

Use of the Universal Decimal Classification: a worldwide survey

Aida Slavic
UDC Consortium Advisory Board
aida@acorweb.net

Abstract

Purpose - A general overview with up-to-date information on UDC use worldwide.

Design/methodology/approach - The research combined e-mail interviews with LIS professionals in 208 countries, literature research and information obtained from UDC distributors/publishers (AENOR, BSI, UDC Consortium). The following categorization of UDC use was offered: A - dominant system; B - used in some kind of libraries only; or C - rarely used.

Findings - Of the 208 countries contacted and researched through the literature in 2004-2006, the UDC was found to be used in 124 (60%) of the countries. In 34 (28%) of the countries researched (in Europe, Asia and Africa), UDC is the main classification system used across national information networks. In 45 (36%) of the countries it is used in certain kinds of libraries. In the remaining 45 (36%) of the countries it is used rarely, in only a few libraries or information centres.

Research limitations/implications - It was beyond the scope of this research to provide any information regarding the actual number of institutions using UDC in a given country or to give an estimate of the size and number of document collections organized by it. Although a decline in UDC use since the 1980s was reported from a number of countries, it was not possible to measure this accurately.

Practical implications: The interest shown for using UDC in the organization of digital collections, information exchange and cross domain and cross collection resource discovery depends on accurate knowledge of its actual usage worldwide. This gives a measure of its global importance and verifies its credentials as an indexing standard. This research, which attempted wider and more systematic coverage than previous surveys, should help clarify the status of UDC and its potential use in the networked environment.

Originality/value - Up-to-date information on the presence of the UDC system across countries and languages.

Keywords: Universal Decimal Classification, UDC, worldwide usage, countries, languages

Paper type: Research paper

Introduction

When the number of libraries using a specific classification system is taken into consideration alone, Universal Decimal Classification (UDC) is acknowledged as the second most used classification in the world. As frequently noted in classification textbooks, UDC is very close in popularity to the more widely used Dewey Decimal Classification (DDC) and rather more popular than the Library of Congress Classification (LCC). Regardless of any such categorisation, however, it is notable that UDC is used in the organization and retrieval of a vast amount of documentation in libraries and information centres worldwide.

UDC was created in 1896 and was based on the Dewey Decimal Classification system. It was then further developed in terms of structure, vocabulary and syntax to be used as a more detailed and flexible, synthetic indexing language for information retrieval. Its first edition was published between 1904-1907. UDC development, translations to various languages and its use across continents, were driven by the global membership of its owner - the International Federation of Documentation (FID), until its decline in the 1980s. UDC was said

to be the most important legacy of the FID which, after two decades of financial and organizational struggle, finally ceased to exist in December 2000 (Horton, 2003).

In 1992, the ownership of the UDC and the responsibility for its maintenance and distribution was transferred to a consortium of publishers (The UDC Consortium). This resulted in an improvement of the classification management which has since focused on the maintenance, revision and update of the standard 60,000 classes, rather than its full edition of 200,000. The immediate benefit was that in the period from 1993-2005 a significant proportion of the scheme was revised and updated (see http://www.udcc.org/major_changes.htm). In addition, since 1993, a standard UDC scheme can be purchased as a database file (in English): the UDC Master Reference File, a licence for which is issued by the UDC Consortium⁽¹⁾.

Updates of the UDC MRF are released annually and since 1993 a new version of the UDC is made available in January each year. In 2006, the MRF database contains over 67,000 classes. Since 2001, apart from editions on CD-ROM (Czech, Spanish and Russian), the latest UDC schedules have been available on the Web: in English, from the British Standards Institution (BSI) at <http://www.udconline.net> and freely available in Czech from the Czech National Library at <http://aip.nkp.cz/mdt/>⁽²⁾. Recent research and bibliography of translations confirmed the existence of various UDC editions, printed and electronic, in no less than 39 languages (Slavic, 2004).

After a decline in use of documentary classifications in the 1970s and 1980s, there was a noticeable revival of interest in the application of classification in resource discovery on the Internet and especially in the use of existing schemes in supporting automatic classification in the 1990s. The value and role of classificatory vocabularies in information organization and resource discovery has often been emphasized (e.g. Fugmann, 1990; Soergel, 1999; Hodge, 2000; McGuinness, 2002, also Slavic, 2005: pp. 2). Library classifications, for instance, have been increasingly used for cross-collection and cross-domain searching: not only to support simple resource browsing but also to underpin vocabulary mapping and multilingual resource discovery (cf. Slavic, 2006a).

In the period 1992-2006, the UDC was applied in resource organization, for a longer or shorter period of time, in nine quality subject gateways with an English interface and numerous smaller directories⁽³⁾. After 2002, subject gateways using UDC have been more predominant in Central and Eastern European portals (Stoklasová, 2003).

The general trend in resource discovery on the Internet is to use classification, in this case UDC, behind a system, as a mapping mechanism between different indexing systems or languages or as a source of structured terminology for automatic text processing and categorization. A similar trend could be said to be present in union library catalogues in library networks with a tradition of and good practice in UDC use. Here UDC can be more often seen as part of subject authority data supporting information retrieval via mapping to other classifications or subject heading systems in more than one language (Baliková, 2003; Slavic, 2006).

In response to the described changes and needs in information organization and discovery, the UDC Consortium is considering the improvement and wider dissemination of machine readable UDC data. Among other things (such as a better structural and semantic linking of the scheme) this would include a mapping to other special and general classification systems, multilingual features and exports of UDC data in different standard vocabulary formats.

Previous surveys of UDC use

Classification user surveys are usually commissioned or conducted by a scheme owner or publisher. In the case of UDC, and up to 1992, this was the FID. After 1992, monitoring of the number of users seems to have been left to the individual UDC Consortium members i.e. publishers holding the rights to publish in a given language e.g. BSI for English, Asociación Española de Normalización y Certificación (AENOR) for Spanish, Vserossijskij Institut Naučnoj i Tehničkoj Informacii (VINITI) for Russian etc. The UDC Consortium as their representative body did not publish or disseminate any centrally collated data on UDC users worldwide. Whatever the reason may be, the fact is that there is no official, publicly available, estimate of the total number of countries or institutions using UDC in the period 1992-2006, or for that matter, since the 1980s.

Other known sources of survey data are national or international cataloguing agencies or library networks recording the use of indexing systems⁽⁴⁾. Unfortunately, information on these surveys is hard to access and merge for such a widely used system as UDC, and it would be almost impossible to produce any complete or exhaustive account of these data in a shorter period of time.

The background of this research concentrated, therefore, on the last available published survey data (in English) and several unpublished surveys from the period 1989-2003. Also, there were a few articles discovered estimating the number of UDC users based on obsolete data which mainly illustrated and justified the need for new research.

The last published survey on UDC use was on UDC users in the U.K. in 1979/1980 by Hindson (1981) who established that there were, at the time, 640 libraries using UDC in the U.K. and Northern Ireland (out of 2,895). Later articles and papers operate with numbers published in the 1980s and earlier. Thus Sukiasyan (1988: 69) reports that the broad library network in the former USSR consisted of 300,000 libraries and the UDC was used as an obligatory system only in scientific-technical libraries. Gilchrist (1992) refers to the FID survey from 1968 which reported that there were a total of 100,000 users, mostly in the USSR, European countries, Latin America and Japan. Based on articles from the 1980s, which largely recycled even older information, Nilbe (1997) reached a count of 60 countries and 100,000 institutions using UDC worldwide.

Information on the very last (unpublished) FID survey was discovered in the report of the *Task Force for UDC System Development* from February 1990 which briefly mentioned a UDC user survey conducted in 1988-1989⁽⁵⁾. Apparently, the purpose of this survey was both to get information on who used the UDC and in what way, and to invite their ideas on deficiencies and priorities. The survey was based on a printed A4 questionnaire (parallel texts in English, German and French). Preparation began in 1988 and the collation of the returned data was completed before the end of 1989. Distribution was both direct (using mailing lists e.g. of subscribers to the *Extensions & Corrections to the UDC*) and indirect (with the help of FID national members, national UDC committees, and publishers of the various editions). For example, advantage was taken of the distribution of the English Medium Edition in 1989 as BSI agreed to enclose a questionnaire with each completed order. Results showed that there were 339 completed forms returned from institution using UDC in 50 countries. According to D. Strachan (2004), the FID UDC Management Board decided that the returns were not sufficient to merit further action beyond making the survey results available to its Task Force for UDC System Development, which was doing its work at that time and no report was published.

In 1989-1990, *The Task Force for UDC System Development*, on the other hand, did their own investigation of 27 institutions using UDC. The institutions mentioned in their report

were: eight libraries in the U.K., a Japanese library, an Eastern European National Bibliographic Agency, a Nigerian University, an African Documentation Centre, nine libraries from Denmark, Finland, Norway and Switzerland (the name of the institutions were not provided), and six Austrian libraries (the full name of the institutions were given). Investigations were based on a questionnaire (13 questions) that focused on the way in which each institution used UDC and their expectations from the scheme. Reports indicated that some of the interviewees were considering a change to another classification scheme in the future (Finland) and some to abandon using classification all together if this would pose a problem for automation, as was the case in Austria (see Task Force for UDC system development, 1990).

In 1991, the International Association of Technological University Libraries (IATUL) did a survey on classifications in use within their member libraries and of the 87 (46%) questionnaires returned, UDC was used in 37 libraries in 18 countries and appeared to be the most popular classification system. This report also revealed that a number of libraries were planning changes, expecting that with the development of OPACS, searching would be carried out by keywords with a classification system in the background (IATUL, 1990).

In the summer of 1994, BSI conducted a survey with the assistance of the British Council. The goal was, obviously, to establish the total number of potential customers for UDC products in English. A questionnaire was circulated with every unit of its UDC product sold (135 sent - 51 returned) and 65 letters were sent to British Council offices. The total number of countries covered was 61. Replies from the British Council (32 in total) confirmed the use of UDC in 15 countries (BSI DISC Brief report on UDC survey, 1995).

In 2003, the developers of IUFRO Global Forest Decimal Classification - formerly the Oxford Decimal Classification for Forestry, which was developed and is usually used in conjunction with UDC - conducted a survey of forest libraries in 27 countries. Their data showed institutions using UDC in the special forest libraries of 19 countries (Holder & Saarikko, 2003).

The use of classification in general, or UDC for that matter, ought to be observed within a wider context and over a longer period of time as there are various factors to be taken into account. One such well-known factor is the application of free text searching in information systems within libraries and information services which abated the interest in classification in general and affected the number of users throughout the 1980s and 1990s. In parallel with this, the pressure to reduce staff and cataloguing costs made many libraries change from UDC to Dewey which came (readily assigned) as a part of the OCLC bibliographical package. The migration from UDC to DDC started to be more evident in 1990s and was especially so in western European and English speaking countries for which the OCLC was able to provide bibliographic records for the majority of collections. It would be, however, wrong to make any hasty generalizations. Just as libraries are slow to adopt a system, they are equally slow to abandon it, notwithstanding the comparative quality of UDC itself. Expansion of library networks nationally and internationally favours the dominant classification system within the region and in some parts of world this may be UDC, while in others this cannot be the case. In addition, resource discovery on the Internet and a trend in the merging and federation of large digital and hybrid collections on a national and international level, contributed to the interest in classification with yet uncertain impact. These changes in the information environment have coincided with the changes in UDC ownership, management and distribution since 1992 which, all together, makes it more relevant to seek up-to-date information on UDC users.

Research objectives

In recent years there has been an increased interest in knowledge organization systems from stakeholders outside the traditional library community. In estimating the value of existing classifications in cross domain and cross language resource discovery, questions were often asked as to whether a system was sufficiently known and present across domains, countries and languages and whether it could act as a standard in information exchange. It is obvious, that the suitability of UDC use for information exchange and cross domain / cross collection resource discovery depends on its global importance and its credentials as an indexing standard.

The objective of this research is, therefore, to establish the number of countries in which UDC is still used, the language(s) of use and an approximation of coverage of use within a given geographic area. It is also of interest to find out whether there is any noticeable or measured decline in the number of users in the countries where the UDC is widely used, and whether there are any users in countries that have not previously been reported. It is, however, beyond this study to try to establish the number of institutions or document collections using UDC. This can only be discovered through more detailed research in individual countries. The hope was that this survey, in a given scope, might help establish, more accurately, the value of UDC in global information exchange.

Method and procedure

The research combined the techniques of an e-mail interview with literature research and customer information obtained from two publisher/distributors of the UDC: the UDC Consortium office in The Hague and AENOR in Spain. The initial research and pilot testing started in 2004 with the main e-mail interview and literature review conducted in 2005, followed by further verification in 2006.

The technique of using an e-mail interview was considered especially suitable because of the fact that the same set of questions were not equally relevant to countries where UDC is not used, or is very rarely used, and countries in which it is a well known system. Coverage was the most important goal and e-mail allowed better exploration of the approach, acquiring information about further contacts, changing the language of correspondence or adjusting questions according to the situation (cf. Bampton & Cowton, 2002; Hewson et al., 2003).

A pilot survey was conducted to establish the form of the initial e-mail message in English, French, Spanish, Portuguese and tested the set of contacts obtained from library directories worldwide⁽⁶⁾. Based on information obtained from the UDC publishers and from research of the literature and library directories, the choice of e-mail contacts was set to include, whenever possible, cataloguing departments of national, academic and special libraries. For many regions, especially in Africa, Asia, South Pacific, Central and South America, in which UDC was more likely to be used in documentation and information centres, these were included in the survey as well as library associations, LIS schools and archives. Persons for contact were chosen arbitrarily from different categories of librarians (cataloguers, management staff in public, special and academic libraries and LIS teaching staff). Within these parameters, the choice of institution to contact was also arbitrary, and the less information available in the literature regarding the country's classification practice, the more e-mail contacts were attempted.

Brief e-mails were thought more suitable and less obtrusive for reaching more informed professionals without demanding too much of a correspondent's time. Once it was established that there were some users in the country, the correspondents were questioned about the estimated number of users, about specific institutions using UDC, further contacts, language

of use, existence of any survey on the use of classification in the country, and whether UDC is taught in library schools. In many cases, through several e-mails, it was possible to obtain more detailed answers or to clarify misunderstandings. In countries where UDC is well used the questions were focused on changes/decreases in the type of use, type of libraries UDC is used in and the purpose for what it is used (shelf arrangement, IR). Interviewees often volunteered to give their account of the history of use, or would offer further contacts. In order to obtain a response, an average of six e-mails (not counting failed deliveries) with an initial question were sent to 208 independent countries, overseas departments or dominions⁽⁷⁾. On average an interview consisted of the exchange of up to six e-mails.

Information collected through the interview was then compared with literature research and other sources of information to produce final statistics. The UDC use in national bibliographies was checked in *An annotated guide to current national bibliographies* and related work by Bell (1998, 2001)⁽⁸⁾. Also, countries with less known library practice were researched in the *Encyclopedia of library and information science* and in library journals related to cataloguing and classification. In addition, the following sources helped to verify information on UDC use in 63 different countries:

- The number of countries from the Consortium licence agreements; the number of countries from UDC users' web pages; AENOR's non-European UDC products buyers; countries according to participants on the mailing list of UDC users
- Data from previous unpublished surveys: FID 1989, BSI survey 1994, IUFRO Global Forest Decimal Classification 2003 survey

The most feasible approach for this research was to establish the number of countries using UDC according to the one of the following simple categories:

- | | |
|---------------|--|
| Band A | UDC is used in the majority of libraries within the country and is the dominant classification system |
| Band B | UDC is used in some type of libraries and in these countries it is used alongside other dominant classification system(s). UDC in these countries is a well known classification system and is likely to be taught in LIS schools. |
| Band C | In these countries UDC is rarely used compared to other systems and rarely taught in LIS schools. It is, consequently less known and often confused with other systems |

The difference in the number of institutions using UDC implied by these three bands is significant and is relative to the size of a country. Countries in Band A are likely to have several thousand institutions using UDC at least, as these may include public, academic, special and school libraries. On the other hand, in many countries in Africa and Asia where library networks are still in their infancy, the number of institutions using UDC will be proportionally smaller, in spite of it being the country's main classification system. It could be generally stated, however, that the number of users in countries within Band A is quite stable and libraries rarely change to other systems.

Countries in Band B, depending on their size, are likely to have anything between twenty and several hundred libraries using UDC. The number of institutions may be proportionally greater in large countries such as the Russian Federation, China, Brazil (e.g. thousands or even tens of thousands), but no estimate can be made without further research. With respect to the number of institutions, this band is where changes are likely to occur over time. For instance, libraries may migrate from UDC to more dominant systems, as is occasionally the case in Western Europe. Also, libraries may have changed to UDC as is the case in countries from the former USSR, which abandoned the previously dominant Soviet Bibliographic and Library Classification.

Countries in Band C, even large countries, are not likely to contribute much to the total number of institutions using UDC. In addition, the number of users in these countries is the most unstable. Many countries classed in Band C once contained a larger number of institutions using UDC. It would be, no doubt, useful to know the number and distribution of these users as they are an important indicator of the viability of UDC as an international scheme.

During the pilot survey it emerged that correspondents were often uncertain about the main bands of use and were inclined to opt for something in between. Therefore, two intermediate categories were added, coded as AB and BC respectively, and were introduced to denote A with a tendency towards B or B with a tendency towards C. Throughout the e-mail interview, an attempt was made to learn about any published national library survey statistics but this was rarely available.

One of the relevant factors that may determine the importance of UDC in a given country, but which could not be measured in this research, is the size of collections i.e. libraries. For instance, in Switzerland the number of libraries and library networks using UDC is not prevalent but those that do use UDC are the largest and most significant document collections in the country (Pika, 2004).

Findings

After collating data gathered through the e-mail interview and subsequent literature research, information on UDC use was obtained for 154 (75%) of the countries, 124 (60%) of which have institutions using UDC, as shown in Table I.

TABLE I: Survey - geographical coverage

	TOTAL NUMBER OF COUNTRIES SURVEYED (208 - 100%)	NO INFORMATION OBTAINED (52 - 25%)	INFORMATION COLLECTED (156 - 75%)	
			NO UDC USERS (32 - 15%)	HAVE UDC USERS 124 (60%)
EUROPE	45	4 (9%)	0 (0%)	41 (91%)
ASIA	50	13 (26%)	8 (16%)	29 (58%)
AFRICA	53	18 (34%)	6 (11%)	29 (55%)
NORTH AND CENTRAL AMERICA	30	7 (23%)	14 (47%)	9 (30%)
SOUTH AMERICA	13	2 (15%)	0 (0%)	11 (85%)
AUSTRALIA AND SOUTH PACIFIC	17	8 (47%)	4 (24%)	5 (29%)

The complete list of countries using UDC is shown in the Table II. The main focus of this research was to collect very basic information about the use of the scheme with the widest possible geographical coverage. Hence, the sources for each country were only checked and verified until the answer was reasonably clear. The total amount of information collected for each country was graded for confidence or reliability as 1 - very confident, 2 - fairly confident or 3 - double-checking desirable. Thus, among UDC users there are 11 countries (marked with an asterisk in Table II) for which the data were found in a single source either through e-mail or through literature research and it was not possible to do any further verification in the course of the research. As most of these countries have only a few institutions using UDC, the situation may have changed since the data collected was published and it would be important to take this into account in any further research.

TABLE II: List of countries with the type of UDC usage

EUROPE (41)	ASIA (29)	AFRICA (29)	NORTH AND CENTRAL AMERICA (9)	SOUTH AMERICA (11)	AUSTRALIA AND SOUTH PACIFIC (5)
A Albania	AB Armenia	AB Algeria	C Barbados	B Argentina	BC Australia
A Andorra	AB Azerbaijan	A Angola	B Canada	BC Bolivia	C Fiji
C Austria	C Bangladesh	BC Benin	BC Costa Rica	B Brazil	BC Fr. Polynesia
B Belarus	C Bhutan	AB Burkina F.	B* Cuba	BC Chile	BC New Zealand
AB Belgium	C China	C* Cameroon	C Guatemala	BC Colombia	C Pap. New Guin.
A Bosnia & H	A Georgia	BC* Cape Verde	C Jamaica	BC* Ecuador	
AB Bulgaria	C* Hong Kong	A Congo DR	C Mexico	C Paraguay	
A Croatia	B India	C Egypt	C Trinid & Tob	C Peru	
C* Cyprus	BC Indonesia	C Ethiopia	C USA	BC Suriname	
A Czech R	C Iran	B Ghana		B Uruguay	
B Denmark	BC Israel	B Guinea Bissau		C Venezuela	
A Estonia	B Japan	C* Ivory Coast			
C Faeroe Isl.	C* Jordan	C Kenya			
B Finland	B Kazakhstan	BC Libya			
B France	B Kyrgyzstan	BC Madagascar			
BC Germany	AB Macao (China)	C Malawi			
C Greece	C Malaysia	AB Mali			
A Hungary	C Saudi Arabia	BC Morocco			
C Iceland	C Singapore	AB Mozambique			
B Ireland	C South Korea	BC Niger			
C Italy	C Sri Lanka	C Nigeria			
A Latvia	C Syria	AB Senegal			
A Lithuania	C* Taiwan (China)	B South Africa			
B Luxembourg	C Tajikistan	C Sudan			
A Macedonia	C Thailand	C Tanzania			
C Malta	C Turkey	A Togo			
A Moldavia	C* Turkmenistan	B Tunisia			
BC Netherlands	B Uzbekistan	BC Uganda			
B Norway	BC Vietnam	C* Zambia			
A Poland					
A Portugal					
A Romania					
B Russian Fed.					
A Serbia & MN					
A Slovakia					
A Slovenia					
A Spain					
B Sweden					
AB Switzerland					
BC U.K.					
A Ukraine					

The next table, Table III, shows the summary of UDC use across continents and the distribution of usage according to bands: A (AB), B (BC) and C. The percentage of bands of usage is calculated for every continent and can be read horizontally. The percentage of each band of usage in the total count of users (124 countries) is given in the last row of the table.

TABLE III: Count of countries using UDC according to the band of usage

COUNTRIES USING UDC	A or A/B			B or B/C			C
EUROPE (41)	22 (54%)	A 19 AB 3		12 (29%)	B 8 BC 4		7 (17%)
ASIA (29)	4 (14%)	A 1 AB 3		8 (27%)	B 5 BC 3		17 (59%)
AFRICA (29)	8 (28%)	A 3 AB 5		11 (38%)	B 4 BC 7		10 (34%)
NORTH AND CENTRAL AMERICA (9)		—		3 (33%)	B 2 BC 1		6 (67%)
SOUTH AMERICA (11)		—		8 (73%)	B 3 BC 5		3 (27%)
AUSTRALIA AND SOUTH PACIFIC (5)		—		3 (60%)	B 1 BC 2		2 (40%)
TOTAL (113)		34 (23 A + 11 AB) 28%		45 (21 B + 24 BC) 36%			45 36%

UDC appears to be the dominant classification system in 34 (28%) of the countries (Band A - AB): namely Europe (22), Asia (4) and Africa (8). The results show that the bands of use B - BC and C are typical for the largest number of countries (45 + 45) and represent 72% of all users. However, 45 countries in Band C have only a very small number of institutions using UDC, irrespective of the size of the country, and do not contribute significantly to the actual number of users.

With regard to languages, 30 (27%) of the countries use UDC translated into their national language other than English, French, German, Portuguese, Spanish or Russian (Table IV). Logically, these are countries where UDC is the dominant system. An asterisk (*) denotes countries with UDC usage discovered in only 1-5 institutions using UDC. For instance, four bank libraries in Jamaica, two bank libraries in Barbados, the ILRI Documentation Centre in Ethiopia, the Documentation or Information Centre of the National Centre for Research (Sudan Science Abstracts) in Sudan etc.

TABLE IV: Language of UDC scheme in use

LANGUAGE	COUNT OF COUNTRIES	USAGE BAND	COUNTRIES
ENGLISH	43 (38 English + 1 E/French 1 E/Finnish 1 E/Indonesian 1 E/Hebrew 1 E/Nor)	B	B: Australia, Finland, Norway, Ghana, South Africa, India, UK B/C: Ireland, Canada, Uganda, Indonesia, Israel, New Zealand
		C	Bangladesh, Barbados*, Bhutan*, Egypt*, Ethiopia*, Fiji*, Greece, Hong Kong*, Iceland*, Iran*, Ivory Coast*, Jamaica*, Jordan*, Kenya*, Malaysia*, Malawi*, Malta, Nigeria, Papua New Guinea*, Saudi Arabia*, Singapore, Sri Lanka, Sudan*, Syria, Tanzania, Thailand, Trinidad & Tobago*, USA, Zambia,
FRENCH	17 (16 French + 1 F/Dutch)	A	A: Congo DR, Togo A/B: Belgium, Algeria, Burkina Faso, Mali, Senegal
		B	B: France, Luxembourg, Tunisia B/C: Benin, Libya, Madagascar, Morocco, Niger, French Polynesia
		C	Cameroon
GERMAN	3 (2 + G/French/English)	A	A/B: Switzerland
		B	B/C: Germany
		C	Austria

PORTUGUESE	7 (6 P + 1 P/Chinese)	A	A: Portugal, Angola A/B: Mozambique, Macao (China)
		B	B: Guinea Bissau, Brazil B/C: Cape Verde
RUSSIAN	9 (7 + 1 R/Kyrgyz 1 R/Azeri)	A	A/B: Armenia, Azerbaijan,
		B	B: Kazakhstan, Kyrgyzstan, Uzbekistan, Belarus, Russian Federation
		C	Tajikistan, Turkmenistan*
SPANISH	15	A	Andorra, Spain
		B	B: Cuba, Argentina, Uruguay B/C: Costa Rica, Bolivia, Chile, Colombia, Ecuador
		C	Guatemala, Mexico, Paraguay, Peru, Venezuela
OTHER LANGUAGES	30	A	A: Albania, Bosnia & Herzegovina, Croatia, Czech R., Estonia, Georgia, Hungary, Latvia, Lithuania, Macedonia, Moldavia, Poland, Romania, Serbia & Montenegro, Slovakia, Slovenia, Ukraine A/B: Bulgaria
		B	B: Denmark, Sweden, Japan, B/C: Vietnam, The Netherlands, Suriname
		C	China, South Korea, Taiwan, Turkey, Faeroe Islands, Italy

English is the most frequent language and is used in 43 (35%) of the countries. However, all of these countries belong to the B or C band of usage where the number of users is not very significant. French is the next most used language (17 countries) followed by Spanish, used in 15, and both of these languages are used in some countries where UDC is the main classification system. Russian and Portuguese are also used across countries with a large percentage of UDC users. It transpires from this situation that multilingual editions, in which English is combined with one or more of the languages with a large percentage of users (Spanish, Portuguese, Russian) or with other languages, seem to be the most desirable option. It is worth mentioning that UDC users can be found in a number of countries where Arabic is the main language even though a translation of UDC to Arabic is still lacking (cf. Slavic, 2004: pp. 65).

Europe - The research in 2004-2006 confirms that Europe has the most significant concentration of UDC users (41 out of 45 countries), with 22 (54%) of the countries in the A and AB band of use (mostly Eastern Europe). It was not possible to find any information only on Liechtenstein, Monaco, San Marino and Vatican City.

The dissolution of the former Yugoslavia and Czechoslovakia, in the 1990s, augmented the total number of countries but the number of actual users of the UDC was not affected by this particular change. The dissolution of the USSR, however, increased both the number of countries and the number of users. The reason for this is the fact that countries such as Estonia, Latvia, Lithuania, Ukraine and Moldova started to use UDC as the main classification system, replacing the Soviet Library and Bibliographic Classification (BBK) (Nilbe 1997; Gobyte, 2000).

Research into Band B shows a number of countries with a long history of UDC use with a noticeable decline in use since the 1980s. This was confirmed for Austria, France, Germany, Italy, the Netherlands and the U.K. - but no statistics were found that would present a more accurate picture. Most libraries in these countries migrated to the country's main classification system. For Norway, the number of users is now estimated to be up to one hundred libraries (Anjer, 2004) and Benito (2001) confirms a similar number for Sweden. One third of around 150 special libraries in Denmark were using UDC in the 1980s and the situation does not seem to have changed significantly (Pedersen, 2004).

Some interesting facts were discovered for European countries where UDC is rarely used. Thus it was established that eleven libraries in Malta (Jesuit libraries in Valletta) are using UDC, and according to research in 2000, 36 (3.4%) of the libraries in Greece (Bokos, 2000). Similarly a few libraries in Cyprus, Iceland and one in the Faeroe Islands are UDC users.

In Europe, UDC is used in national languages with the exception of English schedules that are also used in Scandinavian countries, Greece, Malta and Switzerland, and French translations in Belgium, Luxembourg and Switzerland.

Asia. The data collected show that 29 countries have UDC users and out of these 17 (59%) belong to Band C. Mainly due to the dissolution of the USSR and wider adoption of the UDC in countries such as Armenia, Azerbaijan, Georgia, Kazakhstan etc., 4 (12%) of the Asian countries have A-AB and 8 (33%) have the B-BC type of users. Also, according to the librarians interviewed, it seems that most school libraries in Turkey are using UDC. The only statistics on UDC use available for an Asian country were from research conducted in 1989 that showed that the UDC was the third most used classification in India, and is used in 15% of the surveyed libraries (Satija, 1993).

It was difficult to investigate the decline of UDC use in Asia as the general usage level is low and literature is not abundant. Qiyu, & Xiangsheng & Dongbo (1996) mention a wider use of the UDC in technical libraries in China in the 1960s than is the case in 2004. The use of UDC in Macao is, for instance, the remnant of Portuguese influence. It is significant that the use of the UDC in some Asian countries that have been known to use UDC in the past was not confirmed in 2005-2006. Such is the case with the former FID members Kuwait and Lebanon, and the Philippines. In the BSI documentation there was information about users in Pakistan (Islamabad and Lahore) which was not possible to confirm, hence Pakistan was also not included in the UDC users.

No information was found for the following 13 (26%) of the 50 Asian countries surveyed: Afghanistan, Bahrain, Brunei, Cambodia, Comoros, Iraq, Kuwait, Laos, Maldives, Mongolia, North Korea, Qatar, Yemen.

Africa - Libraries and information centres in many African countries, apart from not being very numerous, are still in their beginnings and classification schemes may not be used at all⁽⁹⁾. When it comes to this region the proposed categorisation of users according to the three established bands ought to be taken *cum grano salis*. This survey confirmed Diongue-Diop's (1992) findings that the use of UDC in Africa is present across francophone Africa. The survey also confirmed the use of UDC in some libraries and information and documentation centres in English speaking Ghana, Uganda, Kenya, Nigeria, Tanzania, South Africa and Sudan and Portuguese speaking Angola, Cape Verde, Guinea Bissau and Mozambique. In total, 45% of African countries have institutions using UDC. Eight countries (33%) have UDC as the dominant system and 11 (45%) are in Band B-BC. South Africa is one of the representatives in Band B and according to the directory of Southern African libraries from 1983 there were 95, mostly special libraries, using UDC (Van der Walt, 2004). Of African countries with UDC users, 5 (22%) have only a few libraries using UDC. A decline in use was reported for Nigeria and Tunisia, and there appears to be very few libraries using UDC left in Egypt.

Out of the total of 53 African countries included, no information was found for the following 18 (34%): Burundi, Central African Republic, Chad, Congo, Djibouti, Equatorial Guinea, Eritrea, Gabon, Guinea, Lesotho, Liberia, Mauritania, Reunion, Rwanda, Sao Tome & Principe, Seychelles, Somalia, Swaziland.

North and Central America. This part of the world has never had many UDC users and use is now confirmed in only 9 (30%) of 30 countries while correspondents from 14 (47%) of the countries confirmed that there was no library using the system. Also, 6 (67%) of the countries

using UDC in this region are in Band C with only a small number of institutions (mostly special libraries). The remaining 33% are in Band B-BC. Dominant languages in which the UDC is used are English in Barbados, Canada, Jamaica, Trinidad & Tobago and the USA, and Spanish in Cuba, Costa Rica, Guatemala and Mexico. No information was discovered regarding the change of UDC use in the 1990s.

No information was found for 7 (23%) of the countries: Antigua and Barbuda, Bermuda, El Salvador, Grenada, Nicaragua, St Kitts-Nevis, St Vincent and the Grenadines.

South America. UDC is used mainly in special and, occasionally, in academic libraries and documentation and information centres (often bank libraries) in 11 (85%) of the South American countries. A larger proportion, 8 (73%) of the users are in Band B and the remaining 3 (27%) in Band C. Although the dominant language is Spanish, an interest in English/Spanish/Portuguese electronic editions was noted and this is related to the development of an information library network that connects Central and South America. Information on the UDC user community in South America is scarce and more research would be needed to acquire any knowledge about the actual number of UDC users and any change since the 1980s.

No information was found for: French Guyana and Guyana.

Australia and South Pacific. Only 5 (29%) of the countries in this region use UDC. The two main UDC users in this area are Australia and New Zealand and they are classed in usage Band B-BC while a smaller number of users are scattered across Fiji and French Polynesia. Migration from UDC to DDC is supposedly planned in French Polynesia. In Australia, the UDC is used primarily in special libraries. Harvey (1998: 215-216) confirmed that there is no published survey as such but that there was still enough isolated information to conclude that the use of UDC in Australia was significant. He mentioned that in Victoria in the 1980s there were 19 institutions using UDC in addition to several CSIRO (Commonwealth Scientific and Industrial Research Organisation). Harvey also mentioned a 1988 survey of libraries in Western Australia that reported 30% of special libraries were using UDC.

No information was found for 8 (47%) of the 17 countries included from this area: Kiribati, Marshall Islands, Micronesia, Nauru, Palau, Samoa, Solomon Islands, and Tuvalu.

Conclusion

This survey and the subsequent literature research in 2005 and 2006 confirmed some previously known facts about UDC usage, such as its dominance in European countries, and its significant presence in Spanish speaking countries and francophone Africa. It was not expected that its use, albeit sometimes in only a few institutions, would be reported by such a large number of countries (124). It would be wrong, however, to presume that the greater number of countries found in this survey (compared to the earlier surveys in 1960s or 1980s) represents an increase in the actual number of institutions using UDC. Quite the contrary, according to many correspondents, the number of institutions using UDC is smaller, compared with the seventies and eighties and this was especially emphasised for countries in Western Europe, Asia and South America.

One should bear in mind that the actual number of institutional UDC users depends on the size of country and spread of its use. The main body, and the most stable number of users, is in 34 countries (Europe, Africa, Asia) in which the UDC is still the dominant classification system across library and information networks. In these countries the UDC is often used in public, school, academic and special libraries, in national bibliography and bibliographic databases and is found in thousands or, sometimes, tens of thousands of institutions (depending on the size of the country). Whether the total number of institutions worldwide in 2006 is larger or smaller than 100,000 (proposed in 1997 by Nilbe), one can only guess. More recent data about users in the Russian Federation⁽¹⁰⁾, which used to have tens of thousands of

users, and South America for which no exact numbers were available, would be essential in order to engage in any serious estimation. Further research into the use of UDC would also be valuable for African and Asian countries, especially targeting those countries for which no information was found in the course of research presented in this paper.

The stability and future of UDC use is hard to predict in 45 countries where it is not the main classification system and is used in only certain types of libraries (mostly academic, technical, industrial and commercial). Its existence here depends on national information network policy, affordability and availability of staff and bibliographic tools. UDC's scarce presence in the remaining 45 countries could be understood as the remains of its, once stronger, international presence and popularity in the past but also as a good sign of the vitality and potential of the scheme.

In summary it could be said that, as it is used in 124 countries and translated into 39 languages, the UDC still stands as an international *de facto* standard in indexing. This is linked to both its long presence and its quality and versatility in indexing. The continuous effort in improving UDC products and in supporting users as well as its presence in professional education and training will determine how attractive it will be in countries in which it has to compete with other classifications.

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Notes

1. The UDC Consortium was established as a non-profit organization, which maintains and distributes the UDC and financially sustains itself with a consortium membership fee by selling the UDC Master Reference File (MRF) licence and by limited publishing activity. The main concern of the Consortium is to protect the interest of existing UDC users and UDC Consortium members who, in return for the annual fee, have the right to use the UDC MRF to create and sell different indexing tools. The members of the UDC Consortium in 2006 are Asociación Española de Normalización y Certificación – AENOR (Spain), British Standards Institution – BSI, Éditions du CEFAL/CELES (Belgium) and the All-Russian Institute of Scientific and Technical Information – VINITI.

2. Some versions of the abridged schedules can be found online in Swedish (<http://www.hb.se/bhs/udk/>), Spanish (<http://www.taranco.eu/cdu/cdu-esquema.htm#0>) and Italian (<http://mail.biocfarm.unibo.it/%7Espinelli/cdu/>).

3. Two of these gateways deployed UDC for automatic classification: WAIS/WWW (1993), and GERHARD - German Harvest Automated Retrieval and Directory (1996-2006). Seven were based on clerical metadata population and indexing: BUBL - Bulletin Board for Libraries (1994-1996), OMNI - Organising Medical Networked Information (1995-1997), NISS - National Information Services and System (1995-2000), SOSIG - Social Science Information Gateway (1994-2000), FVL - Finnish Virtual Library (1996-), OKO - Slovenian

catalogue of Web resources (2000-), PORT - Maritime Information Gateway (2000-) (for further details see Slavic, 2006a).

4. Information on UDC use can also be found in various national and international project reports. One such example is from the TEL-ME-MOR project. Its report, from January 2006, contains information on subject tools, including UDC, from ten European countries (available at http://www.telmemor.net/docs/D3.3-Report_on_subject_access_tools.pdf).

5. The complete information on this study was gathered in 2004 from e-mail correspondence with David Strachan, who conducted the survey, and his report to FID UDC Management Board from February 1990 (UDC Questionnaire - Summary results, 1990).

6. The list of participants at the IFLA annual conferences in 2001, 2002, 2003, 2004 was the initial source of contacts. Also "Libraries of Asia Pacific Directory" (<http://www.nla.gov.au/lap/>), IFLANET National Libraries Section (<http://www.ifla.org/VII/s1/index.htm>) and UNESCO Libraries Portal (http://www.unesco.org/cgi-bin/webworld/portal_bib2/cgi/page.cgi?d=1).

7. The reason for this was the difference in bibliographic practice between a main country and its overseas constituents. This is the case, for instance, with Hong Kong, Macao and Taiwan which were treated in this research as separate entities, or, for that matter, Faeroe Islands, Martinique etc.

8. According to Bell (1998, 2001), the UDC is used for subject organization of national bibliographies in only 28% (32) of the countries covered by her research and these are mostly in Europe (24).

9. For instance, no articles discussing classification were found in the last five years of the following journals: *African journal of library, archives and information science* and *African Research and Documentation*.

10. Attempts to contact VINITI (the publisher of Russian editions) in 2004 and 2005 were not successful.

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