CHOOSING APPROPRIATE RESEARCH KEYWORDS

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This check sheet addresses keyword selection for scholarly publications and other academic purposes. It offers useful information for researchers who want to select more meaningful and descriptive keywords to better connect with their intended audiences.

WHAT ARE KEYWORDS?

The purpose of keywords may seem obvious. In principle, these are words that act like keys to unlock understanding between the writer and their readers. Keywords convey socially important meanings to written works, serving as organizing focal points for complex cultural concepts (Stubbs, 2010). As distilled concepts, keywords represent vast domains of knowledge; consider, for example, the word disaster and its many different meanings across contexts, including its non-existence in some cultures.

Words gain importance—"keyness"—by being consistently assigned and reassigned meaning, which varies across groups, time, and place (Bondi, 2010). As a result, "keywords are the tips of icebergs: pointers to complex lexical objects which represent the shared beliefs and values of a culture" (Stubbs, 2010:23).

Disciplines have their own cultures and subcultures, which also vary across contexts (Malavasi and Mazzi, 2010; Ross, 1991). This presents a unique challenge for the hazards and disaster field, which attracts researchers from multiple disciplines (Peek et al., 2020). Moreover, because "many of the concepts within the field of disaster studies are malleable...and precision in language is somewhat rare" (Chmutina and von Meding, 2019:286), assigning appropriate keywords is a surprisingly complex undertaking.

Given the variability of meaning across—and even within—disciplinary and interdisciplinary cultures and subcultures, the power of keywords lies in connecting seekers of information with relevant sources. For example, scientists should keep in mind that "readers are potential authors of the future articles who will hopefully use, cite, paraphrase, report, etc. on a particular [project]" (Lamanauskas, 2019:457). In other words, the true purpose of keywords is to direct the right people to you and your work.

WHEN DO RESEARCHERS NEED TO OFFER KEYWORDS?

Common examples of when researchers need to generate keywords include in:

- ☐ journal articles
- ☐ books or edited volumes
- ☐ grant proposals or award applications
- ☐ self-descriptions for social media or other online platforms such as Google Scholar
- ☐ data-sharing infrastructures such as DesignSafe-CI
- ☐ biographical opportunities—like the Social Science Extreme Events Research (SSEER) network map

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HOW CAN KEYWORDS HELP?

One advantage of offering a strong set of keywords is that these descriptors can help readers to understand "at a glance" what your work is all about. In addition, given the ubiquity of freely available information online, keywords allow users to easily find and, in many cases, quickly access your research. On the SSEER map, for example, this exposure can be used strategically to connect social scientists who share research interests or methodologies. Google Scholar users can click on keywords associated with someone's profile—such as "environmental sociology"—and then click on that term to see the most cited scholars in that particular area of study.

Despite these benefits, author-generated keywords don't always communicate the intended meaning to readers (Bondi, 2010). Indeed, no single set of uniform rules can provide a simple process for keyword selection, and there is no predetermined set of keywords for researchers in the field to choose from (Malavasi and Mazzi, 2010). With this gap in mind, the remainder of this check sheet offers several recommendations applicable to scientists of all backgrounds.

HOW TO DEVELOP KEYWORDS

Keywords attract two kinds of readers: those who are "very familiar with the keyword and do not require any background, and…those who would like to know more about that keyword and who indeed require background" (Lebrun, 2007:50). As a result, keywords need to weigh the needs of a wide spectrum of potential readers while also balancing the expectations of the outlet that will carry or review the keywords. One useful strategy for generating keywords categorizes them into three groups (for a full discussion of these categories, see Lebrun, 2007, Chapter 10):

- ☐ *General Keywords*
  - Describe the domain, but appear so frequently they offer little differentiating power, and thus cannot improve the visibility of your work, like "model."
  - Use the broadest terms and rely on a single word, like "network" (Baker, 2004; Shokri, Khany, and Aliakbari, 2022).
- ☐ *Intermediary Keywords*
  - Offer better differentiation and are often related to the study's methods, like "clustering."
  - Use more specific terms and phrases designed to attract both knowledgeable readers and those new to the field, like "landslide mitigation" (Bondi, 2010; Stubbs, 2010).
- ☐ *Specific Keywords*
  - Offer maximum differentiation, but may vary from one outlet to the next or from experts to non-experts, like "disaster," which may serve as a specific keyword in the *American Sociological Review* and as a general keyword in the *Journal of Disaster Research*.
  - Offer the opportunity to honor participants; for example, by using the preferred language of the participants' culture or group (Bhan, 2014).
  - Use the most specific terms and phrases; for example, a single noun that is well-known to experts in the field, like "gamification" or "sociogenetics" (Shokri, Khany, and Aliakbari, 2022), or a distinct phrase like "Paradise, California Wildfire."

A CHECKLIST FOR KEYWORDS

Before using any disciplinary- or disaster-specific terminology, consider the implications of word choice and how your chosen keywords will be perceived by your *ideal reader or intended audience* (Chmutina et al., 2021; Chmutina and von Meding, 2019; Lamanauskas, 2019; Shokri, Khany, and Aliakbari, 2022; Stubbs, 2010). After carefully considering your audience and the context of your project, generate several examples of keywords and phrases that describe your work so you can choose the best ones.

The checklist below offers a few crucial pointers for researchers regardless of discipline or focal area:

- ☐ *Select Three to Five Keywords.* Using one or two keywords will not provide enough detail to make your research stand out. At the other end of the spectrum, using too many keywords can be overwhelming to the reader. Most journals limit authors to about five keywords for this reason.
  - Consider how well the keywords reflect *words used in real life*; questionable keywords used by cited references include:
    - * Engaged research - The meaning of this phrase is unclear: what is engaged or who is being engaged? What does "engaged" mean?
    - * Language - This single word offers little context for a reader and has so many potential meanings that it may offer little meaning on its own.

- Be sensitive to the *sometimes variable meanings* of keywords.
  - * Manage - This word might hold a specific meaning to researchers with a background in emergency management and a completely different meaning for an organizational sociologist or a public health researcher.
- ☐ ***Focus on Noun Phrases.*** These words communicate most efficiently and effectively to readers.
  - Examples of noun phrases include: coastal floods; long-haul COVID survivors; quantitative content analysis.
- ☐ ***Balance Brevity with Specificity.*** Remember that keywords are not just labels, but also conceptual categories.
  - Use only *well-known* acronyms, like AIDS or NASA.

Finally, test your keywords with a tried-and-true method by asking yourself: "If you were looking for an article on exactly the topic of your manuscript, what key words would you type into a search engine in order to find it?" (Mack, 2012:4). This simple exercise puts you in your readers' shoes: what do others need to do to find you or your work? You may also consider asking coauthors, colleagues, and/or mentors to review your keyword selections.

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