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Learning design and assessment with e-tivities

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Abstract
This paper reported on the findings of research into innovation in e-learning design and assessment through the development and implementation of online learning activities (e-tivities). The focus of the study was on Carpe Diem as a process to enable academic course teams to seize 2 days to design and embed pedagogically appropriate e-tivities into their courses. The study also addressed the use of technology in the design of e-tivities and the level of tutor and learner engagement with them during course delivery. Six academic course teams representing three disciplines at four British universities took part in this 12-month study. Cognitive mapping was the main research methodology used. The results suggested that Carpe Diem is an effective and powerful team-based process to foster pedagogical change and innovation in learning design and assessment practices. The e-tivities designed during Carpe Diem were successfully used primarily for learning and formative assessment, and exceptionally for summative assessment. Web 2.0 tools, especially wikis, were employed to enable collaborative online learning and were prominent in the new designs. The tutors' e-moderation skills were key to engage learners and thus capitalise on the benefits of e-tivities.

Introduction and focus

E-tivities are defined as 'frameworks for enhancing active and participative online learning by individuals or groups' (Salmon, 2002, p. 3). They can be used in a wide range of face-to-face, online and blended learning settings across disciplines and may be designed to make use of many learning technologies. E-tivities are low-cost, reusable, customisable and scalable.

Carpe Diem (Armellini & Jones, 2008; Salmon, Jones & Armellini, 2008) is a well-researched, team-based intervention to promote innovation in learning design and assessment practices by academic course teams. The intervention includes a 2-day workshop in which teams design online learning activities (e-tivities) for effective and collaborative learning within their online, blended and face-to-face courses.

This paper reports on the findings of the ADDER (Assessment and Disciplines: Developing E-tivities Research, www.le.ac.uk/beyonddistance/adder) project. As part of the project, academic course teams took part in Carpe Diem interventions to design and embed e-tivities in their courses for learning and assessment purposes. ADDER was funded by the UK Higher Education Academy and led by the Beyond Distance Research Alliance at the University of Leicester. The project compared and contrasted assessment practices that make use of e-tivities in three disciplines (media studies, psychology and inter-professional education, a discipline that aims to enable multiple health professionals to work together effectively) at four universities (De Montfort, Derby, Northampton and London South Bank) between October 2007 and September 2008.

We report on the outcomes of this research, in which we:

- Evaluate the effectiveness of the Carpe Diem intervention in terms of innovation into practice and change towards learner-centred, task-based learning design and assessment in the three disciplines at the four participating universities over 12 months.
- Characterise the e-tivities produced by academic course teams during Carpe Diem and establish whether and how these e-tivities link to formative and summative assessment.
- Identify tutors' learning technology choices and their rationale for its use in e-tivity design.
- Identify the factors influencing tutor and learner engagement with e-tivities during course delivery.
- Explain how Carpe Diem helped academic course teams shift from practices based on the use of technology for delivery of course content to the development and management of tasks for collaborative knowledge construction and assessment.

Learning design and assessment

Learning design has been defined as 'an application of a pedagogical model for a specific learning objective, target group and a specific context or knowledge' (Conole & Oliver, 2006, p. 5). Recent literature on learning design points to the diverse challenges faced by academics in terms of pedagogy, technology and learning context (Beetham & Sharpe, 2007; Conole, Dyke, Oliver & Seale, 2004; Conole & Fill, 2005; San Diego *et al*, 2008). Many academics default to traditional practices, resulting in innovation in learning design hardly ever becoming a priority for them. Consequently, tutors often have limited awareness of what constitutes good practice in participative learning design and which learning technologies can be deployed in its implementation. Given the varied demands on their time and growing academic, administrative and pastoral responsibilities, lecturers need and welcome guidance on learning design leading to

pedagogical innovation (San Diego *et al*, 2008). This guidance has the potential to make their teaching more effective, engaging and rewarding.

Assessment is central to learning and therefore key to learning design. The curriculum is defined by assessment (Ramsden, 1992), which shapes the student experience (Brown & Knight, 1994). Assessment 'orients all aspects of learning behaviour' (Gibbs, 2006, p. 23). Formative assessment can improve student learning and raise academic standards (Black & Wiliam, 1998; Yorke, 2003). Formative assessment practices empower students to develop skills to monitor, judge and manage their learning (Nicol, 2007). Students possess, according to Nicol, self-assessment and self-regulation skills. Effective formative assessment depends on students developing these skills (Nicol & Macfarlane-Dick, 2006). Tutors may build on this capacity rather than solely provide expert feedback themselves (Nicol, 2006). Learners are more likely to benefit from feedback that is timely, relevant and appropriate in terms of its content and how it is offered. These are crucial attributes of feedback, as they shape the ways in which learners engage with it. The quality of feedback has been found to be less important than the quality of learners' engagement with the feedback (Gibbs; Nicol & Macfarlane-Dick).

Armellini, Jones and Salmon (2007) found that assessment shapes the design of e-tivities and identified links between e-tivity design and assessment. This paper reports on the process of change in learning design and assessment implemented by course teams as a result of the introduction of e-tivities, the types of e-tivities produced by course teams and the technologies used, and the engagement of tutors and learners with those e-tivities during delivery.

Carpe Diem

Carpe Diem promotes and supports change in learning design and assessment, builds institutional capacity and fosters scalable pedagogical innovation (Armellini & Jones, 2008; Salmon *et al*, 2008). At the heart of this intervention is a 2-day workshop in which course teams, in collaboration with subject librarians and learning technologists, design e-tivities for effective e-learning and assessment within their online and face-to-face courses.

The workshop is structured around six stages. On the first day, the team produces a blueprint (Stage 1) and storyboard for the course (Stage 2), identifying the purpose and main features of the e-tivities they will design. On the second day, participants build prototypes (Stage 3) and turn them into fully functional e-tivities (Stage 4) that they upload to their institutional virtual learning environment (VLE). A 'reality checker' (a student or staff member external to the Carpe Diem process) reviews the e-tivities and provides feedback from the user's perspective. The team uses this feedback to adjust and improve the e-tivities (Stage 5). A clear action plan, including the next steps in the design of the course(s), is then agreed upon (Stage 6).

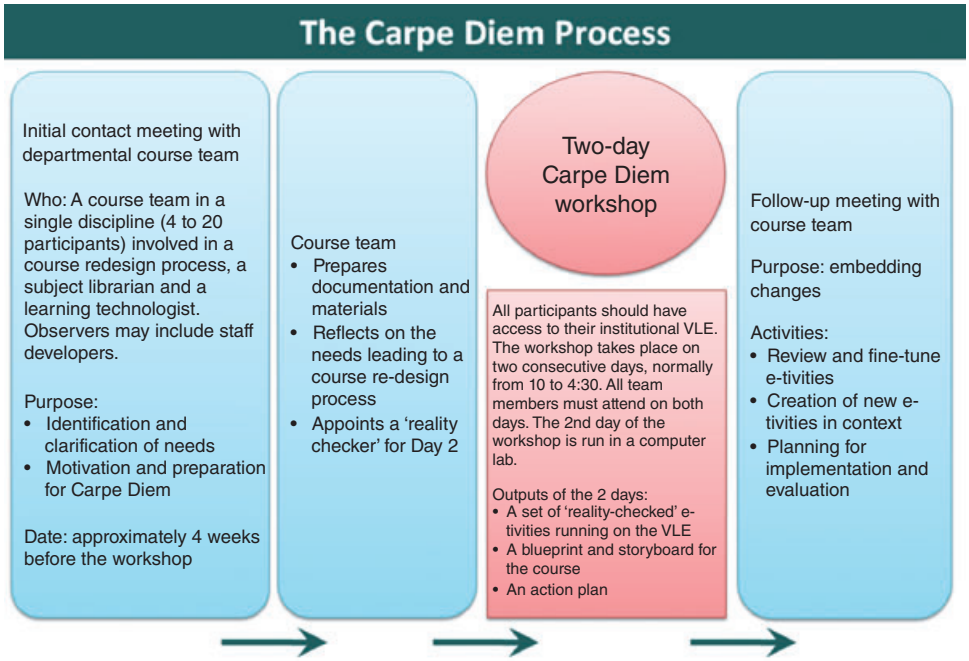

Figure 1: The Carpe Diem process

At the end of the workshop, teams have a series of 'reality-checked' e-tivities running on their VLE, a storyboard showing the purpose and location of those e-tivities within the course design, and an action plan for further development. The workshop is preceded by an initial contact meeting between the facilitator and the course team for preparation and motivation, and is followed up by a meeting designed to plan for the embedding of the changes into the course (Figure 1).

Carpe Diem differs from traditional staff development approaches in so far as it focuses on the learning design needs specific to an academic course team taking responsibility for a programme of study. Its outputs can be used by the course team immediately and can inform the development of other course components. Carpe Diem is not a 'how to use my VLE' workshop. While participants become more skilled in the use of a range of VLE features, they do so in the process of addressing a pedagogical design challenge that the technology may help them resolve. Learning technologists and subject librarians provide additional input and support during the intervention.

In the ADDER project, the Carpe Diem intervention was used to enable discipline-specific course teams to design and incorporate e-tivities into their courses, in a pedagogically sound way, for collaborative learning and assessment. Based on Salmon's e-tivity framework (Salmon, 2002), a template was used in Carpe Diem workshops to

	{spark}
Purpose:	
Task:	
Respond:	

Figure 2: Basic e-tivity template used in Carpe Diem

illustrate a possible e-tivity structure (Figure 2). The template includes four basic components: the 'spark' (a statement, picture, website, resource, audio or video file inserted to attract the user to the e-tivity and generate interest), the purpose of the e-tivity, the task itself (incorporating appropriate resources and links to where the responses are expected, eg a discussion forum, wiki or blog), and an opportunity for further comments and reflections after the initial replies have been posted ('respond'). Course teams were free to alter the template to suit their design requirements or use a different framework if they felt it to be appropriate.

Over 35 Carpe Diem interventions, involving 210 staff members, have been run at the University of Leicester since November 2006. The approach has been refined and is robust and scalable (Salmon *et al*, 2008). Carpe Diem is being used at a number of universities in the UK and overseas.

The Carpe Diem facilitator

The Carpe Diem facilitator's role is key to the success of the workshop. He or she ensures that the workshop deliverables meet the pedagogical challenges identified by the course team, drawing on appropriate input from all participants. The facilitator challenges established notions and offers new perspectives on technology-enhanced learning design and assessment. Apart from a basic understanding of the VLE, no technical expertise on the part of course teams is required or assumed by the facilitator.

Carpe Diem is a highly participative learner-centred workshop. The pre-workshop meeting with the course team provides the facilitator with an initial understanding of their principal needs and challenges, which are further explored during Stage 1. He or she should manage the six stages to ensure that the challenges are addressed to the team's satisfaction.

Ideally, the facilitator should have experience in developing institutional capability through team building, including academics, and technical and support staff. A very

good understanding of learning technology and its application in learning design, based on research and practical experience, is also essential. The Carpe Diem facilitator's input does not shape but informs the decisions made by course teams throughout the 2 days. He or she plays a very important advisory role as to which technologies may be appropriate in the context of each Carpe Diem and critically, suggests ways to integrate them in effective learning design. Examples from previous workshops are extensively used. With support from the learning technologist, the facilitator also offers hands-on guidance, both at the prototyping and implementation stages.

The facilitator empowers academics to design and deliver their courses innovatively. Creative, technology-enhanced designs to promote learner engagement with materials and with each other are central to this objective. Course teams retain ownership of their designs and through Carpe Diem, acquire the capacity to maximise the impact of e-tivities and the appropriate learning technologies deployed in their design.

Methodology

Six Carpe Diem processes were run as part of this study (Table 1).

A total of 40 academic tutors from the three named disciplines took part in the six interventions at the four participating institutions. Other participants (20 in total) included learning technologists, subject librarians, staff developers and observers. The research team included the main Carpe Diem facilitator and a research associate. The Blackboard VLE was in use at all participating institutions. All Carpe Diem participants, as well as their departmental authorities, agreed to take part in the research at the outset of the ADDER project.

Data were gathered via:

- In-depth pre- and post-Carpe Diem interviews with six tutors (two from each discipline), leading to the development of one cognitive map per tutor.
- Structured Carpe Diem workshop observations.
- Post-Carpe Diem online surveys, submitted by 90% of workshop participants. These were anonymous, but respondents were asked to identify their institutions and the disciplines.
- The collection of 32 e-tivities designed by course teams during and after Carpe Diem.

Table 1: Carpe Diem processes facilitated as part of this study

Institution	*Number of Carpe Diems run*	*Disciplines*
De Montfort	1	Inter-professional education
Derby	1	Psychology
Northampton	2	Inter-professional education media studies
London South Bank	2	Media Studies psychology

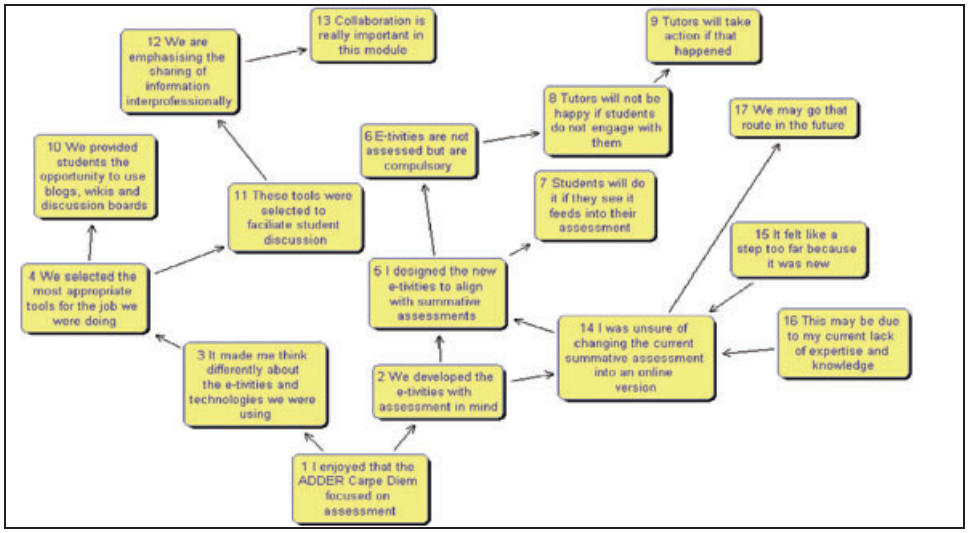

Figure 3: Section of IPE A's cognitive map

Two course team leaders from each of the three disciplines, representing all partner institutions, were interviewed in depth before and after Carpe Diem (item 1 in the previous section). The focus of these 12 interviews was the change process that Carpe Diem intended to facilitate and the impact of the new designs on each team's learning, teaching and assessment practices. Where the tutors implemented their new e-tivities with students, data on that experience were collected during the post-Carpe Diem interviews. These interviews generated cognitive maps that constituted the basis for the analysis.

Cognitive mapping, a research methodology informed by Kelly's theory of personal constructs (Kelly, 1955), was used to conduct the interviews and to carry out the analysis of the interview data. Cognitive maps produce a representation of the interviewee's stance on a particular issue or situation (Ackerman, Eden & Cropper, 1992; Eden, 2004). In our case, the cognitive maps enabled us to explore and record the connections between the tutors' disciplinary and pedagogical knowledge, their academic context and their use of learning technology (Russell, 2009). Here, we present the results of the analysis of the cognitive maps (an example is shown in Figure 3) and the e-tivities produced by course teams in usable formats (Tables 2 and 3). The findings are further evidenced through the use of coded quotations from post-Carpe Diem online surveys. Sample e-tivities were included for illustration purposes (Figures 4 and 5).

The coding for the data and the results presented in the next succeeding sections uses the following protocol: MS = media studies, PSY = psychology, IPE = inter-professional education. The two tutors per discipline have been coded A and B. Hence, MS A stands for Tutor 'A' in Media Studies, PSY B stands for Tutor 'B' in Psychology, and so on.

Results and discussion

Teams successfully developed 32 e-tivities for their courses in their respective disciplines (media studies, psychology and inter-professional education) at all four participating universities. The analysis of the cognitive maps and the e-tivities, supplemented by the Carpe Diem observations and the participants' responses to the post-Carpe Diem online survey, highlighted eight key issues. These are discussed in the following section and summarised in Table 2.

The tutors' familiarity with e-tivities and e-moderation prior to Carpe Diem, as a learner, tutor or both

The presence (or absence) of this prior knowledge and experience appeared to shape the tutors' designs and practice. Three tutors (IPE A, IPE B and MS A) were familiar with e-moderation roles and practices (Salmon, 2004) and applied that knowledge during the design and delivery of their courses. They designed for effective, low-cost, high-impact delivery. They were active online contributors and registered high levels of learner participation that they sustained over time.

Delivery mode of the courses that the tutors designed for in Carpe Diem

Most course teams designed for programmes taught face-to-face with online components. IPE B's team was the only team that designed for a course to be delivered fully online. All courses involved in this redesign process now have significant online components that make extensive use of e-tivities.

The tutors' perceptions of their own e-tivities

All tutors set out to produce and pilot collaborative, multiple-loop e-tivities (Armellini & Jones, 2008), which encourage learners to go beyond their initial response to the task, reflect on the contributions of their peers and tutors over time and document those reflections via additional online contributions (or 'loops'). This aspiration, supported by observation and survey data, was clearly articulated during the interviews. The tutors understood the value of collaborative online work and focused on maximising the impact of e-tivities on their learners' experience. At the end of the design process, all the tutors perceived their e-tivities to be collaborative. Despite some innovative uses of technology, as Table 2 shows, not all of these e-tivities fostered collaborative work, as explained under types of e-tivities in the next section.

Figure 4 shows an e-tivity designed by IPE A and her team for a group of postgraduate students on a programme delivered face-to-face with online components. Learners were given clear deadlines for each stage of the e-tivity, which was successfully used for formative purposes. This e-tivity made use of wikis and discussion boards within the institutional VLE. Figure 5 shows a psychology e-tivity designed to introduce on-campus undergraduate students to ethical issues in the discipline. This e-tivity makes use of GoogleDocs and feeds into activities carried out in the face-to-face classroom.

Links between e-tivities and assessment

In order to understand the role of e-tivities in assessment, if any, it was important to establish whether the contributions generated by the e-tivities would be summatively

Table 2: Summary of results

	Key evidence							
	Cognitive maps			*Cognitive maps and E-tivities*	*E-tivities*	*Cognitive maps*		*E-tivities*
Tutor	*Tutors' pre-Carpe Diem familiarity with e-moderation and e-tivities*	*Delivery mode of courses designed for in Carpe Diem*	*Tutors' perception of their own e-tivities (Armellini & Jones 2008)*	*E-tivities and assessment*	*Main technologies used*	*Tutors' online participation*	*Learners' engagement with e-tivities*	*Type of e-tivities (Armellini & Jones 2008)*
MS B PSY A	None	Face-to-face with online elements	Collaborative, multiple-loop	Formative	Wiki GoogleDocs	None	Low	Interactive, single-loop, not moderated
IPE A IPE B MS A	Yes, limited	 Online Face-to-face with online elements		 Formative and summative	Discussion forum, wiki, blog	High	High	Collaborative, multiple-loop, moderated
PSY B*	None			Formative	Wiki			

*PSY B had not implemented his e-tivities at the time of writing this paper. The table shows, in this case, the expected tutor's and learners' online participation based on interview data and the analysis of PSY B's e-tivities.
MS B, Tutor 'B' in media studies; PSY A, Tutor 'A' in psychology; IPE A, Tutor 'A' in inter-professional education; IPE B, Tutor 'B' in inter-professional education; MS A, Tutor 'A' in media studies; PSY B, Tutor 'B' in psychology.

E-tivity	Journal Club - click on this article for an example of how this is used to promote interprofessional communication.
Purpose	To formulate a list of possible tools that can be used to facilitate effective interprofessional working. This will become a resource for your professional work group to enable you to choose an appropriate tool to present.
Task	Click on the link to your Scholar course site and use any other resources that you have found to research evidence of tools that have been used in practice. Identify two of these examples and post your responses on the wiki. Please ensure you have posted by 26th June.
Respond	In your action learning groups please select a tool that is new to your practice, and suggest how your area may implement this. Post your suggestions on the group discussion board (please select the purple groups on the tab on the left and enter this discussion through your group pages - DISCUSSION ONE: IDENTIFICATION OF TOOLS FOR YOUR PRACTICE SETTINGS). Once you have done this, choose a post from another student and comment on their ideas. Please complete before 29th June.

Figure 4: Sample e-tivity designed by an inter-professional education team

assessed. If so, how those contributions would be used in conjunction with other forms of assessment needed to be clear to learners. If an e-tivity was included for formative purposes, the alignment between it and the learning outcome(s) it was designed to help learners meet (Biggs, 2003) had to be made explicit as well as how it would build towards a subsequent summative assessment.

Largely, course teams made the link between e-tivities and assessment explicit in their designs. Those details were either included in the e-tivity itself or explained in the course information. Most teams designed e-tivities with formative purposes, indicating how learners would benefit as a result of completing them. Tutors showed, either through e-tivity design or via their own contributions, how e-tivities would build up

TIVITY	**You want to do WHAT to your participants?!** 
Purpose:	To gain experience with ethical considerations and critical thinking when planning and developing research
Task:	Imagine you are a member of an ethics committee which has received a proposal for ethical approval. Click here to open the proposal. Read the proposal carefully and identify three potential ethical concerns. WRITE THESE DOWN for future reference. Now, in your online groups, prepare your recommendations to the researcher in the form of a memo. Type these into the appropriate GoogleDocs file for your group. Check your LSBU email account for the link to the file. You must state i) whether or not the ethics committee has approved or rejected the researcher's proposal and ii) identify the ethical shortcomings of the proposed research. Remember that you will need to express these clearly and concisely so that the researcher can respond to the points raised in the memo easily and fully. We will discuss the recommendations of each group in Week 3's session.

Figure 5: Sample e-tivity designed by PSY A's team

towards summative assignments. In one case (MS A), the responses to some e-tivities made up a significant part of the module assessment.

The following quotations illustrate the views and plans of Carpe Diem participants regarding the use of e-tivities for assessment:

I will be using e-tivities for formative assessment purposes delivered via Blackboard. I will use also use e-tivities to guide student group work (Derby).

E-tivities will be formative and be used in support of existing summative assessment. They will be utilised on e-learning [and on-]campus versions of the course (Derby).

I think the e-tivities that were designed (during the Carpe Diem) do have the potential to contribute to assessment particularly formatively but feedback from staff would increase their workload unless they use some form of peer assessment (London South Bank).

I designed the e-tivities aligned to the assessment because I saw that as a way of making sure that the students engaged with the e-tivities. If they see that it's going to feed into the assessment, then they'll do it, and I think that's a strength (Northampton).

These participants highlight the formative role of their e-tivities, as well as the likely use of e-tivities in support of summative assessment, which can increase student engagement with the task. One participant plans to incorporate e-tivities across different modes of study. Despite falling out of the scope of this study, guiding student group work, staff workload (through feedback provision) and peer assessment are aspects relevant to the link between e-tivities and assessment, and merit further research.

Technologies used in e-tivity design

Once the purpose and nature of the e-tivity were decided, course teams discussed which technologies to deploy. 'Web 2.0' tools, such as wikis and blogs, featured regularly in

e-tivities but so did more traditional ones such as discussion forums. The use of Web 2.0 tools in e-tivity design was new to most tutors in the Carpe Diem workshops.

> Discussion boards feature strongly. I think they are appropriate to encourage the discussion of the different inter professional views. Wikis were also used as appropriate. Perhaps preferred instead of a blog to minimize student exposure to too much technology. It was still appropriate for the task (De Montfort).

The inclusion of Web 2.0 tools (including blogs, wikis, YouTube videos, and bookmark-sharing and tagging sites) constituted a novelty to most teams. The use of such tools was, in many cases, seen as desirable: an e-tivity that makes use of a wiki was often perceived to be forward-looking, whereas one that made use of a discussion board was not. Two-thirds of the e-tivities produced during Carpe Diem (including the one shown in Figure 4) incorporated wikis into their design.

The tutors actively engaged with these newer, more collaborative learning technologies. They were also prepared to upgrade their skills both technically and in terms of the appropriate and pedagogically sound incorporation of these technologies into learning design and assessment. Carpe Diem thus offered an added benefit to participating tutors and course teams: it enabled them to learn about a range of new tools, experiment with them and generate practical applications (e-tivities) to pilot within their learning designs.

Participation of tutors and students in e-tivities during course delivery

IPE A, IPE B and MS A, as stated above, played a key role as e-moderators, and their learners actively engaged with the e-tivities. MS B and PSY A, in contrast, chose not to moderate their learners' online contributions and obtained low levels of online participation from their students. Despite these tutors' intentions at the design stage, their e-tivities became, de facto, single-loop (Armellini & Jones, 2008): the task ended after each individual's initial response, with no further online exchanges between participants. Both MS B and PSY A monitored online traffic and—as their courses were taught face-to-face—addressed the issues in class, where they also offered oral feedback. Ongoing tutor and peer feedback, online and in the classroom, reinforced the tutors' positive perceptions on the impact of e-tivities and on the collaborative technologies used to design them.

Types of e-tivities designed

The analysis of the e-tivities produced during Carpe Diem suggests that not all of them turned out to be collaborative or multiple-loop. Four of the tutors interviewed (IPE A, IPE B, MS A and PSY B) designed collaborative, multiple-loop e-tivities (Armellini & Jones, 2008) that encouraged learners to take part in additional, focused iterations ('loops') after an initial response to the task had been posted. These subsequent loops are central to the knowledge construction process that those e-tivities were designed to foster.

Interviews and online surveys provided substantial evidence that Carpe Diem was a key lever for change in e-learning design and assessment. Participants are now designing for learning, in ways that they were unable to do before attending the workshop. They are sharing the practice with others (including those who did not attend the workshop) and conducting customised versions of Carpe Diem processes within their institutions. The following quotations were obtained from the post-Carpe Diem online surveys and interviews. They illustrate the value that this intervention added to the participants' e-learning design skills:

> With the knowledge base acquired over the two days, I think the academic staff should be in a strong position to develop key summative assessment activities on their course units (Derby).

> I think the processes of this workshop have really helped me to move to a new level of appreciation of good e-learning design both as an observer, contributor and implementer. The e-tivities developed will inspire me to try out new approaches to learning (London South Bank).

> The e-tivities developed will inspire me to try out new approaches to learning[…]the e-tivity could offer a way to outsource the crucial parts through an excellently structured and presented template (London South Bank).

> [Carpe Diem was] a very positive experience. It's almost like back-to-basics teamwork. Another reason why it's been successful is that[…]people have worked as teams, have come together and have gone away with a much happier feel about their module and about the team ownership of it (Northampton).

In sum, Carpe Diem provided a useful, much valued forum for the inspiration and exchange of ideas on innovation into practice in e-learning design. It increased the participants' awareness of learning design and its implications for delivery. It offered practical tools such as the e-tivity framework that enabled course teams to take collective ownership of their new, transferable designs.

Table 3 synthesises the key research outcomes in terms of the focal points of this research.

The types of e-tivities produced by course teams illustrate their intention to foster learner–material and learner–learner engagements. There was some anxiety about using e-tivities for summative assessment purposes because of the potential risk of over-assessing students. Such use of e-tivities might have led, in the opinion of most tutors, to the revalidation of some modules.

The up-skilling of staff in the use of new, collaborative technologies (eg, wikis) in learning design was a well-received addition to the outcomes of the research. E-tivities that made creative use of such technologies generated high levels of participation among learners, especially when tutors applied effective e-moderating techniques and

Table 3: Outcomes in terms of the foci of the study

Focus	*Outcome*
Carpe Diem and change	Carpe Diem was an effective and powerful intervention to foster team-based innovations into practice in e-learning design and assessment.
E-tivity types and their links with assessment	Primarily collaborative e-tivities that encourage focused online group work and are used for formative assessment. The use of e-tivities within summative assessment was the exception.
Technology used in e-tivity design	Substantial and innovative use of Web 2.0 tools, especially wikis but also traditional ones, such as discussion boards to foster collaborative online learning. Up-skilling of staff.
The tutors' and learners' engagement with e-tivities during delivery	The tutors' online participation and e-moderating skills were key to learner engagement with e-tivities.

used the classroom setting to nurture the online exchanges (and vice versa). Well-designed e-tivities engaged learners regardless of whether the output of those e-tivities was assessed.

Limitations

This study had three main limitations that reduced the scope for generalisability of its findings: number of tutors involved, number of disciplines in the research and absence of primary data from learners.

First, only six tutors (two per discipline) were interviewed in depth. Ideally, additional tutor interviews—to reflect the diverse tutor population that took part in Carpe Diem—would have provided a more comprehensive picture for each course team. The budget and timescale of the ADDER project (within which this research was conducted) made it impossible to gather further interview data.

Second, only three disciplines were included in the study (media studies, psychology and inter-professional education). Again, this was due to the focus of the ADDER research project. A wider spread of disciplines and contexts might have provided additional insights into the impact of using e-tivities on learning design.

Finally, data from the learners were not formally collected. The tutors cited input from the learners in their post-Carpe Diem interviews to illustrate how the new designs were received by their students. Primary student data, collected during and at the end of each course, would have provided a more complete understanding of the changes in learning design and how they affected the students' learning and assessment experience.

Conclusions

This study focused on research into change and innovation in e-learning design and assessment through e-tivities. This section summarises its main conclusions.

Carpe Diem is an effective lever for changing practices in course design and assessment, as earlier research has shown (Armellini & Jones, 2008; Salmon *et al*, 2008). However, change is likely to stop at the design stage if tutors are not willing or skilled enough to intervene appropriately online during delivery. To capitalise on the benefits of good learning design with e-tivities, effective e-moderation is needed (Salmon, 2004).

Tutors who take part, as learners, in short online e-moderating courses acquire basic skills that enable them to maximise the benefits of their designs and moderate effectively in collaborative learning contexts. As part of these courses, participants encounter relevant literature on task-based course design and management of online groups. These courses give tutors valuable 'learner experience' in online learning and provide a solid starting point for pedagogical change. Tutors can easily transfer e-moderating skills and techniques into their own practice.

All participating course teams made significant changes to the ways in which they design for student learning, with particular emphasis on the online components of their courses. The e-tivities generated during Carpe Diem show a shift from designs based on content repositories to task-based, learner-centred approaches. Carpe Diem thus facilitated a valuable innovation-into-practice process in e-learning design.

The use of e-tivities for learning and formative assessment was prominent across all course teams, with some teams using them for summative assessment too. Beyond the incorporation of new tools or technologies, teams seized the day to develop and pilot task-based, learner-centred online elements within their courses. E-tivities were designed for learners to engage with the materials and with each other in creative, purposeful ways. Crucially, the learners were given opportunities to engage with timely feedback, offered by tutors and peers, on their responses to the e-tivities. The learners constructed knowledge in groups as a result of focused online interactions with each other and with the tutor. Each e-tivity provided a focal point for those exchanges.

Despite their initial intentions, some course teams created e-tivities that solely promoted learner–material interaction. The learners' responses to the task were often composed of the only iteration, with no opportunities for further reflective 'loops'. Other course teams developed highly collaborative e-tivities, where loops spanning over days or weeks were either designed into the tasks or fostered during delivery through effective e-moderation. Additional opportunities for reflection were generated through 'innovative bridging' between online and classroom-based activities.

Claims such as 'if an e-tivity is not assessed, students will not do it' are not accurate according to the evidence. Learners will engage in and benefit from well-designed, purposeful, effectively moderated e-tivities, with or without summative assessment elements. If the benefit of completing an e-tivity is clear to the learner (in formative or summative terms) and the tutor provides effective e-moderation, learners will respond and engage.

The use of tools such as wikis, blogs or GoogleDocs in e-tivity design does not make e-tivities inherently collaborative, nor does it mean that learners will be motivated to respond to them. If learners do not engage, the design or the moderation of the task that makes use of those tools should be reviewed.

Developing a new, challenging skill set necessitates support and the building of confidence as well as a willingness to experiment, take risks and reflect. All course teams in this study made changes to their learning designs as a result of the Carpe Diem intervention. They are currently working with their colleagues to cascade the innovation and change practice. Five of the six interviewed academic course team leaders immediately incorporated their new designs into their teaching, which enabled learners to engage in and benefit from active online knowledge construction.

The e-learning designs developed as part of the ADDER research project are in constant development and serve key course objectives in learning, teaching and assessment. Institutional capacity in student-centred e-learning design, assessment and e-moderation will continue to develop. E-tivities will become more creative and more firmly embedded in course design, and formative and summative assessment practices. Online student engagement is likely to follow, with a positive impact on the quality of the learner experience.

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