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Blending technology and face-to-face: Advanced students' choices

RUTH TRINDER

Vienna University of Economics and Business
(email: rtrinder@wu.ac.at)

Abstract

It has been suggested that current research in computer-assisted language learning (CALL) should seek to understand the conditions and circumstances that govern students' use of technology (Steel & Levy, 2013). This paper attempts to identify critical factors accounting for student choices, first, by investigating advanced learners' reported use as well as their views on the potential of specific technological resources for language learning, and, second, by widening the perspective and surveying students' ideal learning environments. Learners' reasons for preferring teacher-fronted classes, blended learning, immersion or technology-mediated settings yield useful information on how students perceive the strengths and weaknesses of interaction/engagement with material (i.e. technological) as well as social (i.e. human) resources, and how the roles of teachers/classes can be conceptualised today.

Data was collected via a survey of 175 Austrian university students which included Likert-type ratings and free text responses to open questions. Findings indicate that though the cohort routinely use a wide range of technology tools in their everyday lives and show awareness of the potential of ICT for language learning, a number of barriers exist based on learner beliefs/conceptions and learning aims. Thus the notion that enhancement of communicative competence is intrinsically tied to personal interaction with native speakers means that the potential of communication technologies such as Skype is not fully appreciated. It was further established that though many students are well versed in blending different technological resources in line with the criteria identified, thus displaying the hallmarks of autonomous learners, there was a clear preference for real-life compared to virtual environments.

Keywords: CALL technologies, language learning environments, material and social resources, learner contributions

1 Introduction

At a time when the ubiquity of networked technologies, global media, the internationalisation of universities, the predominance of English on the internet, the rise of English as a lingua franca (ELF), and other by-products of globalisation conspire to produce easy access to an extremely diversified spectrum of learning opportunities for students of English, it is becoming particularly relevant to identify the ways in which students use and blend available resource to support their learning. This study explores to what extent students recognise

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the media they routinely use for entertainment, communication and studying as authentic language learning (LL) opportunities and consciously employ them for that purpose alongside more traditional resources. A consideration of students' ideal learning pathways and environments will provide important indicators of what they appreciate in a variety of "material" and "social" (Palfreyman, 2006), face-to-face (f2f) and computer-mediated resources, and to what extent such preferences mesh with their self-assessed needs.

As Kramsch (2014) notes on the topic of language teaching in the age of globalisation,

> There has never been a time when language teaching and learning has been more interactive and more imaginative than today. Communicative pedagogies have made the classroom more participatory, electronic chatrooms have loosened the tongues and the writing of even the shyest students, video and the internet have made authentic materials available as never before, telecollaboration and social networks have increased students' access to real native speakers in real cultural environments – and yet there has never been a greater tension between what is taught in the classroom and what the students will need in the real world once they have left the classroom. (Kramsch, 2014: 296)

This observation is particularly apt for the present study as it touches not only on global developments and technological advances that enhance language teaching and learning but also on students' needs and goals within this changing world. By implication, it also points to limitations students might perceive – whether they are justified or not – in their formal teaching environments. And indeed, in a previous qualitative study focusing on learner beliefs and strategies conducted at the same business university (Trinder & Herles, 2013), the respondents – advanced learners of English – seemed to have quite finely honed ideas about what kind of language skills and competences would be crucial in their future professional lives: excellent communication skills in English and a good working knowledge of one or two other languages would give them the competitive edge in international work environments. These clear-cut suppositions meant, in turn, that they were quick to pinpoint shortcomings of the English for specific purposes (ESP) programme they are taking part in – and quite definite about which resources, technological and otherwise, they could access to counteract these perceived constraints.

This paper builds on the above study in so far as it incorporates some insights gained into what this particular student body contributes to the learning environment in terms of learning culture, defined by Riley (1997: 122) as "a set of representations, beliefs and values related to learning that directly influence learning behaviour". It starts from the premise that respondents' preferences concerning formal learning spaces (e.g. teacher-fronted classes, blended or distance learning) and independent learning activities will be underpinned not only by resource-inherent criteria, but also by conceptions of how languages are best learnt. Learner beliefs are nowadays considered critical factors influencing student choice of learning strategies and tools (Breen, 2001; Cohen, 2003; White, 2006; Yang, 1999), as well as their assessment of the effectiveness of certain teaching approaches (Horwitz, 1988; Wenden, 1999). In view of this link, an apparent conflict in the results of the earlier study seemed worth re-investigating in more detail: whilst respondents considered (oral) interaction one of the prime drivers of foreign language acquisition, they failed to list communication technologies amongst resources routinely used to support out-of-class

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learning. This conspicuous omission prompted one of the lines of inquiry of this investigation, namely the identification of perceived affordances and shortcomings of direct face-to-face vs. mediated electronic environments.

2 Rationale for the study and its points of reference

The enhancement of learner choice has become an important parameter in any learner-centred approach to language teaching, whether underpinned by theoretical (e.g. social constructivism), pedagogical (e.g. learner autonomy) or psychological (e.g. cognitive style, learner beliefs) perspectives. Educators concerned to foster learner autonomy and constructivists alike see students as active players who should be granted authority over their individual learning pathways (Peters, Weinberg, Sarma & Frankoff, 2011). The exploration of the link between learner choice, i.e. the individual routes in terms of tools and environments students select, and learner profiles in terms of needs, aims and beliefs is of particular interest for this study.

Two developments in particular have led to the current proliferation of learner choice. The first is the remarkable rise in easily accessible networked digital applications, which have not only impacted on many aspects of our personal and professional lives (Conole & Azelou, 2010), but have also "transformed the contexts, means, and uses of foreign language learning" (Kern, 2014: 340). As documented by numerous case studies and research reports in relevant CALL publications, generic as well as discipline-specific technologies (Levy, 2009) have made their entrance into classrooms all over the world to be used in the services of LL.

Contingent on this upsurge, a second trend relating to learning environments has been gaining strength. As Macaro observes in a discussion on learner autonomy, "[n]ew technologies may accelerate the injection of alternative ways of delivering a syllabus" (Macaro, 2008: 47). These alternative ways encompass a variety of flexible formats boosting student choice, from pure distance learning to the occasional integration of technology in traditional classrooms. White (2006: 259) points out that such environments are becoming the norm rather than the exception: "The boundaries between distance education and conventional education are fading, as more and more teachers move parts of their curriculum and learning tasks to the Web". She further posits that the investigation of "how students perceive the affordances of the different environments [online, instructed and independent], and how they contribute to developing a productive interface across different learning contexts" must be considered a crucial avenue for research (White, 2006: 261).

Never before has the technological toolkit been so well stocked nor the digital landscape so varied. Yet whilst the (teacher-controlled) integration of specific Web 2.0 technologies, and in particular blogs, wikis and chat, into classrooms has been the focus of much recent research activity, there is a scarcity of surveys that explore how language students participating in traditional educational formats make autonomous use of informal learning opportunities to supplement formal courses. What is more, only few studies have attempted to gauge and compare the take-up and popularity of the available tools in the toolkit amongst a particular cohort rather than, as is done more frequently, referring to "broad, undifferentiated trends in technology development over quite a lengthy period" (Steel & Levy, 2013: 307).

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The present study attempts to addresses this gap in the literature by surveying students' experiences with a variety of digital applications, focusing on learners' frequency of use and perceptions of usefulness concerning a broad range of technological tools. By comparing results to the data of a large-scale report compiled some years earlier (EACEA 09), it also seeks to find out how prevalent and "normalised" (Bax, 2003, 2011) the more recent Web 2.0 tools have become which, after all, are said to constitute the "second wave of online learning" (Kern, Ware & Warschauer, 2004) or the "next generation of CALL" (Egbert, Akasha, Huff & Lee, 2011).

Necessary preliminary steps consist, first, of an assessment of which technologies are in widespread use in the cohort's first language (L1) and which are used (perhaps even more frequently) in English. Recent reports attest that the new generation of Web 2.0 tools have become an integral part of students' everyday lives (Conole, 2008; Conole & Azelou, 2010), used for entertainment, communication, and information search as well as for more focused studying; and given that English is the dominant language on the internet, it is to be expected that much interaction takes place in that language. The ubiquity of Web 2.0 tools and social media such as Skype, Facebook and YouTube, located as they are "at the intersection of learning and social purposes" (Zourou, 2012), has radically expanded language learners' opportunities for exposure to informal, communicative English. Whether these instances of technology-mediated interaction are seen and valued as learning opportunities is another matter, however. Conole and Azelou (2010), for instance, point at a certain reluctance amongst users to acknowledge such engagement as learning, with some learners perhaps resenting the merging of boundaries between private and educational spheres. The EACEA 2009 report, which defines informal learning as "learning resulting from daily life activities related to work, family or leisure [...] which may be intentional but in most cases is non-intentional (or 'incidental'/random)" (2009: 12), similarly concludes that this type of learning is prone to "occur in settings where it is much more difficult to observe practices and learners are not always aware to what extent they are learning and that learning occurs informally" (EACEA, 2009: 15).

Despite this caveat, the EU-commissioned report (EACEA, 2009) is one of the few publications to provide a very comprehensive picture of the impact of ICT and new media not just on formal but also on informal LL. The study employed an extensive 230-item questionnaire, as well as interviews with stakeholders in eight European countries, to explore a broad range of issues including technology availability and use, perceptions of usefulness, discernible changes, and barriers to uptake. As it investigated both patterns of ICT use in everyday life and for LL purposes, it was taken as a model for the present study, with the questionnaire used in the current survey drawing partly on the quantitative part of the EACEA study. Where applicable, data of the present study will be compared to the EU report in order to provide indications of if and how technology-related behaviour has changed in the intervening period, i.e. between 2009 and 2013, when the data collection for the current study took place. Frequent reference will also be made to another recent paper that addresses the topic of normalisation of technology by investigating the technology landscape in its entirety. Steel and Levy (2013) charted changes in students' approaches to and perceptions of value of technologies in the service of LL between 2006 and 2011. Their study focused on Australian students' use of digital media inside and out of formal classrooms, and compared these findings to two similar surveys conducted in the UK and Canada five years earlier (Conole, 2008; Peters *et al*., 2008).

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A second main aim of the present study is to get some evidence of what actually constitutes an ideal learning environment for today's students in view of the proliferation of blended learning formats. A number of parameters, some simply based on observation, others on supposition and others again supported by research in educational settings, conspire to suggest that traditional teacher-led classes are becoming unable to cater for the expectations of tech-savvy learners – a spectre that has haunted language teachers in some form or another since the advent of technology in education. These factors include the evident affinity students show vis-à-vis their technological devices; the indisputable potential of technology for diverse areas of LL (for recent overviews, see Hampel, 2014; Levy, 2012; Stanley, 2013; Warschauer, 2011); the added convenience and increased learner choice of learning scenarios that incorporate online components; the increased "porousness" (Kern, 2014) of teaching formats, whether technology-supported or face-to-face; and the much-debated construct of the "digital native" (Prensky, 2001), etc. In view of all these facts and suppositions, practitioners might be forgiven for inferring that traditional classes are becoming a less than popular option, and that any increase in technology-delivered teaching will be welcomed by students. Even so, a number of studies have uncovered reservations students' feel about the introduction of technology in their courses, caused by apprehension about the reduction of face-to-face contact hours and the concomitant decrease in instructor guidance and attention (Diaz & Brown, 2010; Leduning & Wah, 2013; Owston, York & Murtha, 2013), and evidence is starting to emerge about a link between success in formal studies and satisfaction/effectiveness with blended formats (Owston *et al.*, 2013; Trinder, 2013).

These results suggest that an increased emphasis on learner profiles is necessary when studying the factors that shape students' preferences and chosen learning pathways. Perceptions of learning environments, resources and opportunities can be expected to differ due to variables like target language proficiency, level of autonomy, and learning aims and beliefs. As Palfreyman (2006) points out, for material resources to support learning they have to be not only "available and accessible" but also "meaningful" to learners within their social context. Engagement with a specific technological resource must be considered a worthwhile learning activity if it is to be deployed at all; and even if it is, how exactly the resource is used and interpreted will depend on the setting as well as on individual characteristics of the learners themselves. In order to come to any conclusions concerning factors influencing a cohort's technology preferences, it will consequently be necessary to first establish the pragmatic constraints and affordances of the learning context, and second then to go beyond individualistic concepts of the learners and focus on the characteristics shared by the majority.

3 Methodology

This survey-based study collected quantitative and qualitative data on students' (n = 175) reported use of technologies, on their perceptions of how they can benefit LL, and on students' preferences concerning language learning/teaching environments. Drawing on this data, specifically on the rationale given in the open-response questions for preferring or eschewing particular teaching/learning settings and/or technologies, factors accounting for students' choices will be presented by way of conclusion. The identification of these criteria, which are expected to be rooted not just in the technologies themselves, but also, and

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perhaps to a larger degree, based on learner-internal characteristics, represents the overarching aim of this study. A number of research questions, stated below, guided the data collection process and were meant to establish in which ways global trends (such as the availability of new generations of computer-mediated communication (CMC) and predominance of English and ELF in internet contexts) were reflected in individuals' perceptions of such media as learning opportunities.

1. Which types of technologies are used with high frequency in the L1? Conversely, how common/normalised has it become to interact with or via technologies in English (rather than the L1)?
2. Which (categories of) technologies are perceived as useful tools for language learning by advanced learners inside and out of classrooms?
3. Ideal learning environment: How does engagement with technology compare with other learning spaces offering face-to-face interaction?
    - Face-to-face vs computer-mediated communication
    - Face-to-face classes vs immersion vs blended vs tech-mediated teaching/learning environments

3.1 Participants

The study reported here was conducted at an Austrian business university which is fairly privileged when it comes to ICT resources and student mobility. The latter factor means that domestic students tend to have wide experience of ELF, often from their own travels or semesters abroad as well as from interacting with international students at their home university. And though students do have different backgrounds and learning histories, broad trends concerning respondents' aims (to be able to function effectively in business situations) and conceptualisations of learning have been identified in previous studies (Trinder, 2013; Trinder & Herles, 2013).

At this university it is compulsory for undergraduates to study at least one "FL for business purposes", with the majority choosing English. The sample consisted of students who had signed up for one of the more advanced classes of the Business English curriculum (corresponding to a level of B2 according to the European Framework, but focusing on ESP terminology and skills). That means that the respondents had already achieved a fairly high proficiency level as far as "general English" is concerned, as well as a sound basis in more specialised vocabulary and communication skills. One hundred and seventy-five students, with the majority in their eighth semester at the university, volunteered to take part in the study after the survey was endorsed by their class teachers. This represented a response rate of 65%. Students were sent an invitation by mail with a link to the online survey; the data collection took place in 2013.

3.2 Instrument and analysis

The questionnaire was divided into a number of components; however, for reasons of space, only two of them will be reported on in detail in this paper. The first section dealt with frequency of use of technologies (in respondents' L1 and in English) and the second with perceptions of usefulness to support language learning in general. In line with the EACEA survey, a Likert-type scale (never, occasionally, frequently, daily) was used for the analysis

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of frequency; response options for perceptions of usefulness were: has helped "very much", "somewhat", "not at all". Simple frequencies and percentages were calculated (using Excel) in order to allow comparison with the EACEA study. Furthermore, students were given the option to indicate in an open-response field which technologies they found particularly useful, and why/for which skills.

One key challenge in the development of the instrument was to determine how fine-grained items could be, without overloading students with long lists of technologies. As the focus was to be on the activities undertaken by students rather than the technologies supporting them, the list could be reduced to sixteen (to compare: EACEA (2009): 23 items; Steel and Levy' (2013): 15 items). Thus various forms of broadcasting that potentially train listening skills were combined under one heading (e.g. interactive/downloaded/streamed TV). On the other hand, a category such a "general web content" (EACEA) to potentially support receptive skills or vocabulary acquisition seemed too broad, as respondents were business students and might have inherent interest in more discipline-specific vocabulary. Consequently, although categories are bound to overlap to some extent, the "various websites" item used in the EACEA study was broken down into three items: company websites, informational websites such as Wikipedia, and online news sites.

The second part of the survey broadens the perspective to assess advantages and disadvantages of "real" as opposed to "virtual" learning and teaching environments, including formal and informal learning contexts as well as combinations thereof, and looks at students' previous experiences with blended learning. Answers to the open-response questions in this section were particularly useful in helping to identify the underlying factors shaping students' experiences of learning opportunities, materials and resources – be they social or material, face-to-face or technology-mediated.

Finally, a third short section (not to be reported on here) asks students to rank their agreement with fifteen learner belief statements. This list was generated from an earlier, mainly qualitative, study (Trinder, 2013) in which students representative of this sample commented on their conceptions of effective LL. The aim of this third part was to substantiate hypothesised links between respondents' aims and beliefs and their choice of resources.

4 Results and discussion

4.1 Research question 1 (Frequency of use for everyday purposes)

For the following discussion, a categorisation into three types of technologies is proposed. "Communication technologies" include devices and applications that facilitate one-to-one or one-to-many communication (e.g. chat, blogs); "input/content technologies" refer to general web content and online/stand-alone media which tend to be used for entertainment or information retrieval but also provide second language (L2) input (films, online news); and "discipline-specific technologies" are digital language learning tools and materials in the narrower sense (online dictionaries, digital courses). Use in L1 was included, as a separate set of items, for the first two categories in order to get a background of general trends unrelated to language learning. Table 1 illustrates some results concerning L2 use only; a full list of frequencies can be found in the Appendix.

In view of the vital role interaction and (social) networking play in students' personal lives, it is not surprising that the recent transformations in the area of communication

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Table 1 *Frequency of use: most and least popular technologies according to category (n = 175)*

A	B	C
Communication technologies	Input/content technologies	Discipline-specific technologies
	Most frequently used technologies	
Social networking sites: 58% daily or frequently 14% never	Informational websites: 71% daily or frequently 2% never	Online dictionaries: 94% daily or frequently 0% never
Email: 45% daily or frequently 9% never	Downloaded/streamed films/ clips/TV series: 74% daily or frequently 5% never	BE e-learning modules: 42% daily or frequently 11% never
	Least frequently used technologies	
Blogs: 65% never 10% daily or frequently	Ebooks: 66% never 7% daily or frequently	English courses on DVD/CD: 89% never 1% daily or frequently
Voice chat: 41% never 14% daily or frequently	Satellite and/or cable TV/radio: 25% never 31% daily or frequently	Language learning websites: 53% never 5% daily or frequently

technologies – e.g. smartphone apps – make them indispensable for this demographic. Texting, emailing and social networking are the top three activities in the L1, with perhaps the most unexpected result being that thirteen (14%) students resisted peer pressure and zeitgeist and were not members of any online social network. In the L2, social media is the most frequently used communication tool (38% daily and 20% frequently). This suggests that social networking communities are much looser and more diverse in terms of nationality and mother tongue than the closer circles of friends with whom students exchange mobile phone numbers and texts. Only a minority use Skype and similar instant messaging sites regularly to chat in English, and blogs and discussion forums are rarely used in either the L2 or L1.

Demographic and contextual parameters clearly play a role concerning the attractiveness of input/content technologies. Viewing downloaded/streamed films and video clips that are in English onto desktops or portable/mobile devices is more popular than German equivalents. Seventy-three per cent of students report that they engage in this activity daily or frequently, a much higher percentage than for watching films on DVD (41%). The pragmatic factor of availability restricts the use of English language television: only very few English language cable or satellite channels are obtainable in Austria, whilst Austrian or German channels predominantly show dubbed films and TV series.

Regarding the third group, disciplinary technologies, it is noteworthy how big the differences in popularity are: online dictionaries, a classic CALL "tool", are ubiquitous (used by 94% daily/frequently); by contrast, instructional media such as English courses on DVD, grammar and general language-learning websites are eschewed (89% never use courses on DVD/CD; only 5% regularly visit language-learning websites). The only "tutor" technology enjoying fairly regular use is the institutionally provisioned business English (BE) e-learning modules, which have the same ESP emphasis as the classes and are thus

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target-focused as far as students' studies are concerned. The relative unpopularity of general English language courses and grammar sites may reflect the fact that respondents are advanced learners, and need to acquire and practise mainly business-related language as provided by the e-learning modules. In other words, the learning potential of the former applications is assessed as low.

4.2 Research question 2 (Perceptions of usefulness of technologies for language learning purposes)

The second set of questions focuses on the perceived value of ICT for LL. Respondents indicated whether a technology had helped them improve their language skills (options: very much; somewhat; not at all). Table 2 shows 16 applications ordered according to perceived usefulness (column 1). In order to illustrate changes in preferences over time, results of the EACEA study (conducted 2007 to 2009) are represented alongside (column 2). To facilitate comparison with the single "yes, has helped" option of the earlier study, results of this study are presented in the same way in column 1 (i.e. the sum total of options 1 and 2), whilst column 3 splits the results according to degree of agreement. Column 4 refers to frequency of use (RQ 1); technologies engendering regular use by more than 40% are labelled "F1".

Relating frequency of use and perceived usefulness, it becomes evident that technologies tend to follow a broadly similar ranking. Only four technologies are high frequency use and perceived as very helpful for LL, namely online dictionaries, TV/radio/video clips (traditional, downloaded or streamed), films on DVD/BluRay, and online news sites/journals. As different as three of these technologies seem at first glance, they all offer learning potential. The answers in the open-response boxes supplementing the quantitative data give some indication of what exactly students value about these tools: the chance to improve listening skills, to get used to different accents and informal language whilst enjoying authentic, rich visual entertainment in the case of films; or the more target-oriented and focused expansion and reinforcement of professional vocabulary in the case of news sites and online journals. Dictionaries help with unknown linguistic items and can thus foster comprehension, vocabulary acquisition and writing skills. For these advanced learners, the other F1 technologies appear to offer less scope for needs-based language development.

Comparing these data to the EACEA (2009) survey conducted several years earlier provides evidence that the technology landscape is not only characterised by change, but also by constancy. On the one hand, the increased pervasiveness and ubiquity of technology access influence behaviours: students engage with technologies much more prodigiously (and from a much younger age onwards – hence the digital native label) than even a few years ago. As ever more technology-mediated interaction and input is in English, exposure to the target language and opportunities for informal, incidental learning multiply, which is reflected in the assessment of usefulness. On the other hand, though frequency of use has amplified, the affordances of individual technologies tend to stay roughly the same, and so, at least according to this data, do students' expectations of learning environments and resources – contrary to the digital native allegory. Thus it is quite striking that the order in which technologies are ranked remains generally similar. In both surveys the number 1 position is held by online dictionaries, followed by films and email.

Amongst communication tools, email is seen as the most helpful application for language development – again in both studies. This is interesting in view of the plethora of instant

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Table 2 *Ranking of perceived benefit of technologies for language learning and frequency of use*

Category		1 Present study 2013: technology **has helped**	2 EACEA study 2007/09: technology **has helped**	3 Present study: technology has helped **very much** (vs somewhat)	4 Present study: technology used in English daily or frequently (**F1**: more than **40%** daily or frequent use)
C	Online dictionaries	99%	(Dict. **and** grammars) 89%	**74%** (26%)	**(F1)** 94%
B	TV/radio/video clips (traditional, downloaded, streamed etc.)	93%	65%	**67%** (26%)	**(F1)** 73%
B	Online news sites/journals	91%	–	**51%** (40%)	**(F1)** 45%
B	Films etc. on DVD/ BluRay	85%	85%	**60%** (25%)	**(F1)** 41%
C	BE e-learning modules	85%	–	**38%** (47%)	**(F1)** 42%
A	Email	81%	78%	**23%** (58%)	**(F1)** 43%
B	Company or informational websites	75%	–	**18%** (57%)	Company websites **(F1)** 45% Informational websites **(F1)** 71%
A	Social networking sites (SNS)	74%	40%	**23%** (51%)	**(F1)** 58%
A	Written chat (e.g. Skype, Messenger)	74%	50%	**23%** (52%)	36%
C	Online grammars	68%	(Dict. **and** grammars) 89%	**22%** (47%)	18%
B	Ebooks/books	63%	–	**41%** (23%)	Ebooks – 9% Books – 35%
A	Voice chat (e.g. Skype, Messenger)	52%	38%	**15%** (37%)	14%
A	Text messages/SMS	49%	30%	**9%** (41%)	27%
A	Discussion forums	42%	48%	**7%** (35%)	12%
C	Language learning sites/courses (online, mobile or on DVD/CD)	35%	68%	**7%** (29%)	Online – 5% DVD – 1%
A	Blogs	30%	49%	**7%** (24%)	9%

Note: Category A = communication technologies, B = input/content, C = discipline-specific.

communication tools available and suggests that email, as an asynchronous and less instantaneous form of communication, is starting to fulfil slightly different functions in more serious contexts (work, studying) compared to chat, Facebook (FB) and texting; it is less closely linked to mobile technologies than social networking apps and messaging services, and thus more likely to involve longer texts in more well-considered and complex language. Although social networking is a high frequency activity, less than a quarter of respondents considered it very useful for language development: apart from the above-mentioned lack of complexity of the language routinely encountered there, the lingua franca characteristic of English may turn into a perceived drawback for advanced learners who aspire to native-speaker norms. Students alleged that the majority of their FB contacts were non-native speakers of English and thus not necessarily reliable models.

Finally, the three technologies at the foot of Table 1 – discussion forums, digital language-learning courses and blogs – provide further evidence of a link established in the earlier studies quoted (Steel & Levy, 2013; Peters, Weinberg & Sarma, 2008), i.e. that technologies which are not prevalent are rarely considered valuable learning tools. Steel and Levy (2013) point out the noticeable discrepancy between the importance of certain technologies to learners, and the attention they receive in research (blogs and wikis being the most researched Web 2.0 tools). The low ranking of blogs in the current study is a further example of the "disconnect" between CALL research and actual use as noted by these researchers.

To sum up the results so far, the first technology group, i.e. input/content media, shows a clear student preference (reflected in ratings of usefulness) for entertainment media with a strong visual and aural element such as film, video clips and TV shows. Engaging with these media provides a rich learning experience with plentiful examples of the kind of English respondents miss in their formal classes (informal, social English; "general" English as opposed to ESP). Learners can listen to authentic language and diverse native speaker accents, with the multi-channel element creating a quasi "virtual immersion" exposure to mainly informal English. According to students, listening to native speakers trains their own pronunciation and speaking skills – a form of incidental learning whilst enjoying an everyday pastime.

Amongst the discipline-specific applications, only dictionaries and the university-provisioned BE e-learning modules are widely recognised as helpful. Both of these technologies, though very different in nature, focus on addressing specific needs or gaps in the users' competence on an ad-hoc basis.

Particularly noteworthy, are the results concerning communication technologies. All the standard means of computer-mediated or mobile communication, from email to texting, are extremely popular with students in their L1 – but, apart from email, much less so in English. Since Skype, Messenger and other providers offer the opportunity for voice chat at low or no cost and students believe in the importance of oral interaction, some barriers must exist that prevent better uptake of these technologies for learning purposes. The two questionnaire items focusing on the perceived differences between f2f and online chat (RQ 3.1)[1] are discussed below.

[1] The questions were: "In the context of language learning, do you think there are advantages of f2f communication compared to technology-mediated communication (e.g. voice chat)?" "If yes, please specify the advantages".

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4.3 Research question 3. Ideal learning environment: How does engagement with technology compare with other learning spaces offering face-to-face interaction?

4.3.1 Face-to-face vs. computer-mediated communication. A clear majority of students (78% of respondents) preferred communicating f2f to voice or video chat in order to improve their English fluency. The reasons provided in an open-response question can largely be allocated to three areas: technical, emotional/cognitive, and (lack of) verisimilitude/authenticity of situation. CMC was perceived as a less efficient way of interacting, which had a less positive impact on the learning process than f2f, for the following reasons:

Technical: Students take issue with the sound quality, pointing out that inferior acoustics and disruptions/delays in transmission make it harder to pick up the finer points of language and pronunciation. Some find that the lack of robustness and potentially unstable connections of voice/video chat add stress to the situation; furthermore, there is the danger of being distracted by other applications. In this respect the multi-functionality of networked/mobile devices represents a disadvantage.

Emotive/cognitive: According to students, the fact that a technology mediates the communication makes it "less direct", "less personal", "less focused" and "less spontaneous". The conversation is divorced from the context of shared social and physical surroundings, and consequently takes on an artificial and impoverished quality that fails to motivate. Many respondents feel energised by direct contact, miss "the joy of being with another human being" and of "focusing on the partner with all senses", which for them is inextricably bound to better learning outcomes.

Lack of verisimilitude/authenticity: Notably, given the time respondents spend chatting and messaging via mobiles and other portable devices in their L1, there are frequent references to voice chat being a poor substitute for "real-life conversation" since it is "only virtual", "not real", and "feels artificial". As adding the video function tends to impair the quality of connection, voice chat becomes a purely aural/oral form of communication, and the most frequently expressed disadvantages concern the missing cues of facial expressions and body language, which students consider a vital aid towards understanding: "F2f is always better; humans don't just communicate by what they say. Body language, atmosphere, surroundings – who wouldn't rather talk in person instead of talking via internet?!". What is more, the ready access to dictionaries encourages "cheating" in a way that is not possible in "real life". As one student puts it, "only by having to react immediately to your counterpart is it possible to build your confidence and learn how to actually use a language".

4.4 Research question 3.2: Ideal learning/teaching environments

4.4.1 Face-to-face vs. computer-mediated communication. It has been pointed out before that with the constant advancement of technology, both the use of ICT in classrooms and various forms of blended learning are becoming more and more normalised. That even a few years make a difference to the integration of technology into teaching practice is evidenced by the following percentages: The large majority of respondents in the current study is familiar with the employment of technology in language-learning courses, with only 4% (compared to 18% in the EACEA (2009) study) claiming that in their previous experiences with learning languages in a course or in some other systematic way digital/mobile technologies had played no part at all. For about a third ICT had been an occasional addition

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Table 3 *Ideal mode of learning/teaching environment*

Preferred mode	For studying a new language	For further improving the L2 (English)
Mainly in teacher-led face-to-face classes	20%	4%
Mainly in online/technology-mediated environments	2%	3%
Mainly in a blended learning environment (combination of teacher and technology-mediated environment)	24%	6%
Mainly in immersion environments abroad (e.g. study/travel/work in the country where the language is spoken)	42%	70%
Mainly through interaction with native speakers at home (e.g. tandem learning, conversation lessons, socialising)	8%	15%
Mainly through traditional media and resources (books, grammars, TV etc.)	5%	2%

(EACEA: 38%), for as many as 53% a regular component (EACEA: 29%), and for 11% (EACEA: 7%) even the main medium.

However, becoming a regular component is not the same as constituting the preferred environment. The high value respondents attach to the direct and personal contact with 'social resources' is also highlighted in their preferences regarding learning contexts and settings. Expanding on the section of the EACEA study that addressed respondents' attitudes towards different learning environments (i.e. f2f, online or blended learning), the items "immersion environments abroad, "f2f interaction with native speakers" and "traditional media" were added to yield a total of six choices, each for studying a new language and further improving their level of English.

Table 3 suggests that there is an inverse relationship between importance of teachers/formal classes and level of foreign language competence. A number of respondents who opted for study in immersion contexts explicitly added that "the basics" or "basic grammar and vocabulary" should be acquired beforehand – ideally with the help of a teacher. Noteworthy is the low popularity of the mainly tech-mediated as well as the tandem-learning option.

Answers to the follow-up open-response questions shed some light onto students' reasoning. The main reasons for preferring immersion environments reflect learners' beliefs about language learning: According to respondents, the constant exposure and variety of input facilitate a kind of effortless, subconscious, "passive" absorption of language; the close contact with people and culture represents a main motivator; learners encounter "real language" rather than course-book language and have to produce language under real conditions "in order to survive".

Those who opted for teacher-led f2f classes argue that they provide structure, progression and access to teacher and fellow students. As they see language learning as a social experience, the latter point is of prime importance and also explains the unpopularity of purely technology-mediated environments. It is the role of the teacher to control and structure the learning process, to answer specific questions immediately, and to provide corrective feedback, thus providing a focused and effective learning environment. As with the immersion option, students value being "put on the spot", i.e. not having access to

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technological help facilities and thus having to make do with their linguistic resources when they communicate.

Those who chose blended learning thought their option provides "variety", and "the best of both worlds", with the teacher offering guidance and structure, and technology giving the option to choose their own focus of practice independent of time and place.

4.4.2 Relating rationale to learner profiles. Although many of these reasons are rather universal, there are some points which are more specific to this cohort and point to particular characteristics. The emphasis on the social aspect of learning and the "joy" of direct face-to-face contact mentioned suggests a high proportion of extrovert personality types – which is not surprising in view of their choice of major. Again typical for business students and their "orientation towards purpose" (Carver, 1983: 133) is the focus on the importance of speaking skills and the emphasis on the "effectiveness" of solutions. Previous studies conducted at the same university (Trinder, 2013; Trinder & Herles, 2013) have shown that students consider excellent pronunciation, vocabulary and communicative competence as signs of competence, which would represent an advantage in (future) professional situations. Most of these advanced-level students are widely travelled; many have knowledge of additional languages. They can thus look back on first-hand experience with different forms of traditional, technology-mediated and immersion learning environments and will have formed strong beliefs on how languages are best learnt and taught. These personal characteristics as well as the ready access to technology may set them apart from other samples concerning their learning preferences and technology choices and thus limit the generalisability of the results.

Yet the notion that self-motivation and perseverance are difficult in any non-immersion situation that lacks structure and/or personal contact has been supported by numerous studies on distance learning. Also the suggestion that, in the case of "virtual" communication, the lack of shared physical surroundings, body language and contextual clues, which could be used to make meaning of communicative encounters, might diminish emotional engagement, authenticity of situation and, consequently, have a negative effect on learning is persuasive. Taylor (1994: 4) has claimed that "the interpretation the participants bring to both the setting and the activity" constitutes an important function of authenticity; and the frequent allusions encountered in the data to "real-life" situations and language appear to reflect and confirm this conception of "authenticity".

5 Factors determining students' preferred blend

It has been an overarching objective of the study to identify the reasons behind students' preferences and assessments of usefulness of a large array of resources and environments. The factors outlined below are extrapolated from students' open-ended responses and the quantitative data; they are interpretative in nature. As hypothesised, they are based on technology-inherent as well as student-inherent characteristics.

- *Lack of prevalence/familiarity/distinct advantage* Discussion forums are a prime example of an application being considered of limited benefit as students do not use it in their native language either, even though such forums fulfil quite a number of the criteria that would recommend them as learning opportunities. There may be two

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diametrically opposed reasons for lack of familiarity: a technology may still be too new; or conversely, lack a distinct advantage over applications already in use.

- *Robustness* This is bound to change in the near future, but at the moment, voice or video chat technologies, for example, are not normalised yet in that they may provide unstable connections. Students find that this adds unnecessary stress to communicative situations.
- *Richness, multi-modality, visual channel (virtual immersion component)* It appears that technological advances – particularly in the realm of portable devices – have accustomed students to constantly getting information and entertainment via auditory as well as visual channels so that text-only media are considered less attractive and authentic resources.
- *Ubiquity of access (mobile/portable technology, apps)* A strong argument for out-of-classroom, technology-supported learning is the ubiquitous anytime access to resources allowed by mobile devices.
- *Immediacy, accuracy and adeptness of help/answers* Respondents mentioned repeatedly that one of the reasons for attending classes is that teachers provide expeditious and trustworthy answers to any language or subject-related query. The same needs-based, ad-hoc help is also delivered by online dictionaries, of course.
- *Affective component (motivation, enjoyment)* This covers a wide range of (technological) resources as well as personal encounters; it was most frequently mentioned with reference to films, reading and meeting people, yet even classes were repeatedly referred to as motivating due to their social and cooperative aspect.
- *Target-orientation, effectiveness* This criterion explains the relative popularity of e.g. the e-learning resources developed by the department and online news sites and business journals; it also applies to formal classes.
- *Opportunities for corrective feedback* As many respondents set store by speaking "correct" English, which they believe will give them a competitive edge, they value opportunities for language output with a feedback loop, i.e. interactions where their "mistakes" are corrected by teachers, native speakers or digital applications.
- *Learning potential (native speaker, complex language, new language)* This factor may explain why communication media that tend to involve simplified/simple language such as SMS or social network posts and less advanced (non-native) communication partners are seen to be of limited benefit, or why websites frequented for routine transactions (shopping online) are visited a lot yet not considered conducive for LL.
- *Authenticity of input/situation/context – real-life practice* Students feel that exposure to authentic language and native accents prepares them better for real-life encounters involving anything from exchanging small talk to negotiating business deals. The criterion also means that CMC, which allows "cheating" (e.g. quickly looking up words online), is considered less beneficial. Consequently, real-life encounters are experienced as superior to voice and even video chat.

There has been no attempt to rank these factors according to importance as this is bound to depend on individual and contextual considerations. That means that though the more popular technologies clearly fulfil more of the above criteria than the others, there may be overriding concerns that make a particular resource or setting impracticable. For instance,

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we have seen that the majority of students consider a longer visit to the target language country – which would meet most of the requirements outlined above – the ideal way of perfecting their English, yet the required investment in terms of time and costs prevents many from taking this option. Also, there are some contradictory perspectives which necessitate trade-offs: thus the structure and timetabling provided by most formal settings which many find helpful for a sustained effort obviously conflict with convenience and ubiquity of access of many computer-mediated resources. Finally, the perceived effectiveness of any learning experience will depend on the (objective or subjectively-experienced) quality of particular resources and the degree to which they promise to fulfil individual learning aims.

6 Conclusion

This paper has attempted to go beyond a snapshot of which technologies and learning environments a cohort of students find conducive to LL by isolating factors that account for these preferences. It has further argued that the value which is attached to resource-inherent qualities will interact with characteristics defining the individual or the group. Such learner-inherent factors range from level of proficiency (beginner vs advanced) and personality variables (introvert vs extrovert) to learning aims (e.g. enhancement of speaking skills) and will determine whether individuals prefer a safe, supportive practice environment or want to test their skills under real-life, authentic conditions. Thus the respondents in this study – advanced, extrovert business students – showed a propensity towards "performance and challenge" rather than "practice and safety", facilitated better by f2f rather than computer-mediated settings.

This suggests that from a pedagogical point of view, only a dual focus on the diverse requirements of specific groups of learners and the affordances of particular technologies will allow us to set up and blend learning scenarios in a way that is both meaningful and motivating. Teachers and publishers, whether employing or developing technological resources as course components, should be aware of students' rationale behind use as well as reservations about uptake. Perhaps it is an indication of the increased tech-savviness of university students, or conversely a sign of fatigue regarding the constant exposure to digital input, but it appears that "new" technologies will not be embraced enthusiastically unless they are perceived as presenting distinct advantages over resources – material or social – already in use. The empirical evidence of this study has highlighted the fact that discipline-specific language-learning technologies enjoy very low popularity amongst the cohort – a case in point which publishers should be aware of before investing in the development of supplementary online materials, and teachers before outsourcing too much language work to digital environments.

This is not to say that the potential of technological resources is not appreciated. Students acknowledge the role technology has played in their L2 acquisition process. They are aware of its suitability for particular language-learning purposes and use it autonomously to supplement other modes of learning. Yet if we move beyond the dichotomy of f2f versus technology, the findings strongly suggest that whilst some everyday, routinely used, by now "traditional" media are considered highly beneficial for language learning (e.g. films, dictionaries), others, though the focus of much research and potentially highly effective when set up for teaching purposes (e.g. blogs, voice chat), have had much less impact outside the classroom.

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A number of factors, extrapolated from students' comments and ranging from robustness of technology to more abstract concepts such as authenticity of situation, have been suggested to account for these preferences. In the present study, the two technologies – online dictionaries and films/videos – perceived as most conducive to learning meet several of the ten criteria set out above. It is striking that the top ranking of these two technologies in terms of usefulness mirrors that of the earlier surveys quoted, despite exponential technological advances in the intervening period of nearly a decade. The continuing popularity of these more traditional tools suggests that despite the diverse requirements engendered by individual learner differences, they boast enduring qualities that will recommend them also to future generations of learners.

Following Steel and Levy (2013), I would argue that these findings have implications for research, too, and that perhaps at present there is too much focus on the possibilities of emerging technologies rather than on those which already enjoy widespread use inside and outside the classroom. Useful work is already being undertaken in the area of video and dictionaries, for instance investigating the effectiveness of different forms of captioned video (Perez, Peters & Desmet, 2014; Yang & Chang, 2014), the conditions that govern students' dictionary consulting strategies (Groman & Schnitzer, forthcoming), or ways of making online dictionaries more effective (Lew, 2012), but much more is needed if we want to find out how to optimize these technologies in the services of language learning.

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Appendix

Table A1 *Category A – Communication technologies*

	Never	Occasionally	Frequently	Daily
In respondent's L1				
Voice chat (e.g. skype, messenger)	36	79	44	16
Written chat (e.g. skype, messenger)	13	42	49	71
E-mail	0	16	50	109
Text messages/SMS	0	8	21	146
Blogs	109	52	8	6
Discussion forums	41	103	23	8
Social networking sites (facebook, etc.)	13	14	27	121
In English				
Voice chat (e.g. skype, messenger)	72	77	20	6
Written chat (e.g. skype, messenger)	36	75	39	25
E-mail	15	85	46	29
Text messages/SMS	56	71	25	23
Blogs	114	44	9	8
Discussion forums	67	88	15	5
Social networking sites (facebook, etc.)	24	50	35	66

Frequency of use ($n = 175$).

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Table A2 *Category B – Input/content technologies*

	Never	Occasionally	Frequently	Daily
In respondent's L1				
Company websites (e.g. for shopping, travel planning)	3	63	93	16
Informational websites (e.g. wikipedia)	0	25	119	31
Online news sites (e.g. BBC, CNN)	18	56	42	59
Online business journals	42	91	32	10
Satellite and/or cable TV/radio	20	38	41	76
Films etc. on DVD/BluRay	19	84	66	6
Downloaded/streamed films/clips/TV series (incl. youtube, podcasts)	14	78	63	20
E-books	118	44	11	2
Books	6	73	80	16
In English				
Company websites (e.g. for shopping, travel planning)	9	87	72	7
Informational websites (e.g. wikipedia)	3	48	95	29
Online news sites (e.g. BBC, CNN)	16	81	50	28
Online business journals	33	90	40	12
Satellite and/or cable TV/radio	43	77	40	15
Films etc. on DVD/BluRay	20	80	62	13
Downloaded/streamed films/clips/TV series (incl. youtube, podcasts)	9	37	84	45
E-books	116	44	12	3
Books	14	101	50	10

Table A3 *Category C – Discipline-specific technologies*

	Never	Occasionally	Frequently	Daily
Online dictionaries	0	10	112	53
Online grammars	46	96	30	3
Language learning websites	92	74	8	1
English courses on DVD/CD	155	18	1	1
BE e-learning modules	19	83	61	12

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