

# Social Dimensions of Culture, Code-Switching, and Controlled Vocabularies

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**Abstract:** Traditionally, the selection of concepts and terms within a knowledge organization system (KOS) has served to reflect a socially constructed but majority opinion on language and therefore represent the perspectives of dominant groups. Members of a marginalized group cannot be expected to share a vocabulary with members of the dominant group, and as such, when utilizing a KOS the onus falls on the marginalized user to master two discrete sets of terminology: 1) spontaneous uses of language that reflect a worldview as expressed by the marginalized group(s) to which they belong, and 2) terminology "translated" into terminology the user believes will be used by the KOS (i.e., the terminology of the dominant cultural worldview). In this conceptual paper, we elucidate complexities of socially-driven uses of terminology through the application of the concept of code-switching: the movement between languages or ways of speaking that individuals may utilize in a variety of social situations.

After further defining code-switching we then identify situations in which individuals may be seen as engaging in this practice. We proceed to apply the concept to the language used by both KOS and users of KOS, highlighting the particular barriers this brings into focus for members of marginalized communities. Finally, we consider the implications of code-switching for marginalized users as they navigate KOS, and emphasize the importance of work to ease the ability to transition between codes going forward.

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## 1.0 Introduction

This conceptual paper identifies a thematic area of interest for knowledge organization (KO): the use of terminology (a social phenomenon) specific to members of a marginalized group as compared to the terminology of the dominant group. In particular, we focus on the cultural gulf that needs to be crossed for effective use of the dominant group's subject controlled vocabularies by members of a marginalized group. Members of a marginalized group cannot be expected to share a vocabulary with members of the dominant group due to cultural (e.g., social) differences. When searching a library catalog or other library systems, the onus falls on the marginalized user to master two discrete sets of terminology: 1) spontaneous uses of language that reflect a worldview as expressed by the marginalized group(s) to which they belong, and 2) that terminology "translated" into terminology the user believes will provide results in the retrieval system. In other words, marginalized users not only formulate search terms that address their needs, but those terms also need to be in the language or "code" of the dominant group. The terminology of the retrieval system, consisting to some extent of controlled vocabularies, such as the Library of Congress Subject Headings, is often developed and added to the system by members of the dominant group. We put forth that each culture has the possibility to engender its own vocabulary, and that the terminology in each has the potential to be unique. In these cases, there will be a fundamental mismatch between the two terminologies.

In this paper, we elucidate complexities of socially-driven uses of terminology through the application of the concept of *code-switching* to the question of controlled vocabulary use by members of marginalized groups. Code-switching is a concept that comes from linguistics and has been understudied in the KO context. Indeed, to our knowledge, only one article in the KO literature addresses this concept (i.e., Littletree et al. 2020); in their piece, they do not focus on code-switching as a phenomenon that inhibits retrieval, but rather on the need for "Indigenous scholars and educators" to engage in "epistemological code-switching" (423). This conceptual article aims to address this gap in the KO literature.

In linguistics, code-switching is described as the movement between languages (or ways of speaking) (Romaine 1989) and can apply "to varieties of the same language as well as styles within a language" (121). For linguists studying language-learning contexts, code-switching is a way of introducing borrowed language from one vocabulary into

another. For beginning or intermediate language learners, code-switching can be a strategy to address deficiencies in the target language, where the already-familiar term from the known language is substituted for the unknown equivalent in the target language. For example, in German, the translation of the English sentence "I am hungry" is "Ich habe Hunger." For a speaker of English who forgets the German word for "hungry", a code-switched version of the German sentence could be "Ich habe hungry."

Other reasons can likewise emerge for integrating words from another language (or *code*)<sup>[1]</sup> into speech. According to Ashraf et al. (2023) "Code-switching during communication is a highly probable phenomenon in multilingual societies where multiple National and Official languages exist" (para. 3). Terminology choices reflect cultural and practical dimensions, including the goals and education of the interlocutors, as well as the topics and forums (Kuo et al. 2021) in which communication takes place. Code-switching in some instances can imply status (as when in English someone says "*carte blanche*" instead of "free rein"); in others, it takes place when the best choice of term is one in another language (or "variety of language" (Matthews 2014, "Code-switching") or *code*). For example, there is no true equivalent in English for the Japanese word *komorebi* (木漏れ日) which literally means "sunlight leaking through the trees" (Tincher 2021).

Researchers interested in social aspects of language, especially by members of marginalized groups, have also adopted the term *code-switching* (Romaine 1989) to more broadly mean "the act of deliberately alternating from one specific language or dialect to another" (Washington 2022, para. 1). For example, "Because Black vernacular English is stigmatized, many African Americans learn to code-switch, or switch from the linguistic system of one language or dialect to that of another" (Scott 2018, 477-8). It is in this capacity, as a social phenomenon related to cultural affiliation and one's choice for expression, that this study of code-switching is undertaken. Members of marginalized communities can be outsiders to dominant uses of language and, in these instances, are forced to code-switch when interacting with dominant institutions. To this study, the situation is particularly relevant when marginalized community members use knowledge organization systems (KOS) developed by and for members of the dominant community. In this way, KO must consider tacit aspects of the social dimension of knowledge as it relates to the vehicle of the terminology of end-users.

This conceptual article analyzes code-switching as a cultural phenomenon in which marginalized users must engage when using information systems. The reliance on code-switching is due to the complexity of language and the cultures that they represent, as these “codes” are represented in KOS. Specifically, this article explores conceptually: 1) code-switching as part of the process of adapting to the dominant culture’s use of language, and 2) language use in KO, with a focus on the KO literature and other literature relevant to the understanding of use and users of information systems, particularly the library catalog. Elements relating to social justice and equitable access to information for all end-users are likewise considered.

## 2.0 End user code-switching

The notion of code-switching is an aspect of user behavior essential for the KO community to understand. This article theorizes that, when seeking to address access from a social justice stance, code-switching provides a lens through which to better understand the phenomenon of adapting one’s language to the retrieval tool. Specifically, the study of code-switching provides insight into the problem of end-user language as it is conceived of and used by members of a particular group.

### 2.1 Reasons for code-switching

A number of reasons have been identified for code-switching, an approach to communication that is linked to language use, choice, and aspects of identity related to these questions. In 1994, Malik (cited in Fu 2018) provided reasons and explanations listed in Table 1. This summary provides insight into the way code-switching happens in spoken and written communication. If a user’s interaction with a retrieval system and its controlled vocabulary is considered as an approximation of the communication process, several of these reasons could potentially be related to choices of query formation by users who employ multiple codes.

One aspect of social identity is the language used by members of a group (Gardner-Chloros 2009). Language, including dialects, are “important identifying codes,” and several varieties can be habitually used by groups (Franceschini 2011, 246). In linguistics, “Code-switching has been broadly defined as the use of more than one linguistic variety (language or dialect) by a single speaker in the course of a single conversation” (Pfaff 1997, 344 as cited in Malechová 2016, 89). Code-switching is not exclusively a phenomenon of spoken language, however. *Grammatical code-switching* takes place in written language and can be found in both ancient texts and modern emails (Malechová 2016). “Bilinguals or monolinguals turn to code-switching to establish solidarity and rapport with their conversational

partners; moreover, code-switching helps them to maximize their linguistic expressiveness” (Yelyseieva 2002, 951). Solidarity, especially for members of marginalized groups, is a function of language that is important to consider, as is the aspect of linguistic expressiveness, especially when considering the potentially specialized nature of the vocabulary of members of a marginalized group.

Writers and speakers intentionally engage in code-switching as part of the process of negotiating identity (Cenoz 2013). For individuals speaking more than one language, “The choice of one or another language is not only dependent on the availability of the linguistic resources the multilingual individual has at his or her disposal, but at the same time an act of identity” (Cenoz 2013, 9) and switching between languages in speaking and writing is common (Doğruöz et al. 2021). Identity, and presumably the culture that supports an identity, is therefore an important element in the choice of terminology. What is true in spoken and written language must also be true when selecting terminology to formulate queries in Google, when formulating prompts for artificial intelligence (AI) systems, or when querying an information system. Members of marginalized communities will need to navigate the linguistic gulfs that emerge on a daily basis.

In cases when carrying out an information-seeking task that focuses on a particular marginalized identity, however, it stands to reason that the terminology employed would most naturally be from that same code, and not the code employed by the mainstream group. In other words, in order to search concepts effectively in retrieval systems, members of marginalized communities will need to code-shift in order to make a match between the language they spontaneously use when describing themselves and the language of the controlled vocabulary system used in the retrieval system. This is a social justice concern, as these community members will be unable to find resources about themselves if they do not first code-shift when searching; otherwise, the materials will be invisible to them.

### 2.2 Code-switching as style-shifting

In linguistics, studies of code-switching have focused on bilingual and multilingual speakers of more than one language (e.g., language learners: Ataş and Sağıн-Şimşek 2021; Nordin et al. 2013). In 2006, Siebenhaar analyzed code-switching practices in Swiss-German Internet Relay Chat rooms between formal, high German and German dialects. Seventeen years later, Ashraf and colleagues (2023) assume the use of code-switching for online users of social media writing primarily in Urdu, rendering language that is both “informal and unstructured” (para 3). In this vein, “The term code-switching is increasingly being used to refer to something that could be better labelled as style shifting: al-



understood through informal speech or slang, and more broadly, the conceptualizations of marginalized groups in general.

### 3.1 Concerns with literary warrant

Literary warrant takes as its evidence the body of published literature, and has served as an obvious design feature in many prominent KOS, including Library of Congress Subjects Headings (LCSH) and Library of Congress Classification (LCC) (Olson 2004). While the terminological implications of literary warrant are commonly recognized, it should be noted that, like all kinds of warrant, its full implications are broader. Beghtol (1986) observed that warrant extends beyond term selection, encompassing the determination of which concepts are worthy of representation and how they are related to each other and organized. While it has never been the case that literary warrant has offered a full picture of social conceptualizations of knowledge, this is even less true in the 21<sup>st</sup> century. Given the abundance of communication venues and technologies available, more social construction of concepts and language is taking place outside the pages of formally published works than ever before. Social media offers the opportunity for groups, including the traditionally marginalized, to come together and engage in discourse. In the sense that marginalized groups are not sufficiently represented within commercial publications, their changing language may diverge yet further from what literary warrant can render within a KOS. As such, the growing potential for literary warrant to oppress members of marginalized communities has been often observed in KOS scholarship (for example, Fox 2016; Watson 2020).

Indeed, there is no shortage of examples of confusing or discriminatory language concerning certain groups appearing in widely-used KOSs. Baron and Gross (2021), for example, explain the effort of Dartmouth College students to change the LCSH *Illegal aliens*, a term the students found offensive. The Library of Congress justified the use of *Illegal aliens* due to its presence in the United States legal code, the source of the term's warrant. After many years of advocacy, the Library of Congress eventually removed *Illegal aliens* as the authorized LCSH and added *Noncitizens* and *Illegal immigration* headings to represent the same concept. The change was largely lauded by the library community, but the continued use of "illegal" in one of the terms was considered disrespectful to the immigrant community (ARLIS/NA 2022).

The use of legal literary warrant likely played a role in the establishment and continued use of the LCSH *Indians of North America*, though, like with *Illegal aliens*, the subject heading is controversial and not preferred by the groups it is meant to represent (Bullard et al. 2022). Studies by Bullard, Watson, and Purdome (2022) and by Pettitt and Elzi (2023) found the use of the LCSH *Indians of North America* to be

offensive to most of those they interviewed, a combination of indigenous and non-indigenous participants. However, the interviewees also understood the continued use of the outdated "Indians" due to its historical and literary prevalence, even if they disliked the term. Additionally, participants noted that there was a lack of consensus on what term(s) should be used to replace the LCSH. This example demonstrates how terminology use in KOS must be navigated and understood carefully, and that, when working with KOS-driven systems such as a library catalog, often the onus falls on the user to adapt to the catalog terminology to find resources rather than the other way around.

#### 3.1.1 Additional warrants

Although literary warrant serves as the basis for the most widely used KOS (i.e., LCSH, DDC, and LCC), it is not the only kind of warrant that has been identified, and it does not need to be the only one considered. Svenonius (2000) makes a compelling case for the additional inclusion of *use warrant*, or warrant based on the vocabulary of the users. "This is because there is no guarantee that the vocabulary of those who create the literature of a discipline will match the vocabulary of those of search for it" (135). She sees these two working in tandem to support access to materials. The previously-mentioned 2021 change away from the LCSH term *Illegal aliens* by the Library of Congress might be seen as an example<sup>[2]</sup>.

Another kind of warrant identified in the KO literature that could support enhanced approaches to providing access for marginalized users is that of cultural warrant. Barité (2018) credits Lee for first putting forth the idea of cultural warrant in 1976, where "cultural warrant leads literary warrant towards socially acceptable or politically correct forms of terminology, thus avoiding an unequal treatment of people due to their religion, race or personal condition" (Barité 2018). Because cultural warrant is well-adapted for supporting access to resources through KOS for marginalized individuals, the approach is one that creators of KOS and retrieval systems will want to keep in mind as they consider socially just ways to support all users.

### 3.2 Slang, formally defined

Literary warrant bases terminology choices in a KOS on published texts, and despite the utility of other kinds of warrant, literary warrant is the principle guiding revisions to the most commonly-used KOS (Barité 2018). Because it is based on this written word, literary warrant can be seen as an approach to KOS construction that is fundamentally flawed when addressing concepts that are best expressed through slang or informal speech used by members of a marginalized group.

Grammarians consider *slang* to be “Words, phrases, and uses that are regarded as very informal, and are often restricted to special contexts, or are peculiar to a specified profession, class, etc. (e.g. racing slang, schoolboy slang)” (Aarts 2014, “Slang”). To linguists, slang is the “vocabulary specific e.g. to a particular generation of younger speakers; also, as in ordinary usage, specific to a group or profession (e.g. ‘army slang’), to colloquial style, etc.” (Matthews 2014, “Slang”). Slang is therefore a vocabulary adopted by a specific group, including potentially marginalized communities.

What is slang to one, to another is not, depending on one’s educational, economic, or social position, and even according to location and generation. Slang is generated from any number of specific language communities or subgroups: jazz musicians, college students, narcotics addicts, immigrants, the military, show business, street gangs, etc. From each of these sometimes overlapping groups come specific terms which identify practices and behaviors particular to its members. Distinct lifestyle choices fuel the need to find a language to name evolving social behaviors and thought, which often challenge more established cultural codes (Ockerstrom 2000, 434).

The evolution of a group’s slang can coincide with its historical oppression. One example is the African American community, a group that “is in a constant state of antagonism with white America” (Adams 2012, 73), which intuitively leads to the constant creation of slang as a kind of secret language. Similar observations have been made about the LGBTQ+ community (e.g., Nele 2024).

Already, literary warrant requires a literary context. Yet topics of interest to members of marginalized communities might best be conveyed through slang terminology or other primarily informal (and not formally written) words. In considering the definition of *colloquial*, Bas Aarts (2014) reminds readers “In ordinary everyday language, especially between speakers who know each other well, a casual style of speech is both frequent and appropriate” (Aarts 2014, “Colloquial”). Challenges emerge when providing verbal subject access to concepts and notions that 1) might be best captured through informal terms and that 2) will never have those terms as a basis if literary warrant, or the formal, printed word, is adopted as the approach to creating the KOS.

As mentioned, members of marginalized groups may develop specialized vocabularies or slang around topics relevant to their group. From the reasons for code-switching listed in Table 1, reasons for using a specialized vocabulary can be inferred. For example, *Lack of facility* and *Lack of registral competence* may legitimately be reasons for members

of marginalized groups to employ a term in a query that would not appear in a standard KOS. This might be simply because there is no formal term to describe the concept. *Habitual expressions*, *Semantic significance*, and *Pragmatic reasons* might also influence a catalog user from a marginalized group to query a standard term that otherwise would not occur to them as having the same meaning.

In short, slang is terminology that is fundamentally informal, and literary warrant is based on content that is fundamentally formal, and also that is written. This represents a mismatch between approaches to describing content that has the potential to further marginalize members of marginalized communities.

### 3.3 For marginalized users, the perils of universal KOS

In the context of library catalogs, the dominant or mainstream user has historically been viewed as white, male, heterosexual, and Protestant Christian with a Western, specifically Anglo-American worldview. Already, by the logic expressed above, even these users will have to code-switch, at least to a limited extent, in attempting to map their language to the terminology of the controlled vocabulary, which is by definition, an artificial approach to naming topics. At least, however, their fundamental vocabulary can be assumed to align to the basic vocabulary from which the controlled vocabularies are drawn, unlike members of marginalized groups who will find themselves to be intellectually twice removed from the controlled vocabulary terms (as outsiders who then have to map their ideas to the dominant language, and then to the controlled vocabulary term.)

Examples of marginalized groups in this context are, to name just a few examples, the LGBTQ+ community and Indigenous peoples. Language use by marginalized groups is seen to be fundamentally different from language use by members of mainstream communities; evidence of this is found in the KO literature that has focused on social justice aspects of catalog creation and use since at least the 1970s with the work of Sanford Berman (e.g., Berman 1976 as pertaining to problems of descriptive and subject cataloging relating to access to library materials for children) and how that affects the potential for retrieval.

In particular, marginalized users must complete additional intellectual work when faced with KOS that use controlled vocabularies created and maintained by the dominant culture, such as those used in the library catalog. The marginalized users will need to “translate” the topic they are looking for first into the language of the dominant culture, then into the catalog’s controlled vocabulary. In other words, marginalized users are doubly penalized when using catalogs, as they must engage in two tasks that represent considerable intellectual effort. In the process, they will find

themselves further removed from the resources they seek. For example, a member of the LGBTQ+ community who uses the term *queer* to describe themselves may search the library catalog for LGBTQ+ resources using the term *LGBTQ* thinking that is likely how the community is represented in the catalog. However, as of this writing, the LCSH for LGBTQ+ people is *Sexual minorities*, a term LGBTQ+ people are unlikely to use when searching the catalog unless they were previously aware of its existence (Moulaison-Sandy et al. 2023).

Language is complex, particularly when describing groups of people. It is not uncommon for there to be a lack of agreement on how to describe a group of people, even within an identity group, and preferred terms often change over time. For example, in the United States, it is becoming more common within the Black community to identify as “Black” rather than “African American,” though the majority (58%) prefer either term (McCarthy and Dupree 2021). This presents a challenge for those who create and maintain a controlled vocabulary that requires one authorized term to represent a particular identity group. One could argue that, due to the challenges of choosing an authorized term that best represents an identity group, members of the identity group itself should have increased influence on the terms used to represent them. This influence can take the form of changing dominant vocabularies, such as the Library of Congress Subject Headings (LCSH) or creating a new vocabulary. The latter provides minority groups the most control over how they are represented, yet can still pose problems with the findability of works within a library catalog that primarily uses language preferred by the dominant culture.

For example, the Homosaurus provides a list of terminology that can be used to describe resources by or about LGBTQ+ people or topics (Homosaurus 2024). The Homosaurus uses the point of view of the LGBTQ+ community when selecting and defining terms, meaning that the warrant it employs is not associated with the dominant culture, but instead with a very specific marginalized community. Therefore, the Homosaurus editorial board is able to claim that the Homosaurus “advances the discoverability of LGBTQ+ resources and information” to a greater degree than traditional vocabularies (Homosaurus 2024, “Mission”). The inclusion of the Homosaurus terms in library catalog records would, presumably, reduce the need for the LGBTQ+ community to code-switch when attempting to locate LGBTQ+ materials in a library catalog.

Nonetheless, if the Homosaurus terms and traditional vocabulary terms, such as LCSH, are used concurrently in library catalog records as suggested by the Homosaurus editorial board, problems may still arise, such as in instances when the same or similar terms have different meaning in each vocabulary, such as *Faeries* and *Swinging* (Dobreski et

al. 2022). Both *Faeries* and *Swinging*<sup>[3]</sup>, therefore, are slang terms used by the LGBTQ+ community in a way that is inconsistent with the definition of the term as it appears in a standard dictionary of the English language. If using these terms to search as part of their query, LGBTQ+ community members may or may not have already code-switched – if they have, the term will have the standard, dictionary-based meaning; if they have not, the term will have the meaning associated by the LGBTQ+ community. Practically speaking, in order to avoid this potential source of confusion, some libraries are choosing to use the Homosaurus terms more selectively. For instance, the Cooperative Computer Services (CCS) (2023), a library consortium in the state of Illinois in the United States, identifies specific terms from the Homosaurus that should not be used in library cataloging due to the confusion they could bring.

#### 4.0 Implications and further study

There is no shortage of research in the KO literature about the need to address terminology problems on behalf of marginalized users (e.g., Baron and Gross 2021; Berman 1993; Bullard et al. 2020). When the inconsistencies in the terminology are not addressed, marginalized users find themselves struggling to navigate the KOS, as well as modulating their use of language appropriately. Since the use of controlled vocabularies in library catalogs is important for locating a comprehensive selection of relevant works even when keyword searching is utilized (Gross et al. 2015), to what extent is it reasonable to expect marginalized groups will be able to change their language use during catalog queries?

Based on the analysis of the literature, we identify five reasons a member of a marginalized group might search a library catalog using a code that is closely associated with their community’s way of speaking as opposed to the more formal language of the catalog (see Table 2). If a term that is more readily associated with the code employed by the marginalized group is used in lieu of the controlled vocabulary term, arriving at a successful subject search seems unlikely.

As demonstrated in the section on code-switching (e.g., Table 1), the choice of terminology is deeply personal, and can be mood and context dependent, but also is the product of a culture’s use of language. Coleman (2012) describes that “Often, by choosing to use a slang term in preference to a Standard English synonym, we’re providing information about ourselves and about our relationships and interests” (96). This might be particularly true of a catalog user. In other words, a user of a system developed and maintained by a cultural institution, who is not wishing to retrieve materials that are academic in nature, might intentionally use terms that reflect the worldview sought.

Motivation to search informal/slang terminology in library catalogs	Implications for a decision to use an informal/slang term in search
Lack of perspective	Users embedded in their communities might be unaware that outsiders do not use the same terminology; therefore, the choice to use informal speech or slang is unknowing/native
Lack of familiarity with the vocabulary of published sources	When users are unaware of literary warrant or the way the idea is conveyed in the published literature, a slang or informal vocabulary term might be used in search.
Currency of language	When an idea is not discussed as such in the published literature or when a subject heading has not yet been established, a slang or informal vocabulary term might be used in search.
Identification with linguistic preferences of members of the marginalized group	When users understand that there might be a formal term used in the published literature to convey the idea, but still prefer to search using an informal term that is preferred by their community.
Seeking texts written by “someone like me”	Potentially, users might intentionally use an informal term in the hopes of finding a hit from another member of the community who shares their terminology practices.

*Table 2.* Motivations for using informal/slang terminology in library catalog searches and their implications.

In search, when users apply terms associated with the culture of their own code, they are acting in accordance with expected approaches to using language. Yet, given the structures in play, the results cannot be expected to be satisfactory. In other words, controlled vocabularies will not provide access using the same choice of term. There are now more spaces where multiple controlled vocabularies representing the same concepts may be used together. The medical domain, for example, uses a number of well-established but distinct vocabularies concurrently (Dobreski et al. 2023). As systems improve and crosswalks bring formal vocabularies into alignment, KO will need to remember that not only the mainstream vocabularies need to be included in this process, but also the specialized vocabularies that support marginalized approaches to language use.

Libraries as institutions (specifically, public libraries) are providing access to more diverse materials for marginalized users (Wyatt 2022). If those materials are not discoverable, however, because they are obscured in the catalog through the use of the vocabulary of another, it is as if those materials are not there. Libraries are already experimenting with adding controlled vocabularies to their catalog to supplement existing vocabularies and provide additional access points that align more closely to the language of the marginalized user, such as the inclusion of Homosaurus terms in records for LGBTQ+ resources (Fischer 2023). However, supplemental vocabularies tend to be applied only to select resources, and questions still remain about how useful they are to library catalog users due to the lack of user studies in this area (Moulaison-Sandy et al. 2023).

Additionally, there is a problem of socially constructed knowledge within specific marginalized communities that

must be studied vis-à-vis the larger system in which library users operate. Implications for this work support taxonomic approaches to the linking of terms from formal community-based controlled vocabularies. For example, LCSH and Library of Congress Demographic Group Terms (LCDGT) include terms that could be used to represent LGBTQ+ identity, but these terms are not as specific as the terms created by members of the LGBTQ+ community (Dobreski et al. 2022).

#### 4.1 Studying code-switching in KO

To evaluate these theoretical assumptions laid out in this article, the empirical study of code-switching as it relates to the use of KOS should be undertaken. Because code-switching is not always done consciously, and the motivations behind query formulation may be complex, a multi-pronged approach to studying the topic is advisable. The field of KO could engage 1) directly with users through user studies or 2) analyze search behaviors. For the former, traditional user studies can be undertaken, using a variety of protocols to understand the information searching behavior of users. Talk-aloud protocols, for example, could yield specific data about the degree to which users are aware of the need to code-switch, or of their use of code-switching. An assessment of the results of their searches could support an evaluation of their success. For the latter option, for a focus on the search, transaction log analyses could be analyzed to ascertain whether repository users have input search queries that include informal terms that are strongly associated with a particular group of marginalized individuals. By assessing the queries, the success, and the trajectories of the searches,

KO could develop a more holistic approach to understanding authentic interactions with systems.

Further work should also undertake to understand the motivations for query formulation in an attempt to validate empirically Table 2. The motivations listed there are drawn from the literature and should be subject to empirical testing. If they are borne out, they provide useful information to the creators of KOS and those building systems that will be used by marginalized users.

## 5.0 Conclusion and future work

Knowledge organization relies on the use of KOS such as controlled vocabularies to address user needs and to support retrieval. However, the social construction of language has the potential to hinder the efficacy of KOS for members of marginalized groups who are forced to code-switch to be able to use these systems, putting the users at a disadvantage. In her landmark book, *Bilingualism*, Suzanne Romaine (1989) is quick to point out that “learning to speak more than one language often involves putting together material from two languages” (2). Already, using a controlled vocabulary to support subject search is fraught (e.g., Bauder and Lange 2015); limited user studies have been carried out to understand how well users of the dominant culture succeed at library catalog searches (though there is some literature focusing on failed searches, e.g., Trapido 2016). Even less is understood about how marginalized users search. Instead, the literature frequently analyzes the way standard library knowledge organization systems are ill-adapted to anyone but members of the dominant culture (e.g., (Berman 1993; Olson 2002). Yet the extent to which this is true demands further empirical evidence which remains lacking. In other words, as valuable as they are, many of the proposed interventions emanating from the KO space stem from top-down, expert-driven processes.

How and to what extent does code-switching hinder marginalized users? Are they more disadvantaged than users from the dominant culture, who may also seem to have a fair bit of trouble using “traditional” library systems? This article presents an initial analysis addressing conceptual lacuna in this intellectual space. Future work in KO should undertake empirical investigations of the usability of KOS; it should engage in user studies, case studies, transaction log analyses, or other investigations that seek to understand how users are succeeding at the code-switching process when using KOS.

Regardless of the ease or lack of ease with which members of the dominant culture search, marginalized users have the additional responsibility of becoming bilingual when using an information system. Marginalized users must articulate internally the query in their own language (or code), and they then need to identify the translation into the ter-

minology of the dominant group in order to query the system effectively, regardless of the nature of the desired results. In other words, marginalized users potentially have to identify the correct wording in the code of literary warrant, evaluate the hits, and then assess critically the results to understand whether they are indeed the content for which they search. Tenets of social justice affirm that KO has the obligation to facilitate this process to the best of its ability, and to consider these aspects when designing and applying KOS that otherwise have the potential to disenfranchise “monolingual” marginalized users.

Work to ease the ability to transition between codes should be a priority going forward, and code-switching represents a useful analytical tool for understanding how. Further user-driven research with members of marginalized communities is needed to provide first-hand, empirical, socially constructed evidence of the relationship between their languages and the language used by KOS with which they interact. The five motivations presented in Table 2 suggest starting points for forming such studies. While each of these poses an intriguing question, the answers must ultimately come from the understanding and language of the users themselves.

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## Endnotes

1. Matthews (2014) clarifies that in the context of code-switching, “The term ‘code’ is loosely used of any language or distinct variety of a language, whether or not it is actually thought of as a code (like the Morse code or a legal code) in any illuminating sense” (“Code-switching”).
2. See the statement by the American Library Association about the change and its importance to library users and workers: <https://www.ala.org/news/2021/11/ala-welcomes-removal-offensive-illegal-aliens-subject-headings>
3. Of note is that the term *Swing* was adopted by the hippie community in the United States in the 1960s to mean “to be involved in the uninhibited fashionable scene” (Coleman 2012, 87).

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