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Résumé de l'article

Cette étude s’appuie sur les concepts d'interaction socio-technique pour examiner les perceptions et l’utilisation interculturelles des technologies de l’information et de la communication (TIC). Dans le cadre du Continuing Professional Development (CPD) spécialisé dans les compétences entrepreneuriales, des données ont été collectées à deux intervalles distincts en France et au Royaume-Uni, pour observer l’adoption de l’innovation dans le temps dans chaque contexte culturel. Les résultats reflètent l’évolution et la convergence des TIC, montrant comment les utilisateurs perçoivent et interagissent avec les TIC avec une intensité différente et pour des motifs différents. Les implications managériales ont été développées en réponse à la manière dont les TIC sont façonnées par le contexte professionnel dans chaque pays.

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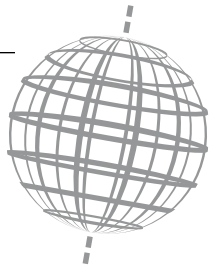

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"Clicks & Tweets" en el Desarrollo Profesional Continuo (CPD)? – Una comparación intercultural del uso de las TIC.

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ABSTRACT

This study draws from concepts of socio-technical interaction to examine cross-cultural perceptions and usage of information and communication technologies (ICT). Set in the context of Continuing Professional Development (CPD) specialising in business skills, data were collected at two separate intervals in France and the UK, to observe the adoption of innovation over time in each cultural setting. The findings reflect ICT evolution and convergence, evidencing how users perceive and interact with ICT with different intensity and for different motives. Managerial implications were developed in response to the way in which ICT is shaped by the professional context in each country.

Keywords: Cross-cultural difference, ICT, knowledge dissemination, Continuing Professional Development (CPD)

RÉSUMÉ

Cette étude s'appuie sur les concepts d'interaction socio-technique pour examiner les perceptions et l'utilisation interculturelles des technologies de l'information et de la communication (TIC). Dans le cadre du Continuing Professional Development (CPD) spécialisé dans les compétences entrepreneuriales, des données ont été collectées à deux intervalles distincts en France et au Royaume-Uni, pour observer l'adoption de l'innovation dans le temps dans chaque contexte culturel. Les résultats reflètent l'évolution et la convergence des TIC, montrant comment les utilisateurs perçoivent et interagissent avec les TIC avec une intensité différente et pour des motifs différents. Les implications managériales ont été développées en réponse à la manière dont les TIC sont façonnées par le contexte professionnel dans chaque pays.

Mots-Clés : Différence interculturelle, TIC, diffusion des connaissances, formation continue.

RESUMEN

Este estudio se basa en conceptos de interacción sociotécnica para examinar las percepciones interculturales y el uso de las tecnologías de la información y la comunicación (TIC). En el contexto del Desarrollo Profesional Continuo (DPC), especializado en habilidades empresariales, se recogieron datos en dos intervalos separados en Francia y el Reino Unido, para observar la adopción de la innovación a lo largo del tiempo en cada entorno cultural. Los resultados reflejan la evolución y la convergencia de las TIC, evidenciando cómo los usuarios perciben e interactúan con las TIC con diferente intensidad y por diferentes motivos. Las implicaciones de gestión se desarrollaron en respuesta a la forma en que las TIC son moldeadas por el contexto profesional de cada país.

Palabras Clave: Diferencia intercultural, TIC, difusión del conocimiento, Desarrollo Profesional Continuo (DPC)

This study makes a methodological contribution by designing a 4-phase sequence of data collection to explain evolution in perceptions and usage of ICT in *Continuing Professional Development* (CPD) specialising in business skills in France and the UK. In line with *Responsible Management Education* (Cornuel & Hommel, 2015; Beddewela *et al*., 2017), we highlight the need for a greater understanding of the roles and responsibilities of business as a global force (Rasche & Escudero, 2009). The use of ICT for knowledge dissemination dovetails with Responsible Management Education by enabling the development of a sustainable infrastructure to support bottom-up sharing of expertise (Bradshaw *et al*., 2012) and by providing a channel of communication to create value along a triple bottom line: profit, people and planet (Prandini *et al*., 2012).

Much progress has been made since Preston (2001) reported on the early technology-mediated transformations in CPD. Studies show that ICT are more embedded in professional settings and social practices (Livingstone, 2012) than in learning environments (Storz *et al*., 2012). Despite the economic significance of the education marketplace (Rutter *et al*., 2016), few cross-cultural studies have compared perceptions and usage of ICT in CPD. We respond to calls for further research by Reynolds *et al*. (2008), Olson (2012), and Tondeur *et al*. (2016) to put forward new insights into the perceptions and usage of ICT in CPD.

Using a mixed-methods approach, our findings reflect the extent to which culture-specific perceptions and usage of ICT within CPD in France and the UK have evolved over 4 years – i.e. the typical 60-month life cycle (McGrath, 2013). Various factors have brought about convergence in ICT usage, shaped

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partly by personal preferences for innovative technologies, and partly in response to the way in which ICT is interpreted by different stakeholders (learners, instructors, managers and local employers), framed by the constraints of the wider business environment. This knowledge not only addresses gaps in academic understanding, it can also assist managers in planning and allocating resources for developing a more effective use of ICT in CPD. We generate managerial implications in terms of managing change and adjusting the business model, and then provide suggestions for extending the study. The paper now continues with an overview of relevant literature, methods, results and discussion, then presents managerial implications, limitations and further research, before developing conclusions.

Literature Review

The review of existing research is divided into two parts to explain the role played by culture, followed by theories of technology adoption and usage. Attention is drawn to the inextricable link between "the technical" (i.e., technology usage) and "the social" (i.e., socio-cultural surroundings).

The Cultural Dimension

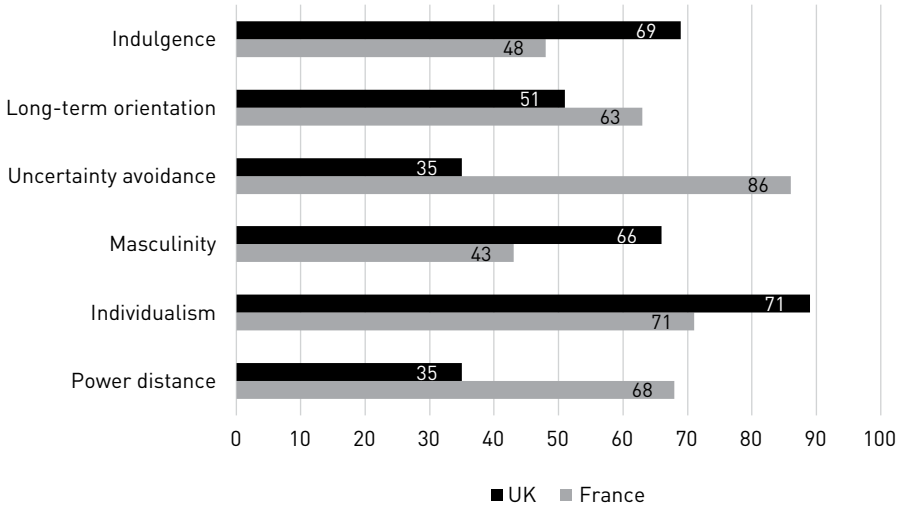
Studies show how patterns of consumer behaviour are often ascribed to different cultural environments (Lee *et al*., 2007; McCarty *et al*., 2007). For example, the Republican values from which the notion of freedom and equality is deeply inscribed in the French psyche (Barsoux and Lawrence, 1991) contrast strongly with Anglo individualism and consumerism (Block and Cameron, 2002; Morris & Waldman, 2011). Thus, de Mooij (2010) uses Hofstede's (2001) study to explore the impact of culture on consumer behaviour. Based on the belief that multiple characteristics of countries (educational systems, ways of doing business, architecture, etc.) both reflect and can be interpreted through the relevant national culture, Hofstede (2001) put forward key cultural dimensions for over 70 countries. See Figures 1 and 2 for France -UK comparison

Zhou, Jin, Fang & Vogel (2015) found that indulgence weakens the effect of utilitarian value, but strengthens the effect of hedonic value, on affective commitment. National culture has a profound impact on the adoption and usage of ICT, by influencing the way in which users perceive and engage with the technology (Erumban and De Jong, 2006; Lichy and Pon, 2015). Accordingly, prior studies highlight that the relationship between national culture and privacy concerns are important in considering how organizations should proceed to capitalize on the benefits of ICT – see, for example, Dinev *et al*. (2006) as well as Mohammed and Tejay (2017). Indeed, further investigation is needed in the era of rapidly changing ICT, since the impact of culture will be greater within fast-advancing technologies (Im, Hong & Kang, 2011; Lichy & Stokes, 2018; Dutot & Lichy, 2019).

The consumption of ICT can be understood as an indicator of culture because ICT are a part of culture (Hofstede, 1991; Schein, 1985). Low power distance cultures – which emphasise subordinates' autonomy in decision-making – tend to promote innovation, entrepreneurship and inventions. In contrast, societies with high power distance cultures tend to discourage innovation and creativity (Andrijauskienė & Dumčiuvienė, 2017).

While many sectors have leveraged ICT to propel economic and social progress, providers of training and education have been criticised for "over-selling" and "under-using" new technologies (Mostafa, 2015; Josefsson *et al*., 2015). ICT have irreversibly shaped how individuals interact interpersonally and with technology (Kumar *et al*., 2017), particularly social technologies (Ireland, 2015). In this study, ICT include laptops, audience response devices (i.e. clickers), Virtual Learning Environments (e.g. WebCT), interactive whiteboards (Roberge & Gagnon, 2014; Green, 2015), as well as social media apps including social networking sites, microblogging, media sharing, social news, rating sites, bookmarking, blogs, vlogs and forums. The

FIGURE 1
France-UK comparison of cultural dimensions



Source: Hofstede Insights (2016)

popularity of apps can be attributed to the widespread availability of mobile technologies, which connect the virtual space to the physical space, and move users between them in a way that enhances both (Zhang *et al*., 2013). There has been heightened academic interest focusing on how individuals engage with ICT for co-creation through interaction (Tierney *et al*., 2016; Pacauskas & Rajala, 2017). However, as few studies have taken a cross-cultural approach, "many of the real challenges of knowledge exchanged technology transfer have been misrepresented or overlooked" (Birkinshaw *et al*., 2011: 575). Consequently, there is a gap in understanding regarding the extent to which cultural factors effect perceptions and usage of ICT in knowledge dissemination (Phillips, 2016).

Existing studies underscore the virtues of ICT in knowledge dissemination – such as Bertarelli *et al*. (2011) on the digital whiteboard, Scherer *et al*. (2015) on self-efficacy and perceived usefulness beliefs. While it is agreed that the incorporation of ICT into instruction can improve overall academic attainment (Muñoz-Repiso *et al*., 2012) and quality assessment (Rubin & Soboleva, 2015), the wider effects of ICT usage will not be visible until they have finished having an effect and are in the past. As ICT continue to transform human interaction and our relationship with information and knowledge, providers of CPD need to understand the opportunities and challenges created by ICT (Nnoduka, 2014), then facilitate trailblazers and mentors to promote the effective diffusion and usage of ICT (Woodley *et al*., 2015). A key challenge is to understand and manage perceptions of ICT since perception plays a key role in adoption and usage (Charron & Raschke, 2014).

A major stream of literature in socio-technical research describes both the social and technical interactions that occur in such a way that it is not easily possible to disentangle them. Focusing on ICT usage in teaching and learning, studies have explored in depth how learners perceive, engage and manage digital tools in learning – see for example, Lichy and Pon (2015), Duţă and Martínez-Rivera (2015), and Birch *et al*. (2017). These studies further our understanding of the extent to which learners in different cultural contexts will adopt, accept, rely upon or reject ICT for knowledge dissemination. In an examination of the opportunities brought about by ICT in a learning context, Lichy and Kachour (2016) draw attention to the emerging second-level digital divide in French higher education, and the intergenerational disparities in Internet user behaviour; they flag up the need for further research into ICT usage in non-Anglo-centric markets. However, the intention of this study is not to establish whether technology-oriented training in one country is superior to another. The literature confirms that the aim of integrating innovative learning technology into knowledge dissemination is to improve the quality of the learning process; to encourage learners to "think about their thinking" during learning, and to prepare the learner for a world of work in which knowledge-sharing is the *modus operandi*. The question of whether the learners really gain from this difference is outside the scope of our study.

Comparatively less research has been undertaken to identify and explain ICT usage in CPD from the perspective of instructors, managers and local employers. For this reason, we set out to fill the gap in the existing literature. As instructors are often role models for learning style (Shein & Chiou, 2011), motivating instructors to use new ICT has become a priority for management (Bøe *et al*., 2015). Lane & Stagg (2014) indicate the lack of literature that critically examines the factors influencing perception and usage of ICT. Previous research has included: the delivery of technology-mediated distance education (Ozdemir *et al*., 2008); links between academic career-enhancing and ICT ability (Winkle *et al*., 2010); motivation and threats for ICT usage (Johnson, 2013); online distance learning in terms of benefits, drawbacks and challenges (Koutsoupidou, 2014); and information ethics in technology-mediated learning (Chang, 2017). However, there is a lack of current cross-cultural research examining the factors that influence perception and usage of ICT in CPD.

Technology Adoption and Usage

Various models exist – such as TAM (Davis, 1986) and UTAUT (Venkatesh *et al*., 2003) – for predicting consumer behaviour regarding a given innovation, however these models tend to use similar attributes, namely the perceived usefulness and the per-

FIGURE 2
Description of Cultural Dimensions

Culture Dimension	Characteristics
Indulgence	Indulgence denotes a society that allows human drives related to enjoying life and having pleasure, as opposed to utilitarian, needs and desires – i.e., the degree to which a society recognizes individual desires and impulses and satisfies or contradicts them.
Long-term orientation	Long-term orientation designates the nurturing of virtues oriented toward future rewards, in particular perseverance and thrift.
Uncertainty avoidance	Uncertainty avoidance reflects the extent to which the members of a culture feel threatened by uncertain or unknown situations.
Masculinity	Masculinity refers to a society in which social gender roles are clearly distinct. Men are assumed to be assertive, tough and focused on material success; women are supposed to be more modest, tender and concerned with the quality of life.
Individualism	Individualism denotes a society in which the ties between individuals are loose.
Power distance	Power distance symbolises the extent to which the less powerful members of institutions and organisations within a country expect and accept that power is distributed unequally.

Source: Lanier & Kirchner (2018)

ceived ease of application. Innovation is a key factor in diffusion theory. Diffusion is a special type of communication in which the messages are about new ideas (Rogers, 2003). Extending the notion of TAM into a *technology adoption lifecycle*, Moore (1991) compared consumers who are early adopters (attracted by the novelty of new technology) with those in the next phase of adoption: the early majority (consumers who have very different expectations of what the technology can deliver). He argued that in the adoption of new ICT, there exists a chasm between the early adopters and the early majority, symbolising the transition from a "technology for enthusiasts and visionaries" to a "technology for the pragmatists". The duration of the chasm depends on various factors such as management, finance and cultural barriers, as highlighted in the work of Fleck and Howells (2001). As the technology adoption lifecycle is nonlinear, with periods of slow growth followed by rapid expansion, overall adoption and growth is punctuated by periods of chaos and complexity (Meade & Rabelo, 2004; Brynjolfsson & McElheran, 2016). The result is the emergence of a new digital divide (Hilbert, 2016). It can, therefore, be presumed that countries with lower levels of power distance and uncertainty avoidance and higher levels of individualism and indulgence would be more open to using ICT in CPD.

Acknowledging that technology adoption rates vary from one sector to another and that new ICT benefit from pre-existing infrastructure, Spencer (2013) draws attention to the accelerating pace of technological change. Furthermore, in fast-moving sectors, such as the automobile industry, the design cycle is 24 to 36 months, which is much faster than the usual 60-month life cycle (McGrath, 2013). This important detail emphasises the need to research consumer behaviour *over time*. Vannoy & Palvia (2010) call for more research to better understand how technology is *incorporated* rather than *accepted*. This distinction is crucial because in accepting ICT, there is the idea of social compliance as part of a standardization dynamic. While this is an essential step in the process of disseminating and using innovation, it is necessary at the same time that the individual integrates ICT. The "integration" dimension of the acceptance process impacts and modifies behaviours. Thus, the use and dissemination of innovation goes beyond (in the sense of exceeding) the initially planned usage.

While the literature provides useful insights into the acceptance of ICT as an integral facet of post-modernity and how new ICT are adopted and integrated into daily activities, the existing frameworks fail to fully explain perceptions and usage of ICT in CPD.

The Research Question

It is widely agreed that modern ICT are firmly anchored in everyday activities (White & Pauxtis, 2010), yet few studies provide cross-cultural insights (Scrima *et al*., 2014). Johns (2006) argues that the influence of *context* is not sufficiently recognised or appreciated by researchers; context has subtle and powerful effects on research results, depending on the setting and timing of the study. In the field of training and education research, the impact of culture on CPD in terms of delivering knowledge and transferring business-related skills *in the digital era* remains an under-studied domain. Drawing from the literature, the authors draw two assumptions:

(i) There are differences in the perception and usage of ICT,

(ii) These differences embody/ illustrate cultural differences

These assumptions are used to formulate the following research question:

How do cultural dimensions explain differences in ICT perception and usage in knowledge transfer within the context of CPD specialising in business skills?

Methodological Approach

Jee, Schafheutle and Noyce (2017) acknowledge that longitudinal investigations of work-based training are lacking. To this end, we adopt a longitudinal approach in order to answer our research question. The value of designing a longitudinal study is to attempt to isolate the time variable inherent in the innovation adoption cycle – see Spencer (2013) and McGrath (2013). France and the UK were purposely chosen for this study, as they offer comparable contexts in terms of economic and technological development (Lichy, 2011). Given the lack of academic research exploring perceptions and usage of ICT in CPD from a cross-cultural perspective, a 4-phase mixed-method approach was designed to enable themes to develop rather than attributing data to existing theoretical frameworks (Thomas, 2006).

In 2013 (Phase 1), face-to-face surveys were organised with CPD instructors after the so-called "*year of the MOOC"* (Carr, 2012; Vardi, 2012). Then, in 2017 – allowing 4 years for new ICT to be diffused and adopted (McGrath, 2013; Hu *et al*., 2017; Jarke, 2017) – the following sequence of data collection was undertaken: focus groups with CPD managers (Phase 2), an interactive seminar (Phase 3), and a forum with local employers (Phase 4). Quantitative and qualitative data were collected simultaneously in France and the UK to enrich our data collection and diversify the nature of the information.

Taking an interpretivist stance, the methodological approach was designed to have modest triangulation, since information was gathered from three clearly delineated groups: CPD instructors, CPD managers and local employers. These communities were intentionally chosen to represent key stakeholders, likely to share similar awareness and understanding of ICT in knowledge dissemination. Rather than a "sample" in the strict sense, this approach generated three populations of comparable respondents. Naturally, there is a problem with using a sub-set of the population to represent the population as a whole. However, this issue did not seem overly problematic as the intention was to identify parallel groups in France and the UK in order to eliminate as many variables as possible, and leave the main difference the issue of nationality.

Supporting the work of Birkinshaw *et al*. (2011), the authors believe that the multi-cultural, multi-dimensional and dynamic nature of cross-cultural research lends itself to qualitative and quantitative methods. The collection of data over time provided a deeper understanding of micro-processes and the interplay between culture and context. Owing to vast body of research on learners' perceptions and usage of ICT, which evidences their relative ease of integrating new ICT (see Raboca & Carbunarean, 2014; Ekanayake & Wishart, 2015; Lichy & Kachour 2016), the decision was taken to focus on the key stakeholders: providers and facilitators of CPD, as well as employers. The authors will

intentionally postpone data collection from learners, while awaiting the inception of web 3.0 and 5G.

Phase 1: Survey with CPD Instructors

The choice of sample was motivated by two factors: the individuals are engaged in the working population and in facilitating lifelong learning. The decision to administer a survey was influenced by the belief that it is a popular research method for obtaining data on the behaviour, interests and opinions shared by people (Engel & Schutt, 2005). While scales of measurement could have been used to establish cause and effect relationships between variables (c.f. Dillon *et al*., 1994), it was not practical owing to the lack of pre-existing studies employing this methodological approach. Besides, as there is a general lack of reliable information relating to CPD instructors' perceptions and usage of ICT, we created our own survey instrument (developed from the literature); one version in English and the other in French (see Appendix 1, tables 1 and 2). The survey was pilot-tested with 10 CPD instructors to verify the clarity of the language, evidenced by the participants' ability to interpret of the logic behind the sequence of questions (Zikmund, 2003). The survey was administered by email over 3 months to CPD instructors in France and the UK. The intention was to achieve a total sample size in excess of 700 – i.e., 350 in each setting.

Phase 2: Focus Groups with CPD Managers

Focus groups were organised in France and the UK with CPD managers (i.e. responsible for resource allocation). The results of the 2013 survey were shared and discussed with these participants, who were asked to reflect upon current ICT usage in CPD. The aim was to elicit focus group discussion regarding the managerial understanding and awareness of ICT in CPD. This method has become a major approach for collecting qualitative data in the social sciences, particularly in management studies (Barbour, 2008); focus groups provide valuable information generated by the interaction between participants (Brannen, & Pattman, 2005). The CDP managers were invited by email from a list of delegates attending a business-networking event on lifelong learning earlier in the year – hosted by a local recruitment agency (requesting anonymity). A total of 18 individuals took part: 3 focus groups, each with 6 specialists (10 male and 8 female). This approach enabled key themes to emerge that were then taken into account for the next phase: an interactive seminar with local employers (Phase 3).

Phase 3: Interactive Seminar with Local Employers

An interactive seminar was organised during which the results of the survey (Phase 1) and the focus groups (Phase 2) were presented to local employers in France and the UK. The interactive seminar provided information that furthered our understanding of the employers' opinions and the meaning of their experiences (Stokes & Wall, 2014). The purpose was to gather different perspectives through the social interaction of the participants, and thus generate data that is deeper and richer than the data obtained from one-to-one interviews. This approach created a dynamic and collaborative communication process among participants in which the interviewers introduced, in an open and informal way, a number of issues on which they sought information, as advocated in the work of Cantarero *et al*. (2013).

Phase 4: Forum with CPD Instructors

This final phase takes on its full meaning because it allows us to return to the instructors and hence ascertain if and how, over 60 months, they have changed. The results of the focus groups (Phase 2) and interactive seminar (Phase 3) were made available to the CPD instructors via a forum. The instructors were asked to reflect on the information provided by CPD managers and local employers, then share their interpretations. A forum enables people with similar interests to actively collaborate and interact in a common space (Li & Lee, 2013; Stokes & Wall, 2014). The aim was to stimulate debate on current ICT usage in CPD, from the perspective of the instructors *per se*. The forum generated deeper insights on contemporary perceptions and usages of ICT in CPD; capturing the feelings and experiences of the CPD instructors.

Results

Phase 1: Survey with CPD Instructors

The survey of 2013 yielded a 27% response rate: 47% from France and 53% from the UK. Responses to personal criteria were too disparate for statistical usage, and were discarded from the study. The results reflected an uneven adoption and integration of ICT in CPD, with some commonality (e.g., for personal use and an awareness of ICT) and disparities (e.g., for professional use and frequency of use). Referring to Appendix 3-5, three observations can be drawn from the data, reflecting key cultural variances that ascertain difference in usage and perception of ICT in CPD, later confirmed in the verbatim:

Perception and Use of ICT in CPD (See Appendix 2)

Based on table 3, we can say that the instructors recognised the value of engaging with ICT for knowledge dissemination, underscoring the work of Bertarelli *et al*. (2011) and Scherer *et al*. (2015) on the perceived usefulness of ICT. Responding to the statement: "*if ICT are embedded in modern society, teaching must integrate these approach*" with a 4-step scale, the French participants agree with a score of 2.17 (out of 4), in contrast to the UK participants who agree with 2.38; moreover, 82% of French instructors and 98% of UK instructors believe that teaching needs to integrate ICT. Respectively 66.3% and 79% think ICT is changing the role of the instructor.

Finally, almost two-thirds of the instructors (60,6%) claimed to be motivated to use technology; however, the participants in the UK revealed a more organic, holistic and pragmatic integration of ICT in CPD.

Of the three roles that an instructor can adopt (transmit knowledge, facilitate knowledge, "coach"), the instructors in the French sample perceived their role more as "transmitters of knowledge", whereas the UK instructors perceived their role as "coach" (see table 4).

Different Level of Maturity (See Appendix 3)

The instructors in France perceive ICT as a collaborative tool for CPD (see table 5), characteristic of the *late adopters* described by Davis (1986) in TAM, distinguishing them from *early adopters* who are attracted by the novelty of new technology. The instructors in the UK had integrated web 2.0 tools for generating real-time interactivity, evidenced by a higher level of distance learning. Accordingly, distance learning was delivered by 62% of UK instructors, in contrast to 11,24% of instructors in France. Likewise, 71% of UK instructors use ICT for interactive collaboration, compared with 23,6% of French instructors. However, if the French instructors *were* using ICT for collaborative support, it did not manifest at the time of the survey. The French and UK instructors were using technology with different intensity, denoting the chasm described by Moore (1991) in his *technology adoption lifecycle*. Of the 13 choices for using ICT (PowerPoint, blog, wikis, videos,...), only 3 are used equally in both France and the UK. For the other 10, UK instructors have a higher, or even much higher, frequency of use than the French (see table 6). From this material, we carried out a multiple component factor analysis (CFA), which allowed us to create a typology of instructors according to their degree of use of the different technological tools. This analysis revealed two distinct approaches. Table 7 provides information on the degree of contribution of the different tools in the construction of the discriminating axis: one linked to collaborative tools, the other to information-oriented technologies. From these findings, three distinct typologies of ICT usage can be developed to describe the different types or profiles of the instructors: "traditionalists", "knowledge dispensers" and "knowledge sharers" (see Table 8). Drawing parallels between this typology and Moore's, we would like to suggest that it is specific to the use of ICT in this particular sector of vocational training. In fact, these typologies provide a descriptive indicator for identifying future training needs.

Management Policy and Business Model (See Appendix 4)

The higher level of ICT usage observed in the UK sample can be partly explained by technological determinism (Fleck & Howells, 2001) and partly by the management policy and practice which is more prescriptive in the UK than in France (see table 8). The British model reflects an embedded philosophy of ICT usage in CPD, evidenced by a greater importance ascribed to ongoing ICT developments for both face-to-face instruction and distance learning (in fact, UK instructors in our sample offer distance learning for 51%, compared with only 9% of French instructors – see table 9). The UK instructors were better trained and more experienced with using ICT, fully aware that their use of ICT is used as a key performance indicator (see table 9). Overall, the UK instructors were more knowledgeable about existing ICT, and they perceived technology as a source of competitive advantage. The lower level of ICT usage in the French sample can be explained by two key factors; firstly, ICT usage is ossified neither encouraged nor an obligation (see table 9); the users are unfamiliar with the specific provision and infrastructure available (see table 10). Secondly, there was a lack of management awareness regarding provision, training and usage (only 19% of French instructors received training, compared to 82% of instructors in the UK). Moreover, the usage of ICT is clearly a performance criteria for the UK instructors, which is not the case for the French instructors (see table 9). In line with Hofstede (2001), the results show that early adoption and usage is characteristic in a culture characterised by low power distance, high individualism, high masculinity and low uncertainty avoidance – i.e. in the British sample. In contrast, slow/late adoption and reticence is characteristic in a culture characterised by high power distance, low individualism, low masculinity and high uncertainty avoidance – i.e. in the French sample.

These observations reflect disparity between the "early adopter" UK sample and the "late adopter" French sample, in 2013 – or, with our suggested typology, between the "*traditionalists and knowledge dispensers*" for French sample and the "*knowledge sharers*" for the UK sample. Allowing the recognised period of 60 months for widespread adoption (McGrath, 2013; Hu *et al*., 2017; Jarke, 2017), the following 3 phases outline the observed evolution in perceptions and usage. It should be noted, however, that the views of the participants in Phase 2 (CPD managers) and Phase 3 (local employers) only marginally integrate the instructors' points of view (Phase 4). The respondents articulated their interest in, and the impact of, ICT from the perspective of the organisation and the learners, to the exclusion of the instructor.

Phase 2: Focus Groups with CPD Managers

In the focus groups, the CPD managers in France and the UK reflected on the survey findings. They used the term "online CPD" generically to refer to the infrastructure of digital tools used by CPD instructors for disseminating knowledge. In both national contexts, the managers articulated a general awareness of how ICT can be used to complement on-the-job training. Some convergence was expected, given the similarity in economic and technological development of the two countries. They also discussed the popularity of live podcasting for customised CPD, day-to-day management issues and the challenge of monitoring ongoing changes in the business environment. The issues arising from the focus groups can be grouped into two areas: ICT for facilitating autonomous knowledge acquisition and flexibility, and relevance of content for the current job market. Despite overall similarities in ICT usage, a more detailed analysis of the verbatim reveals ideas and expectations of a different nature that can be linked to cultural differences.

ICT As Self-Sufficiency and Flexibility

ICT in CPD is seen as a practical means of facilitating independent learning, enabling flexible learning and co-created. The French perceive ICT as an opportunity to balance legal obligations with organisation constraints, as well as to reconcile public and private life – pointing to collectivism and power distance (Hofstede, 2001), as demonstrated:

> *"Learners respond better to a flexible model of learning, judging from online assessments and informal feedback... it fits with professional/family commitments"* (French CPD manager).

The approach in France is more mechanical than organic, hence:

"Moodle gives a two-dimensional blend of self-learning combined with face-to-face instruction, tailored to the learner and their profession" (French CPD manager).

"As many employees struggle to find time to fit CPD into their schedule, open-ended CPD, like MOOCs can alleviate many barriers to learning and make it more inclusive" (French CPD manager).

The French give the impression of being very preoccupied with respecting the social and legal norms, and controlling individual behaviours and time-management.

In contrast, the British sample are enthusiastic about the opportunity for personal development and dynamic co-construction of knowledge.

In line with Hofstede (2001), the notion of indulgence, individualism and tolerance of risk is higher in the British culture; it favours greater personal development and openness to innovative co-creation – both of which are more likely to flourish in a lower power distance. Thus, participants articulated:

"Modern ICT have enabled CPD to shift towards a more flexible approach of disseminating knowledge; combining independent pre-study, short contact hours of CPD instruction, virtual and physical group work, and plenary discussions focusing on key issues, followed by customised post-programme follow-up" (British CPD manager).

"Learners can spend as much time as needed for familiarising themselves with materials, before or after class. Questions can be discussed via the online forum, and this encourages co-creation of knowledge" (British CPD manager).

"Our biggest challenge is avoiding offering silo courses and courses that are too superficial … we don't want to inhibit learners from developing a holistic understanding of a topic. A lack of transversal knowledge would diminish any ability to innovate" (British CPD managers).

Relevance of Content for the Current Job Market

The verbatim suggests that the managers in each sample are making concerted efforts to adapt the content for the current job market; however, a more organic approach is observed in the British verbatim, as demonstrated:

"MOOCs correspond to the modern-day job market in which employers require employees to acquire new skills quickly and cost-effectively, for example using podcasts and live-streaming" (British CPD manager).

The French approach remains more mechanical, as demonstrated:

"Most skills will be obsolete in under a decade; open-ended CPD enables employees to undertake different courses at different centres, allowing them to customise their individual learning experience by compiling a portfolio of courses from various providers" (French CPD managers).

This subtle difference serves to illustrate cultural difference, notably the uncertainty avoidance identified by Hofstede (2001).

"Course design has to match what employers need; today's job market is mobile, social and wireless – we have to be able to distribute CPD in the same way, and use ICT to generate sustainable success" (British CPD manager).

In this verbatim, there is a clear awareness that ongoing technological advances are having a knock-on effect on the skills needed in the modern workplace – and the means by which knowledge can be disseminated to develop these skills. ICT are contributing to new ways of sustaining learning and educative conversations through distance learning, modularisation, flexible learning and personal self-study. This approach to learning is fundamental for the 21st century workplace.

Overall, the results reflect an understanding of the opportunities afforded by using ICT in CPD, with some undertones of reticence, as outlined by Andrijauskienė & Dumčiuvienė (2017). In the current era of pervasive technology, individuals are adept at retrieving information, switching between personal use and professional use of their own digital devices. CPD managers need to understand and keep pace with evolving trends in ICT usage in order to design learning materials that respond to the social, mobile and wireless lifestyle of modern-day employees. They also need to be mindful of the needs of non-mainstream learners.

Phase 3: Interactive Seminar with Local Employers

In the interactive seminar, the results from both the survey (Phase 1) and the focus groups (Phase 2) were presented to a group of 50 local employers (24 in France and 26 in the UK) who have experience of using CPD for employee training. Two dimensions stand out as the key attributes of ICT in CPD: Customised and learner-centred and Facilitating/engaging in learning.

Customised and Learner-Centred

The employers stressed the importance of customising learning for an individual's career needs and personal development, alluding to the notion of employee well-being, rather than using CPD for benefitting the employer. The provision of post-programme online materials for ongoing learning gives emphasis to the growing importance of lifelong learning, in line with the work of Jõgi *et al*. (2015). However, the verbatim of French participants points to more of a process issue, related to mechanical decision-making, characteristic of a hierarchical society. Thus,

"A major problem is the way it is perceived as a top-down process typically run by business school management. Consequently, the learning outcomes of CPD are perceived in terms of management goals, rather than for the individual's career development!" (French employer).

By contrast, the verbatim of British participants reflected greater indulgence and organic flexibility:

"CPD needs to be relevant, enjoyable and better tailored to the needs of the individual employee, more oriented to the long-term personal development of the employee. It has to be flexible to fit with the busy work schedule" (British employer).

Facilitating/Engaging in Learning

Both French and British employers allude to the value of engaging in the learning process. The use of the "passive voice" infers a philosophical yet balanced view of ICT in CPD. The underlying opinion is that the long-term success of CPD relies on organisations investing in people to leverage technology usage, as demonstrated:

"If we use social media tools for virtual collaborative CPD such as wikis, blogs, podcasts and mobile learning, it is possible to stimulate co-creation of knowledge" (French employer).

"When we actively participate in online learning, clicking and Tweeting, we're more engaged; the learning is more effective, but also entertaining and enjoyable and therefore engaging" (UK employer).

The views raised by the French and British employers illustrate the utilitarian/indulgence dichotomy articulated by the participants (Morris & Waldman, 2011; Zhou, Jin, Fang & Vogel, 2015; Lanier & Kirchner, 2018). Although the long-term cost-effectiveness of investing in ICT is acknowledged, the employers identify the need for learning to be enjoyable and relevant to the current job market. They recognised the convenience and practicality of ICT-mediated CPD, alluding to today's connected lifestyle.

Phase 4: Forum with CPD Instructors

Similar differences were found in Phase 4 as in Phase 1 (despite the different timeframe and different methodology for data collection), however the verbatim are not of the same nature. The French remain in one-way "transmission" mode, while the UK sample demonstrated a dynamic of co-construction and interaction. Specifically, there are differences in ICT usage between the two countries: the UK sample tended to use ICT for co-construction and interaction, whereas the French sample tended to use ICT for one-way transmission of information.

The comments raised by the instructors reflect some progress in ICT-mediated knowledge dissemination, illustrating a shift from the "instructor-centred" approach observed in 2013 to a more "learner-centred" approach in 2017, despite certain contextual differences in indulgence, long-term orientation and uncertainty avoidance. Echoing Jarke (2017), the emphasis is on engaging the learners by developing interactive communities in which the instructor facilitates co-creation of knowledge, as demonstrated:

"To enhance real-time interaction between the learners and me, I upload customised materials such as conference debates, press releases, industry blogs, user-generated podcasts and professional presentations to elicit dialogue" (Instructor in France).

"Learners are asked to demonstrate a working knowledge of the course materials I post online. Each course is filmed then uploaded. I use virtual team projects to evaluate learning; the advantage being that absentees can participate digitally" (Instructor in the UK).

"I post resources on Twitter and invite the learners to Tweet questions. When we meet face-to-face, I tweet a problem or question … the whole training session is based on responding to clicks and Tweets in real-time. At the end, I tweet a satisfaction survey and we go through the feedback to discuss how to make improvements for the next session" (Instructor in Britain).

"I created a "professional development" page on Facebook so that I can post extra course materials, links, clips and so on... however, even though it is a closed group, not everyone wants to join the group" (Instructor in France).

Although both the French and British instructors facilitate instructor-learner interaction physically and virtually, the verbatim point to the impact of power distance and uncertainty avoidance (Hofstede, 2001). Specifically, whereas the British instructor will use real-time communication, the French instructor will avoid spontaneous interactivity, and thus a division is maintained between professional and personal space.

"Wikis and podcasts are ideal for enhancing skills development for people who have missed out on upskilling and cross-skilling – but who want or need to learn" (Instructor in Britain).

"Digitising the learning materials means that any registered learner can access these tools and then work at their own speed" (Instructor in France).

The comments raised by the instructors demonstrate the extent to which interactive tools offer (lucrative) opportunities for powerful information sharing and collaboration. The French and British instructors provided responses that reflect an evolution – compared to the first phase of data collection – in perceptions and usage of ICT in CPD, and some convergence of behaviour in the choice of ICT for knowledge dissemination. Confirming the work of Hofstede (2001), the British instructor (above) nevertheless articulates the enjoyment aspect of ICT-enhanced learning (as described by Roberge & Gagnon, 2014, and Green, 2015), in contrast to the French instructor (above) who tends to take a more long-term, pragmatic view of ICT in CPD.

Overall, the instructors' choice of ICT is learner-oriented and somewhat "maverick", suggesting that we are still in an era of discovery and experimentation. It may also suggest that there is (as yet) no consensus as to which tools could or should be used in CPD.

Reflection on Key Findings to Draw Managerial Implications

In our study, the cultural context significantly affected the adoption and usage of ICT in CPD. Despite similarities, subtle cultural factors influenced the diffusion of ICT. In the first survey with instructors in 2013, the institutional/managerial position played a key role in driving innovation. ICT usage was embraced as a competitive advantage, generating efficiency in knowledge dissemination, market development, cost reduction and differentiation. It was used as a performance indicator for both individual performance and collective performance (see Appendix 3-5). The instructors in the UK reflected a more intensive use of ICT in CPD; greater management commitment had triggered higher adoption and usage of ICT. These observations correlate with the verbatim that reflect a technology-mediated approach, endorsed by proactive management policy and practice. ICT usage in CPD was found to be more prescriptive in the UK. Although the instructors in each context had the same level of ICT provision, the French instructors demonstrated lower awareness and usage, owing to three factors revealed in the verbatim: lack of information about the availability of ICT; insufficient training measures; inadequate management support to harness the opportunities offered by innovative technologies. These findings serve as a reminder that managers have a responsibility to provide structured support and ICT training in order for instructors to adopt good practice and embrace ICT for CPD, rather than relying on the goodwill of trailblazers to experiment with new tools.

Allowing 60 months for widespread ICT adoption in CPD, comments raised by managers in the focus groups (Phase 2) demonstrated converging trends between the two national samples. The main issues of concern concentrated on two areas: ICT for facilitating autonomous knowledge acquisition and flexibility, and relevance of content for the current job market, in line with the work of Charron & Raschke (2014), Tierney *et al*. (2016) and Jarke (2017). The challenge for managers is to integrate the cultural dimension into the adoption and choice of platforms for CPD (c.f., the verbatim showing preference for LinkedIn over Twitter); and to overcome the difficulty of the intangible cultural idiosyncrasies (i.e., user behaviour).

In the interactive seminar with local employers (Phase 3), the issues raised by the participants were grouped into two areas: using ICT to communicate effectively between the CPD provider and the company, and secondly using ICT for knowledge dissemination face-to-face and post-programme. Comments articulated by employers underscore the extent of the utilitarian/indulgence perspective (see Morris & Waldman, 2011; Zhou, Jin, Fang & Vogel, 2015; Lanier & Kirchner, 2018); however, there is no "one-size-fits-all" approach for using ICT in CPD. In the British sample, there is evidence of greater emphasis attributed to making learning enjoyable and relevant to the current job market. CPD needs to focus more on the needs of the individual rather than on the organisational goals. More flexibility and innovation is called for in the design of CPD materials which would enable learners to fit CPD into their increasingly "connected" lifestyle.

In the forum with CPD instructors (Phase 4), the results demonstrate a relatively advanced use of innovative technologies for knowledge dissemination – more visible in the British sample than in the French sample, however. The notion of using ICT to facilitate the sharing and co-creation of knowledge was anchored in the pragmatic design and delivery of CPD. The instances of innovative CPD reported in this study are instructor-led. Despite this overall picture of widespread adoption, certain nuances of cultural-specific behaviour are observed, particularly in the ease/readiness to trail-blaze interactive ICT (in the UK sample) and reliance upon hierarchical direction to innovate (in the French sample).

Managers need to create a culture in which individuals are encouraged think innovatively. In line with Responsible Management thinking (Cornuel & Hommel, 2015; Beddewela *et al*., 2017), there is a rationale for using social technologies (with which learners are already familiar) in order to reach the wider community of learners and to design CPD that provides access to lifelong learning.

Naturally, the perceptions and usage of ICT have evolved between 2013 and 2017. While there has been some convergence between the instructors in each national context for using ICT, framed by personal preferences for innovative technologies, it does not follow that other stakeholders (managers and local employers) are able or willing to integrate these ICT for managing CPD. The way in which ICT is interpreted by managers and local employers is shaped by the needs and constraints of the wider business environment. In order to improve the use of ICT in CPD, it would be constructive to create a more equal distribution of power and trust between different hierarchical levels. Moreover, it is vital to introduce policy measures that enable individuals to feel comfortable and inspired to embrace technological change.

Limitations and Further Research

Caution needs to be exercised when interpreting the results and extrapolating to other contexts since the study has several weaknesses. Firstly, the approach can be critiqued for applying two existing models on a limited field of research and then proposing an extension through an international comparison. Our approach was to question the differences in usage and perception through a cultural lens. We recognise, however, that these differences in practice are not only due to the cultural dimension. Thus, individual specific characteristics – such as ambition, personal expectations and attitude to change – are all factors that can be discriminatory within the same culture. By selecting our theoretical framework, we cannot account for these aspects.

Secondly, the modest sample size and the context (CPD) restricts the breadth and depth of ICT perceptions and usages; furthermore, a two-country comparison omits other national/cultural contexts. Next, other frameworks such as Millefeuille Theory (Kalika, Chark and Isaac, 2007) could have been used to provide a wider perspective of ICT adoption and usage, instead of using Rogers' model of diffusion and adoption of innovations and Moore's concept of early/late adoption of technology. Lastly, the study is based on CPD instructors, CPD managers and local employers, thus excluding other stakeholders such as learners.

Despite these limitations, various possibilities exist to extend the research. It would be useful to compare ICT perceptions and usages with other European countries and in other settings; and to develop a framework for comparing how different contexts (socio-economic, political, technological and corporate culture) may influence perceptions and usage. To provide a more holistic view, future studies could also include the views of other stakeholders (such as learners) vis-à-vis new ICT (such as web 3.0 tools and 5G) to explore how far their expectations are taken into consideration and met. Similarly, other more qualitative and contextual approaches could also be considered, including those that integrate the corporate culture of the organizations in which the respondents work (managers, employees, etc.). This last suggestion would shed light on how corporate and managerial cultures can be very different, between large companies and start-ups in the field of CPD training.

Concluding Comments

Over the 4-year study, perceptions and usage of ICT in CPD have shifted from a pedagogical philosophy to a fundamental component of the business model, representing a pragmatic response and economic interest in the integration of innovative technology. By 2017, there was convergence in the perceptions and usage of ICT in CPD among CPD managers, local employers and CPD instructors. This convergence can be attributed to two factors: firstly, technology diffusion is generally uneven and chaotic, taking several years to be widely adopted (Meade & Rabelo, 2004; McGrath, 2013) since adoption follows a dynamic path based on trial and error (Awa *et al*., 2016); secondly, the integration of ICT into CPD (as an instructional tool) is slower than ICT adoption in other industries (Mostafa, 2015; Josefsson *et al*., 2015).

Convergence in perceptions and ICT usage was observed among the three groups investigated: CPD managers, local employers and CPD instructors. This is the main finding of our study – however, the verbatim suggest that convergence is not limitless; diverse behaviour persists, owing to personal preferences and the different national contexts. Behind the convergence of attitudes towards ICT, a number of differences in behaviour persist, stemming from personal preferences and national cultural contexts (such as government policy towards investment into ICT infrastructure, lifelong learning, employability, etc.). Culture is not static, however; it changes imperceptibly over time, bringing new opportunities (including new attitudes and behaviour regarding ICT) as well as new constraints (for example, lassitude of ICT and deviant user behaviour).

The use of ICT in CPD dovetails with the growing awareness of the need for Responsible Management Education to bridge the gap between managerial practice and managerial instruction. The use of ICT in CPD is essential for optimising service delivery and effective resource management; CPD is a shared responsibility for employees to develop their skills and knowledge, and for employers to provide appropriate learning opportunities.

In our study, the participants were conversant with the opportunities afforded by modern ICT. Their day-to-day ICT usage is framed by their work environment. Thus, the CPD instructors demonstrated a pragmatic response to ongoing technological developments; acknowledging the pervasiveness of technology, they have integrated and adapted digital tools for improved communication and knowledge dissemination. They are experienced in using ICT for "reflective practice". The CPD managers were aware of the need to keep pace with technological innovations in order to manage resources according to the current business model. They recognised which tools are fit-for-purpose in CPD and compatible with today's social, mobile and wireless workplace. The local employers acknowledged the importance of developing a culture and structure of CPD; reflecting an understanding of the need to identify the stage of career that employees are currently at, and to plan their development relevant to their needs at that stage. Two-way communication between employers and CPD providers is fundamental to achieve this need. Likewise, the verbatim provides evidence that managers did not take into account the needs of instructors.

Above all, our study highlights how the cultural context impacts upon the managerial approach and how this prism is largely invisible/intangible. Consequently, it is essential to take into account the cultural context when introducing/encouraging ICT-driven change. The findings underscore the strong relationship between technology and society, as discussed in the literature. By providing contemporary cross-cultural insights into perceptions and usage of ICT in CPD in France and the UK, this research contributes to the understanding of socio-technical interaction by explaining ongoing and evolving ICT usage, and by illustrating how different users perceive and interact with new ICT in different ways, shaped by their cultural context.

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APPENDIX 1
Survey structure

TABLE 1
Sample questions - see p. 5

Themes	No. of questions	Sample questions
Overall ICT perception	7	**No. 2 - The usage of ICT has changed our relationship with information:** ☐ disagree ☐ mostly yes ☐ rather ☐ yes
Key pedagogical implications	4	**No. 9 - If yes, in which ways? (several responses are possible):** ☐ collaborative support (blog, wiki, online community, ...) ☐ video clips / podcasting ☐ broadcast yourself ☐ dynamic learning (serious game)
Personal usage and trends	22	**No. 12 - Have you integrated ICT into your delivery? (if yes, go to Q 14)** ☐ yes ☐ no
		No. 14 - If yes, what kind of use? few responses possible): ☐ to prepare a class ☐ for distance learning ☐ to deliver a class face-to-face ☐ for interactive collaboration
Managerial aspects/perception	15	**No. 42 - Is the use of ICT recognized and appreciated by your institution and training manager (as performance criteria)?** ☐ disagree ☐ mostly yes ☐ rather ☐ yes
Personal data	5	**No. 49 - Status as a CDP trainer** ☐ part-time trainer ☐ short-term trainer contract ☐ full-time trainer ☐ ad hoc/ guest trainer
		No. 50 - Seniority in training ☐ - 2 years ☐ 8-10 years ☐ 2-5 years ☐ + 10 years ☐ 5-8 years

TABLE 2
Structure of sample returns – see p.5

	Size sample	Answers	Response rate
French	350	89	47%
UK	350	100	53%
total	700	189	27%

APPENDIX 2
A similar overall pattern of ICT usage

TABLE 3
Level of "engagement" – see p.5

The integration of ICT in to training (Y/N):	**F**	**UK**	**Changing the role of the instructor (Y/N):**	**F**	**UK**	**Favourable of using ICT in training delivery** (in keeping with social evolution) **4-step scale:** disagree/rather/mostly yes/yes	**F**	**UK**
Yes	81%	98%	**Yes**	66,3%	79%	**Average**	2,17	2,38
No	19%	2%	**No**	33,7%	21%	**Standard deviation**	0,74	0,71

TABLE 4
Observed similarity in attitude towards using ICT - see p.5

Ranking in order of importance of the instructor's roles (from first to last)	**Ranking**	**F (average)**	**Ranking**	**UK (average)**	**Level of motivation of whole sample combined**	
To transmit knowledge	2	1,82	3	1,73	Completely motived	60,6%
To facilitate learning	1	2,39	1	2,30	Some reservation	37,8%
To coach	3	1,79	2	1,97	Not at all	1,6%

APPENDIX 3
Observed difference in level of ICT maturity

TABLE 5
Difference in ICT maturity – see p.5

Expectations of ICT	French	UK	In response to
Collaborative support (online community, wiki, blog, ...)	66,3%	40%	How do you think CPD needs to integrate ICT?
Dynamic learning (serious games)	59,55%	61%	
Broadcast yourself	19,1%	56%	
Video clip/ podcasting	35,95%	84%	
Real and personal usage	**French**	**UK**	
To prepare CDP materials	80,89%	86%	How do you use ICT in CDP delivery?
To deliver a class face-to-face	76,40%	74%	
For distance learning	11,24%	62%	
For interactive collaboration	23,6%	71%	
Comfortable feeling with using web 2.0 tools	**French**	**UK**	
Yes	53,9%	85%	Your opinion of ease-of-use
No	46%	14%	

TABLE 6
Usage tendencies – see p.6

Usage of tools on a 4-step scale: Never / almost never / occasionally / systematically	French average	UK average
Power point	3.58	3.61
Internet usage for retrieving information	3.55	3.62
Usage of video clip during the class	2.76	2.96
Intranet	2.97	3.34
Posting learning materials online	3.17	3.52
Posting complementary information online	2.72	3.40
Posting exercises online	2.39	3.43
Virtual library materials	2.57	3.13
Databases online	2.53	2.97
Using video of yourself delivering training	1.18	1.71
Use of serious games during class	1.64	2.01
Use of blog	1.46	1.99
Use of wiki	1.16	2.30

In **bold**: elements that are under-represented in the French sample vs. UK sample
In *italic*: non-significant elements

APPENDIX 3
Observed difference in level of ICT maturity

TABLE 7
Tools of ICT-enabled knowledge dissemination – see p.6

	Collaborative tools approach		Information oriented approach	
		Contribution rate		Contribution rate
Variables	Blog	0,98	Intranet	0,98
	Wiki	0,94	Power point	0,9
	Personal video	0,95	Online lessons	0,99
	Serious games	0,97	Course complement	0,85
	Illustrative video	0,8		
	Internet information	0,81		

TABLE 8
Typologies of ICT usage – see p.6

	Type A: Traditionalists	Type B: Knowledge dispensers	Type C: Knowledge sharers
Characteristics	Very little use of even the most basic ICT and no evidence of using collaborative tools.	Use of web 1.0 information-oriented technologies (email, PowerPoint, WORD documents & basic Internet searches to prepare training materials). Knowledge is dispensed/ distributed from instructor to trainee.	Use of web 2.0 tools (virtual learning environments, social media, online communities etc.) for preparing and disseminating training materials; knowledge is co-created, collaborating and interactively among trainees, facilitated by the instructor.

APPENDIX 4
Different management policy/ business model (i.e., business philosophy)

TABLE 9
Management practice – see p.6

	France	UK
Over the last 5 years, have you noticed or felt an evolution in your institution?: Clearly / partially / none		
Average	1,81	1,49
Standard deviation	0,56	0,54
Is the use of ICT recognized & appreciated by your institution and training manager as performance criteria? Disagree / rather / mostly yes / yes		
Average	2,40	3,93
Standard deviation	0,97	1,16
Did you receive training?		
Yes	19,10%	82%
No	80,90%	18%
Do you consider it satisfactory?		
Yes	52,94%	79,26%
No	47,06%	20,74%
Do you consider it sufficient?		
Yes	23,52%	62,19%
No	76,43%	37,81%
For instructors, what is the institutional position		
ICT is available if required for CPD	40,44%	7%
ICT is suggested / encouraged for CPD	42,69%	46%
There is an obligation to use ICT	16,85%	47%
Usage of Web 2.0 tools is		
Willingly	97,72%	84,88%
Obliged	2,27%	15,12%
The usage of ICT constitutes competitive advantage for CPD: Disagree / rather / mostly yes /yes		
Average	2.01	2.30
Standard deviation	0.82	0.86
Evidence of ICT for distance learning		
Yes	9%	51%
No	91%	49%

TABLE 10
Institutional ICT infrastructure – see p.6

	France			UK		
	Yes	No	Don't know	Yes	No	Don't know
Computers	98,9%	/	1,1%	97%	2%	1%
Wifi	92%	1,1%	6,9%	97%	3%	/
Information platform	86,5%	/	13,5%	60%	32%	8%
Collaborative platform	52,8%	5,6%	41,6%	71%	22%	7%
Online database	77,5%	/	22,5%	84%	12%	4%
Virtual library	74,2%	/	25,8%	86%	10%	4%
Social media	48,3	4,5%	47,2%	76%	17%	7%