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## The Evolution of Internet Pedagogy: Benefits for Tourism and Hospitality Education

Marianna Sigala ([m.sigala@strath.ac.uk](mailto:m.sigala@strath.ac.uk))

University of Strathclyde

94 Cathedral Street, Glasgow, G4 0LG, United Kingdom.

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### Abstract

Although an increasing number of tourism and hospitality educators are incorporating the Internet into their instruction, only few are fully exploiting the Internet's capabilities to transform and extend their pedagogical models. As it is also generally agreed that we are still in the experimental stage for creating Internet learning environments, this paper aims at reviewing and evaluating the evolution of practices in Internet pedagogy in order to identify effective e-learning models for tourism and hospitality education. As the evaluation of any form of learning should be based on a theoretical framework to allow for the interpretation of results, the pedagogical underpinnings of the e-learning models are analysed and mapped into a three-era framework of e-learning pedagogy.

**Keywords:** e-learning; collaboratism; constructivism; tourism; hospitality; education

### Introduction

Recent developments on the Internet are having a tremendous impact on the education process, transforming educational curricula, learning materials and instructional practices. Specifically, because of its enhanced interactivity, connectivity and convergence, the Internet is portrayed as an education delivery platform enabling students to receive and interact with educational materials and to engage with teachers and peers in ways that previously may have been impossible. The advantages of e-learning are widely mentioned, e.g. life-long learning opportunities, alleviating spatial and time constraints, catalyst for institutional transformation (Poehlein, 1996), while its applicability and benefits for tourism/hospitality education are now also starting to be recognised (Cho and Schmelzer, 2000; Christou and Sigala, 2000; Sigala 2001b; Kasavana, 1999). However, although an increasing number of tourism and hospitality educators are adopting and incorporating Internet tools in their instruction, only very few of them are fully exploiting the Internet's capabilities to transform and extend their pedagogical models (Sigala and Christou, 2002). On the other hand, it is generally agreed that we are still in the experimental stage for creating Internet learning environments. This, coupled with the low completion and effectiveness rates of e-learning (Sigala, 2001a), makes it evident that more needs to be learned about designing successful online environments, technically, pedagogically and personally.

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*Marianna Sigala is a Lecturer of Hospitality Management and Assistant Director of Research at the Scottish Hotel School at the University of Strathclyde. Her interests include Information and Communication Technologies (ICT) applications in tourism and hospitality operations, strategy and education as well as performance and quality measurement. Her work has been published in several journals and international conferences. She is the co-chair of the Euro-CHRIE Special Interest Group in ICT in Hospitality and a member of the International Technology Think Tanks organised by the International Hotel & Restaurant Association (IH&RA).*

This paper aims to develop a framework for the design of effective e-learning models for enhancing and/or delivering tourism and hospitality education. To that end, the paper reviews a number of studies investigating the use of Internet for instruction in order to identify, evaluate and relate different Internet pedagogical practices to educational benefits. However, because the evaluation of any form of learning should be based on a theoretical framework to allow for the interpretation of results (Rice, 1984), the pedagogical underpinnings and aims of the examined e-learning practices are analysed. Ultimately, a framework mapping the evolution of e-learning pedagogy into three eras of e-learning models is developed and analysed. Based on this analysis, an e-learning model aiming at the development of a supportive web-based learning environment that matches individual learning differences and abilities is proposed. The benefits of this model for tourism and hospitality education are identified and discussed.

## **Internet pedagogic evolution: e-learning models**

### **The transfer of traditional instruction on the Internet**

This is the earliest and most extensive category of online instruction. E-learning models under this category do not fully exploit Internet capabilities for transforming and enhancing instruction; rather, they imply and demonstrate a simple transfer of traditional practices on the Internet. According to Sigala and Christou's (2002) findings, this simple 'webification' of learning processes is evident in the learning material, in student-tutor and student-student interactions, as well as in assessment procedures. Moreover, as the principles and aims of instruction do not change, the roles and tasks that students and tutors assume and undertake also remain the same.

With the advent of the Internet, more and more educators are exploiting the publishing and distributing capabilities of Internet tools (e.g. the World Wide Web (WWW), email) in order to make their educational materials available and accessible online and so, overcome time and place barriers (Zabel, 1998). However, the use of the Internet for publishing and distributing learning material that was originally designed to be delivered in traditional classroom learning environments does not entail any technology fostered educational innovation, nor any enhanced learning benefits. Instead, such practices result in computer-based learning environments that can be characterised as 'page turning devices' (Mason, 1998) for material that is a simple digital photocopy of current texts and which therefore, fall short of the interactive, user-centred claims originally made of them. On the contrary, online instruction requires the development of interactive course material that offers learners genuine choice of learning routes and methods, a range of multimedia content (i.e. video, audio, graphics and text) and opportunities to interact meaningfully with content. However, the design of online educational material requires a lot of human and financial resources. Christou and Sigala (2000) reported that educators' training and support for the development of online learning environments is a crucial parameter for developing effective e-learning practices.

Educators also use Internet tools for communicating with students, simulating discussions found in traditional classrooms and extending them beyond the classroom walls. For example, McDonnell (2000) and Fawcett and Lockwood (2000) described how the Internet and computer simulations have been used in order to simulate classroom discussions, which in turn enhanced students' understanding and retention of taught theories. However, while the technology tends to support a certain degree of egalitarian participation, and does allow users the freedom to input messages at their convenience, the conditions which are needed to produce good educational discussions are far more complex, more people-dependent and more educationally determined than mere technology will ever influence very significantly. Sigala (2001b) reported that students' negative perceptions towards Internet features and their learning style significantly inhibited them in participating in online forums.

Educators also use the Internet for disseminating their traditional evaluation practices (Law, 1997). 'Web-in-a-box' software, customised for education, offers forms for easy creation of multiple choice tests, as well as assignment submission systems and record keeping facilities, that can significantly relieve tutors of the more tedious aspects of marking and its relevant administration. However, the

form and content of current assessment procedures are long overdue for a rethink. Mason (1998) advocated that existing assessment practices are ill-suited to the digital age in which using information is more important than remembering it, and where reusing and applying material should be viewed as a skill to be encouraged, not as a plagiarism to be despised. In contrast, assignment and assessment procedures should now reflect the increasing need to develop students' information literacy and knowledge management skills.

Overall, as Pallof and Pratt (1999) argued, the simple re-implementation of conventional models borrowed from classroom based or distance education, focused on passive transmission would permit only marginal improvements. As e-learning affects the definition, design and delivery of education, there is a need to re-examine how knowledge and skills are acquired as well as how learning in online contexts actually occurs. The second wave of e-learning pedagogy models illustrates a more educational than technology determined approach to e-learning that matches the Internet's capabilities and tools to principles of instruction. As Collis (1996:146) argued 'it is not the technology but the instructional implementation of the technology that determines the effects on learning'.

## Online collaborative and constructive learning models

The Internet's capabilities imply a different type of thinking in terms of how to make full use of its learning-enhancing features and pedagogical potential. As one of the key affordances of the Internet is for communication, (e.g. through email, bulletin boards, chat rooms, electronic conferencing), the combination of collaborative and constructivist (or critical thinking) techniques with technology are argued to significantly enhance the learning process and learning outcomes dramatically. The electronic implementation of collaborative learning often results in the development of a virtual classroom, whereby tools such as electronic bulletin boards, chat rooms, e-mails, grade books and quizzes are used in order to provide feedback, distribute material and develop a learning community similar to a traditional classroom (Hammond, 2000; Wachter et al., 2000; McConnell, 1996; Cho and Schmelzer, 2000).

Constructivism is an epistemology of how people learn and assimilate new knowledge, asserting that knowledge is acquired by a process of mental construction. According to Piaget (1977) the four processes of knowledge construction are as follows:

1. Assimilation; associate new events with prior knowledge and conceptions;
2. Accommodation; change existing structures to new information;
3. Equilibrium; balance internal understanding with external 'reality' (e.g. other's understanding);
4. Disequilibrium; experience of a new event without achieving a state of equilibrium.

In short, people assimilate new knowledge by producing cognitive structures that are similar to the experiences they are engaged in. They then accommodate themselves to these newly developed knowledge structures and use them within their collection of experiences as they continue to interact with the environment. Thus, knowledge is not separate from, but is embedded within experiences and interpreted by the learner. King (1994) also advocated that knowledge is created by searching for complexity and ambiguity, looking for and making connections among aspects of a situation and speculation. Thus, people should think critically, have the ability of analysing situations, search for evidence and seek links between a particular situation and their prior knowledge and experience.

Thus, constructivism enables different types of knowledge construction than rote memorisation of factual knowledge or procedures. Learners aim at building or re-inventing knowledge by going through a search process for meaning. When learners are exposed to new information, each learner evaluates and analyses it, sees the relationships between the new information and his or her existing knowledge and makes inferences and judgements for new knowledge. In this process, instructors should act as facilitators, while students actively participate in the learning process and control their learning pace. Akyalcin (1997) summarised the facilities and tools of virtual learning environments that can be used for implementing online constructivism learning environments by mapping Piaget's four processes involved in the construction of knowledge to online instruction components (Table 1).

<b>Processes</b>	<b>Instructional principles</b>	<b>Virtual classrooms components</b>
<b>Assimilation</b>	Gauge the learner's previous knowledge and experience	Pre-test Introductory posts
	Orient the learner to his learning environment	Syllabus, to Do lists, glossary, course information, FAQ, Synchronous chat
	Solicit problems from the learner and use those as the stimulus for learning activities, or establish a problem such that the learners will readily adopt the problem as their own	Course testing and revision, class content, synchronous chat, online lectures and readings, non-graded, starter activities, facilitative questions
	Support all learning activities to a larger tasks or problem. The learner should clearly perceive and accept the relevance of the specific learning activities in relation to the larger task.	Individual unit activities leading to team project
<b>Accommodation</b>	Design the learning environment to support and challenge the learner's thinking	Modularise content so as to scaffold learning, Behaviour modelling by facilitator, Quizzes for reinforcement, Compare and contrast activities, facilitate questions, discussions forum feedback by other students and facilitator
	Design the task and the learning environment to reflect the complexity of the environment in which they must function after the learning has occurred	Online course delivery, Modelling of course structure and components, team project
	Encourage testing ideas against alternative view and alternative contexts	Discussion forums, modularise content to introduce new concepts quickly, compare and contrast activities, interactive essay and facilitate questions
<b>Equilibrium</b>	Design an authentic task. An authentic learning environment is one which the cognitive demands in the environment for which the learner is being prepared.	Team project
	Provide an opportunity for reflection on both the learning content and process	Facilitator evaluation of team projects, Auto-marked quizzes, Open student evaluation to instructor
<b>Disequilibrium</b>	Provide an opportunity for changing and enhancing, drafting and redrafting	Unit summaries of student discussions
	Challenge misconceptions	Student's and facilitator's feedback, project gallery, post-test

Source: Akyalcin (1997)

Table 1: Constructivist components within virtual classrooms

Regarding collaboratism, Kay (1992) defined the concept as 'the acquisition by individuals of knowledge, skills, or attitudes occurring as the result of group interaction, or put more tersely, individual learning as a result of group process'. This definition does not mention individual study explicitly, but this does not exclude such activities. In collaborative learning, group processes are part of the individual learning activity – individual and collective activities are mutually dependent on each other. Thus, collaborative learning views individual learning as a result of group processes. Indeed, for some, collaboratism is viewed as a variation of constructivism, whereby social interaction

is a key ingredient in the learning process and anything which affects how it takes place may affect it (e.g. Tam, 2000; Wertsch, 1991).

Koschmann (1996) also considered discourse and interactions as a fundamental aspect of learning by arguing that 'learning is enhanced by articulation, abstraction and commitment on the part of the learner: instruction should provide opportunities for learners to articulate their newly acquired knowledge'. Articulation is a cognitive act in which the student presents, defends, develops and refines ideas. Thus, in order to articulate their ideas, students must organise their thoughts and information into knowledge structures. Ultimately, active learners' participation in online discourses leads to multiple perspectives on issues, a divergence of ideas and positions that students must sort through to find meaning and convergence. However, according to Jones et al. (2000) it is the conflict and collision of adverse opinions that lead to cognitive growth and development of problem-solving skills. Thus, in collaborative learning settings, online discourses are the 'heart and the soul' of online education enabling interaction, conceptual exchange and collaborative convergence across differences of knowledge, skills and attitudes. Indeed, collaborative learning should thrive on these differences.

Overall, computer conferencing and the networking capabilities of Internet tools enable communication and discourses that are best described as a form of discourse-in-writing. The unique attributes of communication in e-learning environments and the cognitive activities that they enhance for augmenting the online learning experience are summarised by Harasim (2000) as follows:

1. *many-to-many (group communication)* enables: motivational (socio-affective) benefits of working through problems with peers; active exchange: rich information environment; identification of new perspectives, multiplicity; opportunity to compare, discuss, modify and/or replace concepts (conceptual exchange); encouragement to work through differences and arrive at intellectual convergence.
2. *time independence* supports: 24 hour access; users can respond immediately or reflect and compose a response at their convenience; ongoing, continuous knowledge building; participation by users at their best learning readiness time.
3. *place independence* allows: access to the wealth of web resources (as well as peers and experts); shared interests, not just shared locations amongst participants.
4. *text-based/media-enriched messaging* encourages and contributes to: verbalisation and articulation of ideas; focus on message rather than on the messenger (reduced socio-physical discrimination); clear expression of ideas; rich database/web of ideas.
5. *computer mediated environments* enable: searchable, transmissible and modifiable archived database; multiple passes through conference (discourse) transcript; building tools to exchange and organise ideas and support collaborative learning; building templates, scaffolds and educational supports.

In the context of tourism and hospitality education, the exploitation of Internet tools for developing constructivism and collaborative learning environments has been advocated by several authors. Sigala (2001b) described how the Virtual Learning Space is used in order to create virtual classrooms that can complement traditional classroom eliminated instruction. Kasavana (1999) argued the benefits of e-learning platforms for creating a knowledge sharing and collaboration platform, while Cho and Schmelzer (2000) illustrated how Internet capabilities can be exploited for developing a just-in-time educational platform, in which tourism and hospitality industry professionals can also get involved so as to provide students with first hand experience and knowledge.

As a methodology, collaborative learning is intended to be a learner-centred rather than an instructor-centred process which emphasises cooperative or group efforts among faculty members and students. Active participation and interaction on the part of both students and instructors lead to a new knowledge which emerges from the lively dialogue of those who are sharing ideas and information. To that end, both learners and instructors should assume and perform new roles if the aims of collaborative and constructivism learning are to be achieved and therefore, learning benefits to be materialised.

Learners are functioning members of a learning community that proceed to explore, learn and understand on an individual basis, independently of the rate of progress of other learners in the group. Moreover, the learner assumes responsibility for specifying individual learning needs, goals and outcomes, planning and organizing the learning task, evaluating its worth and constructing meaning from it (Candy et al., 1994). Students, being in the centre of the process, also need to assume a variety of functional roles as interchanges progress and arguments are open to challenge and justification (Bernard et al., 2000).

As e-learning is based on a pedagogical model that emphasises the ability and role of the learner as responsible for their own learning, students' perceptions of themselves and their self-regulatory processes are vital conditions for the achievement of any learning benefits. Porras-Hernandez's (2000) strongly advocated that e-learning requires participants to be competent self-regulated learners, who Zimmerman (1986:308) defined as 'metacognitively, motivationally, and behaviorally, active participants in their own learning process'. Indeed, in evaluating the factors determining the effectiveness of a collaborative e-learning platform for tourism and hospitality education, Sigala (2001a) provided evidence that students with enhanced self-regulatory and self-control competencies outperformed others. Moreover, Sigala's (2001a) findings revealed that students' participation in the virtual learning environment was both qualitatively and quantitatively limited, meaning that the majority of students made limited use of the communication tools of the virtual classroom and when the latter was used, interactions focused on sharing material and on clarifying rules of instruction, rather than on knowledge building practices. Sigala (2001a) attributed this to students' limited capabilities to handle and understand online environments and to students' negative perceptions and anxiety regarding the affordance of the communication tools. Overall, students simply transferred their existing learning styles (i.e. search and memorisation of information) to the Internet.

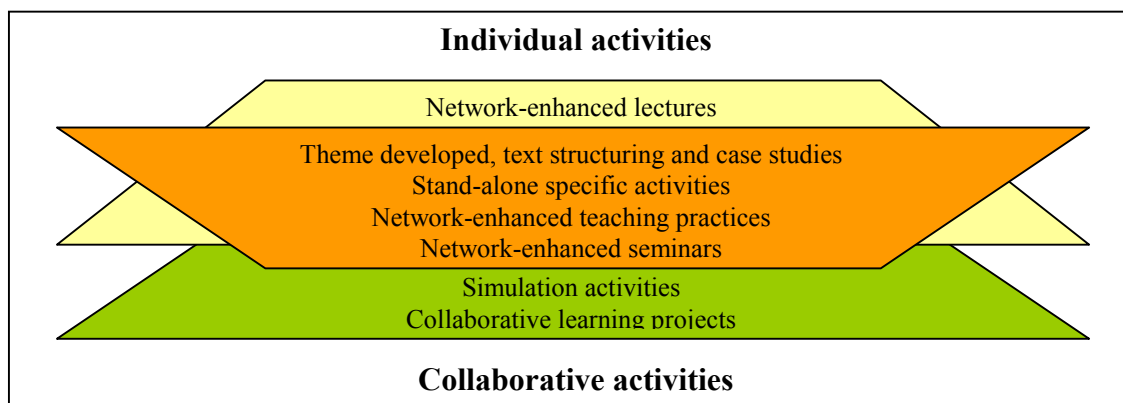
In this vein, Snow (1980) argued that the students' cognitive processes should be the primary factor in designing and developing instructional models. This thinking evolved into the identification of cognitive styles (today often called learning styles) to represent the predominant modes of information processing, i.e. the preferred learning sets to the acquisition, retention and retrieval of new knowledge. Schellens and Valcke (2000) argued that the failure of innovative e-learning environments is often attributed to the fact that they are built upon false expectations of learning styles, meaning that the learning styles fostered by the nature of the new learning environment can be inconsistent with the actual learning styles of the students. Valcke (1999) defined the inconsistency between the demands of the learning environment and the actual learning styles of the students as the 'congruency problem' of e-learning, which can in turn crucially affect the effectiveness of the latter.

On the other hand, collaborative and constructivism e-learning models also require tutors to engage in new roles. Indeed, the instructor plays a central role in the effectiveness of online learning. Sigala's (2001a) findings provided evidence that the following instructor characteristics can influence learning outcomes: attitude towards technology, control of technology, teaching style and in particular, the way he/she facilitates/mediates in e-learning environment experiences.

The importance of the instructor to facilitate and mediate online collaborative instruction skilfully was highlighted by Harasim (1990). In fact, unless, this role is effectively achieved, serious problems may arise: e.g. a conference may turn into a monologue of lecture type material to which very few responses are made; it may become a disorganised mountain of information that is confusing and overwhelming for the participants; a large volume of message may create an information overload. In order to avoid such situations two changes are required. First, the teaching paradigm must change for online instruction, away from the traditional lecture format. Second, the instructor has an important role in moderating the instruction.

Regarding the first requirement, in investigating online virtual learning environments, Campos et al. (2001) revealed that instructors' online pedagogical actions cluster into eight categories ranging from totally individual activities to totally collaborative activities (Figure 1). According to Campos et al.

(2001) it is the pedagogical actions designed by tutors that can enable greater or lesser degrees of collaboration, which in turn can provide enhanced or inferior social interactions.



Source: Campos et al. (2001)

Figure 1: Pedagogical-action clusters according to levels of collaboration

With regard to the second requirement, Feenberg (1989) argued that the instructor should become an online moderator that assumes three crucial tasks: contextualising functions, monitoring functions and meta-functions. The role of the first two functions is to compensate for the absence of physical cues found in a traditional classroom. Students must be explicitly told, for example, that the electronic platform serves and can be used as a ‘class’, a ‘meeting’ or a support group. After a topic is introduced, students’ comments must be monitored to assure that all are participating and that they understand the meeting mode. Meta-communication or communication about communication has two parts. First, it is needed to resolve problems in communication that would be addressed in the classroom by body language or a request to speak-up on the part of the students. Second, comments are needed which summarise the state of a discussion and provide the sense of accomplishment and direction. These are called ‘weaving’ comments and it is particularly with these that the students gets more deeply into the themes (Feenberg, 1989). Overall, because e-learning has both limitations and potential, these first two functions can compensate for the limitations (e.g. lack of face-to-face interaction, overload of unstructured information) of its medium while the third, meta-functions, can give rise to its potential.

However, Campos et al.’s (2001) findings revealed that tutors engaged in different roles depending on the types of pedagogical actions that they initiated. Two major roles of tutors were identified, namely the facilitator role and the publisher role. Publishers acted as lecturers of regular classrooms that used the virtual learning environment strictly to publish and share materials related to the courses and to provide links to resources. However, findings revealed that this ‘lecturing’ role encouraged instructor-student interaction rather than student-student interaction. On the other hand, a continuum and escalation of facilitation methods were found: observation, moderation and negotiation. Most educators observed what was taking place in online conferences. However, when discussions were inappropriate to the learning direction, few instructors chose to moderate and take action, e.g. guide the ongoing student learning processes and reflect on student discussions. Finally, only some educators went beyond moderating the learning process to engage in the negotiation of meanings, the role of redefinition and become, along with their students, knowledge builders.

Campos et al. (2001) concluded that it is not the technology, but rather the level of collaboration triggered by the pedagogical action initiated by the educator, as well as his/her moderating role, that define a virtual networked classroom. Based on their findings three types of virtual classrooms were identified:

1. *the net-showroom*; a networked classroom in which online learning environments are spaces for publishing and viewing materials and pedagogical actions satisfy only a primary level of knowledge sharing.

2. *the net-meeting room*; a networked classroom in which virtual learning environments are used as cooperative spaces for highly structured interactions and online pedagogical actions trigger knowledge exchange through conferencing, yet without a strong commitment to knowledge sharing and negotiation of meanings.
3. *the net-workshop room*; a network classroom that uses collaborative virtual spaces for social learning and collaborative knowledge building.

Although Campos et al. (2001) argued that the net-workshop model is the one in which educators can take full advantage of the network technologies to enhance and advance online teaching and learning, their findings did not provide any evidence of the educational superiority of any type of classroom. However, their findings are compatible with those of earlier studies (e.g. Bunderson and Dunham, 1970; Cronbach and Snow, 1977; Melton, 1967) revealing that interactions of instructional treatment with cognitive aptitudes and learning outcomes are inconsistent and hard to replicate. In other words, although instructional design strategies can reduce or wholly remove the impact of cognitive abilities on learning, learning outcomes are not consistent.

This is mainly because the cognitivist thinking about online collaborative and cognitive learning has failed to take into consideration a whole-person understanding of how individuals learn online (more than just how they process, build and store knowledge). For example, Cronbach and Snow (1977) concluded that an understanding of cognitive abilities considered alone would not be sufficient to explain learning, individual learning differences and aptitude treatment interactions. Later, Snow (1989) illustrated how in cognitive psychology, conation as a learning factor has been 'demoted' and since it seems not really to be a separable function, it is merged with affection. Ultimately, these factors are viewed as mere associates or products of cognition and then ignored. On the other hand, as many web learning researchers and designers are finding that conventional cognitive solutions are not enough, they are re-discovering the need to increase their focus on the conative (desires, intentions) and affective (emotions, feelings) factors that influence learning. These developments set the stage for an emerging approach to e-learning, that of the personalised and adaptive e-learning models. This is analysed as follows.

## Personalised and adaptive (mass customisation) e-learning models

Reviewing and illustrating how research of several years focused on primarily cognitive models reveals that these solutions have often proved unpredictable and unstable, especially for e-learning. Reeves (1993:40) strongly advocated the need for more reliable theoretical foundations by arguing that 'much of the research in the field of computer-based instruction is pseudoscience because it fails to live up to the theoretical, definitional, methodological and/or analytical demands of the paradigm upon which it is based'. This is because much of our evolving understanding and research on individual learning differences remains broadly focused on cognitive interests and intrinsic or extrinsic mechanisms for information processing and knowledge building. As a result, consideration of an important piece of learning is missing, because primarily cognitive solutions often overlook fundamental whole-person learning needs (such as the dominant influence of emotions and intentions) for self-directed and self-motivated learning.

Nowadays, researchers and designers are seeking more sophisticated learning theories based on proven research showing how brains work, e.g. recent neuroscience research is revealing how the brain's emotional system influences how individuals learn and memorise facts. Such developments reflect research (e.g. Martinez, 1999; Martinez and Bunderson, 2000) based on a learning orientation approach, which attempts to reveal the dominant power of emotions and intentions on guiding and managing cognitive processes (no longer demoted to a secondary role). Moreover, by understanding the structure and nature of the complex relationships between learning orientations and interactions, the learning orientation research aims at developing instructions that do not fit the average person but fit groups of students with particular aptitude patterns. In other words, learning orientation research is leading the way for personalised or adaptive online learning environments and instruction that identify and address aggregate types or segmented populations of learners (i.e. mass customisation).



According to Martinez (1999) the Learning Orientation Theory hypothesises that understanding the depth of an individual's emotions, intentions and beliefs about why, when and how to use learning and how to accomplish personal goals or change events is fundamental to understanding how successfully the individual learner, interacts with an environment, commits to learning, performs and experiences learning change. In contrast, how well instructors and course designers understand and match learning orientations, is, in turn, how well they can present instruction that fosters self-motivation, encourages online relationships and enhances learning and performance.

Thus, learning orientations represent how individuals (aggregated by beliefs, emotions, intentions and ability) plan and set goals, intentionally commit and expend effort and then experience learning to attain short or long term goals. In other words, they describe individual's proclivity to take control, set goals, attain standards, manage resources, solve problems and take risks to learn. Martinez's (1999) and Martinez and Bunderson's (2000) findings revealed four types of learning orientations, namely the transforming, the performing, the conforming and the resistant learner. Table 2 summarises the description of these four learners based on their beliefs, values, emotions and intentions to self-motivate themselves to learn (i.e. conative and affective factors), to contribute efforts (i.e. strategic planning and committed effort factor) and to self-manage learning (i.e. learning autonomy factor). However, it should be stressed that learners: a) usually fall along a continuum of learning orientations; and b) can move downwards or upwards in response to negative or positive responses, conditions, resources, results and experiences.

Overall, by identifying the unique sources for learning differences from a whole person perspective, the learning orientations provide useful guidelines for differentiating between learners. In fact, a learner's analysis should become an integral and initial part of the entire instructional design process, which in turn is used for matching a more personalised solution to individual differences. This is because in designing e-learning models with only one type of learner in mind (all with similar emotions and intentions) we unintentionally set learners up for frustration and possible failure. This can be argued to be a major reason for the success and effectiveness of online collaborative and constructivism e-learning models that assume high learner self-motivation and self-regulatory processes are ambiguous. According to the learning orientations, such learning environments are effective only for the transforming learners.

On the contrary, effective e-learning instruction should provide multiple ways to provide instruction and environments so that all learners will want to learn on the Internet and continue to have opportunities for success. In this way, the benefits of personalised learning to individual differences would be able to address important human issues previously managed by instructors in the classroom (e.g. lack of confidence, impatience, mistakes, boredom). Martinez and Bunderson (2000) provided an example of how instructional strategies can be matched to three learning orientations (Table 3).

It is evident from Table 3 that the purpose of personalised e-learning models is not to make previous theories on collaborative and constructivism redundant, but rather, to emphasise that their successful implementation and effectiveness requires a fit between the design of the instructions used and the learners' differences identified from a whole-person rather than a cognitive perspective. In this way, problems relating to student participation and engagement in online discussions (e.g. lack of interest and/or capabilities) can be overcome, while the role of instructors goes beyond solely moderating discussions to identifying learners' learning differences and abilities in order to match instructions to their profiles. In other words, educators should seek to accommodate the needs and wants of individual learners and design a multiple and equalitarian e-learning platform that would enhance and support the contribution of different learners.

## **A framework of the evolution of e-learning models and pedagogy**

The different Internet educational practices and their theoretical underpinnings as well as their implementation and benefits are summarised in Figure 2. This framework models the evolution of e-learning pedagogy by mapping e-learning practices into two dimensions: a) the evolving and changing role of the instructor in designing e-learning environments (vertical axis); and b) the increasingly

dynamic role of learners in determining the design of learning environments (horizontal axis). Three eras of e-learning models are identified: 1) the automational era reflecting the exploitation of Internet tools for automating and digitising existing practices, in which learners are receivers of canned and pre-packaged knowledge; 2) the mass learning era, in which learners are required to be highly self-motivated and self-controlled in order to become active members of learning communities (three e-learning models according to Campos et al. (2001) are identified); and 3) the mass customisation era of e-learning models, in which individual learner's differences determine instructions in e-learning environments.

<b>Orientation</b>	<b>Conative/affective factors</b>	<b>Strategic planning and committed learning effort</b>	<b>Learning autonomy</b>
Transforming learner	Focus strong passions and intentions on learning. Be an assertive, expert, highly self-motivated learner. use holistic thinking and exploratory learning to transform using high, personal standards	Set and accomplish personal short and long term challenging goals that may or may not align with goals set by others; maximise effort to innovate and reach personal goals. Commit great effort to discover, elaborate and build new knowledge and meaning.	Assume learning responsibility and self-manage goals, learning, progress and outcomes.  Experience frustration if restricted or given little learning autonomy.
Performing learner	Focus emotions/intentions on learning selectively or situationally. Be a self-motivated, focused learner when the content appeals. Meet above-average group standards only when the benefit appeals.	Set and achieve short-term, task-oriented goals that meet average-to high standards; situationally minimise efforts and standards to reach assigned or negotiated standards. Selectively commit measured, detailed effort to assimilate and use relevant knowledge and meaning.	May situationally assume learning responsibility in areas of interest but willingly give up control in areas of less interest. Prefer coaching and interaction for achieving goals.
Conforming learner	Focus intentions and emotions cautiously and routinely as directed. Be a low-risk, modestly effective, extrinsically motivated learner. Use learning to conform to easily achieved group standards.	Follow and try to accomplish simple task-oriented goals assigned and guided by others, then try to please and conform; maximise efforts in supportive environments with safe standards. Commit careful, measured effort to accept and reproduce knowledge to meet external requirements.	Assume little responsibility, manage learning as little as possible, be compliant, want continual guidance and expect reinforcement for achieving short-term goals.
Resistant learner	Focus on not cooperating. Be an actively or passively resistant learner. Avoid using learning to achieve academic goals assigned by others.	Consider lower standards, fewer academic goals, conflicting personal goals, or no goals; maximise efforts to resist assigned or expected goals either assertively or passively. Chronically avoid learning (apathetic, frustrated, discouraged, or disobedient).	Assume responsibility for not meeting goals set by others, and set by others and set personal goals that avoid meeting formal learning requirements or expectations.
<b>Situational performance or resistance:</b> learners may situationally improve, perform or resist in reaction to positive or negative learning conditions or situations.			

Source: Martinez (1999)

Table 2: Descriptions for four learning orientations

	<b>Transforming learners</b>	<b>Performing learners</b>	<b>Conforming learners</b>
Content structuring	Prefer freedom to construct own content structure	Prefer a general instruction, limited ability to reorganise	Prefer to let others decide content structure
Sequencing methods	Hypertext, sorting by metatags, precise access	Semi-linear, logical branching, access by subtopic	Linear, page turner representations general access
Peer interactions	High, belief that everyone can commit and contribute valuable, holistic insights	Moderate, easily frustrated by time required for peer interaction and theory	Minimal, values group consensus and commitment, wants answers from the instructor.

Source: Martinez and Bunderson (2000)

Table 3: Instructional strategies for three learning orientations

Higher order e-learning models more fully exploit the interactive and network capabilities of Internet tools in order to enhance and advance online teaching and learning. First era models use the Internet as a publishing and dissemination medium, while a second era of e-learning models exploits Internet's networking and interactive capabilities for developing virtual e-learning classrooms based on collaborative and constructivist instructions. However, Mason (1998) argued that such e-learning models just rediscover and adapt instructions that have long been implemented in traditional classrooms. E-learning models in the third era go a step further to exploit Internet capabilities to efficiently and effectively customise and personalise instruction to a large number of learners, something that is not very economical in traditional instruction. In fact, the Internet offers the perfect technology and environment for personalised learning where learners can be uniquely identified, content can be specifically presented and progress can be individually monitored, supported and assessed.

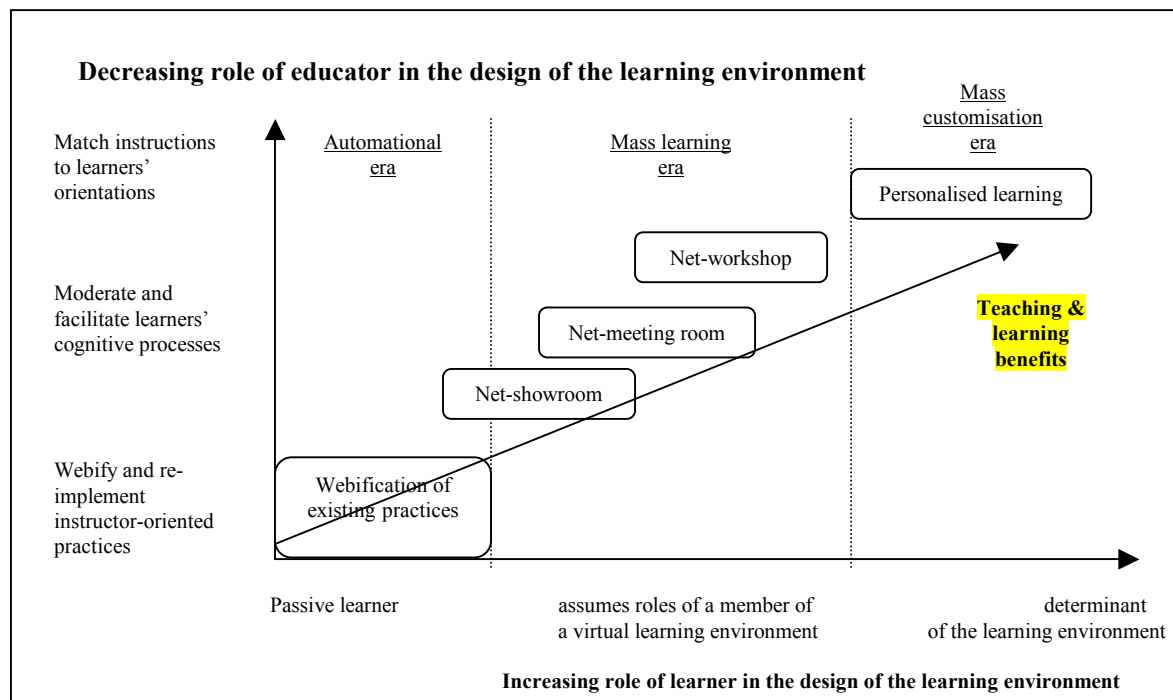


Figure 2: Evolution of e-learning models

As higher order models reflect an increasing role for learners in designing learning environments, they also promise greater learner commitment and engagement, assure higher learning effectiveness and more accurately predict the development of higher order skills and competencies. Moreover, the

emergence of the mass customisation era does not indicate the redundancy and ignorance of the benefits and advantages of previous e-learning models. On the contrary, personalised e-learning models highlight the need to match instruction to whole-person learning differences if learning benefits are to be materialised. In this respect, learning and teaching benefits of previous e-learning models are enhanced and guaranteed when their instruction is personally designed. In other words, benefits of e-learning models in the different eras can be cumulative and not exclusive. In the context of tourism and hospitality education, the teaching and learning benefits of personalised e-learning models aimed at fostering and materialising the benefits of collaborative and constructivism best practices are analysed below.

## **Benefits of personalised e-learning models for tourism and hospitality education**

The webification of instruction creates a learning environment that overcomes time and space barriers. Thus, the Internet offers great flexibility to match the specific conditions of work within the tourism and hospitality sector. So, as an increasing number of tourism and hospitality students simultaneously seek part-time employment, e-learning enables flexibility in terms of the time and place delivery of instructions (Baum and Sigala, 2001). Tutors can also use e-learning models in order to enhance and support students' instruction while they are on placement and e-learning can also address the needs of continuous professional development, enabling those that are already in the industry to engage in life-long learning whilst in the work-place (Kasavana, 1999).

However, a simple digitisation of existing instructor-oriented practices does not lead to enhanced benefits. On the contrary, teaching and learning benefits significantly increase when collaborative and constructivism theories are applied which aim at the exploitation of Internet tools for the development of a student-centred 24 hour virtual classroom. In this case, learning is fostered not as a simple memorisation of canned knowledge but as an inherently diverse, collaborative and social process. Indeed, the intellectual synergy of many minds, experiences and knowledge, benefit learners from:

- active and constructive learning, deep processing of information, improved individual achievement (Abrami and Bures, 1996);
- increased store of knowledge, improved communication and listening skills (Cho et al., 2002);
- the development of social attitudes and a collaborative spirit, motivation to learn, critical thinking, diversity of ideas and students' long term retention (Flynn, 1992).

Bernard et al. (2000) and Harasim (2000) also argued that online collaborative e-learning has the potential to overcome some of the problems associated with the distant student's out-of-campus situation, for example:

- isolation felt by the learner;
- high average rates of dropout;
- difficulties related to the formation of and entrance into the peer group of fellow students;
- low quality of learning attainment, such as the attainment of complex conceptual relationships and their associated skills;
- fear related to engagement in academic discourse;
- the time and place constraints for students dependent on employment;
- the trouble of building a shared understanding amongst students' multiple backgrounds and for students located in multiple cultures.
- the acquisition of complex and higher level concepts and skills that have been claimed as weakness of traditional distance learning (Abrami and Bures, 1996; Harasim, 2000).

In the case of tourism and hospitality graduates, the acquisition of social, multicultural and communication skills are regarded as crucially important. In particular, Cho and Schmelzer (2000) argued that e-learning helps learners to acclimatise themselves to the technological changes occurring in the tourism workplace, as well as allowing them to experience multicultural diversity and teamwork by interacting with people of different social and cultural backgrounds via the Internet. This

experience can improve their managerial skills for the tourism and hospitality workplace, which is usually comprised of people from different cultural, racial, socioeconomic and educational backgrounds and who therefore learn, think and behave differently. Moreover, the increased application of e-business, e-commerce and strategic alliances between tourism businesses also requires managers to be competent to communicate via technology with their peers, customers and employees who may function in different organisational cultures and settings (Cho and Schmelzer, 2000). Thus, e-learning can be an effective means of preparing students for the global tourism workplace, which increasingly requires a knowledgeable workforce that can work collaboratively irrespective of their spatial, time and cultural differences.

E-learning provides great opportunities to become competent and familiar with the use of the Internet. As technological developments propel constant change in the tourism and hospitality industry, graduates that are technology competent and sufficiently knowledgeable to effectively and innovatively develop and adapt technological advances in business strategies and processes are highly required. Moreover, since more and more tourism and hospitality companies are adapting online training and Intranets for knowledge management activities, e-learning is seen to familiarise learners and make them more competent in such environments by developing their information literacy and knowledge management skills.

However, the benefits of collaborative e-learning models cannot be materialised when instructions fit the learning abilities and differences of an average learner. Moreover, although online learners need to want and intend to become more self-supporting, self-directing and independent of the instructor, many learners are ill-equipped to handle online learning environments. When this happens, online forums may turn into a monologue of lecture type material to which very few responses are made, discussions may become a disorganised mountain of information that is confusing and overwhelming for the participants, while a large volume of messages could create an information overload.

Thus, the recognition of online students' learning ability gap and the provision of solutions that consider the whole person perspective are a step in helping learners' transition to more successful, self-directed and collaborative online learning. It is especially important to identify the factors influencing learners to want and intend to improve performance. When considering the diverse profile and needs of learners entering tourism and hospitality education (e.g. high school leavers, people with industry experience, industry professionals), the identification of factors affecting individual learning processes is crucially important.

Having identified personal learning differences, personalised e-learning models stress the importance of matching instruction to individual differences in order to help learners become more sophisticated, self-motivated and self-directed learners. This is vitally important today's knowledge era, as the scarce resource is not information but rather its application. Ideally, a personalised e-learning model would enable every learner to learn how to develop certain types of knowledgeability (combinations of skills and knowledge) as a basis for securing his/her employability in the knowledge era. Such types of combinations would be: a) relating theoretical and practical modes of learning to one another, to enable connections to be made between workplace and formal learning; b) learning how to use information and communication technologies as a resource for communicating with others in learning communities to produce new knowledge; and c) developing a transformative rather than an informative relationship with the world. In other words, not relying on existing paradigms to interpret problematic situations but learning how to mediate and debate ideas or concepts which might form the basis of new ways of addressing the evolving range of economic, technological and social changes.

## **Conclusions**

It was the aim of this paper to develop a framework for the development of effective e-learning strategies for tourism and hospitality education. To that end, the evolution of e-learning pedagogy and the theoretical underpinnings of different e-learning models were reviewed and analysed, while examples of their implementation in tourism and hospitality education were provided. E-learning

models were mapped into a framework that identified three eras of e-learning models. The first implication of this framework is that educators should immigrate from e-learning models that simply re-implement existing practises by webifying them. As e-learning is redefining how skills and knowledge are acquired, educators need to re-examine how online learning occurs and how online instruction can be facilitated. Educators thus need to emigrate towards higher order e-learning models that more fully exploit the Internet's capabilities and tools to advance online teaching and learning. The design of student-centred (collaborative and constructivism) and student-determined (personalised) online learning environments are two steps towards such a direction.

Moreover, as teaching and learning benefits from different e-learning models can have cumulative effects, it was advocated that e-learning models should aim at the personalisation of online instructions that simultaneously aim at exploiting the benefits of collaborative and constructivism practices. The benefits of this proposed e-learning model for tourism and hospitality education were identified and analysed. On the other hand, changes in technological tools and in learners' characteristics, trends and issues in the tourism and hospitality industry, as well as in society as a whole, also reinforce the need to seek and support the development of skills and knowledgeability that collaborative and personalised e-learning environments enable.

Unfortunately, in investigating the use of Internet in enhancing and complementing hospitality and tourism education, Sigala and Christou (2002) found that a great majority of educators mainly exploit the Internet in order to automate rather than transform their instructions and foster pedagogical innovation. Moreover, educators' perceptions and abilities towards technology were found to significantly affect the type and degree of Internet use. In this vein, further research is required in order to investigate how the tourism and hospitality educational community can adopt and support the design and implementation of effective e-learning models and move on from current educational paradigms. The identification of the critical success factors for achieving such a transition is also vitally important.

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