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**Multi-lingual and multi-cultural information literacy; perspectives, models and good practice**

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**Abstract**

**Purpose**

This paper reviews current approaches to, and good practice, in information literacy development in multi-lingual and multi-cultural settings, with particular emphasis on provision for international students.

**Design/methodology/approach**

A selective and critical review of published literature is extended by evaluation of examples of multi-lingual information literacy tutorials and MOOCs.

**Findings**

Multi-lingual and multi-cultural information literacy are umbrella terms covering a variety of situations and issues. This provision is of increasing importance in an increasingly mobile and multi-cultural world. This article evaluates current approaches and good practice, focusing on issues of culture *vis a vis* language, the balance between individual and group needs, specific and generic information literacy instruction, and models for information literacy, pedagogy and culture. Recommendations for good practice and for further research are given,

**Originality/value**

This is one of very few articles critically reviewing how information literacy development is affected by linguistic and cultural factors.

**Keywords**

information literacy; multi-lingual; multi-cultural; cultural factors; international students; models



## **1 Introduction**

This article considers the ways in which multi-lingual and multi-cultural issues impact upon the promotion of information literacy (IL); for simplicity, in this paper we subsume digital literacy, media literacy etc. under the IL heading, unless there is some specific reason to refer to one of the other related concepts.

Multi-lingual and multi-cultural IL are umbrella terms covering a variety of situations and issues. These include the promotion of IL to linguistically and culturally diverse groups of students, and the adaption of IL training materials to variant groups. Apart from its obvious significance in meeting the needs of 'international students' (a group often, and regrettably, treated as somehow homogenous), it is of increasing importance in a world where many societies are increasingly multi-cultural. In IFLA's Multicultural Library Manifesto (2008), it is stated that, everyone has an equal right to access library and information services, should be served without any discrimination. Underserved groups, who often belong to different cultural and linguistic communities, are deserving of special attention in this respect.

IL was initially developed in North America and Western Europe, largely within the culture of those parts of the worlds, and in a very few languages, particularly English. Its scope has greatly expanded since, particularly under the influence of bodies such as UNESCO, and IL has been seen as an instrument for social and economic development worldwide; see for example, UNESCO (2017) and CILIP (2018). However, there has been surprisingly little explicit attention given to the multi-lingual and multi-cultural aspects of IL.

This article assesses the current situation, and examples of good practice, in this topic, makes suggestion for future research and practice. After an initial examination of the background, there is a more detailed evaluation of approaches to multi-lingual and multi-cultural IL. Some specific issues in developing the IL of individuals and groups are examined, with specific reference to issues of culture and language: the balance between individuals and groups; specific and generic IL; the topics to be included in an understanding of IL; models of IL; pedagogical models for IL instruction; and the use of games in IL education. This leads to the conclusions and recommendations.

The findings and recommendations are derived from a selective and critical review of literature. Sources used were: Internet search engines; Internet sources (specialist blogs, associations, curricula); bibliographic databases, with citation follow-up of relevant sources; and contents lists of relevant journals and book series. The literature of information literacy instruction is large and diverse, and detailed analysis was restricted to those items with substantive discussion of multi-lingual and multi-cultural aspects. MOOCs (Massive Open Online Courses) devoted to the teaching of information literacy were also examined, as these are typically aimed a wide audience which may be multi-cultural in nature, and some MOOCs are multi-lingual, 22 information literacy MOOCs , with at least some information available online, were identified and analysed. Online information literacy tutorials were also examined for any provision for multi-cultural and multi-lingual provision.

## **2 Background**

Although there are many descriptions of IL training in particular countries or regions, they generally do not analyse national cultural variations. There have been very few examples of multi-lingual provision for IL education, nor of explicit and detailed consideration of such education might be adapted to students from different cultural backgrounds. There is, as Simon (2014, p. 108) puts it "a dearth of literature exploring how library instruction and information literacy instruction is conducted in colleges and universities in non-English speaking countries".

This is despite the fact the cultural dimensions of IL have been recognised for many years, arguably being first explicitly stated by Christine Bruce (1997), with the recognition that IL is always developed as contextually-based experience in a specific cultural context. In an early paper addressing this topic, Johnson and Webber (2003, p 112) wrote that "in terms of local and national culture, the information literature person is a self- and socially-conscious being, rather than a simple repository of skills and knowledge. This is underlined by cross-cultural difference, where issues of behaviour and acceptability of kinds of information become sensitive". Hicks and Lloyd (2016) make similar points. Badke (2002) similarly drew attention to the limitations of early IL models, such as the ACRL Standards, in addressing the needs of students from non-Western cultures; Hicks and Lloyd (2016) suggest that the newer models, such as the ACRL Framework, may also be lacking in their treatment of cultural differences, because of their emphasis on academic and library-related concepts, and also because of the relatively limited importance which they attach to collective and social practices. On the other hand, the aging ACRL Standards have been used quite recently as the basis for new courses; see, for example, an online (Moodle) course providing basic IL training for a diverse and multicultural student group (Cruz, 2016). So, while the models used as the basis for IL instruction and self-learning are always of importance, and will be discussed further below, it seems clear that simply adopting one model rather than another will not of itself deal with issues of IL in multi-cultural and cross-cultural settings.

Hughes, Bruce and Edwards (2007, p. 66) identified issues arising in trying to raise the information literacy levels of linguistically and culturally diverse student groups: "difficulties in understanding often arise due to limited vocabulary, academic and technical linguistic styles, unfamiliar literary, religious, historical or political allusions .. [which] often compound with significant differences in teaching and learning styles experienced by an international student". Much the same was found in studies of Japanese students in Canada (Ishimura, Howard and Moukdad 2007), and of students studying English as a foreign language (Johnson, Partridge and Hughes, 2014). For a systematic review of some publications on IL and international students, see Houlihan, Wiley and Click (2017). Those studying in new cultural environments, with differences in customs and interpersonal communication patterns, experience both social and educational challenges at different levels, depending on their cultural and linguistic backgrounds as well their individual and personal values (Hughes, 2005; Hughes and Bruce, 2006).

In the case of online information resources, international students may also face a number of educational and technological challenges because of linguistic and cultural factors, different national cultures showing a varying extent and pattern of engagement with digital materials, with obvious implications for IL training (see, for example, Naghshineh, 2003 and Helsper, 2011). There are also indications, from a study of Wikipedia variants in different

European languages, that there are distinct differences between different linguistic groups as to what is thought optimal in the number of words, images, and references used in Wikipedia articles (Jemielniak and Wilamowski, 2017). For example, Italian-language articles use many more images than others, while Portuguese-language articles have most external links. One might speculate that even more differences may be found in more diverse language groups.

These differences may lead to the conclusion that we might expect to find similarly differing requirements and preferences for information literacy training. Oguz and Kurbanoglu, (2011) argued that IL must be developed for diverse cultural communities, to enable them to know how to access, use and communicate information effectively and thereby improve their participation for the social wellbeing. Specific training programmes for developing IL skills are needed to address the specific needs of culturally and linguistically diverse communities. However, as Ishimura, Howard and Moukdad (2007) remind us, linguistic and national groups are not homogenous, and we should not assume that there will be one method suitable for such groups. More generally, besides developing the specific development of multicultural IL, it is desirable for multicultural attitudes to permeate the library/information profession, workforce, and curricula; see Al-Qallaf and Mika (2013) for analysis in the USA and Canada.

### **3 Multi-lingual IL provision**

Many students, and professionals, whose first language is not English find it necessary to use English language databases (see, for example, Ishimura, Howard and Moukdad 2007, Simon 2014, Hicks 2014, Ferrer-Vincent 2015 and Moyo and Madvodza 2016); this may pose a problem for examples in non-English instructional materials. There are also particular problems for evaluation of sources in non-native languages (Saunders et al., 2015). Beyond simple understanding of vocabulary, there may be problems in the expression of IL concepts, typically formulated in English, in other languages. Morrissey and Given (2006) found that international students struggle to cope with the new environment, language and culture, causing them to lack IL and to make inefficient use of library resources, relying on Google, and being unable to evaluate the value of resources. Liu and Winn (2009), studying Chinese students in Canadian universities, similarly found them unable to take full advantage of the library services due to language problems, and reluctant to ask for even assistance to overcome such difficulties because of their different cultural background. Simon (2014) notes the difficulties faced by Israeli students in converting Hebrew concepts into the kind of formalised keyword approach necessary for database searching, while Boolean searching itself may be problematic for non-English speakers Zhao and Mawhinney (2015). Multilingual videos for library instruction, aimed at international students in the US, needed to encompass cultural issues and concerns, and well as simply translating terms (Li, McDowell and Wang 2016).

Koufogiannakis and Wiebe (2006) remark that assessments of the effectiveness of methods for teaching IL which are based on English language instruction only may not be applicable to instruction in other languages, while Hicks (2013) noted that traditional conceptions of IL do not integrate well with the goals of the foreign language curriculum.

There are relatively few examples of multi-lingual IL provision: we mention here some examples which are either under development at present, or which exemplify different approaches:

- The INFLOW IL model, developed within the EC 7th Framework Programme between 2010-14, and mainly intended for younger students though with some applicability to university students, was developed in English and translated into French and Spanish (McNicol and Shields, 2014).
- Digital IL instructional games with a multilingual interface (English, Bulgarian, Italian and Swedish) are being produced by the four partners (Gävle, Milan, Parma, Sofia) in the Erasmus+ project 'Transforming information literacy instruction in the university environment through the serious games approach (tiLIT)', commencing in 2016 (Encheva, 2016).
- The IKomp IL MOOC from the Arctic University of Norway is available in Norwegian and English (<https://openedx.mooc.no/courses/course-v1:UiT+ENG+iKomp/about>), as is the 'Search and write' tutorial from the Universities of Oslo and Bergen (<http://sokogskriv.no/en/about-search-write/>).
- The 'Improve your research skills' MOOC from the Vrije Universiteit Brussel is available in English and Dutch.
- The 'Making sense of the news' media literacy MOOC, from the University of Hong Kong and the State University of New York, although mainly in English, offers subtitles to instructional videos in Spanish, Polish and Chinese (<https://www.coursera.org/learn/news-literacy>).
- UNESCO is planning to implement IL MOOCs in Arabic, Greek, Spanish, and Hindi, as well as in English (<http://www.unesco.org/new/en/communication-and-information/crosscutting-priorities/gender-and-media/women-make-the-news-2016/register-for-online-mil-course>).
- A European Union Erasmus+ project, Information Literacy Online, is creating a Massive Open Online Course (MOOC) for IL instruction, focusing on students in higher education, while being accessible to high-school students and to adults in lifelong-learning. It will be multi-lingual (English, German, Spanish, Catalan, Slovenian and Croatian), and will attempt to reflect both culturally distinct and language-specific issues in IL. The project partners are the universities of Barcelona, Graz, Frankfurt (DIPF), Hildesheim, London (City), Ljubljana, and Zadar (Dreisiebner, 2017; Robinson and Bawden, 2018).

In summary, we may say that multi-lingual approaches to IL learning are increasing in number, but at very different levels of sophistication. Some are just literal translations of content into different languages. These are certainly better than nothing and may be expected to become the norm as machine translation improves its capabilities, but they leave a good deal to be desired; in particular, they are likely to be completely culturally insensitive. A step up, which at present certainly requires expert human intervention, is to adapt the translation to avoid local phraseology and slang terms, to adapt metaphors and analogies, and to give more locally relevant examples; see, for example, Russell and Houlihan (2017). A further step up is to consider that different language groups may also benefit from different approaches to learning itself; this brings us to multi-cultural issues in IL education.

#### **4 Multi-cultural IL provision**

Although there have been many descriptions of IL education in various countries and regions (for recent informative examples, see the papers in Association of College and Research Libraries, 2017), there have been few accounts of what differences local culture may make. A number of writers, as noted below, have alluded to this, but few have given specific detailed recommendations. It may be difficult to distinguish issues due to culture from those due to language or previous educational curricula. Moyo and Madvodza (2016), for example, in a comparison of IL education in South Africa and the United Arab Emirates, emphasise the need to tailor IL standards and instruction to local cultural norms, and to the nature of the local student group, and note particular problems with expatriate instructors, unaware of local cultural issues. Petermanec and Šebjan (2017) have noted the modifications needed to survey instruments to assess IL levels, to allow for local variations in academic norms, and availability of resources and databases, in their case in Slovenia. Some lessons may also be learned from the ways IL is taught in the context of foreign language learning, where transcultural competences, and appreciation of differences in meaning and worldview, are important (Hicks 2013).

This may affect the view of the nature of IL itself. Piloiu (2016), for example, suggests that in the German-speaking academic world, there are multiple competing concepts approximating to English-language 'information literacy'. These include those with more focus on pedagogy, and those with a strongly interpretivist, constructivist approach, going beyond the more holistic IL models of the English-speaking world. Lin and Wang (2013) argue that Singapore is readily able to develop an approach to training integrating information literacy and media literacy, because these concepts have not been distinguished in local debate as they have elsewhere.

Relatively few writers have used any recognised framework in analysing cultural differences in the context of the development of IL. Where a framework has been used, it is invariably Hofstede's 'Five Dimensions of Culture' (Hofstede, Hofstede and Minkov, 2010; Gill, 2017). [This framework has also been used in the related analysis of cultural issues in online library interfaces; see, for example, Dragovic (2015).] Hofstede's theory analyses a culture or society in terms of six axes: power distance (degree of inequality); individualism (relative importance of individual and collective achievement); masculinity (importance of traditional male role model); uncertainty avoidance (tolerance for ambiguity and unstructured situations); long term orientation (extent of respect for tradition and social obligations); and indulgence (opposed to self-restraint). [The sixth dimension was added in 2010, to that some earlier papers on the applicability of Hofstede's ideas to IL education use only five dimensions.]

Although Hofstede's theory of cultural dimensions is the most widely used model for analysing the dynamics of cross-cultural relationships and differences, it has faced criticism from both scholars and practitioners, as based on analysis of too narrow a situation, too deterministic, too simplistic, unable to account for individual differences; see, for example, Schwartz (1999), McSweeney (2002), Jones, (2007), Smith, Peterson and Schwartz (2002), Williamson (2002), and Gerhart and Fang (2005). Crucially, Hofstede's cultural theory lacks the feature of flexibility where culture is an ever-changing concept, and thus his theory fails to fit in the rapidly changing environment (Signorini, Wiesemes and Murphy, 2009). Finally,

another criticism of Hofstede's theory of cultural dimensions is the avoidance of the aspect of language, in that the survey questions for different countries were translated without taking account of the effect of the differing patterns of discourse in individual languages (Fletcher, 2006).

Though Hofstede's model of cultural dimensions is the most cited work throughout the world, other cultural models have been devised for the same purpose of providing insight into cultural differences. Examples are the GLOBE Model (House et al., 2004), the cultural models of Schwartz (1992, 1994, 1999), Trompenaars (1993), Lewis (2005) and the theory of cultural pathways (Greenfield, 2009; Greenfield, Keller, Fuligni and Maynard, 2003). Some alternative frameworks for analysing culture have been applied in information behaviour studies (see, for example, Komlodi, 2005 and Obille, 2018), and it would be interesting to investigate if these, and other alternative to Hofstede, could be applicable to the IL context.

There has also been some limited debate regarding the suitability of the various models of IL to include cultural factors, with a general, though not universal, view that the newer 'holistic' models are more helpful than the older 'didactic' models. Hicks (2013) makes this point cogently, arguing that the older forms of IL models, such as the ACRL Standards are poorly suited to deal with cultural aspects of IL. Montiel-Overall (2007) presented an outline for a 'cultural information literacy', at once constructivist and critical, avoiding didactic skills instruction, and relying on reflection rather than testing for self-assessment. The principles of this approach, especially its emphasis on reflection, seem to have been taken up by recent IL models constructivist in nature, such as metaliteracy, without the latter be labelled specifically 'cultural' (Mackey and Jacobson, 2014; Jacobson and Mackey, 2016). The focus of such models on collaboration and reflection, on openness, non-linearity and flexibility, and on a recognition that, since the information environment is constantly changing, IL provision must also constantly be revised, might seem to make this kind of model particular suitable for dealing with multi-cultural issues; however, evidence for this is currently lacking.

Špiranec (2017) suggests that critical information literacy, because of its support for multiple perspectives and support for societal as well as personal development, offers the best framework for IL instruction in transitional and post-conflict societies, such as Croatia. She suggests that this is better supported by approaches such as the ACRL Framework, rather than more prescriptive and determined approaches such as the ACRL Standards. Bent (2013, p. 36), in an account of how an IL training programme devised for Newcastle University, UK, was introduced to the university's Singapore campus describes a "debate focusing on how the SCONUL Seven Pillars of Information Literacy model relates to South-East Asian teaching and learning styles". Russell and Houlihan (2017) suggest that standard IL frameworks, and specifically the ACRL Standards and Framework, may be adapted to local conditions and local cultures, even with instruction in English, with adaptations such as use of locally relevant examples and images, simplified language (for example using "research skills" rather than "bibliographic instruction"), avoidance of slang and colloquialisms (for example, avoiding "come on guys" which may exclude female participants), and avoidance of popular culture examples which are easily misunderstood. Martin, Birks and Hunt describe a similar approach with Infoasis, an IL learning module for Emirati students, which customises language and examples for the local situation, using, for example, images of Arabic people throughout the tutorial.

The most extensive set of studies of IL education in different cultural settings have been those of Daniel Dorner and Gary Gorman, drawing on analyses of the contexts of Asia and Oceania, and summarised in Dorner (2017). The initial argument that IL education for this extensive region must be contextual and sensitive to local needs was made by Gorman (2003). Dorner and Gorman (2006), Dorner, Gorman and Gaston (2012) and Dorner (2012) argue for explicit consideration of cultural factors, using Hofstede's dimensions, in planning IL education in developing countries. They argue in favour of models using a critical form of IL, and against those based on the older skills-based frameworks, especially approaches based on Bloom's taxonomy, as these may not be suitable for all cultures, and Dorner (2012) develops a model for IL education in the developing world. Dorner and Gorman (2011) apply their ideas to IL education in Laos, suggesting, for example, that student-centred learning may not be appropriate, and that collaborative group-working will be better accepted than individual work, and that learning activities should be clearly defined and structured.

Cultural differences may particularly manifest in different attitudes to, and understanding, issues of plagiarism, attribution and copyright; in some Asian cultures, for example, the necessity to cite, and to avoid copying, runs counter to cultural norms (Han 2012, Zhao and Mawhinney 2015). Saunders et al. (2015), in an international comparison of IL competencies of library/information science students, note national differences in such things as ability to evaluate web sources, and ability to use specialised bibliographic databases; however, it is not clear whether these differences are due to cultural factors, or simply to differing curricula. Ferrer-Vinent (2015), in a limited survey of IL education in France and Spain, notes differences largely due to curriculum differences. Han (2012) suggest that Chinese students may fail to appreciate distinctions in information quality between peer-reviewed sources and others, and this distinction is not so sharply made in their home country.

## **5 Implications for IL development**

It is worth noting specifically some particular issues in the way IL instruction has been delivered which have implications for the multi-cultural context, although this has not always been realised. We will examine six issues: individuals and groups; content of IL instruction; specific and generic IL; IL models; pedagogical models; and gamification. These six issues are among those identified as the most significant current issues in IL instruction generally (Robinson and Bawden 2018), and were chosen as being likely to be sensitive to multi-cultural issues. This was confirmed by the literature analysis.

### **5.1 Individuals and groups**

The balance between individual and group concerns for IL is one which has been discussed at length, and is of particular relevance for the concerns of this article. On the one hand, much IL training necessarily deals with groups of people, assuming that they have much the same needs by virtue of their role or demographic status: chemistry students; junior doctors; refugees; doctoral researchers; high school students; etc. And indeed this is a necessary and pragmatic response on the part of those planning and delivering IL instruction. However, it is worth remembering that information behaviour is at root individual, and the same is true of needs and preferences in IL instruction. In particular, there is an unfortunate tendency to class all groups of students from outside the country in

which the university is situated as 'international'. However necessary this may be for administrative purposes, it can never be helpful for IL development, because of the inherent diversity in such a group (Albarillo, 2018). It is only necessary to consider the background, needs, and expectations of students from, say, the United States, Saudi Arabia, Bangladesh and China - all of whom would be classed as 'international', if studying in the UK - to see the problem. A final complexity is that, as noted above, some cultural backgrounds may respond better to a collective, rather than an individual, approach to IL instruction. Clearly, striking the right balance here is both difficult and crucial for successful multi-cultural IL.

## 5.2 Content of IL instruction

There is no generally agreed content, or set of topics, for IL instruction. Every model and framework has its own set of concepts and competences, sometimes arranged into core and ancillary topics. As part of an investigation into good practice for the development of a MOOC for IL instruction, a set of topics was identified, each of which appeared in two or more of the main IL models (Robinson and Bawden, 2018). These were:

- understand the information environment (in the widest sense)
- use digital tools effectively
- recognise information needs, and how to address them
- know relevant information resources
- find and access information
- critically evaluate information and information sources
- critically evaluate online interactions and online tools
- manage information
- collaborate in information handling
- share digital content ethically
- become an independent and self-directed learner; and a lifelong learner
- learn to learn; develop metacognition
- understand ethical issues of information
- present and communicate information
- create information products
- synthesize information and create new knowledge

If we may take these as typifying the constituents of IL, it seems very difficult to identify any of them as particularly *a priori* relevant, or indeed irrelevant, in a multi-lingual or multi-cultural setting; all seem to be as important in these circumstances as in a mono-lingual or -cultural setting. Some may take on importance in some settings. For certain cultural backgrounds, for example, becoming an independent learner will seem more challenging, or less appropriate, than for other backgrounds; and the kind of ethical issues perceived as important will be likely to vary across cultures. But as a broad simplification, the content of an IL programme is likely to be invariant to language and culture; it is the pedagogical approach, the examples used, and the details of the content that are likely to need to be adapted.

## 5.3 Specific and generic IL

All IL provision has to strike a balance between content which is subject- and/or context-specific and that which attempts to be generic, i.e. application to any subject or context;

and the correct balance has been debated for many years; see, for example, Peters, Hathaway and Bragan-Turner 2003. In general, good practice has moved in the direction of greater specificity, with a recognition that IL provision is more meaningful to students the more it can be made contextual to their situation. On the other hand, there is a pressure for the creation of generic teaching materials where possible, for economy to encourage re-use, and to ensure that effective materials can get maximum exposure; see, for example, Graham (2011) and Sylvain, Mofford, Lehr and Riley (2011). The result is that good practice is generally regarded as the creation of an initial set of generic models and materials, in such a way that they can be readily modified, customised or extended for use in specific contexts.

This approach seems to lend itself well to the multi-cultural situation. The generic core materials, relevant to all contexts, can be customised, and supplemented where necessary, to deal with particular culturally-specific needs.

#### **5.4 IL models**

We have already noted that the various models for IL may be more or less helpful in multi-cultural settings, and that the general view is that the newer, more holistic and flexible, models may be more suitable. The matter however is far from clear-cut, and the examples quoted above make clear that a variety of IL models can be pressed into service in these settings.

It is therefore tempting to suggest that, as noted above for the content of IL programmes, the model is not important, and that it is the approach and implementation that matter. This may be a mistake. While the core content of IL instruction seems in general agreed, there is still active debate about which models and frameworks are of most value; and it seems clear that no model as yet does full justice to the complexities of the multi-lingual and multi-cultural context.

#### **5.5 Pedagogical models**

The most widely used pedagogical model, Bloom's taxonomy, is a categorization of intellectual skills (Bloom and Krathwohl, 1956), with an original set of six categories: knowledge, comprehension, application, analysis, synthesis, and evaluation. There have been a number of revisions, reworking the categories as, for example, remember, understand, apply, analyse, collaborate, and create (Anderson, Krathwohl and Bloom 2001), or remember, understand, apply, analyse, evaluate and create (Allan, 2016 chapter 7).

This taxonomy, and its variants, has had significant influence on IL education. Indeed, Dorner and Gorman (2006, p. 284), writing of the older style of IL models, comment that it "is the framework behind, so far as we can determine, nearly all information literacy education programmes". They go on to warn that it may not be suitable as a pattern for understanding learning in all cultural settings, as it does not allow for cultural differences in the needs, expectations and preferences learners.

It may therefore be desirable to look for alternatives to Bloom, as a model for IL pedagogy in multi-cultural contexts, or at least to reflect on its limitations and plan to minimise their effects.

## 5.6 Gamification

Gamification, using games in learning situations and introducing game-like elements into instruction generally, has been found to be a good way of involving and enthusing students, and improving student engagement and learning (Lameras et al., 2017; Roozeboom, Visschedijk and Oprins, 2017). It has been used for IL instruction in two ways: fully-developed games in their own right, and add-ons to other forms of instruction. Examples of fully-developed IL games are: a role-playing adventure game teaching library and research skills (Guo and Goh 2016); the BiblioBouts game teaching resource discovery, source selection, and information evaluation, and using peer assessment for scoring (Markey, Leeder and Rieh 2014); and a role-playing game to check understanding of appropriate sources (Nass, Taubert and Zolotykh, 2014). On a smaller scale, many IL games are used for inductions to library and information services, often taking the form of 'treasure hunts'; see, for example, Walsh (2015). However, many IL instructional games seem to be little more than conventional tutorials with some scoring system added and have been criticised for providing limited value.

There has been little use of games in IL instruction with a multi-lingual or multi-cultural nature, apart from the multi-lingual interface to IL games noted above (Encheva, 2016). It seems wise to use them with care. Even in the cultural context in which games are devised, not all participants will like the game approach, so it should, at the least, be optional; there should be ways of using the instructional materials without the game elements. This is even more the case in a multi-cultural setting, where some participants may find some game elements confusing or troubling.

## Conclusions

Despite a general agreement that the development of IL in all contexts should be sensitive to issues of language and culture, there has been surprisingly little detailed study of these issues. They are largely missing from the major IL models, and there is little in the way of agreed good practice. This is an area in need of further research to inform and improve practice in the future.

Although some might argue that, as with information behaviour, the IL area suffers from too many models and frameworks, it seems from what has been discussed above that, while several of the main IL models are applicable to multi-cultural contexts none are fully satisfactory. We have seen that established frameworks, such as the SCONUL Pillars, and the ACRL's Standards and Frameworks, have both been criticised for their limitations in dealing with these issues and yet have been applied in these contexts, and that models such as metaliteracy and ACRL's Framework, while seemingly flexible enough to deal with multi-lingual and multi-cultural contexts, do not address the issues directly. There is surely useful work to be done in clarifying these issues, perhaps by way of a new IL model or an adaption of an existing one, in a way which would be helpful in establishing good practice. This may also be related to pedagogical models, considering the limitations of the widely-used Bloom taxonomy.

The problematic nature of treating 'international students' is clear, but there is no obvious way of creating more nuanced groupings on cultural grounds. This arguably reflects the

limitations of the commonly-applied Hofstede framework for understanding culture. While the Hofstede model is attractive because there is an amount of experience in its use in the IL context, it seems highly desirable for studies to be done on alternative cultural frameworks for this purpose. This could lead to different perspectives on the kinds of cultural groups which matter in an IL context, and thence to studies of the specific needs of such groups. It is also important to bear in mind that the balance to be struck between group and individual expectations and provision is as important in a multi-cultural setting as in any other.

While the core content of IL programmes is unlikely to vary much with language and culture, the same is not true of the details, the examples, and the ways in which learning may be supported. All of these may need to be amended and optimised to adapt to different linguistic and cultural groups. A body of good practice is beginning to emerge, as shown in the examples mentioned above, but there is scope for expanding this considerably. The need for multi-lingual and multi-cultural IL is great and growing, and more evidence of good practice is urgently needed.

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