EBSCO
Discovery Service™

Search Technology

EBSCO Discovery Service (EDS) is an all-inclusive search solution that makes in-depth research easy. The platform offers sophisticated features and functionality that anticipate user intent, helping them get to exactly what they are looking for quickly and easily.

EDS supports integrated searching of content from full-text databases, citation databases, and local content collections such as library catalogs and other locally managed digital collections.

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Introduction

In discovery services with billions of records, **search precision** is critical not only to connect your library user with the most relevant information, but also for your library, its usage, and its value. EBSCO Discovery Service **matches user intent**, leveraging the power of subject indexing, thesauri, and users' natural language to add precision to a search.

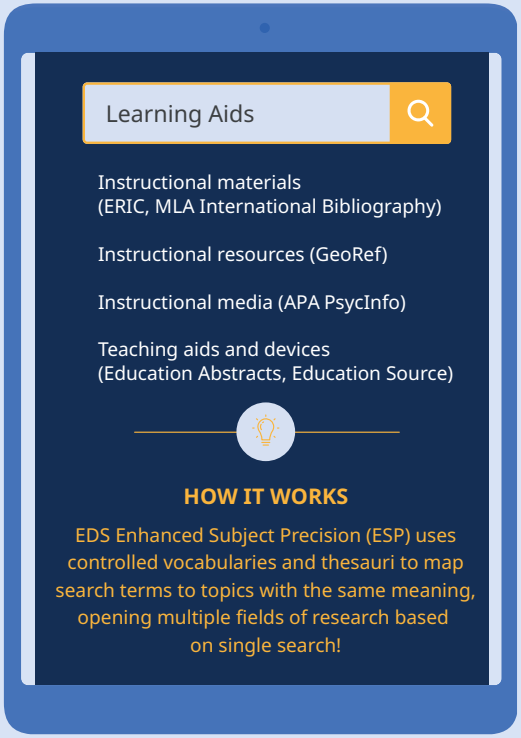
This guide dives into the specifics of the proprietary search technology found only in EBSCO Discovery Service.

What's Under the Hood?

With rich metadata and superior relevancy ranking technology, the search technology in EDS offers back-end sophistication to create simplicity on the front-end.

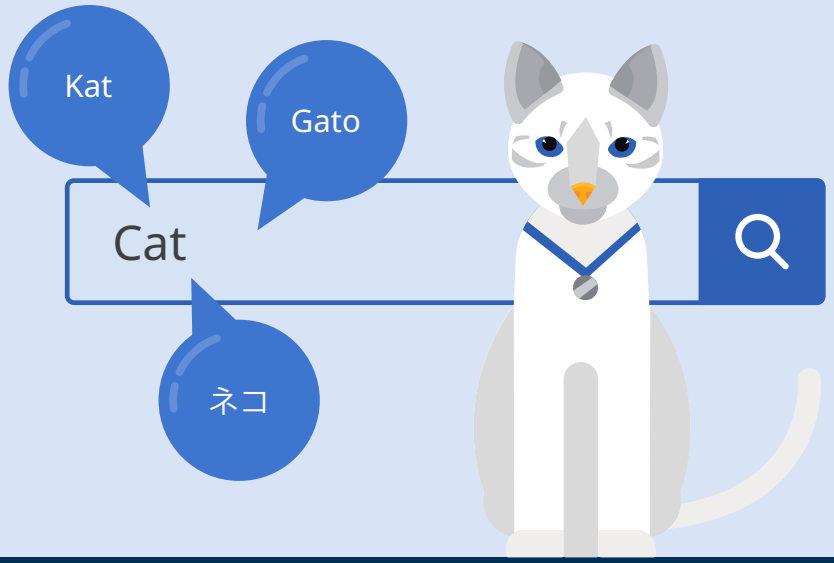
Subject Indexing / Enhanced Subject Precision (ESP)

Nearly every area of study has an authoritative subject index. For example, psychology has APA PsycInfo, language and literature have MLA International Bibliography, and allied health has CINAHL. Subject indexes are high-quality mini-discovery services for their disciplines. EDS is the only discovery service that properly leverages native MeSH, CINAHL, APA and other thesauri and controlled vocabularies to connect these different terminologies. All headings are hyperlinked for easier serendipitous discovery.



The Knowledge Graph

Built with the aid of a small army of subject matter experts drawing on numerous subject indexes, the Knowledge Graph helps deliver an excellent search that can turn even inadequate queries into quality results. Therefore, users don't need to start off as expert researchers to get expert information. The Knowledge Graph does this by mapping new datasets that incorporate natural language, extensive subject vocabularies, and a vast array of synonyms and concepts. This enhances search and relevance rankings for EDS.



Relevancy Ranking

EDS employs a comprehensive relevance ranking strategy that utilizes numerous criteria, including term frequency, field weighting, exact field matching, and content attribute boosting, to provide the user with the most relevant results for their search queries. Like all search engines, EDS begins by finding records that contain the words that match the user's search query. Some matching fields are considered more important than others for relevance scoring purposes and are weighted to take advantage of their relative importance.

The fields below are the most influential fields used in relevance ranking calculations and are listed in order of influence.

1. Subject heading
2. Title
3. Author-supplied keywords
4. Abstract
5. Authors
6. Full-text

Value Ranking

Specific content attributes of matching records may also contribute to relevance scoring. These content attributes include:

1. Publication date
2. Publication type
3. Peer reviewed or not
4. Document length

Additionally, specific fields may be configured to support a 'Field Match' boost. For example, a relevance scoring boost is applied when the user's query exactly matches the title field of a library catalog record. The boost is configured so that each non-matching term causes the boost points to be decremented by a specified amount down to a minimum boost for partial matches.

Adjacency Bias

Search terms often include adjacent words that form a phrase. A document containing the phrase is usually more relevant than one that contains the words in isolation. Documents with the phrase receive a scoring adjustment in their favor. This adjustment is an implicit phrase bias, (or adjacency bias), for words in exact order adjacent to one another. It applies to search terms that are implicit phrases, meaning the words are not explicitly identified as a phrase by quotation marks.

Local Library Collections

All records from customer-provided library catalogs and institutional repositories are evaluated using the same relevance ranking criteria specified above. To meet user expectations for catalog search, we apply an additional relevance scoring boost for library catalog records with titles that exactly match the user's search query. Additionally, customers have the option of influencing the overall relevance weighting of their catalog and/or institutional repository. This optional setting enables all catalog and institutional repository records to appear higher (or lower) in the search results list relative to other content in the EDS profile.

Learning to Search, Searching to Learn

EDS is more than a discovery tool. It is also a learning environment in which users are guided toward improving their search terms and finding items they may have overlooked otherwise. This means that novice researchers are not just finding books and articles but are also gaining an **understanding of the library's value** at a granular level. As their information literacy skills develop and their search skills become sharper, they recognize that they can dive into resources like CINAHL, or Inspec, and so on.

Predictive Search

EDS provides predictive search technology, ultimately anticipating user intent and surfacing features to get a user directly to a resource as quickly as possible.

Autocomplete and Autocorrect

Feature elements like Did-You-Mean, Autocomplete, and Autocorrect offer users suggestions and correct users' search terms, decreasing false results and errors.

Hyperlinked Databases

The result list can be configured to provide hyperlinking for external database names on EDS search results to the database's native platform. This feature allows end users to easily locate and search many of the specialized databases offered by your library.

Predictive Search

Research Starters

Feeling overwhelmed by search results can lead novice researchers to abandon their search early into the research process. Placards are a great feature to help guide a user to exactly the type of content they are looking for. EDS offers a custom placard called Research Starters. Designed to enhance the research experience, Research Starters include links to relevant articles, images, videos, and audio clips. The content is curated from a variety of high-quality sources including Salem Press and Encyclopedia Britannica. If a Research Starter is available for the topic, it will appear at the top of the EDS search results list.

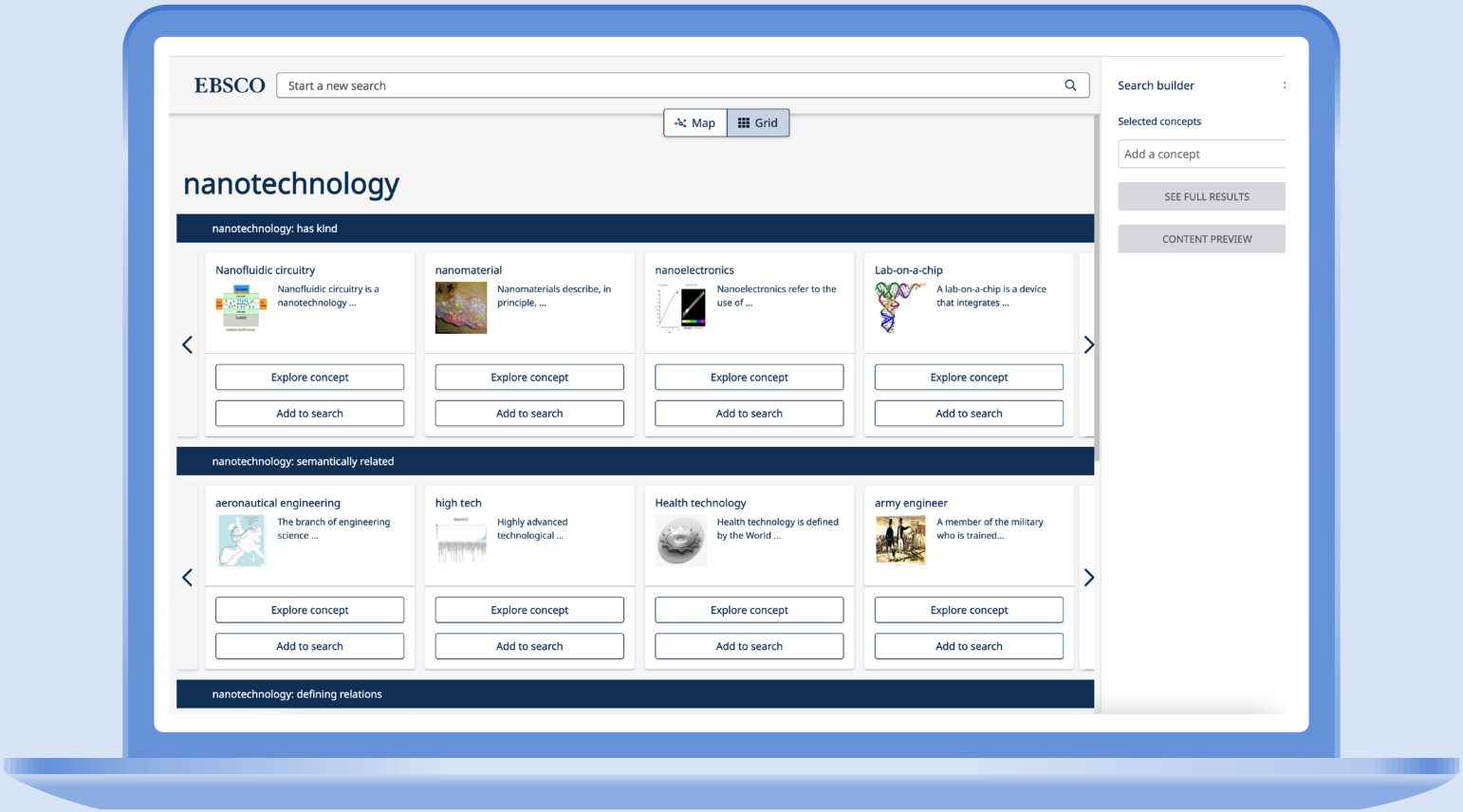
Equitable Search

The Knowledge Graph within EDS helps the user learn by asking about their intent. For example, if the user searches for “java,” EDS is smart enough to ask if they meant the island, the programming language, or coffee. This is the first step in the equitable search, which means that there is no “right” word for a query. Instead, the user decides what word to use for their search based on their level of research proficiency, background, or perspective.

In addition, non-English speakers can comfortably search in their own language, enabling them to engage in more extensive, more relevant cross-lingual research than they would be able to if they were limited to English.

A Visual Connection

The Knowledge Graph does more than recognize multiple meanings, however. It also shows the user connections between subjects via a visualization tool called the **Concept Map.**



Conclusion

EBSCO Discovery Services' (EDS) proprietary search technology takes research to the next level, connecting users with the most meaningful information for their research. It also builds information literacy skills through intuitive functionality and increasing library usage.

Learn more about the power of EDS here.