unstructured Data Indexing, Searching and Theorizing). To analyse the data categories and indicators were defined and conclusions were drawn based on the Analysis Units (A.U.) identified for each indicator. This process was made by two different researchers in order to validate the chosen categories.

The majority of respondents felt interest for the module from the very beginning (17 respondents – "agree" and "completely agree"), and 18 respondents mentioned the academic and professional importance of the module (Fig.1). Although 18 respondents considered that they understood the concepts, 8 students declared that they felt some difficulties in understanding them. The students considered that all the proposed

[2] Ver anexo 2, onde se apresenta o questionário aplicado.

competences (see Table 1) were developed. 15 students classified the interest and the learning level acquired in the module as very high (7 or more, on a scale from 1 to 10).

As far as activities and explored tools are concerned (Fig. 2), the majority of students considered that they were well structured, including face-to-face sessions.

Nevertheless, some students (10) considered that there was no inter-group interaction. This aspect has mainly to do with online interaction (we remind that each group developed their project in the blog of the group). Concerning the face-to-face sessions there was a high level of interaction between groups. From those results, and to increase interaction between groups, instead of using one blog per group we suggest that only one blog should be used for the whole class. In general, students considered that activities were well developed – 10 students classified the activities as 6, and the other students classified them as 7 or more (on a 1-10 scale).

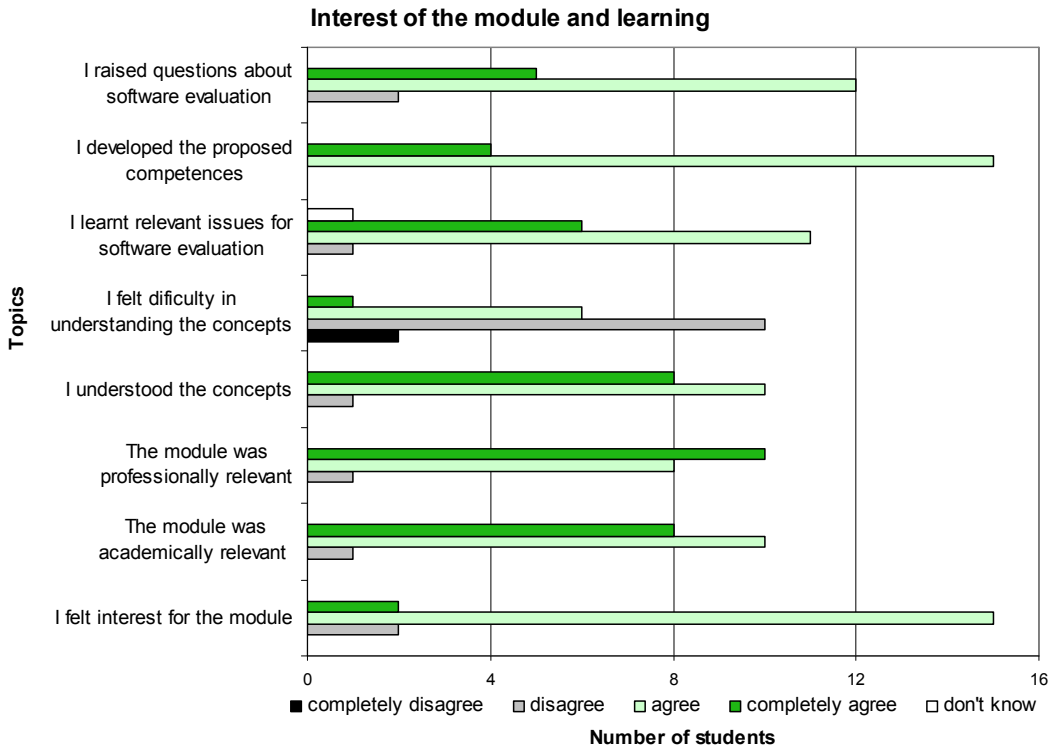

Figure 1. Students' opinions about the interest of the module and learning.

Concerning the relevance and the difficulties of the fulfilled tasks, the majority of students (17) considered the development and reformulation of a group work the most

relevant (Fig. 3). They do not seem to have had a great deal of difficulties developing the projects, as the same figure shows. Apart from the significance of the task in the contexts of this module, but also in general (since it was a project work), students gave more importance to the most valued element (40%) of the assessment framework.

Presentation and discussion of the group work were considered relevant by 10 students and the elaboration of the concept map by 9 students. The discussion and synthesis of readings and individual reading were relevant for fewer students (7 and 5 respectively).

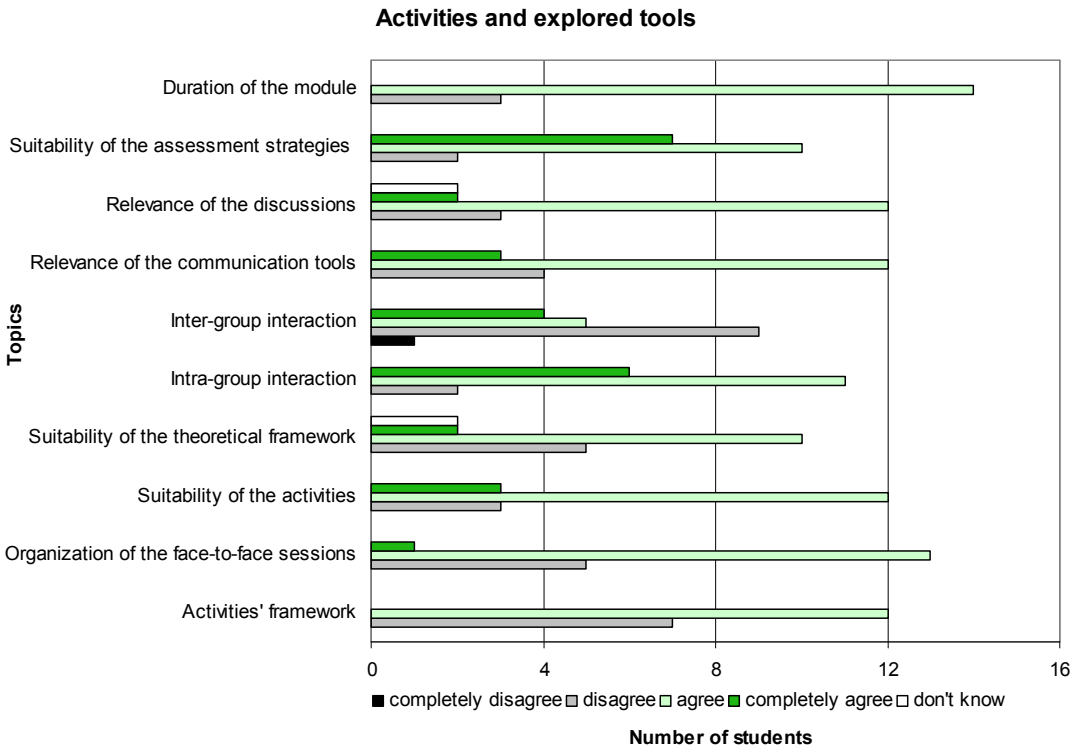

Figure 2. Students' opinions about the activities and explored tools.

From Figure 3 one can also conclude that the less important tasks were the activities related to students' assessment – individual reflections (self-assessment), survey of perceptions and self- and hetero-assessment of the development of the group works and of the collaborative competences. Students felt uneasy and confused because they are not used to assess other colleagues and they may have some prejudices about face-to-face evaluation. Some of them sent their peer assessment sheet to the teachers' email and kept their colleagues out of the process.

The tasks in which students considered to have more difficulties (Fig. 3) were the elaboration of the concept map (12 students) and the individual readings (7 students).

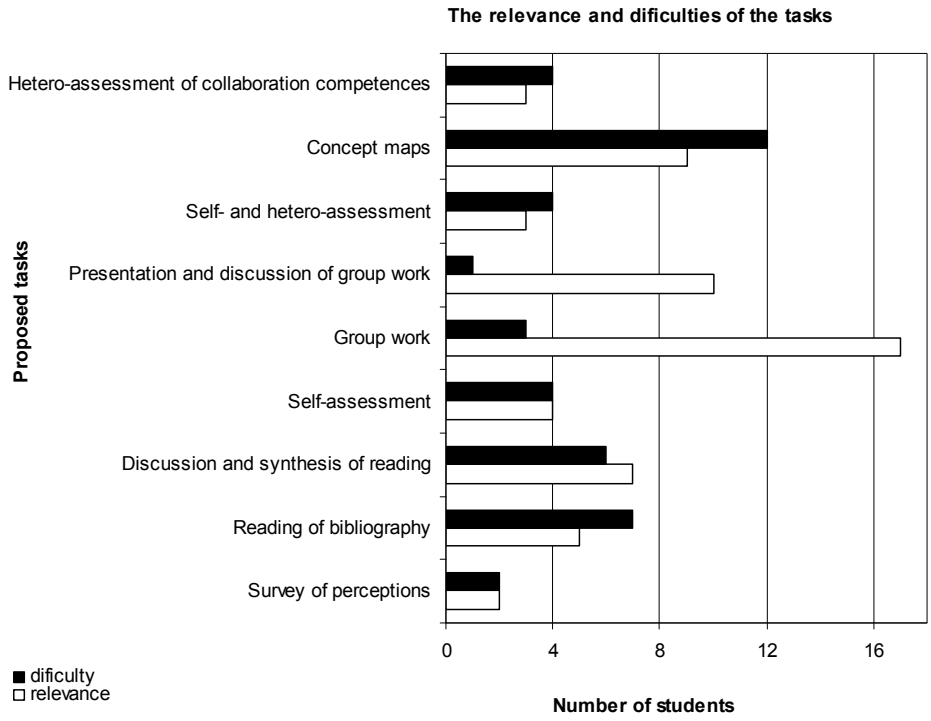

Figure 3. Students' opinions about the relevance and difficulties of the proposed tasks.

Comparing the results of the questions related to the relevance of the tasks with those in which they considered to have had difficulties, one can infer that, from the students' opinions, they do not have difficulties in doing the assessment tasks, although these are less valued by them. On the other hand, as shown in Fig. 1, apparently there is a lack of consistency in the students' answers, since some of them felt some difficulties in understanding the concepts worked in the module, such as the one of "evaluation". One can ask how they can say that they did not have difficulties in the assessment tasks, when they consider that they did not fully understand these concepts. This aspect is important considering that most of the students who attended the module were teachers. Taking that fact into account, these results can be explained by a deficient evaluation culture in teachers' practices (as reported by Loureiro, Guerra & Bettencourt, 2007a), which in our view should be natural and frequently practiced. On the other hand, it is important to

understand what the main perspectives of students are when they enrol in a Master's course. Might it only be to conclude a Master degree and to obtain a diploma, or is it more than that – where research, readings and evaluation are equally important for their professional lives? Moreover, as stated by Draper (2007), HE teachers prefer to assume students are apprentices with clear choices. In this case, the module which should be an option was compulsory. Maybe some students were not motivated by the topics of the module.

With regard to the students' perceptions concerning the communication tools explored, most students did not clearly identify the advantages and disadvantages of different communication tools. So, in general, students mentioned that the asynchronous tools were useful to share ideas and/or experiences (4 students), to communicate with other people with same interests (3 students), and also to develop collaborative work (3 students). Blogs and forums allowed them to raise questions and, therefore, to clarify concepts (1 student); wikis and blogs allowed groups to look into the other groups' work, which was not possible using the Blackboard forum (2 students) and, as they were in an open space, the public discussion could raise a wider discussion than the use of forums in Blackboard (1 student). On the other hand, Blackboard allowed some confidentiality that could also be important to protect some aspects of the group work (1 student).

Some other students also defend that there were too many tools to explore, leading, to a certain degree, to dispersion and waste of time; only Blackboard forums should be used as an "excellent communication tool", and blogs and wikis could be easily discarded. However, comparing the students' reflections (see table 3), in the beginning 5 students referred that the variety of ICT tools used helped them develop collaborative competences in the use of web 2.0; nevertheless, by the end of the module, in the final reflections, many more students (14) underlined this aspect. This leads to think that their scepticism about the use of different communication tools was not clear at the end of the module, as they, at that time, could refer the differences about the tools and point out the advantages and disadvantages between them.

For the majority of students, blogs were elected as the best tool to communicate, given that they allowed them to use aggregation tools, could be personalised and were

very useful to share and discuss information, and clarify doubts. One student mentioned that group blogs can be useful in a different manner when compared to the module blog as group blogs allow more specific interaction about the work students have to develop.

Table 3. Categories and indicators established to analyse the content of the students' initial and final reflections.

Categories		Indicators	Initial reflections		Final reflections	
			A.U	%	A.U	%
1. Tasks	1. Negative aspects (16 – 80,0%) 26 references	1.1.1 The task organisation was complex – it was negotiated with the students too often and often the information was not synthesised in a single document.	9	45,0	8	38,0
		1.1.2 The time available to fulfil the tasks was too short.	7	35,0	3	14,0
		1.1.3 The task of concept mapping was new and, therefore, very hard to fulfil.	10	50,0	4	19,0
	2. Positive aspects (17 – 85,0%) 24 references	1.2.1 The collaborative synthesis/summary of bibliography was considered very fruitful and important.	6	30,0	3	14,0
		1.2.2 To do a concept map was relevant to better understand the most important concepts within the course.	8	40,0	4	19,0
		1.2.3 The collaboration helped the students overcome most of the difficulties felt.	9	45,0	7	33,0
		1.2.4 The proposed tasks allowed students to put theory into practice.	1	5,0	1	4,8
2. Communication Tools		2.1 The variety of ICT tools used helped to develop (collaborative) competences in the use of web 2.0.	5	25,0	14	67,0
		Total	20	100	21	100

The Blackboard forums were mentioned as more useful to clarify doubts by the teacher and/or colleagues. Wikis were considered useful mainly to store information and to make contents available. According to most students' opinions, there were no disadvantages in any of the communication tools. One student referred that the disadvantage found for wikis was the possibility of making unintentional changes in documents by different people.

Concerning the two periods of students' reflections (see table 3), in the first moment students were supposed to write a personal reflection on learning within the scope of tasks T2 and T3, in which they were asked to point out (i) what they had learned and what competences were developed; (ii) difficulties they had felt, and (iii) how difficulties were overcome and how they could be solved.

In the initial reflection, the students mentioned:

(i) the relevance of the proposed tasks to fulfil the course's learning outcomes;

(ii) the role of the communication tools in the learning process. In the first topic, negative and positive aspects were pointed out. The negative aspects that they mentioned had to do with the task that involved concept mapping was new and, therefore, very hard to fulfil (10 students), as it is evident in the following statement: "*the difficulties felt were due to the definition and the use of the concept map. I felt difficulty in integrating some concepts in the map… and the construction of the links between the contents was not simple or clear*." Nine students classified the tasks' organisation as complex, as the activities/tasks were negotiated with the students too often and the information was not synthesised in a single document, and also the fact that the time available to fulfil the tasks was too short (7 students), as can be seen the following statement: "*the difficulties that I've felt were mainly due to the lack of time for the tasks and also with some uncertainty as to the aims and the contents of the task*";

(iii) the difficulty concerning the construction of the concept map is also visible in figure 3, where 12 students considered that activity difficult whereas 9 students also considered it relevant.

As positive aspects, they mentioned that collaboration helped them overcome most of the difficulties felt (9 students), as it is reported in the following statement: "*the initial doubts and the initial fears were solved by sharing the responsibilities within the group*". About the concept map, students say it was relevant to better understand the most important concepts within the course (8 students): "*the issue that I felt very pertinent was the learning of the concept maps. This tool is very useful to summarise the readings, with*

an attractive approach and a global view… it's easier to assimilate the concepts and get the information by visual memory".

The collaborative synthesis of bibliography was considered very fruitful and important (6 students), which is also in accordance with figure 3 where some students considered that reading bibliography could be simultaneously difficult but relevant: "*I've been finding it difficult to write reflections because of lack of time, but I've been reflecting a lot due to the reading of the suggested papers*". Finally, one student reported that the proposed tasks allowed students to put theory into practice, which is also in accordance with figure 3 where the group work was considered the most relevant task in the whole module.

In the final reflection, the negative aspects were pointed out by fewer students when compared to the initial reflection. However, the complexity of the organisation of the tasks was also mentioned by 8 students. Concerning these results, one could say that, in spite of what is argued in the literature (Carvalho, 2006; Draper, 2007), apparently students are not used to open procedures and flexibility, even at a Master's degree level. Some of the students seem to prefer more structured, pre-defined and well-established guidelines. When there is room for negotiation, as in the project work, students feel disoriented. On the other hand, the time available for the tasks and the concept map's task were less pointed out as a negative aspect in the final reflection, probably because they could achieve it anyway, in spite of their initial reluctance.

As positive aspects students in general considered that the group work, its presentation and discussion as related to the collaboration between students, were the most relevant tasks of the module, which was also the most valued element of the assessment work (see table 3 and figure 3). Concept maps and reading of bibliography were considered to be difficult, although also relevant.

4. REFLECTIONS AND FINAL COMMENTS

In a quality module, the teacher's role becomes one of coach rather than instructor. The teacher facilitates at the metacognitive level, rather than providing solutions to

students' problems. The underlying pedagogies used in quality learning materials, according to Herrington, Herrington, Oliver, Stoney & Willis (2001), should include: (i) authentic tasks that reflect the way in which the knowledge will be used in real life settings; (ii) opportunities for collaboration, where students collaborate to create products that could not be produced individually; (iii) learner-centred environments, the focus is on student learning rather than teaching; (iv) engaging, where learning environments and tasks challenge and motivate learners and (v) meaningful assessment, where authentic assessment is used to evaluate students' achievements. One of the most important concepts underlying the above-described framework is the concept of "authentic assessment", which implies that the assessment process has to be thought of as an innermost part of the teaching and learning process (Wiggins, 1998). This assumption implies that the students are assessed "within a relevant context and are required to collaborate extensively to produce a product that demonstrates the knowledge, understanding and skills they have learned (…) and the ability to manage (…) activities" (Backboard Connections, 2002). In the ESE module, efforts were made to apply these assumptions, especially in relation to the assessment instruments used and the tasks involved.

Just like Felder & Brent (2004: 1) refers, "*effective teaching evaluation is to collect data from multiple sources (triangulation), making sure that all education-related activities are rated by the people best qualified to rate them*." In this paper the data regarding the students' rates were collected through the already mentioned questionnaire and the students' final reflections. As to the peers' rates, some teachers were invited to evaluate the module – namely two of the co-authors of this paper – and their perceptions about the teaching strategies used in the ESE module were discussed with the professor and the tutor of the module (the other two authors). The goal of this triangulation serves a double purpose: to provide a means to check (evaluation process) and improve the teaching/learning process (using the evaluation results).

The assessment framework used in the ESE module revealed some pros and cons. Specially because ESE is a b-Learning module, it was very important that the assessment tasks were online and timetabled within the module, as this (i) allowed the assessment to

focus not only on the learning product, but most of all on the learning process and (ii) enabled students to develop their knowledge individually and collaboratively by re-thinking and re-discussing the module contents over and over again.

The module contemplated group as well as individual assessment because, in this way, it is easier to assess students according to their personal involvement in the proposed tasks. However, and particularly in group work, it was difficult to assess the students' real individual contributions because, most of the times, the groups resorted to communication tools outside Blackboard, i.e. blogs outside de module, Skype and MSN messenger, etc. This is why self and peer evaluations were so relevant in terms of the final summative assessment (20%). One of the main problems of the assessment framework used resulted from the fact that the module duration was only one month and the assessment tasks are very time consuming, not only for the student but also for the teacher and the tutor.

Concerning the face-to-face sessions there was a high level of interaction between groups and the majority of the students felt interest for the module and considered it academically and professionally relevant. However, students' perceptions about some aspects were less positive. For instance, they felt that there was scarce monitoring of the activities. Moreover, they seem to be uncomfortable with peer evaluation, which might be interpreted as a reflection of the lack of an evaluation culture among teachers.

Regarding collaboration, one can say that, apart from face-to-face sessions where the tasks were discussed, in online contexts collaboration happened essentially inside the various groups. Inter-group collaboration was scarce. Regarding the online interaction, the students felt, once more, the need for being guided. In the ESE module, some students believed that the teacher should have given them feedback more frequently and should also have been more directive. Nonetheless, most of these students admitted they had developed a systemic competence that was not in the module's guidelines (but the teacher thought it was very important), i.e. to be able to do research and develop a project work autonomously.

From those results, and as key recommendations to consider for future work, we may suggest: (i) to encourage students to face peer evaluation as a way for teachers to better assess the student's real individual contributions within the workgroups; (ii) to improve some flexibility at the very beginning so that students feel comfortable to be part of the whole process, including choosing activities instead of having them imposed by the teachers, which might not be so motivating; (iii) to increase the interaction between groups (for example, instead of using one blog per group we suggest that only one blog should be used for the whole class); (iv) to try to use/create online tools for assessment purposes, so that it is easier for the student to submit work/assessments and, not less important, to allow the teacher to treat the comments and assessments submitted by the students automatically; and finally (v) to ask students to assess the work done by at least two other groups, using open asynchronous tools for that purpose (this way, students would gain a deeper knowledge of each other's work and could be more collaborative online).

In conclusion, in this paper the organisation of a b-Learning module (ESE) and an evaluation of the teaching strategies used were presented. The main concern was to establish and test a framework to evaluate b-Learning modules in terms of teaching strategies. Some suggestions to improve the less positive aspects of our framework are also shared. From the analysis of collected data we believe that this framework is valid and could be applied in the contexts of similar modules.

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2.3 Assessing collaborative work in a Higher Education blended learning context - strategies and students' perceptions

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ASSESSING COLLABORATIVE WORK IN A HIGHER EDUCATION BLENDED LEARNING CONTEXT: STRATEGIES AND STUDENTS' PERCEPTIONS

ABSTRACT

This study examines students' views on a blended learning module developed and offered at the University of Aveiro. The paper presents the module and the strategies, tools, activities and assessment. In order to examine the effectiveness of the module, data were collected from reflections, postings and questionnaires. Findings document students' opinions concerning the module, the activities and their learning. Students valued the module but expressed concerns in using the wiki tool, assessing collaborative work and in engaging in peer assessment activities. The results have practical implications for the design of collaborative activities and innovative assessment in blended learning environments.

Keywords: evaluation, collaborative work, blended learning.

1. INTRODUCTION

The creation of a European space of higher education implies an institutional transformation regarding the way curricula are conceived, making teachers and students responsible for the teaching and learning process (Coughlan, 2004). In many European institutions, education is mainly based on relatively conservative models. As a result of the Bologna Declaration, there are clear signs of change in higher education. One of the factors that has allowed for this transformation to occur is the fact that people resort more and more to e-learning or blended learning (Carneiro, 2003). According to APDSI (2007), the use of multimedia, combined with the use of the Internet, to design and make educational content available and to develop competences at a distance, is one of the greatest challenges of contemporary education systems. Consequently, using e-learning becomes a great challenge, specifically within the Portuguese higher education context.

Such challenge encompasses not only the curricular integration of Information and Communication Technologies (ICT) but also research on evaluation and on the exploitation of ICT tools for evaluation and assessment.

As far as the integration of ICT is concerned, the benefits of collaborative learning have long been studied by those who believe learning is essentially a social endeavour and that needs to be situated in authentic human activity (Brown, Collins, & Duigard, 1989; Lave & Wenger, 1991). Collaborative learning also provides opportunity for students to learn the skills of working in teams and to negotiate, discuss and criticize solutions to problems constructively (Naismith, Pilkington, Lee, & Weeden, 2007; Wegerif, Mercer, & Dawes, 1999). Collaborative work sometimes aims at providing extended opportunity to produce a product and to reflect on its quality and consequently the effectiveness of the process that led towards its construction. Self- and peer-review opportunities that arise from collaboration can also benefit learning (Gray, 2002; Ozogul, Olina, & Sullivan, 2008; Van den Berg, Admiral, & Pilot, 2006). Draper (2007) points out three different but mutually reinforcing reasons to include self- and peer-assessment when designing a module: (1) to develop students' autonomy and, consequently, to develop lifelong learning; (2) to enlarge sources of information and of feedback; and (3) to engage students in working things out for themselves and ask for peer explanations, which can sometimes be better understood than the explanations provided by teachers.

According to the above, the assessment strategies used for effective learning based on collaborative learning are an important concern (Naismith et al., 2007). When collaborative work is encouraged, new assessment strategies should be used, such as self- and peer-assessment. Assessment should take into account not only the final product but also the processes. Moreover, evaluation and assessment strategies should take into account the specificity of the communication media in use, as new technology allows frequent and varied assessment strategies, which are more possible in online distance education, as compared to traditional learning environments (Meyen, Aust, Bui, & Isaacson, 2002). However, a number of requirements for computer supported collaborative learning environments have been previously identified in the literature. According to Stahl (2000), a software environment to support collaborative learning

should provide: (1) a workspace in which ideas can be articulated from multiple viewpoints; (2) a convenient medium to represent and communicate ideas; (3) a means of preserving ideas to allow for review and reflection at a later date; and (4) the possibility for continuation at any time or from any place.

Bearing this in mind, higher education teachers have to develop new competences, such as: (1) to conceive and develop, according to the European directives, the courses' curriculum; (2) to develop an analytical–reflexive evaluation attitude towards the created expectations and the observed reality; (3) to share and discuss experiences with peers (Felder and Brent, 2004); (4) to develop critical thinking skills; (5) to act according to the research made on the curricular development and on the teaching/learning process; and (6) to monitor the teaching process and not only the final product (Collis & Margaryan, 2004). According to the report presented by the European Commission in the context of the project entitled TELL – Towards Effective network supported coLLaborative learning activities (European Commission, 2006), even though the evaluation of teaching is not a new concern, when it comes to the exploitation of the potentialities of ICT, its specificities have only recently been studied.

This study is part of a wider study that seeks to develop and test evaluation and assessment strategies in online contexts to promote effective collaborative blended learning. The broader study includes the evaluation of two post-graduate blended learning modules offered at the University of Aveiro. This paper is based on a study previously developed in the context of a higher education blended learning Masters module. The results of the evaluation of the first module were already analysed and presented elsewhere (Loureiro, Pombo, Balula, & Moreira, 2007a; Pombo, Loureiro, Balula, & Moreira, 2008, 2009). Those results influenced the design of the second module, which is presented in this paper. This work presents: (1) the strategies, tools, activities and assessment strategies that were proposed in the doctoral blended learning module following the first pilot study; (2) the students' opinions concerning the module, the proposed activities and their learning; and (3) the students' skills related to the assessment and collaborative work developed during the module, and their views on how collaborative work should be assessed.

2. THE STUDY

The post-graduation module under analysis here is the Distance Education (DE) module. The e-assessment practices, involving both teachers and students, are described and analysed taking into account the literature, the previous study, current thinking regarding e-assessment for higher education and the orientations from the Bologna Declaration. The previous study focused on a module concerning Educational Software Evaluation (ESE), which was part of the Masters Course on Multimedia in Education. The study presented here, is part of the Doctoral Course on Multimedia in Education and the topic of the module examined was DE. Both modules were under the responsibility of the University of Aveiro and were offered in a blended learning mode with two face-to-face sessions (the first and last). The duration of the modules was a five-week period with extensive online elements. Following the results of the previous study (Loureiro et al., 2007a; Pombo et al., 2008, 2009), some changes in the design of the second module were taken into account.

In the first ESE module, collaboration took place during the face-to-face sessions where the tasks were discussed, and also online within the groups. Inter-group collaboration was scarce partially because each group developed their project in different blogs. In the DE module, instead of using one blog per group, we decided to use only one site in a wiki (http://ead0809.wetpaint.com) for the whole class in order to increase the collaboration among groups. Another strategy implemented in the DE module to increase the collaboration between groups was to require students to assess the work done by at least two other groups, using open asynchronous tools for that purpose. This way, students would gain a deeper knowledge of each other's work and would be required to collaborate more online. Besides that, students should comment the other groups' work throughout the course and not just at the end of the module, in the last face-to-face session.

Among the skills that students were expected to develop during the Doctoral Course on Multimedia in Education were skills related to research, selection, systematization and information synthesis, communication, collaborative work and

assessment skills (self- and peer-assessment). Bearing this in mind, the module was designed expecting that students would achieve the following learning outcomes: (1) to collect, select and analyse relevant information about the topic of DE; (2) to share the selected information pointing out the criteria for the selection; (3) to discuss the readings contributing towards the creation of a friendly and participating atmosphere; (4) to negotiate meanings/points of view from the readings; (5) to systematize and synthesize information regarding the construction of an academic publication; (6) to use ICT properly and critically in the research; (7) to communicate, orally and in writing, and contribute for the development of that skill among peers; (8) to analyse the progress of the work that had been produced collaboratively, as well as individual contributions (self- and peer-contributions); (9) to suggest changes to the work in progress, based on the literature and from a constructive perspective; and finally (10) to reflect upon the skills that had been developed by each one and by the colleagues.

The methodology used valued problem solving and project work, which does not imply the absence of expository moments, conducted by teacher or by the students, as well as collaborative work and an integrated and authentic perspective of assessment. In order to promote reflection on learning outcomes, some activities proposed included the sharing of work developed, peer-assessment of the group work and reflection about the skills developed, either in the face-to-face sessions or at a distance (weekly individual reflections). The proposed activities and schedule are shown in the Table 1.

The assessment modalities comprised several aspects, namely the assessment of the learning process and the learning products, as well as self- and peer-assessment of the collaborative competences and of the project (literature revision paper)[3] developed by the students. The assessment included a formative component, which was given special emphasis. The final grades and the respective weights were negotiated with the class in the first face-to-face session. Therefore, it was important: (1) to outline the skills, as well as the learning products students were supposed to develop; (2) to design and implement teaching/learning strategies taking into consideration the expected learning

[3] Ver anexo 4, onde se apresenta o instrumento de avaliação do trabalho em curso que consistia na elaboração de uma revisão de literatura sobre um tema relacionado com a Educação a Distância, usado no ano letivo 2012/13 (resultante da sua aplicação em anos anteriores).

outcomes; (3) to plan the evaluation/assessment process according to the defined learning outcomes; (4) to assess if the quantity of ECTS (European Credit Transfer System) was distributed in conformity with the students' workload; and finally (5) to evaluate the teaching/learning process so that it could be reviewed and improved.

Table 1 – Activities schedule of the module.

Weeks/sessions	Activities
1st week online	- Diagnosis of students' perceptions of how to do literature search about "Distance Education". - Readings and discussion of the proposed work (including assessment). - Individual readings of recommended literature (search, papers and materials). - Essay on the use of the reading characterization sheet and possible revision, if needed.
1st face-to-face session	- Teacher, tutor and students' introduction and definition of work groups. - Negotiation of the proposed work for the module, including the assessment strategies. - Expository session about literature search tools (made by a library technician). - Discussion of the reading characterization sheet. - Discussion and syntheses of the readings about literature search. - Search for papers and other materials.
2nd week online	- 1st reflection about the activities (individual work). - Definition of the proposed themes concerning DE, by the work groups, to develop a literature review paper. - Assessment of the proposal work (made by each group and teachers).
3rd and 4th weeks online	- 2nd reflection about the activities, including the note about the time spent for each activity (individual work). - Development of the first version of the paper. - Assessment of the work proposal made by students and teachers. - Restructuring of the paper and preparation for its presentation.
2nd face-to-face session	- Presentation, discussion and peer assessment of the developed projects (all together). - Self- and peer-assessment of the collaborative competences developed and production of the final reflection concerning own learning during the module (individual work) - Module assessment by students (individual).

3. METHODOLOGY AND FINDINGS

Little is known on how assessment is implemented in online environments, and how assessment strategies for collaborative learning can help to monitor and inform performance and progress of students' learning (Liang and Creasy, 2004). The main aim of

this study was exploratory, with a focus on examining how assessment and collaborative learning intersect in blended learning. The study has an exploratory and descriptive nature. The data used in the study was collected through the administration of an online questionnaire[4] at the end of this module, answered by 22 out of 24 students enrolled in the module. The questionnaire designed for the above-mentioned purposeincluded three sections: (1) a preliminary section for characterization of the students' profile; (2) a first section aiming at collecting students' opinions about the module, the proposed activities and learning strategies; (3) a second section aiming at gathering students' opinions about their skills of assessment and collaborative work developed during the module; and (4) the third and final section aiming at gathering the students' perceptions of how collaborative work should be assessed and suggestions for improving the module in future offerings. The data were analysed using descriptive statistics with Microsoft Excel. The content of the open questions was analysed content analysis for each indicator.

Half of the respondents (11) were more than 30 and less than 40 years old, six between 40 and 50, three more than 50 and two less than 30. The majority of respondents (16) had a Masters degree (eight related to information technologies or multimedia in education). The others had an undergraduate degree in Languages, Maths and Sciences, and also in Primary School Teaching. Out of the 22 enrolled in the module, 19 were teachers in different levels: secondary (eight), basic (six) or higher education (three) and other (two).

All the respondents felt interested in the module from the very beginning, mentioned the academic importance of the module, and said they had developed the proposed competences, namely being able to conduct literature reviews search (Figure 1).

In spite of the fact that 21 respondents considered that they understood the concepts, 14 (64%) felt difficulties in understanding them. Four students felt the module was not professionally relevant (Figure 1). Note that three respondents are not teachers. In the previous study (Loureiro et al., 2007a; Pombo et al., 2008, 2009), in the ESE

[4] Ver anexo 3, onde se apresenta o questionário aplicado.

module, some students (10, 53%) considered that there was no inter-group interaction. This aspect has mainly to do with online interaction (given that each group developed their project in the blog of the group); however, concerning the face-to-face sessions, there was a high level of interaction between groups. Based on these results, to increase interaction between groups in the DE module, instead of using one blog per group, we used one tool. A wiki was created for the module and all the interactions were made within the wiki. Another strategy was to ask students to conduct peer assessment of the work also in the wiki. Considering the results (Figure 2), only three students (14%) considered that inter-group interaction was not sufficient.

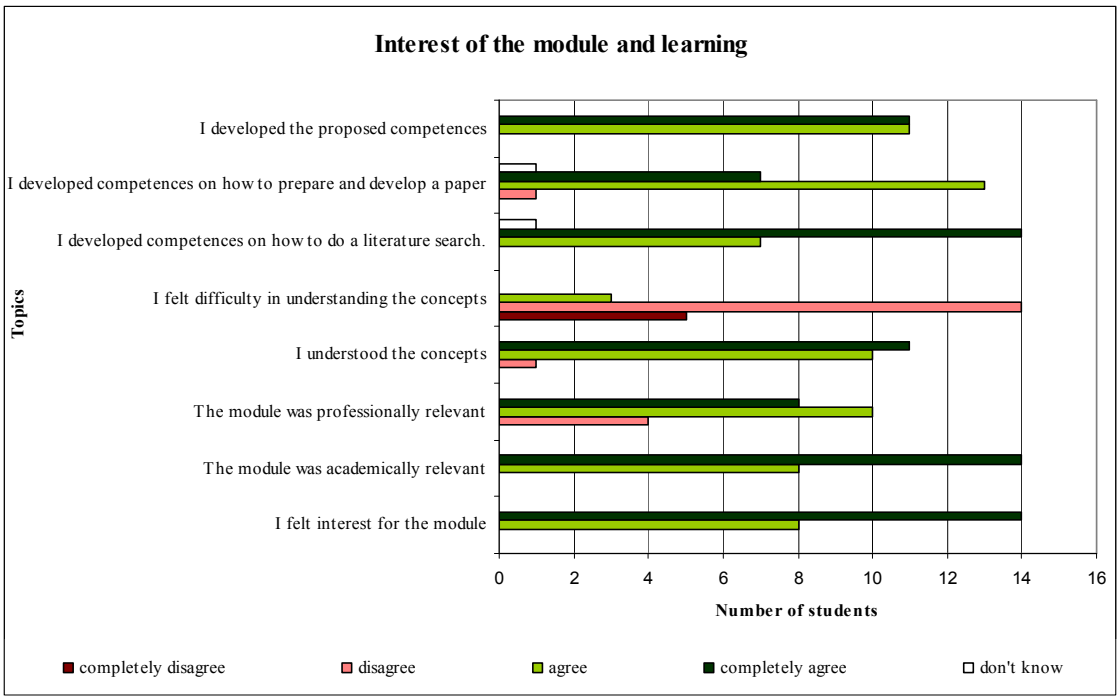

Figure 1. Students' opinions about the interest of the module and learning strategies explored.

In general, the students considered that activities were well developed, not only the suitability of the assessment strategies, but also the theoretical framework and the activities framework (Figure 2). Only one student considered that the organization of the face-to-face sessions was not well organized. Besides that, six students mentioned that the duration of the module was insufficient. Apparently, students gave more importance to the most valued element of the assessment framework (Figure 3), the development of a review paper (16 students) and the activities related to it. For example, the expository

session about literature search tools made by a librarian was relevant (18 students) and the search for papers and other materials to prepare search revision (16 students). As one student mentioned, to justify his/her answer: "In research, it is essential knowing how to search. The amount of available information on the Internet is so high that it is of a wide importance to do the right choices considering the object of the study".

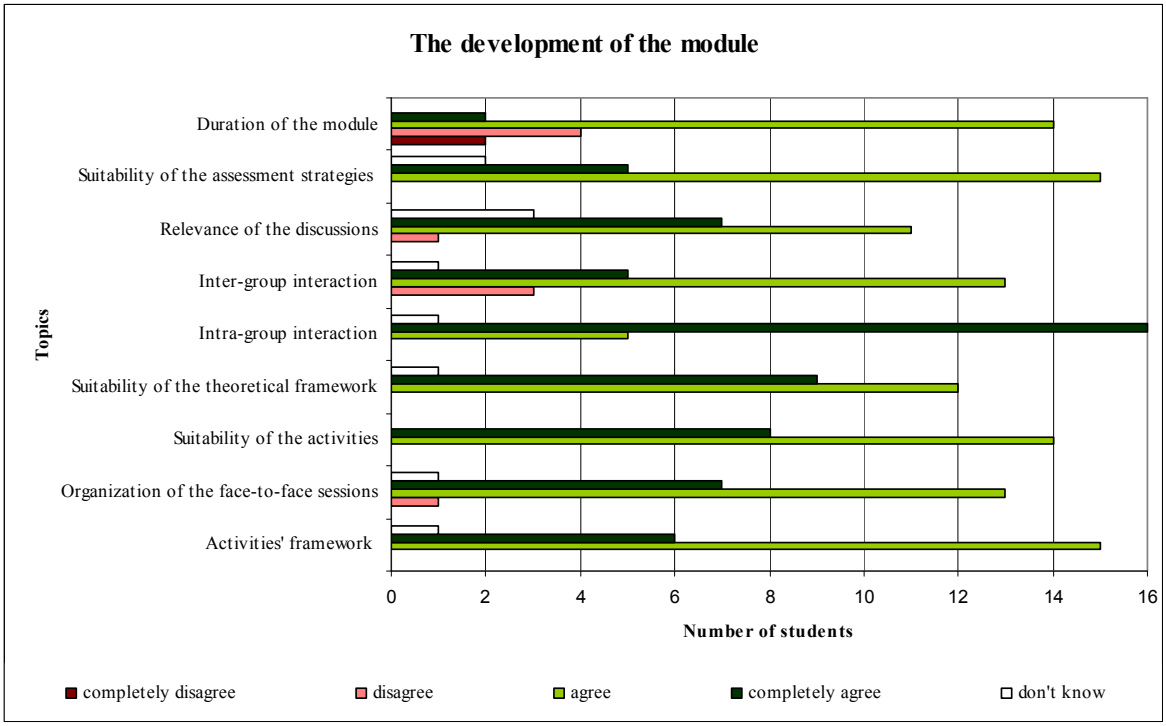

Figure 2. Students' opinions about the module development and the proposed activities.

On the other hand, eight students considered the essay on the use of the reading characterization sheet difficult and only five students pointed out its relevance. The authors of this paper (also involved in this module, as a tutor/researcher, as a teacher and as the director of the course) noticed that students are not used to complete reading characterization sheets in their collection and selection of papers for their academic or professional practice, and face difficulties in organizing the literature. This activity was very important, since students are attending an advanced course and literature selection and organization should be prepared early on and not only at the stage of writing their doctoral thesis.

It is also possible to conclude that the activities related to students' assessment – intra- and inter-group self- and peer-assessment – were the activities in which more students (five and seven students) considered that they had difficulties, in spite of few students (only six and two) mentioning that those activities were relevant (Figure 3). Similar results were found in the previous study (Loureiro et al., 2007a; Pombo et al., 2008, 2009), indicating that there is still a lack of an evaluation culture even among teachers, as reported by Loureiro et al. (2007b). This is an important issue that needs further research in order to understand why this happens and what strategies should be used to overcome this problem. Another burning question is: what kind of organizational culture is necessary to allow for such participating processes? (Ehlers, 2007).

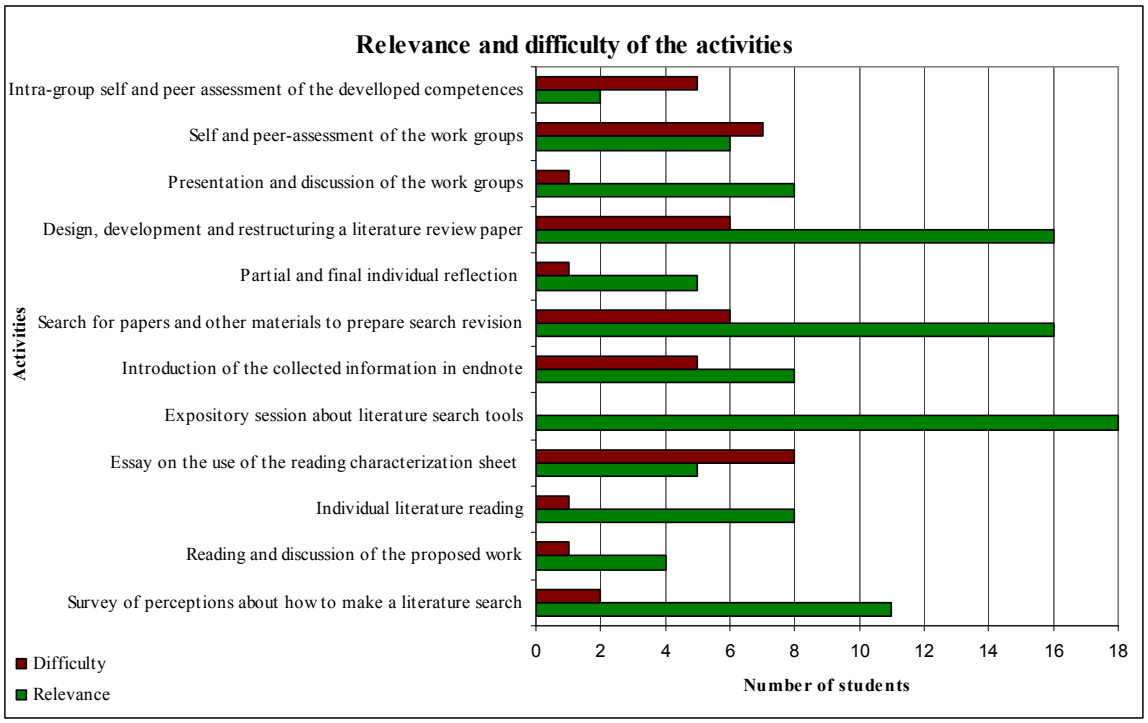

Figure 3. Students' opinions about the relevance and difficulty of the module activities.

Concerning the competences students think that they developed, the majority mentioned that they were satisfied with the way the group worked collaboratively and also that they developed competences of collaborative work. For that purpose, students were asked to distinguish collaborative and cooperative work. Most of the students (14 respondents) revealed that they could separate the concepts of collaboration and cooperation. Although they consider that the two concepts are very similar, they

emphasize "division of tasks" and "a more individual work" in the cooperative work. In contrast, one student mentioned that collaborative work entails "a more dynamic process, with discussion of opinions, of strategies and work methodologies so that the work developed by all the elements of the group converge to a common objective".

They also added that both strategies were developed during the module. One student stated:

"*At the beginning of the work collaboration is essential for sharing ideas about what to do, how to do it. During the development of the literature revision paper and in the final phase for the elaboration of conclusions, it was collaborative work too. During the work, there were some stages where cooperative work was evident, when tasks were specific of some elements of the group*".

Some students emphasized the importance of collaborative work as compared to cooperative work:

"*In the group where I worked, I tried to work under a collaborative logic. The discussion and co-construction of the work were very important in this stage of training, more demanding than a simple division of tasks that will then be agglutinated in a final product*."

Students also reported they learned more working collaboratively than individually, reinforcing the ideas of sharing, discussion and constant feedback, intra and intergroups: "There was also some interesting moments of sharing with the other groups". These results are in accordance with the literature that highlights that distance education environments can provide opportunities to move away from self-instructional materials and independent study. As Bradley and McConnel (2008) argued, "the social environment and connectivity affords the student the opportunity to develop deeper understanding through their own construct in dialogue with peers and tutor" (p. 1).

The words *collaboration* and *cooperation* offer more than just communication; the terms imply an obligation towards peers in social interaction (Jones, 2007) and links to Vygostky's (1978) social development theory and the development of cognition (Johnson, Johnson, & Stanne, 2000). According to Dillenbourg (1999), the broader (but

unsatisfactory) definition of collaborative learning is that it is a situation in which two or more people learn or attempt to learn something together. On the other hand, and simply mentioned as an example, cooperation is when the tasks are too large for an individual to complete within the time scale, so negotiation and division of labour is required (Bradley & McConnel, 2008).

Concerning the developed competences about assessment (Figure 4), 17 students mentioned they were satisfied with the way their group assessed the other groups and considered that they developed assessment competences. Furthermore, all students think that collaborative work should be assessed individually, by teachers and by the colleagues, and not just by teachers. Most of the students (20) considered that collaborative work should be assessed with several components (the development of the process, the final product and also the individual effort), which is in accordance to the proposed framework. On the other hand, there are diverging opinions about whether collaborative work should (or should not) be assessed as a whole, giving the same mark for all the elements of the group (eight favourable opinions and 11 unfavourable opinions). This question is related with the way the students worked in groups. If they privilege cooperative work, they think that it is fairer to have different marks, but if they privilege collaborative work, probably they think they should have the same mark. It is evident in the wiki that cooperative work was privileged in some groups, with clear division of tasks (as the text was written in different colours, as it was composed of parts added by different students) and probably with different involvement among elements.

Regarding whether to publish the assessment activities in the module's site, there are controversial opinions (Figure 4). Most students think positively, that self- and peer assessment of developed competences (intra-groups and among groups) should be published in the module's site. Regarding the personal reflections, again nine students have favourable opinions about open publishing; 10 students have unfavourable opinions. It is also evident that students felt uneasy and confused because they are not used to assess other colleagues and they may have some prejudices about face-to-face evaluation. Furthermore, students seem to be reluctant to expose their own reflections to the world. This could be linked to the fear of publishing errors (Draper, 2007) that could

be read by others. It also relates to the literature showing that many students ignore extensive written formative feedback and pay attention only to their grades (Draper, 2007). This might relate to the fact that assessment is still more about getting good grades rather than actual learning gains.

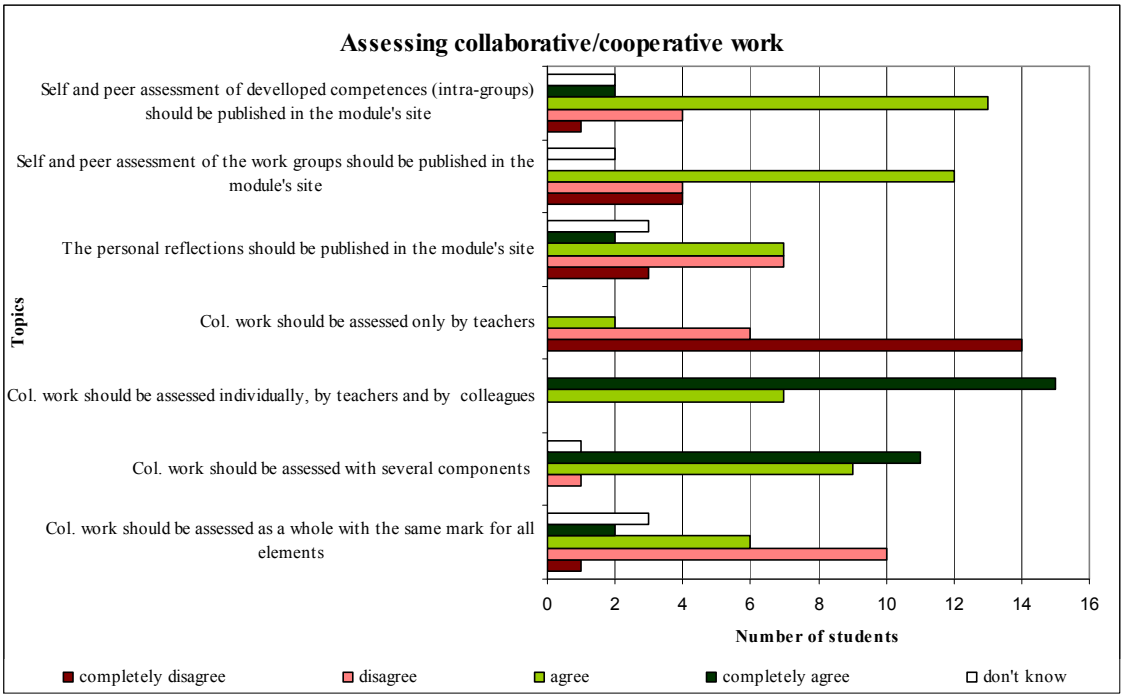

Figure 4. Students' opinions about developed competences on assessing collaborative/cooperative work.

Students mentioned positive and negative aspects of the module and offered some suggestions for improvement. As positive aspects students mentioned that the module was very rich and engaging, that it improved group dynamics, the development of various competences and the construction of knowledge. The content was also appreciated and the importance of the session on literature search tools was highlighted. Students also appreciated the availability of the teachers and clarity of activities, competences and aims. As negative aspects, half the students (11) mentioned that the wiki tool should be replaced, as it was very confusing and time consuming to visualize the feeds. They also mentioned that there was a lot of new information. In spite of the existence of the "What's new?" area of the wiki, the links between pages and the availability of RSS feeds were overwhelming. The teachers also introduced a site map to facilitate the navigation

and a page to acquaint the user with the latest changes made to the module site. The reported difficulties can be related, in part, to students' work overload, since the majority of the students had fulltime jobs and maybe they did not have sufficient time to follow the site changes. Another problem could be the lack of familiarization with the wiki tool used and the affordances and functionality of the tool used in previous modules of the course. In those previous modules, they used a social network tool in which the news was shown on the front page (NING).

Some students suggested using a different tool, like an LMS, for example, to expand the module timetable and define the tasks more precisely. They also reported that the module was "*very dynamic and useful and provided an excellent basis for research work*". As a suggestion, students mentioned that "*it could be presented in the beginning of the doctoral course because of its holistic approach and its pertinence considering the approach to research methods.*" These results are aligned with Stacey and Fountain (2001), according to which one is considered a successful research student, when he/she has the "*practical ability to use the hardware and software that assist in locating resources; organizing, managing and analysing data, and preparing drafts*" (p. 525).

4. CONCLUSIONS

Considering the orientations inherent to the Bologna Declaration, the inclusion of self and peer-formative assessment of the developed competences during the module was valued by students. It is important that when giving students the opportunity to engage in self- and peer-assessment, they also understand the assessment criteria in use. The module guidelines included those aspects that were further discussed and negotiated with the students either in the face-to-face sessions or in the module's site. Formative feedback was also given answering students' questions as well as giving constructive suggestions about what to change, how, and why.

Taking into consideration the major limitations in assessment referred by Draper (2007), our assessment framework in both modules tried to take into account:

● the third regulation loop, i.e., to give students the opportunity to chose the subject of the main work and to plan it, according to their interests and needs;

● that support should be given during the development of the assessed tasks and not only at the end, enabling students to develop their knowledge individually and collaboratively by re-thinking and re-discussing the module content several times;

● that apart from authentic assessment, assessment should be aligned with the learning aims; and

● the assessment should be made not only by the teacher but also by themselves and by the colleagues.

Concerning the results from the previous study (Loureiro et al., 2007a; Pombo et al., 2008, 2009), in which inter-group collaboration was scarce, the use of only one tool for the whole class in this module, highly increased inter-group collaboration. However, a different problem emerged: the wiki tool used was not very well accepted. Most of the students mentioned the wiki's complexity; they found that it is not intuitive, and that it should have a synchronous communication tool associated with it. Another complaint relates to the difficulty in keeping up to date, considering the amount of information and interaction within and among groups.

Another change that was implemented in the current module, taking into account the results of the previous study, was that students were supposed to perform peer assessment, using open asynchronous communication tools for that purpose. Thus, students would gain a deeper knowledge of each other's work and could be more collaborative online. This change improved students' comments on the work of other groups during the module. The intention was to increase collaborative work among groups during the process, which was evident by the interactions in the wiki and through the final comments on the module.

On the other hand, in the DE module, some new less positive aspects came out. The individual reflections were not shared by all, but only by the teachers. This happened because the tool used for that purpose was Googledocs. It was not our intention to have reflections that would not be shared by everyone. The purpose was to facilitate data

analysis, as some questions were closed. Nevertheless, some students felt more comfortable with the situation. Another advantage was that students' reflections were not influenced by their colleagues who posted their opinions earlier.

As positive aspects that were maintained from the previous experience (the ESE module), we can mention the flexibility that was implemented since the very beginning of the module. Students felt comfortable to be part of the whole process, including choosing activities instead of having them imposed by the teachers, which might hinder students' motivation.

As key recommendations to consider for future work, we may suggest: (1) going back to using the tool used in the previous modules of the doctoral course, to allow students to become more familiar with it so that it can facilitate interaction and collaboration; (2) to encourage students to discuss their reflections openly and thus share possible common problems; and (3) to encourage students to use peer assessment as a learning strategy and not only as a way for teachers to better assess the student's real individual contributions within the workgroups. As more and more educators and researchers realize that effective teaching and learning with technology must be driven by pedagogical principles, it is important to ask questions such as how this could be achieved, and what aspects should be considered for more effective assessment. This work brings some practical contribution to these issues and can be useful to those who have similar concerns regarding online teaching and assessment.

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2.4 Using peer assessment for promoting the learning process in a doctoral blended learning program - a longitudinal design-based research approach

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USING PEER ASSESSMENT FOR PROMOTING THE LEARNING PROCESS IN A DOCTORAL BLENDED LEARNING PROGRAM - A LONGITUDINAL DESIGN-BASED RESEARCH APPROACH

ABSTRACT

This paper presents an innovative longitudinal study developed during three years, using a design-based approach consisting of four phases. Taking into account the analysis of students' behavior and opinions, teachers re-designed the peer assessment (PA) strategies used in the context of a Distance Education blended learning module, of a Doctoral Program, in order to improve the effectiveness of students' learning. The designed cycle allowed, for instance, the identification of problems, such as the lack of students' familiarity with PA, the design/adaptation of assessment frameworks and therefore practical solutions were implemented and evaluated. The results show that the applied solutions were valued by the PhD students. Moreover the PA tasks fostered constructive criticism, collaboration and active involvement of students in their own and their peers' learning process. Although the developed PA strategies were efficient, in the described context, their applicability should be analyzed in similar environments.

Keywords: peer assessment, effective learning, blended learning, design-based approach.

1. INTRODUCTION

Recently, in Higher Education, "assessing of learning" is being replaced by "assessing for learning" (Cartney, 2010; Hatzipanagos, & Rochon, 2011; Willey, & Gardner, 2010). Assessment for learning focuses on learning tasks and includes learning in assessment (Canan, 2011; Willey, & Gardner, 2010). According to these authors, in this perspective, three main elements should be considered in the design of the assessment process: i) assessment tasks which focus on learning; ii) participation of students in the assessment process; and iii) providing feedback to increase learning. Moreover,

assessment for learning focuses on the usage of assessment strategies which can increase students' learning as it intends to make students plan their own learning, define their weaknesses and strengths and improve their transferable skills (Van Gennip, Segers, & Tillema, 2009). Thus, the primary beneficiary of assessment should be the student. To achieve this, students and tutors must engage in a fruitful process of dialogue and feedback (Hatzipanagos, & Rochon, 2011).

According to Strijbos and Sluijsmans (2010), summative assessment focuses only on the cognitive aspect of learning, generally includes only one performance grade and is designed and applied by the teacher. On the other hand, formative assessment is an integral part of the learning process and should take place not only at the end of a program but also throughout the entire program (Pombo, Loureiro, & Moreira, 2010). Formative assessment can focus on cognitive, social and affective aspects. It generally includes a multi-method approach and creates a complete profile rather than simply a final grade (Canan, 2011).

In the context of formative assessment, or assessment for learning, peer assessment (PA) plays an important role (Cartney, 2010; Ploegh, Tillema, & Segers, 2009). Strijbos and Sluijsmans (2010) defines PA as an educational mechanism where students judge qualitatively and quantitatively works and performances of one of their peers and where students are encouraged to engage in reflection, discussion and cooperation. Topping (2009) defines PA as a mechanism for learners aimed at determining and examining the level, value or quality of a product or of the performances of other learners at the same level. The author states that PA activities can be applied in different program domains and subjects. Various products and outputs, including a writing essay, a portfolio, an oral presentation, a test performance and other skills, can be assessed by peers.

Several authors (Li, Liu, & Zhou, 2012; Lu, & Zhang, 2012; Topping, 2009) argue that students can benefit from PA, since it implies the active involvement of learners in shaping their own learning processes, while it promotes an authentic assessment and increases the autonomy and collaboration among students. However, recent literature, investigating students' perceptions about online PA and the nature of students' resistance

to PA (Kaufman, & Schunn, 2011; Mok, 2011; Patton, 2012), indicates that students sometimes consider PA as unfair and often believe that peers are unqualified to review and assess their work. On the other hand, students' perceptions about the fairness of PA increases significantly after an' experience in doing PA; and, students' fairness conception is most significantly associated with their perceptions about the extent to which peers' feedback is useful and positive.

Although PA has been extensively used to support students' learning in f2f classrooms (Gielen, 2007), little is known about its effectiveness in online contexts (Ertmer, Richardson, Belland, Camin, Connolly, & Coulthard, 2007), in particular in collaborative learning contexts using Web 2.0 technologies. Furthermore, Waycott, Gray, Thompson, Sheard, Clerehan, Richardson and Hamilton (2010) mention that there is a gap in the literature in what regards “good assessment practices” when students are asked to create and publish content, or participate in networking activities, using social web technologies.

This research fills in the above mentioned gaps describing a case that will be presented chronologically, as showing how the explored PA strategies have been developed, considering the learners’ voices to be crucial to evaluate the development of online learning, and assuming that PA is a powerful strategy to improve students’ learning. An innovative longitudinal study, in a doctoral module in a blended learning context, is presented in order to understand the process along three years of experience using PA, by refining methodologies so that students can most benefit from it. As far as the methodological approach is concerned, the study discusses how a design-based research approach is being used to plan and implement an online course based on assessment for learning principles (Pombo, Loureiro, & Moreira, 2010) to create a more interactive and engaging online learning experience for higher education students.

After this brief introduction, the methodological options are described and discussed. Then, the context of the study is presented as well as the students’ profile, in what concerns their age, job and academic qualifications. The section “case description” provides a detailed outline of the experience in chronological terms, as the main results and main decisions will emerge. In the last section, final considerations and current

challenges are put forward in order to take full advantage of online assessment for learning.

2. METHODOLOGY

In this section the methodological approach used in the study is described. Given the lack of longitudinal studies regarding PA linked to "good assessment practices" in blended learning contexts, this study has a qualitative, exploratory and descriptive nature and the methodology is based in a design-based research approach, (Fig. 1). With the aim of exploring how to design and develop authentic online PA within the Higher Education sector, taking into account the previous know-how and results, assessment strategies were re-designed, so that students can most benefit from it.

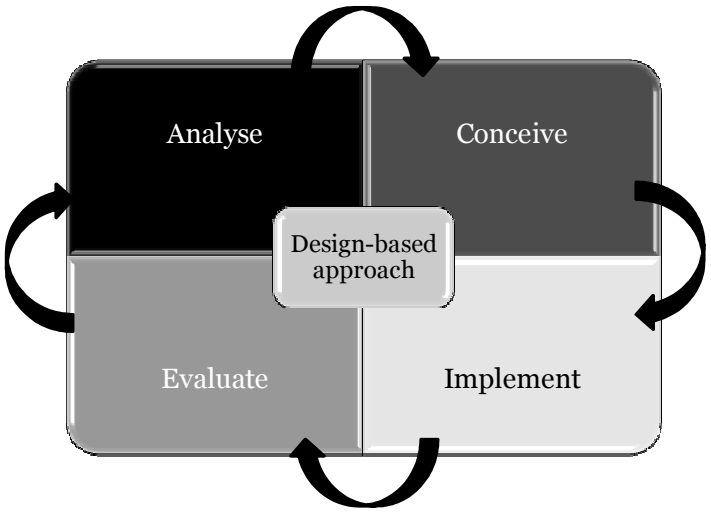

Figure 1 - The design-based research approach scheme, showing the main phases adapted from Parker (2011).

The design-based research approach is being used more and more in education and the key elements of this approach include: addressing complex problems in collaboration with practitioners, integrating design principles with new technologies to develop practical solutions to the problem and conducting effective evaluations to improve the proposed solution and identify new design principles. According to Parker (2011), designed-based methodologies comprise four phases: phase 1 – Analyze the problem;

phase 2 - Design and develop potential solutions; phase 3 - Implement and evaluate; and phase 4 - Reflect and report (see Fig. 1).

The phase 1 addresses three key areas: the problem, the literature review and the practitioners' experiences. During this phase, the researcher clearly articulates the problem and investigates what work has already been done in the same or related fields. By the end of Phase 1, the researcher should be able to create preliminary research questions to guide the study (Herrington, Reeves, & Oliver, 2010).

The phase 2 of the design-based research approach focuses on designing and developing solutions to the problem. This phase corresponds to the design of the module, where the tasks and the goals are thought-out and conceived. In phase 3, the module designed and developed in phase 2, as a potential solution to the problem, is implemented and evaluated to determine the effectiveness of the framework. In this phase, data are gathered and analyzed.

The phase 4 is where the researcher reflects on the entire project and disseminates information to the broader educational community. The result of this work will be the final learning design principles comprising guidelines for the design of effective e-learning environments in higher education. This last stage might lead to a first stage of another cycle, as the reflection may provide other issues to be analyzed.

In the context of the present research, the authors went through three cycles of design-based research, where each cycle corresponds to an academic year, as described in the following sections. Data were collected using an online questionnaire[5], applied in each academic year, in three editions of the DE module. The questionnaire was anonymously answered in the final f2f session of the modules, and the majority of the students enrolled in the modules submitted their answers – 22 (out of 24) from the 2008/09 edition, 18 (out of 18) from the 2010/11 edition, and 13 (out of 14) from the 2011/12 edition. A total of 53 answers were obtained and analyzed using descriptive statistics. The questionnaire designed to evaluate the above-mentioned modules included five sections. The first section was used to characterize the students' profile in terms of

[5] Ver anexo 3, onde se apresenta o questionário aplicado.

age, job and academic qualifications. The second section aimed at collecting the students' opinions on the module in general, the teachers and the teaching and learning strategies. The third section intended to gather the students' opinions on the tasks and the fourth on the e-assessment process.

3. THE CONTEXT OF THE STUDY

This section provides a background of the doctoral program organization, which is the basis of the context of the study.

The post-graduation module under analysis here is the "Distance Education" (DE) module, which is part of the curricular year of the doctoral program on Multimedia in Education, offered at the University of Aveiro (Portugal). The PhD program is organized in a four weeks blended learning context, with two f2f sessions (one at the beginning and the other at the end of the module for presentation and discussion of group works) and the rest is done at a distance in group works, with extensive online elements, including the teachers' feedback.

The research skills that students are supposed to develop in the doctoral program, and that underlie its creation, are those required for independent research, such as: seeking and organizing information, data gathering and data analysis, communication, collaborative work, and assessment skills (self and peer assessment). Bearing this in mind, in the DE module, the main activity that students are proposed to develop is to collaboratively produce a literature review paper (in groups) about a topic of their choice related to Distance Education.

The expected learning outcomes of the DE module are: i) to retrieve, select and analyze relevant information (papers, books, dissertations, reports…) about the selected topic; ii) to share, discuss, negotiate meanings and points of view expressed in the selected information; iii) to contribute towards the creation of a friendly and participatory atmosphere; iv) to organize and synthesize information regarding the production of an academic publication; v) to use ICT properly and critically in the research process; vi) to communicate, orally and in writing, and contribute to the development of that skill

among peers; vii) to assess the progress of the work that was produced collaboratively, as well as individual contributions (self and PA) and provide constructive suggestions, based on the literature; and, finally, viii) to reflect upon the competencies that were developed by each one and by the colleagues (Pombo, Loureiro, & Moreira, 2010). Project work, problem solving, collaborative learning and assessment for learning are valued as strategies that promote effective online learning.

Concerning the elements involved in the three editions of the Distance Education post-graduation module (2008/09, 2010/11 and 2011/12), the authors of this paper were directly involved having a double role (observers/researchers and participants/teachers). In the 2009/10 year, the teachers involved in the module were not the same and, even though the methodology of the module was similar, the evaluation questionnaire was not applied.

The students' profile, in what concerns their age, job and academic qualifications, in the different editions, was similar and can be summarized, as follows:

- the participants in the three editions were more than 26 and less than 57 years old;
- 19 students enrolled in the first edition, 12 in the second and 5 in the third edition of the DE module were teachers in different education levels. The others had other jobs as freelancers, researchers, and so on;
- the majority of these students (16 in the first edition, 18 in the second edition, and 10 in the latest edition) had already finished a MsD (pre-Bologna Masters Degree in Sciences or Languages) and thus had some research experience. The others had a graduation degree in several different areas.

4. RESULTS

In this section, a detailed outline of the experience will be presented, while describing how the explored PA strategies have been developed considering the learners' voices, crucial to evaluate the development of online learning and assuming that PA is a powerful strategy to improve students' learning.

Following the results of the first edition's evaluation (Pombo, Loureiro, & Moreira, 2010) some changes in the design of the DE module were introduced in the second edition (Loureiro, Pombo, Balula, & Moreira, 2011), and the same occurred in the third edition, namely concerning the e-assessment activities, as well as the communication technologies used (see table 1).

Table 1 - Summary of changes applied in the three editions (2008/09, 2010/11, and 2011/12).

	2008/09 (Wiki)	**2010/11 (social networking)**	**2011/12 (CMS)**
1st week	-Closed individual reflections (googleDocs)	-Open individual reflections (Ning) -Negotiation of the assessment framework (literature review)	-Open individual reflections (Drupal Group) -Negotiation of the assessment framework (literature review+quality feedback)
2nd week			-Open formative PA+Teachers (paper's structure)
3rd week	-Open formative PA+Teachers (wiki) (1st version)	-Closed formative PA+Teachers (GoogleDocs) (1st version)	-Open formative PA+Teachers (CMS+email) (1st version)
4th week	-Closed sumative self+PA+Teachers assessment (product & competences)	-Closed sumative self+PA+Teachers assessment (product & competences)	-Closed sumative self+PA (competences)+Teachers assessment (product)

A. First Edition (2008/09)

From a previous experience, in a similar context (blended learning module), where the students were asked to evaluate educational software and blogs were extensively used, the authors found a lack of collaboration among groups of students and realized that the students' assessment framework should be negotiated and transparent (Pombo, Loureiro, Balula, & Moreira, 2009).

In the first edition of the Distance Education module, a wiki (http://ead0809.wetpaint.com) was used "for the whole class in order to increase the collaboration among groups" (Pombo, Loureiro, & Moreira, 2010, p.220) and several assessment strategies were tested, including assessment for learning such as self and PA. In the following paragraph these strategies and the tools used to implement them are described.

To contribute towards the reflection about the ongoing work and the learning outcomes, students were asked to do a closed individual reflection (self assessment) during the 1st week (table 1). GoogleDocs was used for that purpose, in order to facilitate individual diagnostic of the students' previous ideas about the module's topic.

Another assessment strategy, implemented in this edition, to improve the collaboration between groups, was the involvement of students in the assessment of the work done by at least two other groups, during the 3rd week (see table 1). For each group, an assessment page was created for this purpose where the peers and the teachers wrote their comments following the page structure. This way, students would gain a deeper knowledge of each other's work and could provide constructive criticism and suggestions to their mates' work. Thus, the assessment instrument[6] used by both students and teachers to assess the ongoing work (literature review paper) was available at the module website (http://ead0809.wetpaint.com/). It includes criteria and indicators to assess literature review papers, such as: i) clear definition of the research questions or objectives; ii) writing adequacy (for instance, use of academic writing guidelines); iii) relevance of the structure (including an introduction, the methodology used to retrieve and analyze the information, its organization, and a conclusion); iv) originality of contribution (added-value, new information…); and v) adequacy of the information seeking and evaluation strategies (that should indicate the databases, the keyword, criteria for the inclusion and exclusion of the gathered information…).

In order to examine the effectiveness of the module, specifically in what concerns PA strategies, students' views were collected. The results (see Fig. 2) show that the assessment activities were considered difficult by some students, and the majority of the students didn't value the intra and inter-group self and PA activities (Pombo, Loureiro, & Moreira, 2010). This indicates that the evaluation culture is not common, even among teachers (as reported above, the majority of the students enrolled in the doctoral module were teachers). Besides that, the literature shows that many students ignore extensive

[6] Ver anexo 4, onde se apresenta o instrumento de avaliação do trabalho em curso que consistia na elaboração de uma revisão de literatura sobre um tema relacionado com a Educação a Distância.

written formative feedback and pay attention only to their marks (Draper, 2007), and thus that assessment is still more a way to get marks than a learning strategy.

The above reported results could also be related to the fact that students: i) felt uneasy and confused, because they are not used to assess other colleagues; ii) may have some prejudices about f2f evaluation; and iii) seemed to be reticent to expose their own reflections to the world, openly, as this task was accomplished using a Wiki-based environment. Although this last option could strengthen the lack of confidence feelings, as well as the fear of exposing errors (Topping, 2009), it could also help students to fulfill the task by learning from the feedback posted by their peers.

From the results of this edition, it was decided to encourage students to discuss their reflections openly, so that they can share and discuss possible common problems, and most of all, to encourage students to face assessment as a learning strategy and not only as a way to mark the student's real individual contributions within the workgroups.

The assessment tasks included a formative component to which special emphasis was ascribed. The final marks and the corresponding weights were negotiated within the class in the first f2f session. However, from the teachers' reflection about the assessment tasks the module activities did not preview the negotiation of the assessment framework, in what concerns the production of the literature review paper, which was included in the second edition.

B. Second Edition (2010/11)

In short, the problems analyzed above encompass the students' perceptions about assessment (usual practices value summative assessment) and their lack of familiarity with assessment for learning strategies (self and peer assessment).

Considering the first of the above-mentioned problems (students of the first edition didn't value the assessment strategies) and to promote assessment for learning, the main changes in the second edition were:

i) individual reflections, which occurred during the 1st week, were opened to the whole class (a social networking was used for that purpose);

ii) the assessment framework (e.g. the weight of the different dimensions, criteria and indicators, students' involvement…) was negotiated within the class in the first f2f session (see table 1), consequently, the transparency of the assessment criteria and indicators was higher;

iii) it was decided to follow the students' work more closely and provide them regular feedback on the development of the main task (based on the peers' and teachers' appreciations).

Furthermore, in what concerns the first version of the literature review paper, which took place during the 3rd week (see table 1), the formative PA (each group assessed other group) and the formative assessment made by teachers were, in this edition, closed (using the GoogleDocs form). This occurred because in the previous year, the students felt uncomfortable to assess their colleagues openly, even though it was a formative assessment.

As the success of the online PA seemed to be dependent on the students' perceptions about the assessment strategies, a qualitative approach was used again to analyze them. The results showed that the introduced changes led to an increase in the number of students valuing the e-assessment tasks. When comparing the difficulty and the relevance of the proposed e-assessment tasks (see figure 2), in 2008/09, the percentage of students that considered the tasks relevant was between 20% and 40% (depending on the task), while in the 2010/11 edition, at least 89% of the respondents considered the e-assessment tasks relevant to achieve the learning objectives (Loureiro, Pombo, Balula, & Moreira, 2011).

Hence, the results seemed to provide evidence that the students were more conscious of the relevance of the e-assessment tasks mostly because they were more aware that they could benefit from PA, since this topic was discussed in the first f2f session by presenting assessment principles underlying the module syllabus as well as the results of the previous experience.

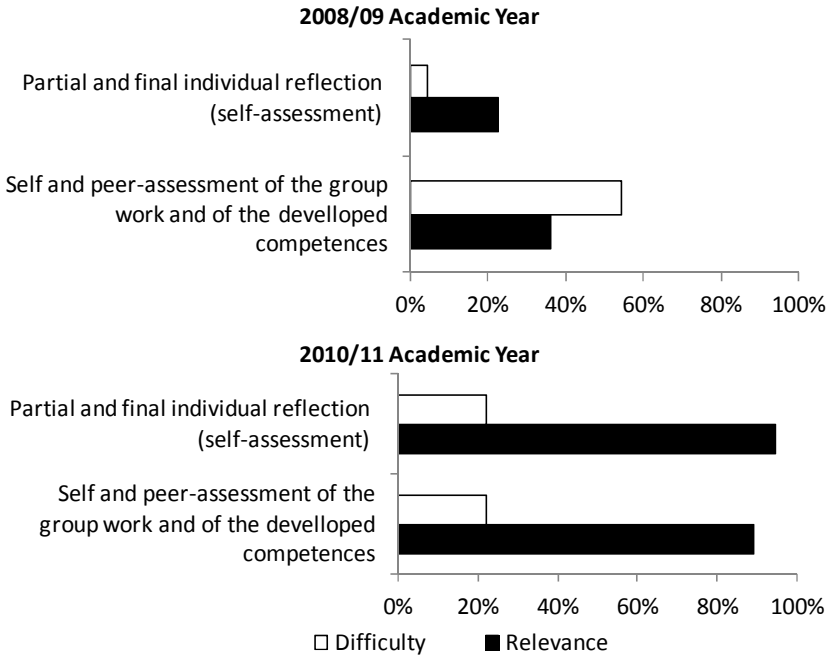

Figure 2 - Students' opinions about the e-assessment tasks (difficulty vs. relevance) in the 2008/09 and the 2010/11 academic years (adapted from Loureiro, Pombo, Balula, & Moreira, 2011).

In this edition the teachers decided to analyze the quality of the PA provided by the students. Examples of quality criteria for PA used for this analysis were adapted from Sluijsmans, Brand-Gruwel, Van Merriënboer, and Martens (2004) and include the: i) use of the negotiated criteria, adequacy of the chosen vocabulary; iii) provision of constructive feedback (a- criticism, b- questions, c- improvement suggestions); iv) fairness of the score and v) adequacy of the final considerations. The analysis of the quality of the formative PA provided by the students in the 2010/11 edition showed that the overall quality of students' PA could be better (figure 3), since the majority of the groups didn't provide enough constructive feedback. Moreover, although PA included criticism (both positive and negative) and improvement suggestions, the groups didn't question their colleagues (Loureiro, Pombo, & Moreira, 2012). Besides that, the considerations didn't summarize the main positive and negative aspects of the literature review paper. This happened probably because the structure of the instrument didn't have a specific place to it. In the following edition of the module, the PA instrument was revised taking that into account.

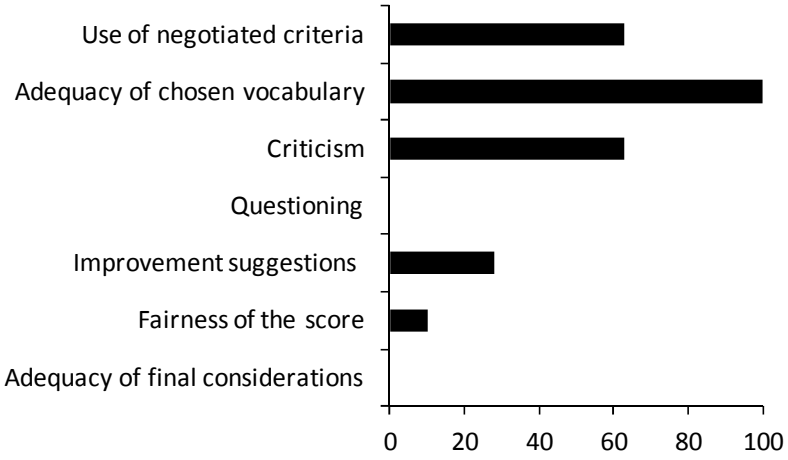

Figure 3 - Use of the negotiated criteria and indicators to evaluate PA (in percentage) in the 2010/11 academic year (adapted from Loureiro, Pombo, & Moreira, 2012).

C. Third Edition (2011/12)

From the results of the previous edition, and considering the quality principles mentioned by Van Steendam, Rijlaarsdam, Sercu, & Van den Bergh (2010), the usefulness of PA could be better and was beyond the expected.

In the third edition, once more, and accordingly to the previous results, the assessment strategies and process were improved. For example, a content management system (CMS) was used to develop the activities of the module. The CMS provided a common place to organize, plan and work on the learning tasks (literature review and assessment) to the elements involved in the module (students and teachers). Therefore this collaborative environment allowed the students to work openly (all the interactions and documents are available at http://cms.ua.pt/RedeSIDEdu/?q=node/171) in the different tasks. Moreover, the CMS allowed the development of a collaborative bibliographic database.

The assessment framework, used to assess the quality of PA (Fig. 3,) was shared and discussed with the students, as well as the results of the previous edition, in the first f2f session (table 2). With this strategy it was expected to deepen the familiarity and engagement of the students with that assessment tasks and to show them the

importance of fruitful dialogue and 'good' feedback (Gielen, Peeters, Dochy, Onghena, & Struyven, 2010; Hatzipanagos, & Rochon, 2011), as well as that the primary beneficiary of assessment is the student.

Table 2 - Framework for quality of peer assessment with criteria and indicators to be used by students. These criteria were adapted from from Sluijsmans, Brand-Gruwel, Van Merriënboer, and Martens (2004).

Criteria		**Indicators**
Use of the negotiated criteria		Students used the negotiated criteria or words with the same significance explicitly.
Adequacy of the chosen vocabulary		Concepts are used with rigour and differentiated.
Provision of constructive feedback	criticisms	PA text includes criticism (both positive and negative), pointing out aspects that could be improved, without making suggestions.
	questions	PA text presents questions for reflection concerning, for example, the theme or the development of the literature review.
	suggestions for improvement	PA text includes suggestions that can lead to the improvement of the literature review, like, new readings, proposing ways to systematize the corpus of the review....
Fairness of the score		the PA includes a score which should be in accordance with the given feedback
Adequacy of the final considerations		A synthesis of the main positive and negative aspects of the review is presented.

Another main change was to provide students with extra opportunities to use the assessment framework of the group work, e.g. the PA was performed twice: in a preliminary version of the paper produced by the group work (in the 2nd week) and in the first version of the paper (3rd week). This helped students to fulfill the task by learning from several rounds of feedback. This decision aimed at the improvement of the students' attitudes and perceptions about assessment for learning, as suggested by Loureiro, Pombo, Balula, and Moreira (2011) or Sato, Wei, and Darling-Hammond (2008). As suggested by Gielen, Peeters, Dochy, Onghena, and Struyven (2010), students' training could raise the assessment competences of both assessed and assessors.

On the other hand, the assignment of the assessment tasks to the different groups was made by using CMS and email. In summary the PA was not confidential, compulsory, supplementary (teachers assessed the ongoing group work, after PA), which made the students feel more confident on the task, than in the previous years, as reported below.

An online questionnaire was applied at the end of the module. The results of the closed questions related to PA are triangulated with the students' opinions gathered either during the semester or in the open questions of the questionnaire.

Figure 4 summarizes the students' opinions about PA, during the 2011/12 academic year. The figure points out that only one student felt uncomfortable upon knowing the assessment made by his/her colleagues and that four students felt uncomfortable by assessing the work in progress of the other groups (formative assessment).

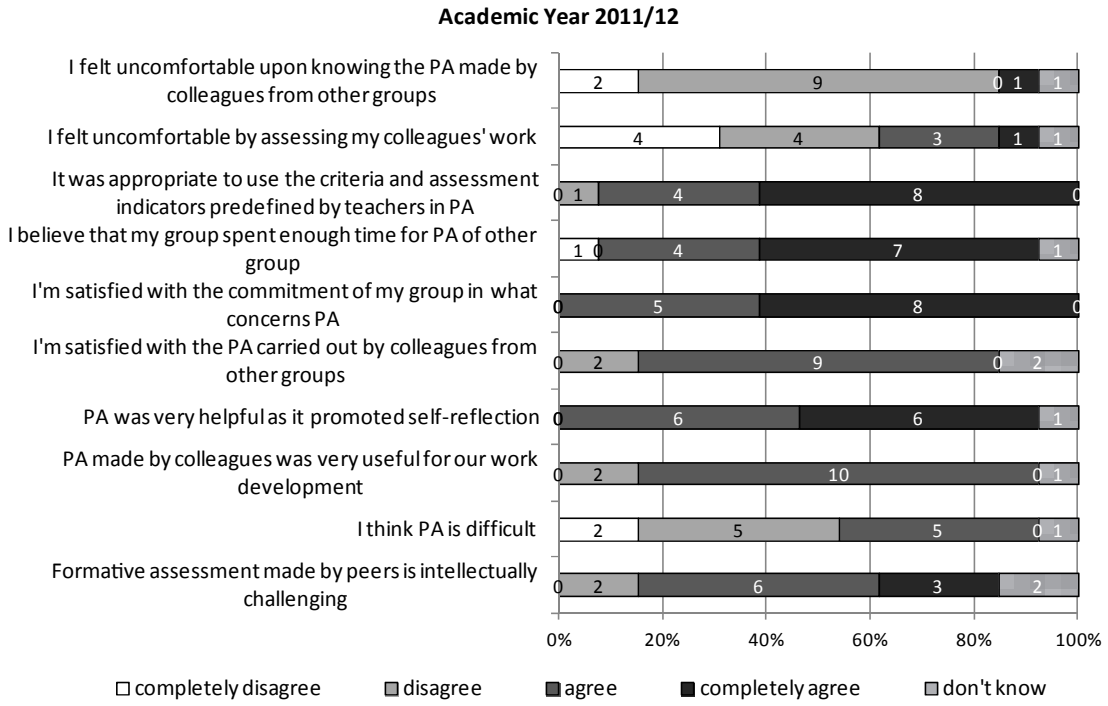

Figure 4 - Students' opinions about PA (PA=peer assessment) of the DE module (2011/12 Edition).

On the other hand, the majority of the students (9 or more students out of 13) were satisfied with the adopted PA strategy. The results are illustrated with the students' own words. They were satisfied with the:

• assessment criteria and indicators - "It was important for the PA to have the criteria and evaluation indicators already pre-defined, so that we can be focused on the most relevant aspects when thinking and reflecting upon the work of our colleagues";

• time spent for PA, nevertheless some students mentioned that "PA was difficult due to the lack of time and knowledge of each other's work";

• commitment with the PA - “This was one of the tasks that I liked the most because it was a way to ‘get out’ of our group work and be part of the other groups, through reflection”;

• PA carried out by colleagues, although it was considered that “… the assessment made by peers should be regarded with some relativism, since they are also training and building their own knowledge, so, in my opinion, the PA must always come with the teacher assessment in order to reduce possible inconsistencies, uncertainties and injustices”.

Furthermore, the majority of the students mentioned that PA was helpful as it promoted self-reflection (12 students) and that it was very useful for the development of their own work and the final results (10 students). Thus, PA “… proved to be a good strategy, both when I assessed or when I’ve been assessed, since it contributed to self-reflection about the developed work”. Finally, 5 students felt PA difficult and 9 students agreed or completely agreed that formative assessment made by peers was intellectually challenging. For instance, one student pointed out that “PA was initially difficult because it was the first time that we tried it; however, it was very helpful as it promoted self-reflection”. One student also referred that “…another relevant point is the focus on PA, because this is something that we are not ‘trained’ at; therefore this module helped us to create new knowledge and new skills, contributing effectively to our personal and professional development”.

The literature (for example, Hou, & Cheng, 2012) mentions that students may question the fairness of an assessment or disagree with their peers’ assessment. In fact, students may regard PA as unfair and often believe that peers are unqualified to review and assess other students' work. Kaufman and Schunn (2011) also refer that these effects may lead to changes in the collective emotional state of the learning community and affect the organizational climate and pattern of interactions.

Considering the results reported above, in the last edition, despite the fact that some students still had some concerns about the new assessment strategies (although less than in the other editions), they clearly perceived the benefits of the assessment for

learning. Some findings also showed that students had increasing (comparing the different editions) positive attitudes towards reciprocal PA and some reported that they intended to implement it in their own practices.

4. CONCLUSION

In line with Sluijsmans, Brand-Gruwel, Van Merriënboer, and Martens (2004), the findings of the present study suggest that training students in providing constructive feedback can raise the performance of assessment and avoid inaccurate comments. Since the quality of PA can affect its impact (Gielen, Peeters, Dochy, Onghena, & Struyven, 2010), the study results provide evidence that this quality can be enhanced by guiding students when performing PA, negotiating the assessment framework, so that students can be familiar with it and produce 'good' feedback. This experience also shows that negative perceptions about PA, namely students' resistance, decreases significantly when students' experience on PA increases. Also, students' fairness perceptions are most significantly associated with their consciousness about the extent to which PA can be useful and positive for their learning. Furthermore, instructional interventions and frequent dialogue between students and teachers may raise an attentive reception of the feedback, since if it is left unattended or not acted upon, it cannot be effective (McConlogue, 2012; Pombo, Loureiro, Balula, & Moreira, 2009).

Figure 5 represents not only the methodological approach of the study, but also the main changes that have been introduced in the Distance Education module, taking into account the results of the evaluation of the different editions (described in detail previously).

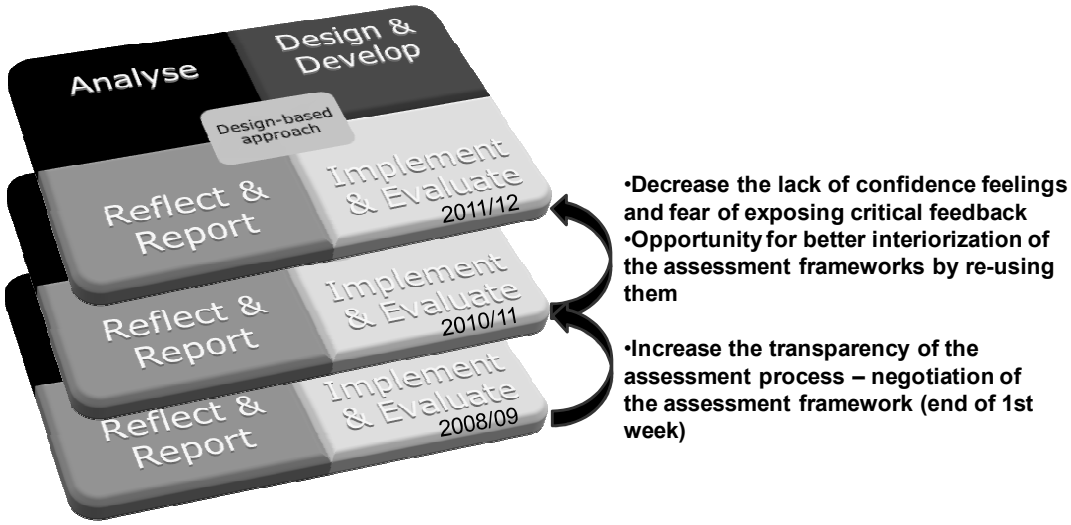

Figure 5 - Design-based approach and summary of the changes done during the academic years as a result of the process' refinement.

In summary, from the results of this study, different challenges should be considered when using e-assessment for learning strategies:

• Transparency of the assessment process, as students have to be aware that the primary beneficiary of PA is the student (Hatzipanagos, & Rochon, 2011). This transparency can be achieved by analysing and discussing the assessment framework and engaging students and teachers in a process of dialogue and feedback, as mentioned by Hatzipanagos, & Rochon (2011) or McConlogue (2012);

• PA may support active and autonomous learning, as it seems to promote a higher order of thinking and lifelong learning and develop students' critical thinking, communication, problem solving, meta-cognitive awareness, deep and creative learning (Loureiro, Pombo, & Moreira, 2012);

• PA needs training, the students should be given the opportunity to practice and get more familiar with it (Kaufman, & Schunn, 2011), enhancing their sense of ownership, responsibility and motivation, so they can find it useful, attractive and enjoyable.

As the study encompasses some limitations, related to its qualitative nature, further research is needed. Nevertheless, the study provides several contributions to the field of distance education, namely in blended learning contexts, such as the above reported

challenges and the methodological approach that can be very useful since it can be adopted in similar contexts.

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3. CONCLUSÕES

O capítulo que agora se inicia começa por **sintetizar o estudo desenvolvido** sistematizando, numa perspetiva integradora e articulada, os **contributos e elementos de inovação** que advêm dos trabalhos apresentados em cada um dos eixos que integram a tese. Pretende-se ainda responder às questões de investigação do estudo (cada uma relacionada com um dos eixos), enumerando as principais **recomendações** emergentes das diferentes etapas da investigação. Estas recomendações constituíram elementos importantes para os trabalhos do eixo de investigação subsequente, tal como mostra a figura 1. Por fim, são também apresentadas algumas **considerações** sobre implicações dos resultados e das metodologias exploradas num quadro mais amplo e orientações de trabalho específicas, decorrentes dos estudos desenvolvidos. Após a síntese dos eixos da investigação, faz-se uma **reflexão final** sobre o percurso da Investigadora ao longo do desenvolvimento do trabalho apresentado e sugerem-se **orientações para trabalho futuro** mais globais, enquadradas no pressuposto da necessidade de melhoria contínua da qualidade do Ensino Superior (ES) face às exigências da sociedade e do mercado de trabalho atual, sustentada na investigação.

A figura 1 pretende mostrar visualmente a articulação entre os eixos do estudo e a especificação dos contextos da recolha de dados. Ilustra-se assim que, no primeiro eixo da investigação, se propôs um modelo de avaliação em cursos em regime de *bLearning* que foi posto à consideração de docentes com experiência nesta modalidade, num contexto nacional. Deste eixo emergiram recomendações que foram úteis para o desenvolvimento do segundo eixo da investigação, que se reporta a estudos exploratórios tendo em vista a promoção da qualidade dos processos de ensino, aprendizagem e avaliação em módulos em regime de *bLearning*. Do resultado do cruzamento das recomendações provenientes dos estudos de caso, e atendendo aos problemas identificados na literatura da especialidade, no terceiro eixo da investigação, o objeto de estudo focou-se na avaliação por pares enquanto estratégia promotora da qualidade da aprendizagem, em contexto de *bLearning*. Da articulação dos três eixos acima referidos, o estudo culmina com recomendações gerais e orientações para trabalho futuro.

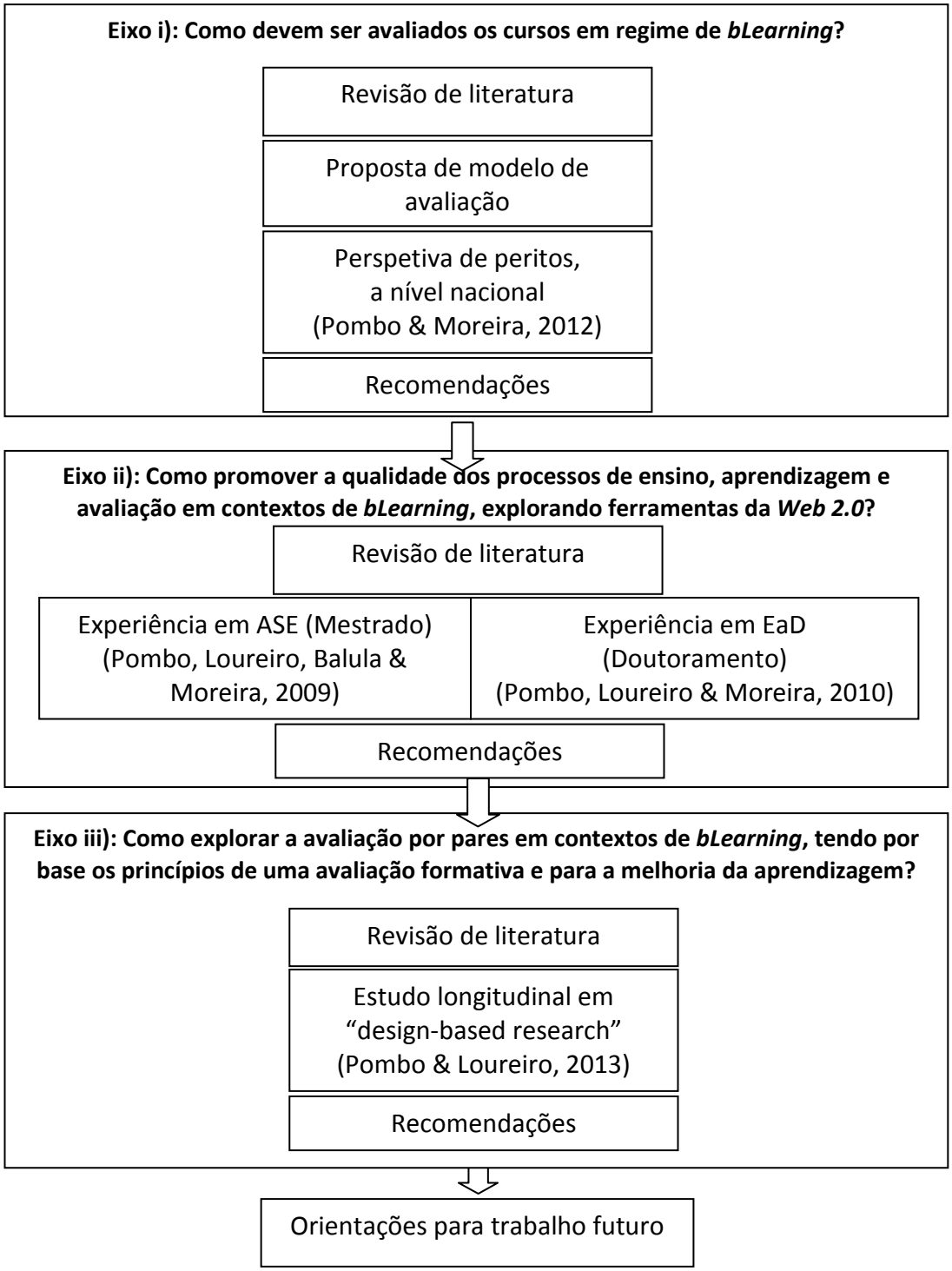

Figura 1 - Articulação entre os eixos do estudo e especificação dos contextos.

No **primeiro eixo do estudo** pôde concluir-se que é fundamental aferir a qualidade no processo de desenvolvimento (conceção, implementação e avaliação) de cursos em *bLearning*, questão que se considera fundamental para as instituições do ES a nível global (Weaver, Spratt & Nair, 2008; Ireland, Correia & Griffin, 2009; Pombo & Moreira, 2012). Para tal, os coordenadores dos cursos e entidades de avaliação devem preocupar-se com a distribuição de responsabilidades de forma explícita e recolher o *feedback* necessário para a melhoria da qualidade dos cursos (Jara & Mellar, 2009; Pombo & Moreira, 2012).

Ainda neste eixo, se deu ênfase à avaliação das aprendizagens em contextos de *eLearning*, seja em contextos totalmente *online* ou em *blend*, como imprescindível para explorar a eventual eficácia de cursos nestas modalidades, comparar cursos, assim como ferramenta formadora ao nível do desenvolvimento de materiais de aprendizagem (Jara & Mellar, 2009). A avaliação digital no ES é um processo com o qual recentemente algumas instituições portuguesas se têm preocupado: a título de exemplo, refira-se o projeto @ssess, que envolve a Universidade Aberta, a Universidade de Lisboa (Instituto de Educação) e a Universidade do Minho. Este projeto visa estudar as estratégias de avaliação alternativas, digitais, adequadas e válidas aos ambientes virtuais de aprendizagem no ES estando atualmente no processo de formalização de um referencial de avaliação estruturado numa perspetiva holística de avaliação de competências dos estudantes do ES (Gomes, Amante & Oliveira, 2012).

Relativamente aos principais **contributos** que emergiram deste primeiro eixo consideram-se: o processo de questionamento em torno da avaliação de cursos em contexto de *bLearning*, a revisão de literatura nomeadamente sobre critérios de garantia de qualidade do *bLearning*, e o próprio modelo desenvolvido sobre a avaliação do ensino em cursos em regime de *bLearning*, fornecendo um quadro de elementos teóricos, metodológicos e empíricos que podem ser adaptados em contextos similares. O modelo integra em si as questões que se consideram fundamentais quando se pretende avaliar um curso nestes contextos (Pombo & Moreira, 2012). As questões que integram o modelo devem ser consideradas desde que articuladas entre si e englobam os seguintes aspetos:

- objetos de avaliação (o que se avalia?);

- finalidades da avaliação (para que é que se avalia?);
- executores da avaliação (quem avalia?);
- instrumentos utilizados na avaliação criados a partir de um referencial de avaliação e os momentos da sua aplicação (como se avalia?; quando se avalia?).

A investigação subsequente teve como base o levantamento de opiniões, a nível nacional (Pombo & Moreira, 2012), de peritos com experiência em *bLearning*, sobre o que seria desejável implementar relativamente à avaliação do ES em regime de *bLearning*, tendo em consideração as propostas curriculares do(s) curso(s) do 1º, 2º ou 3º Ciclos. Esta análise fortaleceu o modelo proposto, cujas linhas orientadoras se constituem como ferramenta prática que se prevê possa ser de grande utilidade na avaliação de cursos em *bLearning* de forma a assegurar um ambiente de ensino e de aprendizagem flexível, potenciando a qualidade do ensino no ES.

Para além dos contributos já enunciados, as opiniões dos docentes envolvidos, constituem também contribuições deste eixo para o *design* de cursos em *bLearning* e sua monitorização. Pensa-se assim ter fornecido um quadro com elementos teóricos, metodológicos e empíricos que podem ser considerados e adaptados em contextos similares.

Como principais **recomendações**, e respondendo à primeira questão de investigação: **Como devem ser avaliados os cursos em regime de *bLearning*?**, a avaliação do ensino de cursos em *bLearning* tem objetos multifacetados, a saber: o ensino, que engloba as estratégias de ensino e os docentes; o processo de aprendizagem e os recursos. Destaca-se ainda que se deve considerar, na avaliação do curso, a comunicação entre os envolvidos (estudantes e professores), uma vez que nesta modalidade de ensino, as oportunidades dos docentes interagirem diretamente com os estudantes se tornam mais limitadas, embora essa comunicação seja fundamental, tal como referem Graham & Robison (2007) ou Donnelly (2010). Dos resultados relativos às opiniões dos peritos consultados, foram considerados objetos de avaliação menos primordiais, entre outros, a assistência de pessoal não docente ou as estruturas de apoio, dado contribuírem para

apoiar o processo de ensino e de aprendizagem, mas não garantirem a sua qualidade (Pombo & Moreira, 2012).

Realce-se ainda, dos resultados que emergiram deste eixo (Pombo & Moreira, 2012), que a avaliação dos cursos em *bLearning* deve ter em consideração o processo de aprendizagem, durante o desenvolvimento das tarefas e não apenas o final. Por exemplo, das respostas dos peritos nacionais, pode inferir-se que a aplicação dos questionários de avaliação aos estudantes no final dos módulos não será suficiente para recolher os dados necessários à avaliação, quer seja formativa ou sumativa. Por outro lado, outro resultado importante é que quando se trata de avaliação do ensino, a intersubjetividade desejável aumenta quando existem vários avaliadores envolvidos – por isso, a avaliação deve ser feita não só pelo docente, mas também pelos seus pares e pelos estudantes, o que está de acordo com a literatura da especialidade (Felder & Brent, 2004; Jara & Mellar, 2009, Zundert, Sluijsmans & Merriënboer, 2010).

Também se pode destacar que os cursos em *bLearning* requerem uma definição específica nas estratégias de planificação, ou seja, a organização dos módulos e das atividades é fundamental para tirar o melhor partido dos diferentes contextos de aprendizagem. Note-se também que os docentes consultados enfatizaram a importância da articulação das sessões *online* com as sessões presenciais (Pombo & Moreira, 2012), o que está de acordo com Jara & Mellar (2009), onde se menciona que em cursos de *eLearning*, seja totalmente *online* ou em *blend*, o risco de falta de sentimentos de pertença e uma mudança de responsabilidades entre as partes pode afetar a qualidade do curso.

A qualidade do *feedback* também foi amplamente mencionada como um critério muito relevante (Pombo & Moreira, 2012), o que está de acordo com Hummel (2006) e Jara & Meller (2010) que referem que a recolha do *feedback* produzido pelos estudantes é visto como uma estratégia central para monitorizar a qualidade do ensino e da aprendizagem nas instituições do ES. Por outro lado, Draper (2007) defende que o *feedback* produzido para os estudantes (docentes ou pares) pode ser considerado um dos mecanismos de apoio muito importante, se não o mais importante, uma vez que o ensino

em *bLearning*, dadas as suas especificidades, apela a um apoio constante para colmatar as necessidades dos estudantes (Pombo & Moreira, 2012).

A adequação e a diversidade dos instrumentos de avaliação foram considerados também aspetos muito importantes, dadas as particularidades deste tipo de ensino. A exploração de tecnologias em contextos de *bLearning* pode permitir um acompanhamento mais aprofundado, contínuo e preciso das atividades dos estudantes, uma vez que tanto os conteúdos como os recursos e a comunicação, entre os participantes, ficam geralmente guardados automaticamente no ambiente *online.* Assim, considera-se que as estratégias de avaliação a adotar nestes ambientes só serão adequadas se considerarem estes elementos (Fielding, Harris & King, 2004; Ireland, Correia & Griffin, 2009). Por outro lado, note-se que se defende o uso de mais do que um instrumento na avaliação e, consequentemente, a triangulação de resultados, tendo em vista a melhoria do ensino e da aprendizagem (Draper, 2007; Pombo & Moreira, 2012).

Como principal **consideração** sobre as implicações dos resultados e das metodologias exploradas num quadro mais amplo, refere-se que os estudos empíricos desenvolvidos têm por base perceções de docentes, sendo necessário ter consciência das suas implicações, dado poderem não corresponder a práticas reais. Por outro lado, essa auscultação foi feita apenas por uma parte dos envolvidos no processo de ensino e de aprendizagem, não sendo possível uma visão mais holística. O trabalho poderá ser fortalecido se se adicionar e comparar a opinião de tutores, administradores, estudantes, pessoal de apoio e *designers* dos cursos. Sendo a amostra feita por conveniência, podem adaptar-se outras estratégias de seleção de amostra que a tornem mais representativa.

O cruzamento das perspetivas dos envolvidos pode também ser complementado com o que acontece efetivamente, ou seja, comparando o que é desejável avaliar (ou o referente, usando a terminologia de Hadji, 2001) com as estratégias de avaliação que estão a ser exploradas (o referido), de modo a melhorar a qualidade da avaliação dos cursos. A este propósito, refira-se que os resultados foram sustentados tendo como base apenas um instrumento, apesar da taxa de resposta ter sido bastante elevada. Sugere-se que a este instrumento sejam adicionados outros instrumentos de recolha de dados que

permitam a triangulação, de forma a consolidar os resultados (Yin, 2011). Existem quatro tipos de triangulação, discutidos por Patton (2002):

- a triangulação das fontes de dados (triangulação dos dados);
- a triangulação entre os diferentes avaliadores (triangulação de investigadores);
- a triangulação de perspetivas para o mesmo conjunto de dados (triangulação da teoria);
- a triangulação dos métodos (triangulação metodológica).

Para este estudo, considera-se que seria pertinente fazer a triangulação das fontes de dados e a triangulação metodológica, de modo a proporcionar maior fiabilidade e validade do estudo.

O uso do questionário *online* por si só também já pode constituir-se como elemento passível de discussão, pois se, por um lado, é considerada uma técnica eficaz e comum, dado que minimiza ou anula a indução de resposta e aumenta a autenticidade de resposta, por outro lado, pode inviabilizar o esclarecimento de dúvidas e a clarificação de potenciais inconsistências nas respostas, bem como a garantia de resposta integral (Hill & Hill, 2000; Brace, 2004). No entanto, Brace (2004) refere a aplicação de questionários *online* como uma alternativa válida face a outros métodos de distribuição. Acrescenta ainda que, regra geral, são mais rápidos de responder e visualmente podem ser mais apelativos. No entanto, pode ser mais difícil conseguir manter os níveis de atenção ao longo do questionário.

No que respeita ao modelo de avaliação proposto, é importante ter consciência de que a necessidade de definir dimensões e categorias dificultou uma perspetiva mais holística do fenómeno, o que remete para o desenvolvimento de ferramentas de representação em 3D, que permitem visualizar as dimensões e categorias e as suas articulações em rede. É necessário ter consciência de que o modelo é sempre uma simplificação da realidade (Coldwella & Simkinsa, 2011), o que nem sempre é consensual e, portanto, a sua leitura deve ter isso em conta. Estes autores referem que os modelos

podem ser utilizados de várias formas e com diferentes ênfases e que as escolhas feitas sobre o seu uso deverão refletir tanto as escolhas teóricas como as práticas.

No **segundo eixo do estudo**, e decorrente das recomendações provenientes do primeiro eixo da investigação, em que emergiu a necessidade de avaliar os cursos em *bLearning*, pretendeu-se avaliar módulos lecionados em regime de *bLearning*, tanto de Mestrado como de Doutoramento. Visou-se promover a qualidade dos processos de ensino, aprendizagem e avaliação nestes módulos, explorando ferramentas da *Web 2.0*. Procurou-se, assim, analisar práticas de avaliação promotoras da qualidade do ensino e da aprendizagem ao nível do ES em cursos de *bLearning* e refletir sobre os seus resultados, o que permitiu divulgar exemplos de "boas práticas" ou práticas recomendáveis que poderão ser adaptadas em contextos semelhantes.

Os resultados do estudo de caso que envolveu um módulo de Mestrado (Pombo, Loureiro, Balula & Moreira, 2009) foram determinantes para a planificação do módulo que constituiu o 2º estudo de caso (Pombo, Loureiro & Moreira, 2010), implementado numa unidade curricular do módulo de Doutoramento; ou seja, foi importante que as experiências anteriores atuassem como reguladoras do processo de ensino e de aprendizagem. Por exemplo, dado que no módulo de Mestrado, "Avaliação de Software Educativo" (ASE), a colaboração intergrupo foi escassa, optou-se pelo uso de apenas uma ferramenta para toda a turma no módulo de Doutoramento, "Educação a Distância" (EaD), lecionado posteriormente. Tal permitiu um aumento de colaboração entre os grupos, que Monteiro, Leite & Lima (2013) referem como primordial em contextos de *bLearning*, dado que fomenta a criação de um ambiente que estimula o processo de colaboração, autonomia, integração social e de desenvolvimento de comunidades de aprendizagem, importantes neste mundo competitivo.

Com o uso de apenas uma ferramenta para toda a turma surgiu um novo problema, pois a ferramenta utilizada, a *wiki*, não foi muito bem aceite pelos estudantes. Estes consideraram-na uma ferramenta pouco intuitiva e que devia ter uma ferramenta de comunicação síncrona associada. Outra alteração que foi implementada no 2º estudo de caso (EaD), tendo em consideração os resultados do estudo anterior, foi que os estudantes deveriam realizar avaliação por pares, utilizando ferramentas abertas e de

comunicação assíncrona para esse fim. Assim, os estudantes podiam adquirir um conhecimento mais profundo do trabalho dos seus colegas e a colaboração *online* ser mais produtiva, de acordo com Ertmer, Richardson, Belland, Camin, Connolly & Coulthard (2007). Esta alteração fez com que o número de comentários incrementasse, assim como a sua qualidade. Como referido acima, pretendeu-se promover o trabalho colaborativo entre os grupos, durante o processo, o que acabou por se verificar atendendo às interações na *wiki* e aos comentários finais ao módulo feitos pelos estudantes (Pombo, Loureiro & Moreira, 2010).

No módulo de EaD houve novos aspetos considerados menos positivos. Por exemplo, as reflexões individuais não eram partilhadas entre os estudantes, uma vez que a ferramenta utilizada para esse fim foi o *GoogleDocs*, contrariamente ao que acontecia no módulo ASE, em que se usou um blogue enquanto espaço coletivo de reflexão. Esta ferramenta foi usada tendo em vista facilitar a análise de dados, dado que as questões eram sobretudo fechadas e também porque alguns estudantes se sentiam mais confortáveis com esta situação. Por outro lado, a vantagem da utilização do *GoogleDocs* prendeu-se com o facto das reflexões dos estudantes não serem influenciadas pelas dos seus colegas, o que pode ter acontecido no módulo de ASE. Do cruzamento dos resultados dos dois estudos infere-se que as duas estratégias têm vantagens e desvantagens e que é difícil reunir consensos que satisfaçam todos os estudantes envolvidos (Pombo, Loureiro, Balula & Moreira, 2009; Pombo, Loureiro & Moreira, 2010).

Como aspetos positivos, que foram mantidos da experiência anterior (módulo ASE), refere-se a flexibilidade que foi implementada desde o início do módulo. Os estudantes sentiram-se confortáveis por fazer parte de todo o processo, incluindo a escolha de atividades, em vez dessas atividades terem sido impostas, o que deverá ter tido relevância na sua própria motivação. Em ambos os estudos (Pombo, Loureiro, Balula & Moreira, 2009; Pombo, Loureiro & Moreira, 2010) foi dada primazia à opinião dos estudantes no que se refere à avaliação do módulo, inquirindo-os sobre o interesse pelo módulo, a relevância e as dificuldades das tarefas propostas, as ferramentas exploradas…, tal como propõem Hummel (2006) e Jara & Mellar (2010), que referem o *feedback* dos estudantes como crucial para a melhoria do ensino e da aprendizagem. Nestes estudos

foram valorizadas as práticas de avaliação formativa (auto e hétero) das competências desenvolvidas, tendo em conta os princípios orientadores da Declaração de Bolonha (EU, 1999; EU, 2009; Eurydice, 2009; EU, 2010; EU, 2013a; EU, 2013b).

Realce-se ainda que o *feedback* acaba por não ser relevante para os estudantes se eles não compreenderem os referentes que estão a ser usados; isto é, se os estudantes não souberem à partida as "regras do jogo" tendo em consideração os critérios e indicadores de avaliação (Pombo, Loureiro, Balula & Moreira, 2009). Todos estes aspetos devem ser discutidos e negociados com os estudantes desde a primeira sessão presencial e/ou no *site* do módulo. Nos estudos de caso apresentados, o *feedback* formativo foi disponibilizado ao longo do processo e não apenas no fim, envolvendo os docentes e os estudantes, de acordo com Draper (2007), Topping (2008), de forma a poder responder às questões dos estudantes, às suas dúvidas, assim como facultar sugestões construtivas sobre o que deve ser alterado, como e porquê. Gielen & De Wever (2012) mostram como a avaliação por pares pode estar associada à avaliação para a aprendizagem, referindo que para aumentar o impacto da avaliação por pares na aprendizagem é crucial compreender que mecanismos afetam a aprendizagem e como esses mecanismos podem ser suportados.

Relativamente aos principais **contributos** e **elementos de inovação** que emergiram deste eixo da investigação, refere-se a própria revisão de literatura sobre avaliação formativa, verificando-se a importância dos estudos de caso desenvolvidos, dado que existem poucos estudos sobre avaliação formativa em contextos *online* e menos ainda sobre a avaliação formativa em contextos de *bLearning*, tal como referem Ertmer, Richardson, Belland, Camin, Connolly & Coulthard (2007). Assim, foi possível documentar práticas de avaliação em *bLearning* e ver o que funciona e o que não funciona relativamente à avaliação formativa no geral, como exposto acima, quando se comparam os dois estudos de caso (Pombo, Loureiro, Balula & Moreira, 2009; Pombo, Loureiro & Moreira, 2010).

Da revisão de literatura e da implementação dos estudos de caso resultam implicações práticas para o desenho de atividades que priorizam a colaboração e a inovação nas estratégias de avaliação das aprendizagens, em contextos *online*. Desta

forma, as diretrizes que estão subjacentes à avaliação do ensino implementado no módulo lecionado (Pombo, Loureiro & Moreira, 2010) tiveram em conta:

• o terceiro ciclo de regulação de Draper (2007), ou seja, dar oportunidade aos estudantes de escolherem o tema do trabalho principal a desenvolver, de acordo com as suas motivações e necessidades;

• o apoio deve ser dado durante o desenvolvimento das tarefas avaliadas e não apenas no final, o que está de acordo com Donnelly (2010), permitindo que os estudantes desenvolvam o seu conhecimento individual e colaborativamente através das tarefas que pressupõem repensar e rediscutir o conteúdo dos módulos, em ciclos sucessivos;

• a avaliação deve ser *da* e *para* a aprendizagem e alinhada com os objetivos de aprendizagem, tal como defendem Gielen & De Wever (2012);

• a avaliação deve envolver o docente e os estudantes (autoavaliação e avaliação por pares), o que é suportado por Li, Liu & Steckelberg (2010), que referem que a participação ativa dos estudantes na revisão dos trabalhos produzidos pelos pares pode facilitar tanto a sua aprendizagem como a dos seus pares.

Outro tipo de contributos que resultaram deste eixo são os instrumentos que foram desenvolvidos e testados e que poderão ser utilizados em contextos semelhantes. Trata-se do instrumento de avaliação de revisão de literatura, desenvolvido tendo por base diferentes rubricas disponíveis na *internet* e cuja validação foi feita pelos estudantes (Pombo, Loureiro & Moreira, 2010) (ver anexo 4) e dos questionários aplicados aos estudantes no final dos módulos que podem ser consultados nos anexos 2 e 3. Ainda outro aspeto considerado inovador foi a problemática em torno das reflexões individuais que só se coloca em contextos *online*. Enquanto num contexto presencial as reflexões são normalmente feitas em contextos síncronos, no contexto *online* podem existir espaços coletivos de reflexão, onde não há a pressão do tempo, havendo maior possibilidade de pensar e refletir, logo a reflexão pode ser potencialmente mais aprofundada (Pereira & Figueiredo, 2010). Segundo Tsang (2011), para ir ao encontro das necessidades dos estudantes é importante conhecer as suas perceções e perspetivas, ou seja, a forma como os estudantes apreendem a experiência de aprendizagem influencia o seu

envolvimento e a sua motivação que, por sua vez, afeta a sua eficácia na promoção de uma aprendizagem profunda. Segundo Rizopoulos & McCarthy (2009), a reflexão constitui um passo importante no desenvolvimento pessoal e profissional dos estudantes, o que é especialmente relevante para a atual geração, cujo estilo de aprendizagem preferido é o colaborativo e cujo foco pessoal se centra em redes sociais e conectividade digital, não demonstrando competências académicas básicas como as relacionadas com a Literacia de Informação (Kanitar, Laranjeiro, Loureiro & Pombo, 2011). Em consonância, os docentes devem promover a aprendizagem reflexiva dos estudantes. É evidente que este aspeto pode ser potenciado pelo uso de tecnologias que facilitam todo este processo (Tsang, 2011).

Como principais **recomendações** sob a forma de orientações que contribuem para a qualidade dos processos de ensino e de aprendizagem, e considerando a segunda questão de investigação: **Como promover a qualidade dos processos de ensino, aprendizagem e avaliação em contextos de *bLearning*, explorando ferramentas da *Web 2.0*?** pode-se realçar que no *design* de módulos em *bLearning* se deve atender aos aspetos que se enumeram seguidamente (Pombo, Loureiro, Balula & Moreira, 2009; Pombo, Loureiro & Moreira, 2010):

- o uso de ferramentas que sejam familiares aos estudantes facilitando, desta forma, a interação e a colaboração entre eles. Por exemplo Gielen & De Wever (2012) apontam a *wiki* como uma ferramenta interessante para trabalhos individuais ou colaborativos – mais especificamente os autores referem a escrita colaborativa, a partilha, a coconstrução do conhecimento e a avaliação por pares;
- o encorajamento dos estudantes para discutir abertamente as suas reflexões e, assim, partilhar e discutir possíveis problemas comuns. Por exemplo, Rizopoulos & McCarthy (2009) referem que as discussões *online*, feitas de forma assíncrona, promovem o pensamento crítico e desenvolvem a aprendizagem reflexiva;
- a flexibilidade proporcionada aos estudantes logo no início do módulo, de acordo com Draper (2007), faz com que se sintam confortáveis pelo facto de sentirem que fazem parte de todo o processo, incluindo, por exemplo, a escolha de atividades;

- o incremento da interação entre os grupos – por exemplo, em vez de usar um blogue por grupo sugere-se que se use apenas um blogue para toda a turma. Note-se, por exemplo, que Gielen & De Wever (2012) referem que a perceção "tradicional" da aprendizagem está a ser substituída por uma cultura de aprendizagem mais participativa, onde os estudantes colaboram e interagem entre eles;
- solicitar aos estudantes para avaliarem o trabalho realizado por, pelo menos, dois outros grupos, utilizando ferramentas assíncronas abertas para esse fim – desta forma os estudantes adquirem um conhecimento mais profundo do trabalho dos colegas, podendo incrementar a sua colaboração *online*, tal como apontam Ertmer, Richardson, Belland, Camin, Connolly & Coulthard (2007);
- a promoção de atividades que possibilitem aos estudantes encararem a avaliação por pares como estratégia de aprendizagem e não apenas como uma forma de os docentes poderem melhor avaliar as contribuições individuais dentro dos grupos de trabalho, tal como preconizam Gielen & De Wever (2012);
- usar referenciais comuns para avaliar os pares, apresentados e discutidos desde o início do módulo, de acordo com Draper (2007), com recurso a ferramentas *online* para fins de avaliação, para permitir o tratamento automático dos comentários, de forma a facilitar o processo.

Entende-se que as recomendações acima referidas possam ser úteis para profissionais que tenham preocupações semelhantes no que se refere à avaliação *online*, com vista à melhoria da qualidade do ensino em contextos de *bLearning*. Acresce que estas recomendações estão alinhadas com os resultados doutros estudos, tal como foi sendo referido em cada uma das recomendações propostas.

Como principal **consideração** sobre implicações dos resultados e das metodologias exploradas num quadro mais amplo, refere-se o facto de este eixo da investigação ter por base dois estudos de caso. De acordo com Yin (2011), o método do estudo de caso tem sido visto mais como um recurso pedagógico ou como uma maneira para se gerar "*insights*" exploratórios. Apesar das fragilidades apontadas na literatura da especialidade

(Yin, 2011), o estudo de caso tem tido um uso extensivo na área das Ciências Sociais e Humanas. Da mesma forma, já Ponte (2006) considerava que o estudo de caso se assume como particularista, isto é, debruça-se deliberadamente sobre uma situação específica que se supõe ser única ou especial, procurando descobrir a que há nela de mais essencial e característico e, desse modo, contribuir para a compreensão global de um certo fenómeno de interesse. Por outro lado, já Boutin, Goyette e Lessard-Hébert (2005) caraterizavam o estudo de caso como uma estratégia de investigação que reúne informações, recorrendo a variadas técnicas, por forma a abranger a totalidade do fenómeno. Atendendo ao referido sublinha-se que nestes estudos não se pretendeu fazer generalizações, mas disseminar "boas práticas" de avaliação desenvolvidas em dois módulos de ciclos diferentes do ES, que poderão ser transversais e utilizáveis noutros módulos em contextos semelhantes.

No **terceiro e último eixo**, e na sequência do anterior, foi efetuado um estudo longitudinal, em que se explorou uma abordagem designada por *design-based research*, ao longo de 3 anos, onde se apresentam as modificações que têm vindo a ser introduzidas no módulo de EaD (3ºciclo), realçando a importância que os ciclos de investigação na modalidade de *design-based* (Plomp & Nieveen, 2007; Parker, 2011) podem ter na implementação e avaliação de soluções para eventuais problemas pedagogico-didáticos. No módulo de EaD (Pombo & Loureiro, 2013), a avaliação por pares foi utilizada para fins sumativos e formativos. A avaliação por pares formativa visou dar *feedback* sobre o trabalho de grupo em curso, pretendendo-se também aumentar a interação *online* entre os diferentes grupos. Os resultados mostraram que as estratégias aplicadas levaram a que um maior número de estudantes (maioritariamente professores de profissão) valorizasse as tarefas de avaliação. Foi referido pelos estudantes que a avaliação por pares promoveu a crítica construtiva, a colaboração e o envolvimento ativo no seu processo de aprendizagem e no dos seus pares, o que está de acordo com Sluijsmans, Brand-Gruwel, Van Merriënboer & Martens (2004) ou Gielen, Dochy & Onghena (2011). Estes autores sugerem que o fornecimento de *feedback* construtivo aos seus pares pode melhorar a avaliação em si e também evitar comentários imprecisos.

A qualidade da avaliação por pares pode afetar o seu impacto (Gielen, Peeters, Dochy, Onghena & Struyven, 2010; Li, Liu & Steckelberg, 2010). Os resultados do estudo fornecem evidências de que esta qualidade pode ser melhorada se os estudantes forem orientados nesse sentido, através da negociação dos referenciais de avaliação, de modo a que se familiarizem com esses referenciais e produzam "bom" *feedback*, o que corrobora os resultados de, por exemplo, Zundert, Sluijsmans & Merriënboer (2010). O estudo também mostra que as perceções negativas sobre a avaliação por pares diminuíram, ou seja, a resistência às tarefas de avaliação por parte dos estudantes diminuiu expressivamente, quando a sua experiência na avaliação por pares aumentou. Acresce que a perceção de imparcialidade dos estudantes parece estar mais claramente associada à sua consciência sobre a utilidade da avaliação por pares para a sua aprendizagem.

Dada a escassez de estudos na área da avaliação em contextos de *bLearning*, (Ertmer, Richardson, Belland, Camin, Connolly & Coulthard, 2007; Soeiro, Figueiredo & Ferreira, 2011), este trabalho considera-se **inovador**, pois a literatura mais comum sobre a avaliação por pares tem como contexto o ensino presencial (Gielen, 2007; Topping, 2008, 2010; Zundert, Sluijsmans & Merriënboer, 2010). Realça-se ter-se contribuído para uma maior transparência da avaliação formativa e para que esta fosse partilhada, o que é pouco comum em contextos de *bLearning*. Assim, este eixo da investigação apresenta **contributos** relevantes que resultam em recomendações sobre o que funciona e em que condições, o que pode facilitar o teste da aplicabilidade das estratégias exploradas noutros contextos de *bLearning*.

Outro tipo de contributo que resultou deste eixo foi o referencial de avaliação por pares que foi adaptado de Sluijsmans, Brand-Gruwel, Van Merriënboer & Martens (2004) (ver tabela 2, p. 98). Os critérios propostos por estes autores foram reformulados e organizados tendo-se ainda definido os indicadores a considerar atendendo ao objeto de avaliação (avaliação por pares). O referencial de avaliação apresentado em Loureiro, Pombo & Moreira (2012) e em Pombo & Loureiro (2013) foi usado para aferir a qualidade do *feedback* fornecido pelos pares. A negociação deste referencial com os estudantes facilitou a produção de *feedback* mais construtivo e o desenvolvimento de competências de análise crítica, de questionamento, e assim o desenvolvimento pessoal e profissional.

Resultados similares são reportados por Ertmer, Richardson, Belland, Camin, Connolly & Coulthard (2007), Tsang (2011) e Li, Liu & Zhou (2012).

Dos resultados deste último eixo do trabalho e considerando a última questão de investigação: **Como explorar a avaliação por pares em contextos de *bLearning*, tendo por base os princípios de uma avaliação formativa e para a melhoria da aprendizagem?** apresentam-se como principais **recomendações**, as seguintes (Pombo & Loureiro, 2013):

• a transparência do processo de avaliação é fundamental, uma vez que os estudantes têm de estar conscientes de que os principais beneficiários da avaliação por pares são eles próprios (Hatzipanagos & Rochon, 2011). Essa transparência pode ser alcançada por meio da análise e discussão dos referenciais de avaliação de forma conjunta, envolvendo os estudantes e professores num processo de diálogo e *feedback*, como mencionado por Hatzipanagos & Rochon (2011) ou McConlogue (2012);

• a avaliação por pares pode promover uma aprendizagem ativa e autónoma, uma vez que desenvolve competências cognitivas de ordem superior e aprendizagem ao longo da vida; pode promover também o pensamento crítico dos estudantes, a comunicação, a aprendizagem por resolução de problemas e uma consciência metacognitiva profunda e criativa da aprendizagem (Gielen, 2007; Topping, 2008, 2010; Zundert, Sluijsmans & Merriënboer, 2010; Loureiro, Pombo & Moreira, 2012);

• a avaliação por pares necessita de tempo e de treino e, por isso, deve ser dada a oportunidade aos estudantes de a praticarem para ficarem mais familiarizados com o processo (Zundert, Sluijsmans & Merriënboer, 2010), aumentando o seu sentimento de pertença, responsabilidade e motivação, para que os estudantes possam considerar a avaliação por pares agradável, atraente e útil;

• a exploração de ferramentas de comunicação *online* facilitou a avaliação formativa do ponto de vista logístico, tal como referido por Joordens, Desa & Paré (2009).

Ao nível das **considerações** sobre implicações dos resultados e das metodologias exploradas num quadro mais amplo refere-se, neste eixo, o envolvimento de um número reduzido de estudantes e os resultados se basearem nas perceções dos estudantes e das docentes, embora tenham sido complementados com a análise dos trabalhos produzidos

pelos estudantes. Na fase de avaliação da abordagem *design based*, considera-se que a avaliação formativa por pares, complementando a das docentes, possibilitou que o processo de escrita colaborativa dos estudantes fosse refletido e promovesse interação e colaboração entre grupos, cuja qualidade foi objeto de análise. O estudo fornece várias contribuições para o ensino, a aprendizagem e a avaliação, em contextos de *bLearning*, tais como os desafios acima relatados e a abordagem metodológica descrita que, como referem Plomp & Nieveen (2007) e Parker (2011), tem sido recentemente explorada em estudos que visam a melhoria da qualidade do ensino e aprendizagem.

Reflexão final e orientações para trabalho futuro

Como consideração final, e refletindo sobre o seu desenvolvimento profissional, a Investigadora tem desenvolvido competências tanto na área da docência em contextos de *bLearning* como investigativas. Seguidamente, sem a pretensão de ser exaustiva, tecem-se considerações que pretendem ilustrar o impacto do percurso efetuado nas suas aprendizagens. No que respeita à docência em contextos de *bLearning*, o facto de ter estado envolvida como tutora na unidade curricular "Avaliação de Software Educativo" (2006/07) do Mestrado em Multimédia em Educação e como docente na unidade curricular de "Educação a Distância" do Programa Doutoral em Multimédia em Educação, desde 2008, permitiu desenvolver inúmeras competências, das quais se destacam as seguintes: tecnológicas, tutoriais, pedagogico-didáticas, sociocomunicativas e de autoformação, de acordo com as competências que um docente do ES deve assumir, segundo González, Padilla & Rincón (2011). Realça-se que a experiência de desenvolvimento de módulos em *bLearning* potenciou a sua própria Literacia Digital, aprendendo a utilizar novas ferramentas e como integrá-las no processo de ensino, de investigação e de avaliação, o que constitui um dos pilares da Agenda Digital Europeia, "Pillar VI: Enhancing digital literacy, skills and inclusion" (http://ec.europa.eu/digital-agenda).

Ainda atendendo à proposta de papéis e funções dos docentes do ES de González, Padilla & Rincón (2011), o facto de ter lecionado em contextos de *bLearning* fez com que a Investigadora assumisse papéis característicos de um contexto virtual, tais como

facilitador da comunicação *online* ou *designer* de ambientes de aprendizagem *online.* Desempenhou ainda funções típicas deste ambiente de aprendizagem, tais como funções de orientação, planificação, uso de tecnologias, avaliação, interação, comunicação e preparação de materiais. O desempenho dos referidos papéis e funções são atestados pelos estudos de caso que constituem o segundo e terceiro eixos deste estudo (Pombo, Loureiro, Balula & Moreira, 2009; Pombo, Loureiro & Moreira, 2010; Pombo & Loureiro, 2013).

Os cinco anos de trabalho como Investigadora Auxiliar permitiram fortalecer o conhecimento e competências no domínio da Educação, nomeadamente na integração das tecnologias no ensino, aprendizagem e avaliação em educação, na formação de professores e também na educação em Ciências (embora estas duas últimas não tenham sido exploradas nesta tese). Seguidamente, reflete-se em torno das competências de investigação que o trabalho desenvolvido promoveu à luz do *Researcher Development Framework* (RDF) (Vitae, 2010). O referencial citado permite que os investigadores avaliem e planifiquem o seu desenvolvimento profissional (Vitae, 2010), estando organizado em quatro domínios principais: domínio A) habilidades intelectuais e conhecimentos; domínio B) eficácia pessoal; domínio C) gestão da investigação e organização; e domínio D) empenho, influência e impacto.

Refletindo sobre o seu percurso e desempenho considera-se que dos 4 domínios referidos, a Investigadora terá desenvolvido com mais intensidade o domínio A que apresenta como descritores o conhecimento, habilidades cognitivas e a criatividade, dado que o *background* da Investigadora, enquanto licenciada, mestre e doutorada em Biologia, não contemplava a vertente educacional nem a utilização das tecnologias na educação, até desenvolver o seu primeiro projeto de pós-doutoramento em Educação.

Seguidamente, e relativamente ao domínio B, realça-se o desenvolvimento de atitudes e capacidades pessoais, como a perseverança, a integridade, a autoconfiança, a autorreflexão e o sentido de responsabilidade, bem como o estar permanentemente alerta para novas oportunidades. Estes aspetos contribuíram para a maturidade que foi construindo devido ao seu compromisso com a investigação e preocupação da construção de uma carreira como investigadora.

No que respeita o domínio D, que se prende com a capacidade de trabalhar em grupo, assegurando o impacto da investigação, é visível a forte disseminação do trabalho desenvolvido pela Investigadora em colaboração com os seus pares, documentado nesta tese bem como no seu *Curriculum Vitae*. A divulgação do trabalho que se efetuou tem permitido dar visibilidade externa aos resultados obtidos, tanto a nível nacional como internacional (aquando da apresentação do trabalho desenvolvido em congressos) e o estabelecimento de redes, como se constata a partir do seu envolvimento em projetos de investigação, por exemplo, o Tratado Luso-Britânico (Tratado de Windsor) e o Projeto Nacional TRACER "O uso das Tecnologias da Comunicação no Ensino Superior Público Português" (PTDC/CPE-CED/113368/2009R&D) a que se alude adiante.

Finalmente, mas não menos importante, também no domínio C, que se relaciona com a gestão em investigação e com a captação de fundos para a investigação, houve desenvolvimento profissional, como atesta o facto de ter obtido o contrato como Investigadora Auxiliar no âmbito do Concurso Ciência 2007. Acresce que tem simultaneamente apresentado, como coordenadora, vários projetos para financiamento, obtendo a classificação de excelente e ter estado envolvida nos projetos "Tratado de Windsor" e TRACER.

No Tratado de Windsor (2010/11) estabeleceram-se parcerias com a equipa da Universidade de Bradford, no Reino Unido (Pombo, Guerra, Moreira, Smith, Hoath & Howard, 2011; Guerra, Pombo & Moreira, 2011; Pombo, Guerra, Moreira, Hoath, Howard & Smith, 2012). No referido projeto, para além da implementação e avaliação dos materiais didáticos digitais e dos instrumentos de avaliação desenvolvidos, procedeu-se à sua validação interna, incluindo a colaboração de docentes e estudantes. Especificamente, a equipa explorou metodologias inovadoras, adotando o contexto de *bLearning* e usando ferramentas da *Web 2.0* como forma de promover o empenho e a motivação dos estudantes. O objetivo do projeto foi avaliar a qualidade de programas curriculares no ES das duas instituições envolvidas, ou seja, avaliar de que forma o uso de metodologias inovadoras suportadas por tecnologias da *Web 2.0* podem contribuir para a melhoria do ensino e da aprendizagem. O projeto permitiu chegar a conclusões e recomendações para cada uma das instituições, do ponto de vista da avaliação da

qualidade de programas de formação de professores que promovem metodologias inovadoras para o desenvolvimento profissional dos estudantes (no contexto português, professores) e ainda do ponto de vista do fortalecimento das relações interpessoais e interinstitucionais que foram desenvolvidas durante o projecto (Pombo, Guerra, Moreira, Smith, Hoath & Howard, 2011; Guerra, Pombo & Moreira, 2011; Pombo, Guerra, Moreira, Hoath, Howard & Smith, 2012).

O Projeto TRACER (2011/14) visa analisar a adopção e uso das Tecnologias de Comunicação (TC) nas Instituições de ES Público Portuguesas. Pretende-se perceber que ferramentas de TC são utilizadas e se são utilizadas como suporte tecnológico ao serviço de processos e estruturas de ensino e aprendizagem já existentes ou se o seu potencial está a ser rentabilizado em prol da inovação desses processos. É ainda finalidade do Projeto a disseminação em tempo real de informação, através de uma ferramenta *online* de visualização da informação sobre o uso das TC e "boas práticas" nas instituições do ES. Pensa-se assim contribuir para a disponibilização de informação atualizada e útil, facilitando e potenciando a investigação nesta área, e potencialmente promovendo o desenvolvimento de "boas práticas" educativas com recurso às TC (Pinto, Souza, Nogueira, Balula, Pedro, Pombo, Ramos & Moreira, 2012).

Dos resultados das revisões de literatura já publicados, no âmbito do Projeto Tracer (Pinto et al., 2012; Pombo, Morais, Batista, Pinto, Coelho, Moreira, 2013) e da literatura da especialidade consultada que respeita ao uso das TC nas instituições do ES no país (por exemplo, Batista & Ramos, 2011; Batista, Morais & Ramos, 2011; Morais, Batista & Ramos 2011; Gomes, Coutinho, Guimarães, Casa-Nova & Caires 2011), pode inferir-se que a ubiquidade das ferramentas da *Web 2.0* conduz ao reforço da sua utilização nos ambientes de ensino e práticas de aprendizagem, embora a sua utilização nem sempre potencie inovação.

Vários estudos internacionais (por exemplo, Johnson, Smith, Willis, Levine & Haywood, 2011 ou JISC, 2012) relacionam o uso das TC com a mudança de papéis, desempenhados por professores e estudantes, reportando assim abordagens disruptivas relativamente às perspetivas mais transmissivas de ensino no ES. No entanto, da revisão de literatura que integrou apenas estudos portugueses durantes os últimos 5 anos

(Pombo, Morais, Batista, Pinto, Coelho & Moreira, 2013) não foi possível concluir que essas alterações no contexto nacional sejam comuns. De uma forma geral, se se considerar que as TC estão a ser usadas sobretudo para "*delivery*" tendo subjacente perspetivas de ensino por transmissão e que visam sobretudo a aquisição de conhecimentos, não se está a preparar os estudantes para enfrentar os desafios da sociedade de informação e dos novos mercados de trabalho (JISC, 2012). No entanto, existem casos em que estas práticas estão a mudar. Por exemplo, como reportado por Duarte & Gomes (2011), a *Moodle*, ferramenta disponível e utilizada pela maioria das instituições do ES, está a ser usada nos processos de formação de professores, no apoio às aulas presenciais, na dinamização de comunidades ou na orientação de projetos de investigação. Conclui-se portanto não existir consenso e serem necessários estudos de sistematização de experiências de utilização das TC no ES, como Pombo, Morais, Batista, Pinto, Coelho & Moreira (2013) sugerem.

Existem, no entanto, vários estudos que reportam "boas práticas", embora com enfoques diferentes, como sejam o *design* das tecnologias de suporte, como Batista & Ramos (2011) ou Batista, Morais & Ramos (2011); o *design* das estratégias de ensino, como Pombo, Loureiro & Moreira (2009); Lopes (2011) ou Morais, Batista & Ramos (2011); a aprendizagem e avaliação (Pombo, Loureiro, Balula & Moreira, 2009; Pombo, Loureiro & Moreira, 2010); a avaliação da qualidade dos cursos (Pombo & Moreira, 2012; Pombo & Moreira, 2012b); os papéis e competências de estudantes e professores em contextos a distância ou *bLearning* (González, Padilla & Rincón, 2011); a interação em contextos de comunicação a distância (Israel & Moshirnia, 2012); entre outros. Em suma, do acima exposto parece expectável uma evolução das práticas de ensino e aprendizagem potenciada pela integração das TC no ES. Tendo em vista a disseminação de "boas práticas" será imprescindível um trabalho de divulgação, formação e apoio continuado, focando-se não só na melhoria do ensino e da aprendizagem mas também em processos de colaboração (Fernandes & Maneira, 2008).

Do trabalho realizado no âmbito desta tese, bem como do envolvimento da Investigadora nos projetos acima mencionados, resultam **orientações para trabalho futuro.** Em consonância com a Agenda Digital Europeia (http://ec.europa.eu/digital-

agenda) e o relatório Horizon de 2011 (Johnson, Smith, Willis, Levine & Haywood, 2011), considera-se essencial apoiar o desenvolvimento eficaz da Literacia Digital no ES para alcançar o máximo de benefícios para a ciência, a sociedade, a empregabilidade, a economia e a inovação na Europa (JISC, 2012). Neste contexto, o desenvolvimento da Literacia Digital é considerado como uma das prioridades do ES. Assim, a frequência de contextos mediados digitalmente deve aumentar em todos os campos profissionais. No entanto, o projeto "Researchers of Tomorrow", que envolveu 17000 estudantes de doutoramento de 70 instituições do ES, revelou que estes estudantes (geração Y, que não são nativos digitais) mostram resistência, por exemplo, ao acesso a recursos digitais como os e-journals (JISC, 2012). De acordo com a Comissão Europeia, existe uma lacuna entre a oferta de emprego que exige níveis elevados de Literacia Digital e a Literacia Digital que os jovens efetivamente possuem, o que significa que as empresas não conseguem encontrar funcionários suficientes com competências digitais adequadas, o que tem impacto para a economia europeia. Torna-se, assim, imperativo apostar no desenvolvimento de competências relacionadas com a Literacia Digital, por exemplo, incorporando as tecnologias de forma inovadora no ensino e na aprendizagem. Como Literacia Digital entende-se as competências que um indivíduo deve possuir para viver, aprender e trabalhar numa sociedade digital (Oliver & Gourlay, 2011). A título de exemplo refira-se as competências para usar ferramentas digitais tendo em vista efetuar uma pesquisa académica, elaborar um texto com recurso a ferramentas de escrita colaborativa ou a avaliação por pares em ferramentas *online* (que promovem o pensamento crítico), tendo em vista alcançar os resultados de aprendizagem.

Atendendo a que as perspetivas sobre os papéis e competências dos intervenientes, em contextos de *bLearning*, parecem ser fatores que condicionam a qualidade do processo (González, Padilla & Ricón, 2011), em trabalhos futuros, potenciais questões de investigação serão, por exemplo: Como promover uma exploração das TC no ES (nomeadamente na Universidade de Aveiro) que favoreça o desempenho de papéis e o desenvolvimento de competências de Literacia Digital consideradas essenciais no contexto atual? Importa, por um lado, analisar que novos papéis e competências os professores e os estudantes devem desempenhar em contextos de *bLearning* e, por

outro, desenvolver (conceber, implementar e avaliar) estratégias de desenvolvimento profissional inovadoras (*peer-mentoring*, comunidades de prática…) que contribuam para a disseminação de "boas práticas" em contextos de *bLearning* e o desenvolvimento da Literacia Digital dos docentes (ver figura 2).

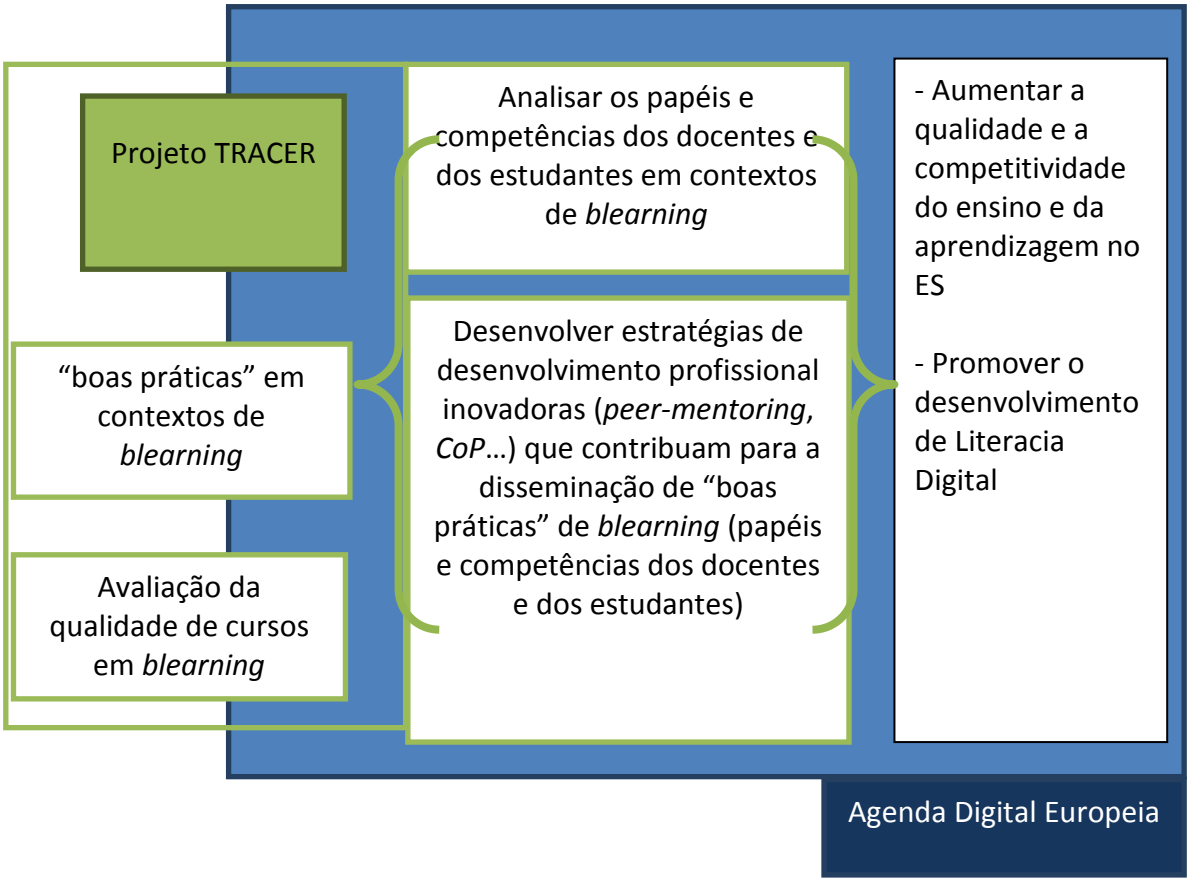

Figura 2 – Articulação entre o trabalho desenvolvido até ao momento e possível trabalho futuro.

Mais concretamente, pretende-se apostar numa investigação articulada com a formação que promova o *empowerment* de docentes e estudantes, de maneira a que a longo prazo desenvolvam as competências e a confiança de que necessitam para usar as tecnologias digitais, no apoio ao ensino e à aprendizagem, mas também no seu local de trabalho. Assim, é necessário investir na conceção de oficinas especializadas e/ou unidades curriculares específicas (mesmo que opcionais) e análise dos seus impactos, no que respeita ao desenvolvimento de competências relacionadas com a Literacia Digital (Lyon, 2009), explorando ferramentas da *Web 2.0* que se adequem às necessidades dos

envolvidos e estilos de aprendizagem (Cooper, Lockyer & Brown, 2013). Estas medidas poderão visar a promoção do desenvolvimento de competências de pesquisa, seleção e organização de informação (Kanitar, Laranjeiro, Loureiro & Pombo, 2011), explorando adequadamente ferramentas da *Web 2.0*. Tais estudos poderiam fornecer contributos para a implementação da Agenda Digital Europeia localmente, mas ter impactos mais globais (por exemplo envolvendo no projeto outras instituições de ES nacionais ou internacionais).

A figura 2 pretende ilustrar a articulação entre o trabalho desenvolvido até ao momento e o trabalho futuro acima proposto. Considerando que o projeto apresentado nesta tese forneceu contributos na área da avaliação do ensino em contextos de *bLearning*, pretende-se agora fazer a transferência do que se investigou, alargando a experiência à instituição (Universidade de Aveiro). Por outras palavras, pretende-se numa abordagem *bottom-up*, partindo dos estudos de caso reportados (e de outros autores cujo levantamento está em curso no Projeto TRACER) e tendo por base referenciais de qualidade do ensino em *bLearning* (que apontam ser inovadores), contribuir para a disseminação e adaptação dessas práticas a nível institucional no âmbito de um projeto recente da Universidade de Aveiro, o projeto SPEAQ (www.speaq-project.eu).

Do trabalho futuro que aqui se equaciona poderão emergir um conjunto de recomendações para as instituições que pretendam apoiar os seus estudantes e docentes no desenvolvimento da Literacia Digital. Espera-se, assim, contribuir para a disseminação de contextos de formação/trabalho digitalmente mediados em vários campos profissionais e de prática social, bem como analisar eventuais mudanças de práticas a nível institucional em torno da Literacia Digital.

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ANEXOS

Anexo 1 - Questionário sobre a avaliação do *bLearning* no Ensino Superior

O presente questionário tem por finalidade conhecer a sua opinião, enquanto Professor/Investigador com experiência em *blended Learning*, sobre a forma **como pensa que a avaliação** do ensino em *bLearning* **deve ser feita**, tendo em consideração as propostas curriculares do(s) curso(s) do 1º, 2º ou 3º Ciclo do Ensino Superior, no que respeita a:

- executores da avaliação (quem deve avaliar)
- instrumentos utilizados na avaliação e momentos da sua aplicação (como e quando se deve avaliar)
- objectos de avaliação (o que se deve avaliar)
- finalidades da avaliação (para que é que se deve avaliar)

Obrigada pela sua colaboração
Lúcia Pombo
Novembro de 2010

I. Indique a sua principal função na instituição em que trabalha.
_____

I.a) Há quanto tempo desempenha essa função na sua instituição? _____

II. - Indique os seus principais interesses de investigação.
_____

INSTRUÇÕES DE PREENCHIMENTO

a) Assinale o grau de relevância de cada item que melhor corresponde ao que considera que seria desejável implementar relativamente à avaliação.
b) No item "outro" indique outro(s) item(s) que considere importante(s) e que não tenha(m) sido referido(s).

1. Executor da avaliação (<u>quem deve avaliar</u>)

Executor da avaliação	O que seria desejável Grau de relevância para a melhoria do Ensino em *bLearning*				
	Nada relevante	Pouco relevante	Relevante	Muito relevante	Sem opinião
O(s) próprio(s) docentes					
Outros docentes					
Os estudantes					
O coordenador					
A instituição					
Agentes externos					
Outro. Qual?					

2. Instrumentos utilizados na avaliação e momentos (como e quando se deve avaliar)

Instrumentos da avaliação		O que seria desejável Grau de relevância para a melhoria do Ensino em *bLearning*				
		Nada relevante	Pouco relevante	Relevante	Muito relevante	Sem opinião
Questionário aos estudantes	no início das unidades curriculares - diagnóstico (ex. sobre o perfil dos estudantes, sobre as expectativas que os estudantes têm em relação ao curso, …)					
	no decorrer das unidades curriculares					
	no final das unidades curriculares					
Fóruns de discussão	entre os estudantes, ao longo do processo					
	entre docentes, ao longo do processo					
	entre estudantes e docentes, ao longo do processo					
Reflexões individuais dos estudantes	ao longo das unidades curriculares					
	no final das unidades curriculares					
Reflexões individuais dos docentes	ao longo das unidades curriculares					
	no final das unidades curriculares					
Relatório de avaliação	periódico ou final, por unidade curricular, da responsabilidade do docente					
	do curso					
	por uma Comissão de avaliação externa					
Outro. Qual?						

3. Objectos/critérios de avaliação (<u>o que se deve avaliar</u>)

Objectos/critérios de avaliação		O que seria desejável Grau de relevância para a melhoria do Ensino em *bLearning*				
		Nada relevante	Pouco relevante	Relevante	Muito relevante	Sem opinião
3.1. Ensino						
Pertinência das actividades/tarefas propostas						
Qualidade dos materiais didácticos disponibilizados						
Ferramentas de comunicação utilizadas						
Organização das sessões	presenciais					
	a distância					
Organização das disciplinas (ex. se as actividades vão ao encontro dos objectivos, etc.)						
Outro. Qual?						
3.1.2. docentes						
Competência	científica					
	pedagógica					
Dinamismo e acompanhamento do docente	na condução das actividades presenciais					
	na condução das actividades a distância					
Capacidades de motivação do docente						
Qualidade do feedback dado aos alunos por parte do docente						
Outro. Qual?						
3.2. Aprendizagens						
Interacção (comunicação entre os estudantes)	dentro dos grupos					
	entre os grupos					
Estratégias de avaliação adoptadas						
Desenvolvimento de competências	específicas, definidas para a unidade curricular					
	transversais, definidas para a unidade curricular (ex. desenvolvimento de valores e atitudes, autonomia, capacidade de pesquisa e de trabalho de grupo, etc.)					
Tipologia e adequação dos instrumentos de avaliação/tarefas/produtos de avaliação propostos (se os instrumentos de avaliação são adequados às tarefas propostas)						
Outro. Qual?						
3.3. Recursos						
Apoio prestado pelo pessoal não docente						

Estrutura de suporte (LMS, rede, largura de banda, help-desk)					
Recursos logísticos (disponibilização de computadores, acesso wireless, salas adequadas…)					
Outro. Qual?					

4. Finalidades da avaliação (para que é que se deve avaliar)

Finalidades da avaliação	O que seria desejável Grau de relevância para a melhoria do Ensino em *bLearning*				
	Nada relevante	Pouco relevante	Relevante	Muito relevante	Sem opinião
4.1. Melhoria do curso quanto a:					
Imagem externa do curso					
Plano de estudos					
Adequação ao perfil dos estudantes					
4.2. Melhoria do processo de ensino e aprendizagem quanto a:					
Resultados de aprendizagem					
Adequação do perfil do corpo docente					
Adequação das estratégias de ensino a utilizar (ex. inclusão de trabalho de grupo/individual)					
Resultados de aprendizagem dos estudantes					
Expectativas dos estudantes antes de ingressarem no curso					
4.3. Melhoria dos recursos quanto a:					
Apoio prestado por pessoal não docente (secretariado, reprografia, biblioteca,…)					
Estrutura de suporte (LMS, rede, largura de banda, help-desk)					
Recursos logísticos (disponibilização de computadores, acesso wireless, salas adequadas…)					
4.4. Apoio ao estudante:					
Antes da sua entrada no curso (acesso)					
Durante o curso (desenvolvimento de competências)					
No final do curso (saídas profissionais)					
Outro. Qual?					

ANEXO 2 - Questionário sobre a disciplina "Avaliação de Software Educativo" 2006/07

Com este questionário pretende-se conhecer a sua opinião sobre a disciplina de ASE, no que respeita ao interesse, aprendizagens efectuadas, às actividades/tarefas desenvolvidas, às estratégias de avaliação e às ferramentas utilizadas, tendo em vista uma avaliação formativa da mesma. Quando estiver a responder, vá anotando aspectos (positivos e negativos) que não tenham sido considerados nas perguntas, para introduzir na última pergunta.

O questionário é **anónimo**.

Obrigada pela sua colaboração

Parte A – Sobre a disciplina, a docente e as estratégias em geral

Menu 1
1 – fraco(a)
2 - razoável
3 – bom(boa)
4 – elevado(a)

1. Sobre o interesse e aprendizagens:

Indique, para cada frase e seleccionando no menu, o nível que melhor se adequa.

1.1. Interesse sentido pela disciplina, no início da sua frequência.	Menu 1
1.2. Importância da disciplina do ponto de vista académico.	"
1.3. Importância da disciplina do ponto de vista profissional.	"
1.4. Compreensão dos conceitos que a avaliação de software educativo implica.	"
1.5. Grau de dificuldades sentido na compreensão dos conceitos envolvidos.	"
1.6. Aprendizagem relativa ao desenvolvimento de um projecto de avaliação de software educativo.	"
1.7. Desenvolvimento das competências definidas para a disciplina.	"
1.8. Gosto pelo estudo de questões relacionadas com avaliação de software educativo, despertado ao longo da disciplina.	"
1.9. Comparada com outras disciplinas, considero esta disciplina…	"

2. Sobre a docente:

Indique, para cada frase e seleccionando no menu, o nível que melhor se adequa.

2.1. Entusiasmo da docente pelo ensino da disciplina.	Menu 1
2.2. Capacidades da docente para motivar os alunos, para os temas trabalhados.	"
2.3. Nível de competências de comunicação (verbal e não verbal) da docente.	"
2.4. Dinamismo da docente na condução das actividades presenciais.	"
2.5. Interacção e acompanhamento feito pela docente ao desenvolvimento dos trabalhos a distância.	"
2.6. Nível de amistosidade do ambiente de aprendizagem criado pela docente	"
2.7 Encorajamento à interacção intra e inter-grupal feito pela docente	"
2.8. Abertura da docente a propostas feitas pelos alunos, quer no que respeita às actividades quer à sua organização	"
2.9. Globalmente, considero a competência didáctica (conhecimentos, preparação e gestão de actividades, avaliação, exploração das TIC, relações estabelecidas …) da docente…	"

3. Sobre como decorreram as actividades e as ferramentas exploradas.

Indique, para cada frase e seleccionando no menu, o nível que melhor se adequa à(s):

3.1. estrutura das actividades	Menu 1
3.2. organização das sessões presenciais	"
3.3. actividades/tarefas propostas	"
3.4. forma como foi efectuado o enquadramento teórico (misto de exposição e leituras, análise e síntese de documentos)	"
3.5. interacção no seio do seu grupo	"
3.6. interacção inter-grupal	"
3.7. ferramentas de comunicação privilegiadas (Bb e blogues)	
3.8. maneira como foi efectuada a discussão dos trabalhos de grupo	"
3.9. estratégias de avaliação adoptadas (avaliação formativa, bem como auto e hetero-avaliação)	"
3.10. duração da disciplina	"

4. Qual(ais) foi/foram a(s) sua(s) primeira(s) impressão(ões) sobre a disciplina?

(seleccione uma ou mais opções)

4.1. Medo ☐

4.2. Ansiedade ☐

4.3. Confusão ☐

4.4. Perplexidade ☐

4.5. Desafio ☐

4.6. Entusiasmo ☐

Outros, Quais? ☐

4A.Considera que a(s) impressão(ões) acima seleccionada(s) perdurou(aram), ou que mudou(aram) durante o semestre? Justifique a sua resposta.

Parte B – Sobre as tarefas e a avaliação

5. Considerando as tarefas propostas no decurso da disciplina, indique aquela(s) que considera mais relevante(s) para o desenvolvimento das competências visadas:

(seleccione uma ou mais opções)

5.1. Levantamento de percepções ☐

5.2. Leitura individual de bibliografia recomendada (pesquisa de outra) ☐

5.3. Discussão e síntese das leituras ☐

5.4. Reflexões individuais parcelares e final (auto-avaliação) ☐

5.5. Concepção, desenvolvimento e reformulação de um trabalho de grupo ☐

5.6. Apresentação e discussão do trabalho de grupo ☐

5.7. Auto e hetero-avaliação do trabalho dos grupos ☐

5.8. Elaboração e reelaboração de mapa de conceitos ☐

5.9. Hetero-avaliação de competências de colaboração ☐

Justifique as opções anteriores?

6. Considerando as tarefas propostas no decurso da disciplina, indique aquela(s) em que teve mais dificuldades:
(seleccione uma ou mais opções)

6.1. Levantamento de percepções ☐

6.2. Leitura individual de bibliografia recomendada ☐

6.3. Discussão e síntese das leituras ☐

6.4. Reflexões individuais (parcelares e final) ☐

6.5. Concepção, desenvolvimento e reformulação de um trabalho de grupo ☐

6.6. Apresentação e discussão do trabalho de grupo ☐

6.7. Auto e hetero-avaliação do trabalho dos grupos ☐

6.8. Elaboração e reelaboração de mapa de conceitos ☐

6.9. Hetero-avaliação das competências de colaboração ☐

Justifique as opções anteriores?

Parte C – Sobre as ferramentas de comunicação exploradas

7. Dos(as) equipamentos/ferramentas listados(as) abaixo, indique a frequência de utilização, tendo em vista a realização das tarefas propostas nesta disciplina. Refira para quê, dando exemplos concretos.

7.1. Telemóvel Menu 2 Para quê?

7.2. Skype "

7.3. Email "

7.4. MSN "

7.5. Blogues "

7.6. Fóruns do Bb "

7.7. Outras, quais? "

Menu 2
1 – menos de uma vez por semana
2 – 1 a 3 vezes por semana
3 – mais de 3 vezes por semana
4 – todos os dias

8. Considerando as ferramentas de comunicação assíncronas utilizadas na disciplina (blogues, wikis, fóruns Bb), indique as vantagens e desvantagens de cada uma delas para a prossecução das tarefas desenvolvidas na disciplina.

9. Refira agora as vantagens e desvantagens das ferramentas de comunicação síncrona, que mais utilizou para prossecução das tarefas desenvolvidas na disciplina (exclua o telemóvel), relativamente às assíncronas.

10. Faça comentários construtivos sobre a disciplina (pontos mais positivos e menos positivos) e sugestões para a melhorar.

ANEXO 3 - Questionário sobre a disciplina "Educação a Distância" 2008/09, 2010/11, 2011/12

Com este questionário pretende-se conhecer a sua opinião sobre a unidade curricular (UC) de EaD no que respeita ao seu interesse e aprendizagens efectuadas, ao desempenho da docente, às actividades desenvolvidas, às estratégias de avaliação, à sua experiência relativa ao trabalho colaborativo e às ferramentas de comunicação utilizadas, tendo em vista uma avaliação formativa da UC. Quando estiver a responder, vá anotando aspectos (positivos e negativos) que não tenham sido considerados nas perguntas, para introduzir na última pergunta. O questionário é anónimo, pelo que solicitamos que as suas respostas traduzam a sua forma de pensar e de agir. Obrigada pela sua colaboração!

Menu

discordo completamente

- discordo
- concordo
- concordo plenamente
- sem opinião

1- Sobre o interesse e aprendizagens

1.1. Senti interesse pela unidade curricular (UC) desde o início da sua frequência.

1.2. Considerei a UC importante do ponto de vista académico.

1.3. Considerei a UC importante do ponto de vista profissional.

1.4. Compreendi os conceitos que a Educação a Distância implica.

1.5. Desenvolvi aprendizagem sobre como fazer uma pesquisa bibliográfica.

1.6. Desenvolvi aprendizagem relativa à preparação e elaboração do artigo.

1.7. Desenvolvi as competências definidas para a UC.

2. Sobre as docentes

2.1. As docentes mostraram entusiasmo pelo ensino da UC.

2.2. As docentes mostraram capacidades para motivar os doutorandos para os temas trabalhados.

2.3. As docentes apresentaram competências de comunicação (verbal e não verbal).

2.4. As docentes apresentaram dinamismo na condução das actividades presenciais.

2.5. As docentes criaram um ambiente de aprendizagem de amicabilidade.

2.6. As docentes encorajaram a interacção intra e inter-grupal.

2.7. As docentes mostraram abertura nas propostas feitas pelos alunos, quer no que respeita às actividades quer à sua organização.

2.8.Globalmente, considero positiva a competência didáctica (conhecimentos, preparação e gestão de actividades, avaliação, exploração das TIC, relações estabelecidas …) das docentes.

3. Sobre como decorreram as actividades na UC.

3.1. As actividades estavam bem estruturadas.

3.2. As sessões presenciais foram bem organizadas.

3.3. As actividades propostas eram pertinentes.

3.4. Houve interacção no seio do seu grupo.

3.5. Houve interacção inter-grupal.

3.6. A discussão dos trabalhos de grupo foi bem efectuada.

3.7. As estratégias de avaliação adoptadas foram adequadas (avaliação formativa, bem como auto e hetero-avaliação).

3.8. A duração da UC foi adequada.

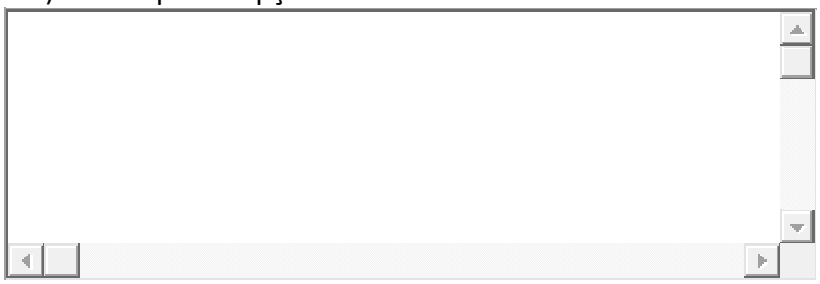
4- Sobre as actividades desenvolvidas e estratégias de avaliação*4.a)- Considerando as actividades propostas no decurso da UC, indique aquela(s) que considera MAIS RELEVANTE(S) para o desenvolvimento das competências visadas (seleccione uma ou mais opções)

- ☐ 4.1. Leitura e discussão da proposta de trabalho (incluindo a avaliação)
- ☐ 4.2. Leitura individual de bibliografia
- ☐ 4.3. Ensaio de utilização da ficha de caracterização e leitura e eventual reformulação
- ☐ 4.4 Pesquisa de artigos para a elaboração da revisão bibliográfica
- ☐ 4.5. Reflexões individuais parcelares e final (auto-avaliação)
- ☐ 4.6. Concepção, desenvolvimento e reformulação de um artigo de revisão bibliográfica (trabalho de grupo)

☐ 4.7. Apresentação e discussão dos trabalhos de grupo (artigos)

☐ 4.8.Auto e hetero-avaliação das competências desenvolvidas

4.b)- Justifique as opções anteriores.



5- Sobre as actividades desenvolvidas e estratégias de avaliação*5.a)- Considerando as actividades propostas no decurso da UC, indique aquela(s) em que teve mais DIFICULDADES (seleccione uma ou mais opções)

☐ 5.1. Leitura e discussão da proposta de trabalho (incluindo a avaliação)

☐ 5.2. Leitura individual de bibliografia

☐ 5.3. Ensaio de utilização da ficha de caracterização e leitura e eventual reformulação

☐ 5.4 Pesquisa de artigos para a elaboração da revisão bibliográfica

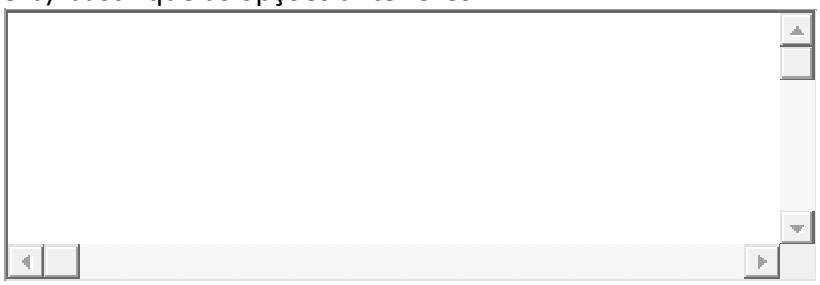
☐ 5.5. Reflexões individuais parcelares e final (auto-avaliação)

☐ 5.6. Concepção, desenvolvimento e reformulação de um artigo de revisão bibliográfica (trabalho de grupo)

☐ 5.7. Apresentação e discussão dos trabalhos de grupo (artigos)

☐ 5.8.Auto e hetero-avaliação das competências desenvolvidas

5.b)- Justifique as opções anteriores.



Menu

discordo completamente

☐ discordo

☐ concordo

☐ concordo plenamente

☐ sem opinião

6 – Sobre a sua experiência relativa ao trabalho colaborativo/cooperativo e avaliação nesta UC

6.1. Desenvolvi competências de trabalho colaborativo/cooperativo ao longo desta UC.

6.2. Desenvolvi competências de avaliação ao longo desta UC.

6.3. Gostei de trabalhar colaborativamente/cooperativamente ao longo desta UC.

6.4. Gostei de avaliar o meu trabalho e o do meus colegas ao longo desta UC.

6.5. Aprendi mais ao trabalhar colaborativamente/cooperativamente do que a trabalhar individualmente.

6.6. Aprendi mais pelo facto de ter avaliado o meu trabalho e o dos meus colegas do que se não o tivesse feito.

6.7. Fiquei satisfeito(a) com o meu desempenho no trabalho colaborativo/cooperativo.

6.8. Fiquei satisfeito(a) com o meu desempenho na avaliação do meu trabalho e dos colegas.

6.9. Fiquei satisfeito(a) com a forma de como o meu grupo trabalhou colaborativamente/cooperativamente.

6.10. O trabalho colaborativo/cooperativo deve ser avaliado como um todo, com a mesma classificação para todos os elementos do grupo.

6.11. O trabalho colaborativo/cooperativo deve ser avaliado com diversas componentes; ie., o produto final, o processo de desenvolvimento do trabalho de grupo e o esforço individual.

6.12. O trabalho colaborativo/cooperativo deve ser avaliado pelos docentes, pelo próprio e pelos colegas.

6.13. O trabalho colaborativo/cooperativo deve ser avaliado só pelos docentes.

6.14. Considero que as reflexões pessoais devem ser publicadas de forma a que todos (alunos e docentes) tenham acesso.

6.15. Considero que a auto e hetero-avaliação das competências desenvolvidas (intra-grupos) devem ser publicados de forma a que todos (alunos e docentes) tenham acesso.

Menu

- menos de uma vez por semana
- 1 a 3 vezes por semana
- mais de 3 vezes por semana
- todos os dias

7 – Sobre as ferramentas de comunicação exploradas. E 1. Dos(as) equipamentos/ferramentas listados(as) abaixo, indique a frequência de utilização, tendo em vista a realização das actividades propostas nesta UC.

7.1.Telemóvel
7.2. Skype
7.3. Email
7.4. MSN
7.5. Ning
7.6. GoogleDocs
7.7. Endnote web
7.8. Blackboard
7.9. Outra(s). Qual(ais) e para quê, dando exemplos concretos.

7.10. Considerando a principal ferramenta de comunicação assíncrona utilizada na UC (Ning), indique as suas vantagens e desvantagens em relação a outras ferramentas do mesmo tipo.

8- Na globalidade, teça comentários construtivos sobre a UC (pontos mais positivos e menos positivos) e sugestões para a melhorar.

ANEXO 4 - Instrumento de avaliação do trabalho grupo - elaboração de uma revisão de literatura sobre EaD

Título do trabalho a avaliar:_____
(Para cada critério, coloque um X nas colunas "Sim", "Não" ou "Não se aplica" e teça observações tenda em vista a melhoria da estrutura do artigo)

Critérios	**Indicadores**	**Sim**	**Não**	**Não se aplica**	**Observações** (críticas construtivas, questões, sugestões de melhoria)
Clareza e pertinência do tema/objectivo/ questão de pesquisa	Prevê-se que o tema/objectivo/questão(ões) de investigação sejam definidos sem ambiguidade (deverão estar na introdução) e que sejam definidos em função dos interesses dos elementos do grupo e da literatura da especialidade consultada				
Adequação do desenvolvimento do documento	A estrutura do documento é explicitada com clareza (na introdução) e o artigo compreende secções que se encontram estruturadas de forma lógica, tendo em conta tratar-se de uma revisão de literatura e considerando o tema/objectivo do artigo (as secções relativas ao desenvolvimento do artigo devem resultar do tema e questões de investigação). Prevê-se uma conclusão onde serão sintetizados os contributos do texto (atendendo às questões de investigação definidas), limitações e pistas de trabalho futuro.				
Grau de profundidade de tratamento do tema	A estrutura indica que o tema seleccionado será trabalhado de forma aprofundada, sendo abordadas as principais ideias/conceitos, bem como as convergências e divergências (incluindo argumentos) entre os autores, … As fontes/autores são indicadas.				
Clareza e correcção da escrita	A escrita tem correcção sintáctica e morfológica, sendo a linguagem utilizada com clareza.				
Relevância das conclusões	As conclusões indiciam apresentar uma síntese do texto, relevando os aspectos mais pertinentes para o tema e dando resposta às questões de pesquisa formuladas.				
Originalidade do contributo	Prevê-se que o artigo aporta contributos para a área.				

Critérios	**Indicadores**	**Sim**	**Não**	**Não se aplica**	**Observações** (críticas construtivas, questões, sugestões de melhoria)
Variedade e relevância das fontes	A revisão é feita com recurso uma grande variedade de fontes e com recurso aos autores de referência.				
Adequação das estratégias de pesquisa das fontes	As estratégias de pesquisa das fontes são descritas e passam pela exploração de várias bases de dados de forma adequada (a partir de palavras-chave, autores de referência, revistas/actas de alto índice de impacto…)				
Avaliação criteriosa das fontes	A forma como foi efectuada a avaliação das fontes parece estar de acordo com os critérios definidos, sendo estes pertinentes (autores de referência, qualidade da publicação, …)				
Utilização adequada das normas APA	As fontes/autores são citados no texto e as referências são listadas utilizando as normas APA correctamente .				
Observações finais (síntese dos principais aspectos positivos e negativos)					