



## I Learnt a Whole Lot More than Churning out an Essay: Using Online Tools to Support Critical Collaborative Inquiry in a Blended Learning Environment

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### Abstract

This paper reports on a qualitative case study of a teacher and her students in a postgraduate Tourism course in New Zealand in which a learning management system, discussion forums, and wikis were used to facilitate student engagement and deeper learning of course content. Although the teacher was experienced in face-to-face teaching contexts, she was a novice in the design and delivery of online learning. However, she believed that technology could foster deeper and more meaningful critical collaborative inquiry among course participants and was keen to explore how this could be facilitated. Evaluative data were gathered from teacher interviews, student focus groups, and an online student survey. Findings indicate that the use of different online tools was effective for engaging students and helped them develop critical insights into key course concepts. However, careful planning and reflection on different pedagogical approaches were needed so that student learning could be supported in meaningful and relevant ways. Implications for supporting educators and students in blended, online learning in Tourism education are offered.

**Keywords:** online learning; e-learning; blended learning; tourism education; inquiry learning; tertiary; wiki

### Background

The increasing use of online tools and social networking software such as blogs, wikis, and chats in tertiary education offers both educators and students opportunities for communication, collaboration, and active participation in learning and teaching (McLoughlin & Lee, 2011). Current developments in online tools and social software provide new ways for students to construct, represent, develop, and report on what they know and understand within their learning environments (Dron, 2007). Drawing on a rich range of resources in multimodal formats, students can manage their learning and express their deeply personalised understanding of concepts—using flexible and multiple formats—so that traditional concepts of space and time within the classroom have changed (Conole, 2010).

Use of online tools and social networking software represents a pedagogical shift from a position where the teacher is the sole source of knowledge to one where understanding and authorship are collaboratively co-constructed by teacher–student or student–peer interactions (De Freitas &

Conole, 2010). New information and media literacies can be developed, creating “a set of cultural competencies and social skills that young people need in a new media landscape” (Jenkins, Clinton, Purushotma, Robison, & Weigel, 2006, p. 4). In fact, numerous authors have argued persuasively that ubiquitous access to digital technologies has shaped a new ‘net’ generation of digital natives (Oblinger, 2003; Prensky, 2001; Tapscott, 1999), with the corresponding assumption that access to digital tools has, *on its own*, facilitated the development of new learning skill sets (Tapscott, 2009). Thus educators often assume that students already possess the necessary computing skills and conceptual frameworks to become creators, rather than consumers, of information when they enter tertiary education (Rosen & Nelson, 2008).

However, recent research indicates that many such assumptions about students’ digital proficiencies are unfounded, and that digital inequalities and marginalisation persist in relation to students’ access to, and use of, information and knowledge (Bennett, Maton, & Kervin, 2008; Kennedy, Judd, Churchward, Gray, & Krause, 2008). International studies have indicated that students cannot be viewed as a homogenous, computer-literate group (Jones, Ramanau, Cross, & Healing, 2010; Thinyane, 2010; Valtonen, Dillon, Hacklin, & Väisänen, 2010). Instead, there are signs that although the digital generation may be technologically competent, many still lack basic academic literacy skills needed for successful learning (Kvavik, 2005). Use of social networking software for recreational or entertainment purposes does not necessarily prepare students for academic study (Aslanidou & Menexes, 2008). Learners are frequently unaware of how to apply technology effectively to enhance their learning (Valtonen et al., 2011), or are unprepared or uninterested in learning online (Valtonen, Kukkonen, Dillon, & Väisänen, 2009).

Similarly for educators, the transformative potential of technology in tertiary teaching is not without its challenges. Selwyn (2007) cautions against “simply importing informal Web 2.0 applications into classrooms on the presumption of transforming formal education” (p. 7). There exists a critical need to examine how educators are preparing and equipping their learners with the necessary skills to function within technology-enhanced learning environments. There is an equally important need to research the nuances of teaching contexts within which students and teachers interact (Johnson, Cowie, & Khoo, 2011; Kumpulainen et al., 2009).

## The research project

This paper reports on a qualitative case study of a tertiary teacher and her students in a New Zealand postgraduate Tourism course in which Moodle, a learning management system (LMS), and social software applications such as wikis and forums were used to enhance student engagement and facilitate deeper conceptual learning. Recently, the Tourism department underwent quality assurance accreditation with the United Nations World Tourism Organisation (UNWTO) and, although overall feedback was positive, UNWTO remarked that there were few online teaching initiatives in the programme. As a result, there has been increasing pressure on staff to make better and more innovative use of Web 2.0 teaching tools.

The case study is part of a larger 2-year (2009–2010) Teaching and Learning Research Initiative project that investigated e-learning practices across a variety of disciplines at one university (Johnson et al., 2011). The general research question that guided all of the cases was: “How are different lecturers/groups exploiting the potential of information and communication technologies/e-learning to support tertiary-level student learning?” As the specific aim of the case was to evaluate the extent to which online tools were useful for facilitating teaching and learning processes, the pedagogical implications of our findings are discussed in this paper rather than students’ academic achievement. The project received official Human Research Ethics Committee approval from the University of Waikato and all participants volunteered.

As in many disciplines, current research in Tourism education recognises the significant role that the World Wide Web can play in collaborative knowledge formation (Bailey & Morais, 2005; Schott & Sutherland, 2009; Sigala, 2002). In a Web 2.0 environment, the teaching and learning of tourism content knowledge can be viewed as a process, an activity, and the development of a collaborative, student-centred learning environment (Liburd & Hjalager, 2010). Liburd, Hjalager, and Christensen (2011) also found that teachers had to make fundamental pedagogical changes within a Web 2.0 environment, and needed to function as role models and coaches for their students' learning activities. In Benckendorff's (2009) exploratory study of Tourism students' attitudes towards collaborative assessment within a wiki environment, he found that the tool was easy to learn and use, and required scant ongoing support from academic staff.

### **The teaching context**

*Tourism Development and the Environment* is a postgraduate course offered by the Department of Tourism and Hospitality Management at the University of Waikato. The course provides students with an overview of different issues such as sustainable management, planning, and the development of tourism as an industry. It is offered concurrently in both face-to-face (on-campus) and online (distance) modes.

The case-study teacher was experienced in face-to-face settings, but was a novice in an online teaching environment. She had been recommended as a potential participant in the overall project based on her work with wikis in the 2009 offering of the course. The teacher believed that social networking software (such as forums, chats, or wikis) could encourage meaningful, critical, collaborative inquiry among course participants, and she had trialled the approach. It is worth noting that the students were predominantly international, and had differing levels of English language proficiency and academic and digital literacy skills when they enrolled in the course.

In 2009 the teacher implemented a variety of online tools to support teaching and assessment practices in order to ascertain the extent to which the new teaching approach could enhance student engagement and promote deeper learning. Feedback from the students and the teacher's own reflections were then integrated into the course for 2010—the course was not redeveloped, but it was refined to acknowledge this feedback. There were no distance students in 2010, but there were both distance and face-to-face student groups in the 2009 version of the course. The course had been designed so that any group, whether studying in a face-to-face mode or fully online, could collaborate and interact as a unified cohort. Findings from both years have been synthesised and insights are reported in this paper.

### **Online social software tools and course design**

There were two weekly reading and writing assignments during the course, both of which were coordinated through Moodle. Students were assigned weekly readings (academic research papers) and took turns to summarise, critique, and develop a question for others to answer. Their writing was then posted in a Moodle discussion forum. The second assignment required students to co-create definitions of key terms and post these to a Moodle glossary. Both assignments thus provided students with structures for reading academic research texts, and then writing, sharing, and collaboratively discussing their understanding to scaffold each other's learning. Both assignments were graded.

As the course was offered concurrently in online and face-to-face modes, the teacher wanted to explore the use of the wiki tool within Google Sites to create a collaborative role-play project which could develop cohesion across the two groups. The project had four focuses, each representing aspects of a potential real-life \$35 million tourism development project.

They were:

1. community consultation
2. Māori consultation and involvement
3. marketing
4. sustainability issues.

The teacher provided students with background information to the development and arranged for a class field trip to the potential site.

Each student group selected one of the four focuses, developed a wiki, and presented their insights to classmates and a representative from the (real) project's key stakeholders. It was expected that the academic reading and writing skills students had developed in the summarisation and glossary exercises could be adapted to the new wiki project. Use of the wiki was a departure from traditional forms of written assessment (essays) and presentations, as it required students to relate theory to practice, and then summarise, organise, and present information in meaningful ways. In addition, students could enrich their work with visual and audio resources or links to interesting websites. A Moodle forum was also used to facilitate group discussion about the role-play projects, and Moodle chat was available for students to coordinate their group work. See Table 1 for a summary of the tools and the teaching goals supported.

**Table 1** A summary of the online tools adopted in support of varying teaching goals in the course

Online tools used	Specific features of the online tools used	Purpose	Class structure
Moodle	Discussion forum	For journal summaries For group discussions with the teacher and between students	Student pair work Student group work Whole class
	Glossary	For peer critique of key terminologies	Student pair work
	Chat	For coordination of group work	Student group work (3-4 students)
Wikis (Google Sites)		To facilitate a collaborative case-based student project	Student group work (3-4 students)

Figure 1 is a screenshot of the organisational structure of the wiki project. It illustrates the four collaborative student groups and how each of them needed to build their project and link their contributions to the main wiki site.



Figure 1 The wiki used to facilitate a collaborative case-study role-play project

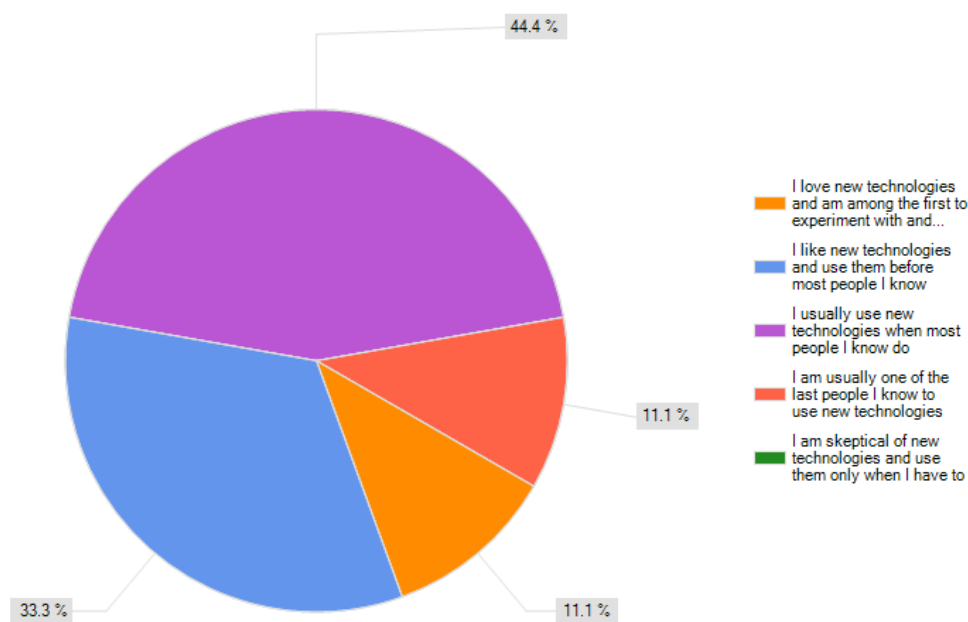
The teacher received Moodle support from the department's technical team and curriculum design support (particularly for the wiki project) from university-level e-learning staff.

## Research design

A qualitative, interpretive methodology framed the collection and analysis of the data, which were gathered from teacher interviews, a weekly teacher reflective journal, student focus-group discussions, and an online survey about students' e-learning attitudes, experience, and practices. Consistent with qualitative research, a constant comparison approach to data analysis was adopted to identify emergent themes (Lincoln & Guba, 1985) from the interview and focus-group data. The 10 participants in this study represent a convenience sample of a teacher and her students in one university-level context. Altogether, nine students responded to the online survey, and all students attended the focus-group discussion held towards the end of the course. Although the findings cannot be generalised to a wider population, the text-based data are sufficiently detailed to inform similar tertiary teaching contexts, especially in Tourism. Findings also provide nuanced insights into digital equity issues and practices.

## Findings

A key finding from the online survey was that students' attitudes toward the use of new technologies for learning were evenly divided between very positive and neutral or ambivalent (44 percent each) (see Figure 2).



**Figure 2** Student views toward adopting new technologies for learning purposes (n = 9 participants)

Student insights from the focus groups shed some light on their ambivalence, which appears to be based on a lack of experience in using technology for formal learning. Although students were familiar with social networking tools such as blogs or chat, they had used them exclusively for personal or recreational uses. No one had used such tools within a formal academic learning environment, as described in the following representative student quote:

[I had] initial difficulties with the technology, although I have been in chats (such as Yahoo! Chats, for example), but not all online forums are the same. Yahoo! is different from Moodle [for learning purposes]. International students are not exposed to online learning and discussions, so the technology is difficult to use initially.

The teacher highlighted that international students taking the course faced challenges not only because of their diverse backgrounds, but also because they lacked the digital skills for academic work. She reports:

International students have a far higher uptake, need to cope with a lot more things [in the course]. They need to cope with the academic side (journal summaries, researching databases, all of them need to learn to use APA referencing)—new skills they have not experienced before—besides moving away from traditional forms of learning. And then there's e-learning. Even though students make use of social networking, so they are quite computer literate with email and social networking, some have never had to do word processing, as their previous universities in their countries did not expect them to submit typed assignments.

Several other key themes emerged from the qualitative interview data. Both the teacher and students felt that using Moodle and wikis had afforded them increased opportunities for collaboration in terms of learning outcomes, and had increased the authenticity of learning tasks, which had relevance for future employment. The new and challenging approaches to learning

and thinking, the use of formative feedback, and access to a shared repository of student work had all been positive features of the technology-enhanced teaching environment.

### **Collaboration: thinking, writing, and sharing work**

Students liked being able to read each other's writing and become familiar with a range of ideas:

I liked Moodle, as I can see everyone's work. I can know what everyone is thinking, compared to traditional coursework, where you can't. I like to see others' opinions—[those] who may have more advanced opinions so I can learn and study more from them.

Another student appreciated learning from the exemplars available:

I enjoyed using the Moodle online discussion forum. The advantage is that as you are doing your work of posting, you get to read others' work as well . . . [in doing so] you expand your knowledge, and you get to read others' work and get a better idea for your next assignment. You get to read the person who got an A grade to see how he or she goes about formulating his/her work. You get to know the appropriate format, referencing, writing style, content, and can develop your own learning.

Further, using social software had created a living record (repository) of their academic work:

The data and postings are permanently there [online]. We can access our peers' postings, revisit them (all the topics posted in the summaries), and use them for our essay. We can take examples from different postings, including references, otherwise it would be too time consuming for us to search for and read through whole journal articles on our own. We can use our peers' summaries in our own essay. This saves time in doing research and compiling our own assignment.

### **Enhanced learning processes and assessment**

Students considered that learning was more interesting in the course, but the new software tools required new ways of learning and thinking. As a result, they believed they gained deeper insights into course content and acquired valuable technical skills:

At the end of the course, the entire experience of posting online weekly in Moodle, the glossary of terms, journal summaries, answering questions, searching for journals, then attending lecturers to share my experiences were good . . . also Google Sites—creating my own website was a good experience, which I'd never done before. I've learnt about the course content and website creation skills. I'd like [the lecturer] to include more electronic assignments, as these can support international students picking up another technical skill.

Another student stated:

this [using wikis] made the learning process more interesting and fun, rather than normal essay-type submission, which is so boring. Using technology promoted the learning. It made the study more interesting, although it was a new learning experience for most of us.

In addition, through using the discussion forum and chat features in Moodle, the teacher was able to provide much more immediate and formative feedback on student work:

By using Moodle and e-learning tools we could generate good discussions and encourage students to take ownership. Otherwise, I'd be far away and only get to mark their essay at the end [of the course].

Students also appreciated the immediate feedback on assignments and discussion postings:

Her comments and feedback are quite immediate, so there was no need to wait until the end of class to hear from her. It worked out well for us to have the lecturer's constant and immediate feedback. It was very good.

Another student stated:

I liked the [online] discussions and chat. I always chat with [the teacher] and my classmates, asking questions instead of emailing. I can get the responses immediately. We would text each other beforehand for group projects to inform each other we are online to chat, to get around the difficulty of finding a suitable time to go online.

## **Authentic learning experiences**

Students believed that the diverse learning opportunities afforded by Moodle tasks and the wikis had authentic (real-world) application and relevance to their future careers:

I also liked the fact the course didn't merely required me to read journals, write up and submit a hard copy essay as in a traditional course. . . . in the course we got to go on a field trip, do the research, and create the website [wiki]. I feel it's related to the present. [I get to] communicate with actual people in the field and then share with my classmates. [Its] really world related.

The teacher agreed that the learning experience was more authentic, as it enhanced student collaboration and interaction in the class:

[It was a] fantastic way of learning, makes the learning real in an authentic learning project . . . [I have] observed how more engaged the students are this time round, how they come together as a group, how the tool has facilitated group work, how the group has interacted with another. It's all brilliant!

However, collaborative tasks and use of online and social networking tools had posed some challenges. These were particularly focused on time management, students' expectations for technical support, development and provision of guidelines for group work and assessment, students' concerns about privacy and plagiarism issues, and the need for adequate hands-on technical training and support for the teacher.

## **Challenges and constraints of the teaching approach**

### **1. Structure, documentation, and expectations**

Students commented on the need for explicit guidance for online interactions and group work:

We had to read through all the postings. It was a time constraint . . . we need more clear rules/ guidelines on how to interact in the forum instead of just post and answer. [Also] students usually don't read one another's work after their assignment is submitted, so need to think of ways to encourage students to use this resource more.

This concern was exacerbated when group members failed to post their contributions in a timely manner, or did not complete the work at all:

It was frustrating when we can't organise everyone's time in the group. For example, to give a critique I'd have to wait for others' to post [their journal summary first]. My own posting is delayed when I have to wait for others' feedback. We lose marks if we post our replies late.

The teacher acknowledged the need for more guidance with students' online interactions and commented on their limited use of the online resources that were offered:



I found the students are focused on their own task for that week and not engaging before the class and reading the other students' postings. I would like them to stop and think how to be more engaged in the weekly tasks. They are engaging with the subject matter, but not engaging with the breadth. But they might be overwhelmed by the breadth as well. This is a pedagogical issue rather than a tools issue.

Students also mentioned that a lack of guidelines for assessment of online work, especially the use of wikis, was problematic:

[There was] no proper marking criteria on assessing the Google Sites project. [We] should have some guidelines to define [our] area of research. [It] would be helpful also if [the intended] audience is defined clearly as well. So [we] would like more guidelines to define our area more clearly.

Others expressed concern that the assessment would be affected by their (lack of) technical skills rather than their understanding of course content, although this was not the case:

Students who are good at using the technology can get better grades when they might not be good with the content, but the students who are good at content and not skilful technological-wise are penalised and get lower grades.

## **2. Privacy and plagiarism in online learning**

Some students were concerned about their privacy, specifically who had access to their online postings, but they also expressed concern that copying and pasting text (plagiarism) was a frequent problem in online environments:

I liked the public versus private options in Moodle discussions, but am concerned with who can read the discussions. I am uncertain how private my discussions with [the teacher] were, unsure who can read it even in the private portfolio.

My concern is that my peers can take my writing/ information posted in Moodle (example from the glossary) for their own assignment and then we'll get charged with plagiarism. What about our intellectual property—for instance our juniors taking our ideas posted online and incorporating them in their own work?

## **3. Lack of technical skills and support/lack of incentives and rewards**

A key challenge in the case study related to the need for students' to be technically upskilled and supported. Despite the teacher including additional technical support in the 2010 course, students still perceived that support to be inadequate:

[It is best if we are given 5–7 days of training (a proper hands-on technical workshop built into the course in the middle of the course) on how to use technology . . . This is so we are not rushed into using the technology as well as trying to cover course content. As it was, the technical support person came and talked about what to do, but we forget after that, as there was no hands-on practice.

The teacher admitted her own dependence on external technical support:

I still have an element of insecurity, and tended to rely on [technical support] to support learning in Google Sites, an invaluable role in an e-learning environment. I prefer to use my time to focus on improving pedagogy rather than on learning the technicalities of how a tool works.

Finally, the teacher invested considerable time and personal effort to develop understanding and competence of online learning tools in her teaching practice. In spite of that, she noted that staff promotion practices at the university neither encouraged nor rewarded novice teacher experimentation with new learning pedagogies and software tools:

Can you expect lecturers who don't have much knowledge or confidence with e-learning to teach with technology? It's a big risk when, more and more, promotions are based on teaching evaluations. Can we expect staff to take risks when they are not very confident? You need to be confident to take risks. In our university environment, we need a more supportive and transparent culture to encourage new lecturers to take risks.

## Discussion and implications

The specific aim of this case study was to evaluate the extent to which online tools were useful for facilitating teaching and learning processes. The findings indicate that the use of such tools was effective for engaging students in new, interesting, and collaborative ways, and helped them to develop deeper understanding of course concepts while acquiring relevant technical skills for future employment. In addition, more timely formative feedback and increased communication between the teacher and students, and among students, facilitated a social culture of participation in which "new practices of information capture, storage and forwarding" (Haythornthwaite & Andrews, 2011, p. 85) were created.

However, the new approach was not without its challenges, which included pedagogical design, training and resourcing, and professional development issues. Questions of how best to facilitate teachers' use of online tools in an integrated and transparent manner, to develop students' understanding of and willingness to use the tools, and to provide timely, appropriate, and affordable support emerged from this research. It was clear that no course participants, neither teacher nor students, were "digital natives" (Bennett et al., 2008; Kennedy et al., 2008).

Students indicated that before the course they had had varied experiences, familiarity, and comfort levels with respect to the use of digital technologies, and almost all of them were familiar with some form of social networking software. Thus teachers can leverage students' familiarity with informal uses of such tools into formal learning contexts (Chen & Bryer, 2012; Valtonen et al., 2010), but doing so requires careful thought and planning. For example, consideration of sound pedagogical approaches to support students' diverse learning needs, and provision of explicit guidelines that address privacy and plagiarism issues, will be needed. Expectations of how work will be structured to support collaboration need to be stated clearly. Curriculum and assessment activities need to provide students with multiple opportunities (and time) to master the tools and new online teaching tasks, so as to assist student learning. This finding is consistent with that found by Benckendorff (2009) in relation to group work and assessment, and Cole's (2009) findings on the importance of course design.

Training and resourcing are also important when technology is introduced into a learning environment. Although there were many positive outcomes identified in this study, students struggled initially to master the software. When they encountered problems, they wanted to communicate with a real person. In tertiary teaching environments, constrained as they are by resourcing limitations, such levels of staffing support might not be possible. However, 'up-front' training in how to use digital technologies and make explicit their benefits for learning can facilitate student willingness to engage with them in more meaningful ways (Escobar-Rodriguez & Monge-Lozano, 2011; Kirkwood & Price, 2005).

Finally, Liburd and Hjalager (2010) state that, "at the moment Web 2.0 based learning environments are launched by somewhat anarchistic and risk willing subcultures in the university" (p. 19). Yet, in many institutions, including the one at which this research was conducted, the staff promotion exercise fails to adequately encourage or reward teacher innovation and experimentation in online teaching (Butler, 2006; Minocha, Schroeder, & Schneider, 2010). However, if online teaching is to improve, opportunities for staff development through institutional systems of incentives and rewards are essential (Kreber, 2007; Patel, 2010).

Noteworthy from this case study was that the research process facilitated ongoing teacher reflection and incremental changes to improve the course. The teacher was able to refine her teaching philosophy and pedagogical approach. Through her ongoing reflective research notes, the teacher was able to ascertain personal changes as she moved from initial struggles with technology to a concern with pedagogy and student learning:

All of [a] sudden the penny has dropped for me in terms of the role of pedagogy when using elearning tools. My focus is not on the tool but on the pedagogy and learning now. From regular reflections on my practice and being involved in a learning research process, I am now thinking more about pedagogy and learning. I have moved from a sole focus in the sphere of the tools to consider: What do I want to achieve in their learning? Am I doing too much? Do I need to give students a glossary every week? It is finding a balance between teacher and student contribution in class. The tools have given me the breadth, but I need to balance this with the depth in students' learning.

This case study provides a basis for further research related to the use of online tools and social software in formal academic learning contexts. It also illustrates the need for tertiary teachers and institutions to consider how best to support student learning in the digital age, as unexamined assumptions about students' academic and digital skill competencies are just that—assumptions. Along with the myth of technological potential, such assumptions can mask the necessary changes that must occur within tertiary institutions, including the need to develop and support new pedagogical approaches, appropriate and adequate staff development, and promotion opportunities.

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