

Bridging the Gap: How Information Practices Shape Students' Help-Seeking Strategies

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- Effective self-regulation strategies for seeking academic sources of help (Karabenick & Newman, 2009)
- Formal and informal sources of support (Karabenick & Knapp, 1988) and engagement in the information search process (Kuhlthau, 1991)
- Learners do not distinguish between human-based and information source approach (Giblin et al., 2021)
- Focusing on study assignments that Czech students are struggling with – writing final theses and other written assignments (Chodounská & Krueger, 2016)

Aim of the Study and Research Question

This study aims to gather initial data and examine **information searching habits of Czech undergraduate and graduate students in STEM fields.**

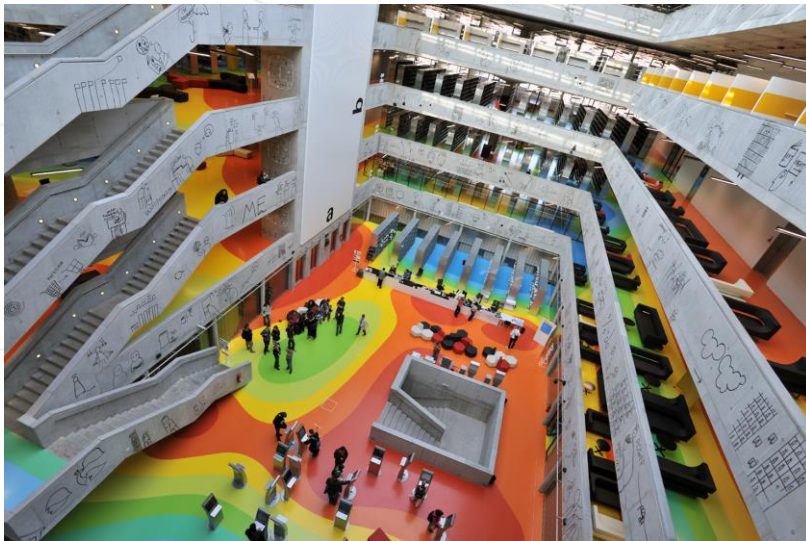
- **Analysis of reported help-seeking behaviors** at the point where students have **started writing** their required theses or other written assignment
- Differences in results for their level of study and affiliation

RQ: How did Czech STEM students navigate information searching and help-seeking in 2020, during COVID-19 crisis, when writing their theses, and how did these behaviors influence their decision-making process when seeking academic help?

Methods: Quantitative analysis, descriptive statistical methods, and binomial logistic regression

Czech National Library of Technology (NTK)

NTK
50°6'14.083"N, 14°23'26.365"E
Národní technická knihovna
National Library of Technology



- Public academic library with a specialized STEM collection under the Czech Ministry of Education, Youth and Sports
- The academic library for University of Chemistry and Technology Prague and Institute of Organic Chemistry and Biochemistry of the AS
- Located in the heart of the Dejvice engineering and technology campus
- Approximately 800,000 visitors per year and 35,000 registered users (over 90% are students, instructors, researchers)

- The “**NTK for the next decade**” comprehensive survey was conducted in 2020 (Firsova et al., 2022)
- Data gathered on NTK users, their study behaviors, needs, preferences in using library services, equipment, and spaces – to be used for improving library services as well as future library modernization
- **Purpose-sampling methodology** (Campbell et al., 2020)
- **Target population:** NTK users (both registered and non-registered), students, and employees from partner and campus universities
- Online questionnaire in Czech and English languages
- **Final dataset:** 1,030 respondents (from high-school students to general public); NTK users ~93%

- Data concerning students' study behavior:
 - **The utilization of informational resources in theses writing**
 - **Respondents' search for support and assistance in the early stages of theses writing**
- Questions were based on the survey team's experiences with individual research consultations provided to students by NTK
- Dataset includes **697 responses**: 62.8% undergraduates and 37.2% graduates, regardless of academic affiliation
- Information on academic affiliation; four main affiliations (total 656 resp.): CTU Prague (203 resp.), UCT Prague (142 resp.), CZU (214 resp.), and CU (97 resp.)

Examined Variables (1)

What kind of resources do you use for writing (seminar papers, essays, projects, Bachelor thesis, and Master thesis)? How important are these resources for you?

0—I do not use

1—not important

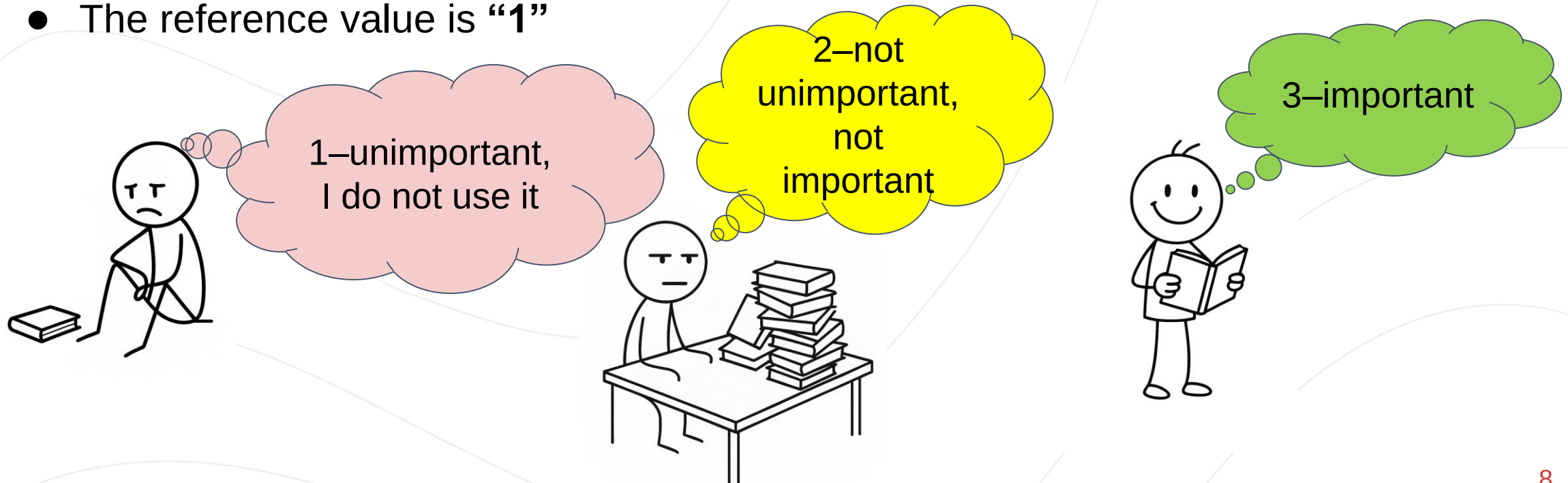
...

5—very important

- Own notes
- Materials provided by lecturers
- Materials from other students
- Electronic course books and textbooks
- Paper course books and textbooks
- Theses by other Bachelor or Master students
- Other study and subject related electronic Materials (online articles, eBooks)
- Other study and subject related print materials (articles, books)
- Technical or other standards
- Online encyclopedia (i.e., Britannica, Wikipedia)
- Websites, general information on websites

Examined Variables (1)

- Series of ordered categorical variables: “**Resources**”; an ordinal range from “0” to “5” accordingly
- Transformation for logistic regression to address the quasi-complete separation issue – **an independent variable** – reorganization of the data and consolidation of categories
- The reference value is “1”



Examined Variables (2)

When you start to write a paper or work on a project, where do you begin? Select up to three options you consider to be the most important.

Multi-choice option

I ask:

- my teacher/lecturer
- my friends/peers
- a librarian or schedule a consultation with them

I read other theses written on a topic similar to my own

I search for information:

- on Google
- on Google Scholar
- on Wikipedia
- on a library website
- in subscription/fee-based databases (i.e., Web of Science, IEEE, PubChem)

Examined Variables (2)

- Transformation of variable in a series of nine dichotomous variables **“Sources of Help”**
- A dependent variable in regression model
- The reference value is “0”



“0”—the source of help was not chosen



“1”—the source of help was chosen

- Logistic regression models (e.g., Davison et al., 2023) provide robust analytical framework capable of exploring complex relationships between various factors
- **The key assumption:** the preference of a particular source of assistance or help by students is probabilistic in nature

perceived importance of
informational resources



where to search for
assistance or help

- Dependent variables “**Sources of Help**”
- Independent variables “**Resources**”
- Binomial logistic regression (Britt et al., 2010)
- **Odd Ratio (OR):** how the odds of the dependent variable change with a one-unit increase in an independent variable, assuming all other variables in the model are fixed (Campbell et al., 2020)
- Insignificant model for the variable “**I ask a librarian or schedule a consultation with them**” – **the variable was excluded**; a possible reason is the low number of respondents choosing this option

Descriptive statistics: Resources

Table 1: Descriptive statistics for the series of variables “Resources” on scale “0–I do not use” to “5–very important”

Type of Resources	All Students (697 resp.)		Undergraduates (438 resp.)		Graduates (259 resp.)	
	Mode	Mean	Mode	Mean	Mode	Mean
Own notes	5	3.69	5	3.87	5	3.38
Materials provided by lecturers	5	4.04	5	4.23	5	3.72
Materials from other students	3	3.07	3	3.20	4	2.86
Electronic course books	5	3.80	5	3.81	5	3.78
Paper course books	5	3.59	5	3.60	5	3.59
Theses by other students	3	3.13	3	3.09	4	3.20
eBooks & eJournals	5	3.90	5	3.72	5	4.19
Print books and journals	5	3.13	5	3.02	5	3.34
Standards	0	2.14	0	2.05	0	2.29
Online encyclopedia	3	2.87	4	2.95	3	2.72
Websites	4	3.49	4	3.53	4	3.42

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Type of Resources

Graduates (259 resp.)

Mode

Mean

eBooks & eJournals

5

4.19



Descriptive statistics: Sources of Help

Table 2: Descriptive statistics for the series of dichotomous variables “Sources of Help”

Sources of Help	All students (685 resp.)			Undergraduates (431 resp.)			Graduates (254 resp.)		
	N of cases	%	% of cases	N of cases	%	% of cases	N of cases	%	% of cases
Teacher/lecturer	255	13.4	37.2	164	13.7	38.1	91	12.9	35.8
Friends/peers	205	10.8	29.9	155	13.0	36.0	50	7.1	19.7
Librarian	13	0.7	1.9	11	0.9	2.6	2	0.3	0.8
Other theses	353	18.6	51.5	218	18.3	50.6	135	19.1	53.1
Google	431	22.7	62.9	284	23.8	65.9	147	20.9	57.9
Google Scholar	144	7.6	21.0	62	5.2	14.4	82	11.6	32.3
Wikipedia	109	5.8	15.9	74	6.2	17.1	35	5.0	13.8
Library website	145	7.6	21.2	86	7.2	20.0	59	8.3	23.2
Subscription databases	243	12.8	35.5	139	11.7	32.3	104	14.8	40.9
Sum		100	277		100	277		100	277.5

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			N of cases		%		N of cases		%	
Teacher/lecturer	Google Scholar Subscription databases		82		11.6		32.3		38.1	
Friends/peers			50		7.1		19.7		36.0	
Librarian			2		0.3		0.8		2.6	
Other sources			135		19.1		53.1		50.6	
Google	431	22.7	62.9	284	23.8	65.9	147	20.9	57.9	
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Sum		100	277		100	277		100	277.5	

Results: Human Assistance Source of Help

Own notes

OR 2.143

Printed books & journals

OR 2.324

Printed books & journals

OR 1.818

Theses

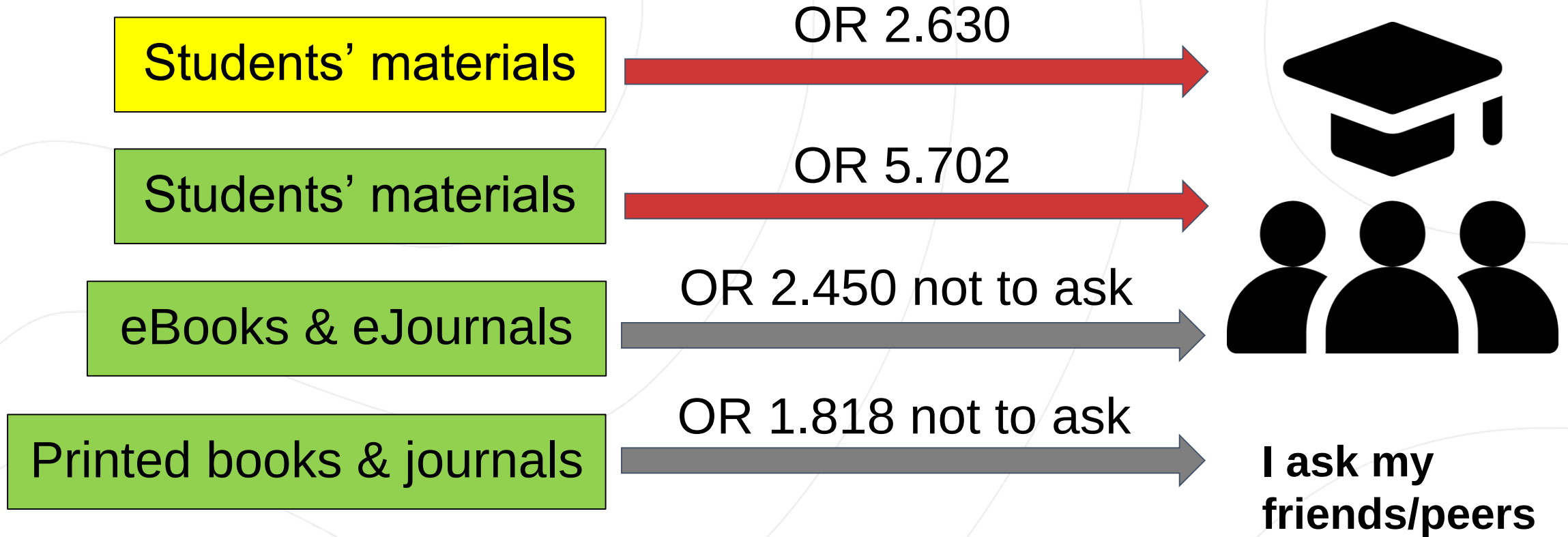
OR 1.661 not to ask



**I ask my
teacher/lecturer**

The probability that a student will ask a teacher is 17.1%.

Results: Human Assistance Source of Help



The probability that a student will ask peers is 28.4%.

Results: Informational Resources Assistance

Theses

OR 2.066

Theses

OR 8.612

Printed books & journals

OR 1.730

Online encyclopedia

OR 2.232 not to use



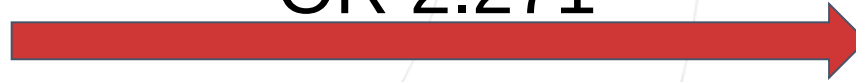
**I read other
theses written on
a topic similar to
my own**

The probability that a student will use theses is 28.6%.

Results: Informational Resources Assistance

Websites

OR 2.271



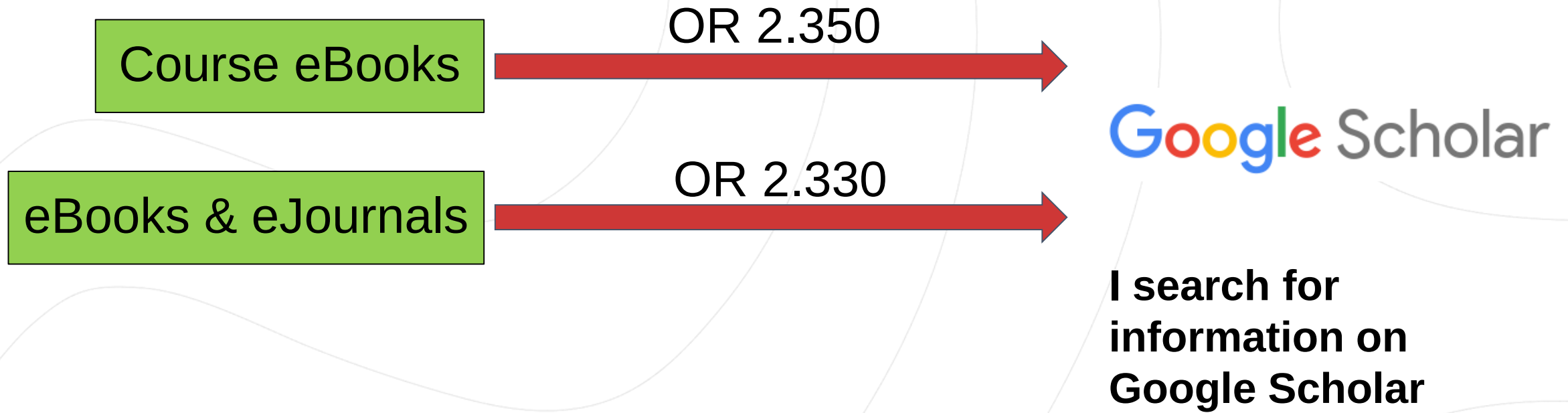
Websites

OR 3.414



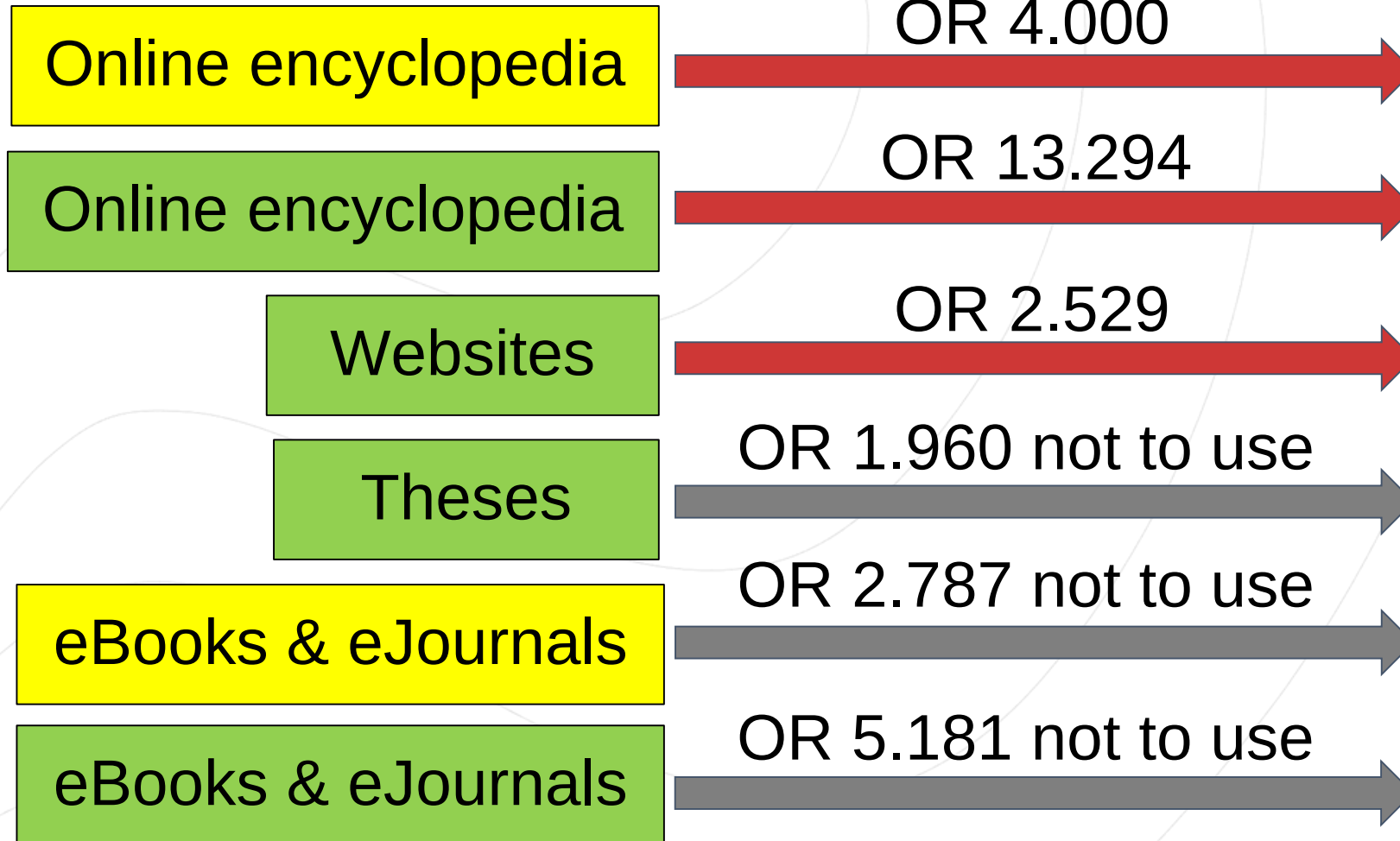
**I search for
information on Google**

Results: Informational Resources Assistance



The probability that a student will use Google Scholar is 14.5%.

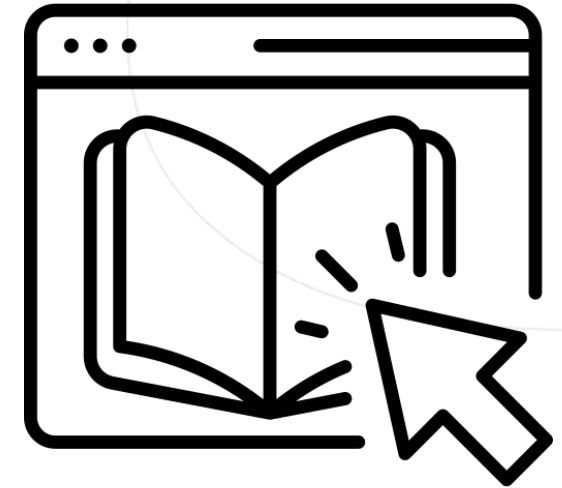
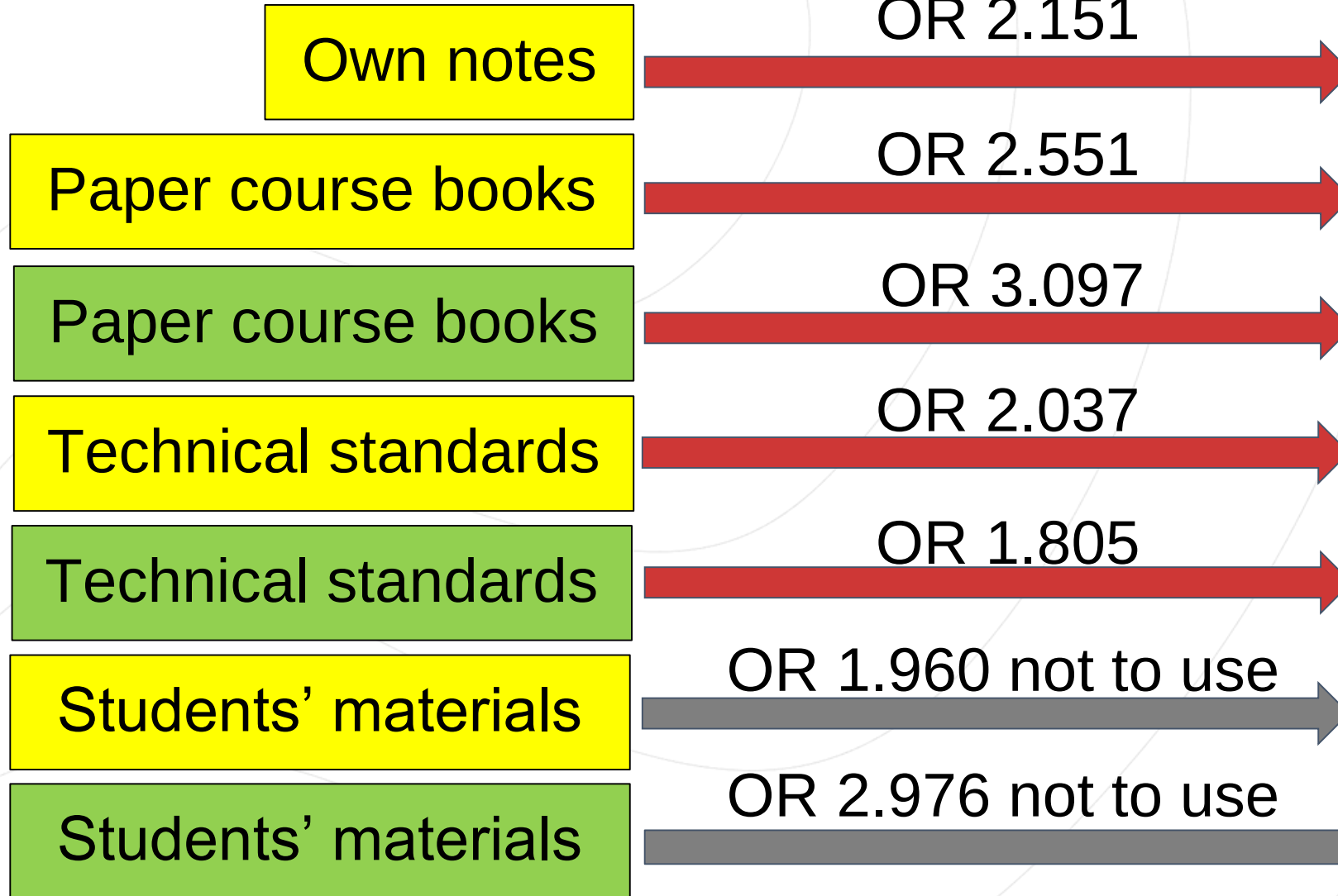
Results: Informational Resources Assistance



**I search for
information on
Wikipedia**

The probability that a student will use Wikipedia is 12.4%.

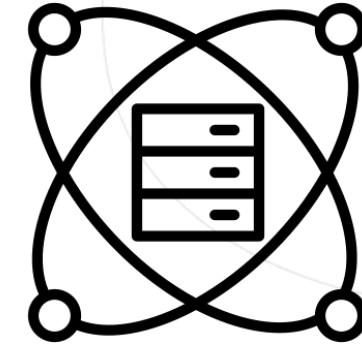
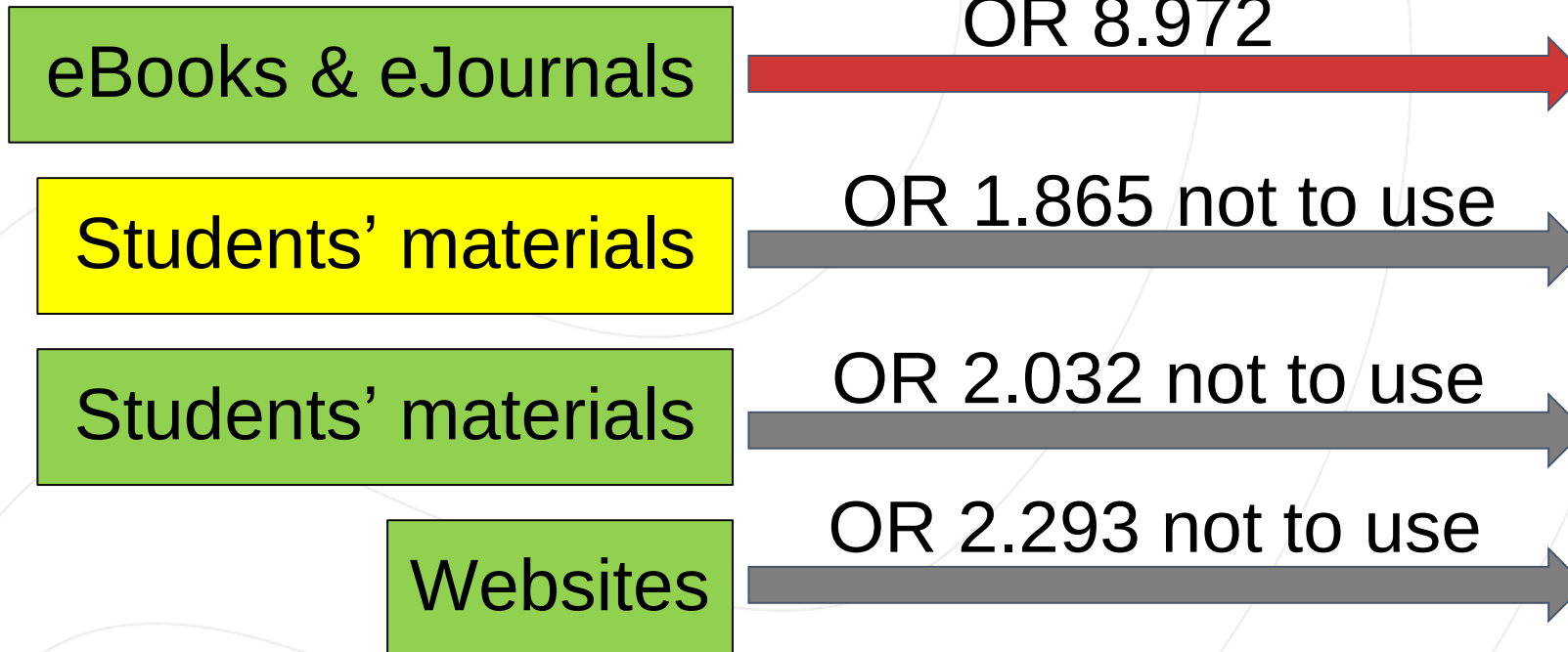
Results: Informational Resources Assistance



I search for information on a library website

The probability that a student will use a library website is 16.3%.

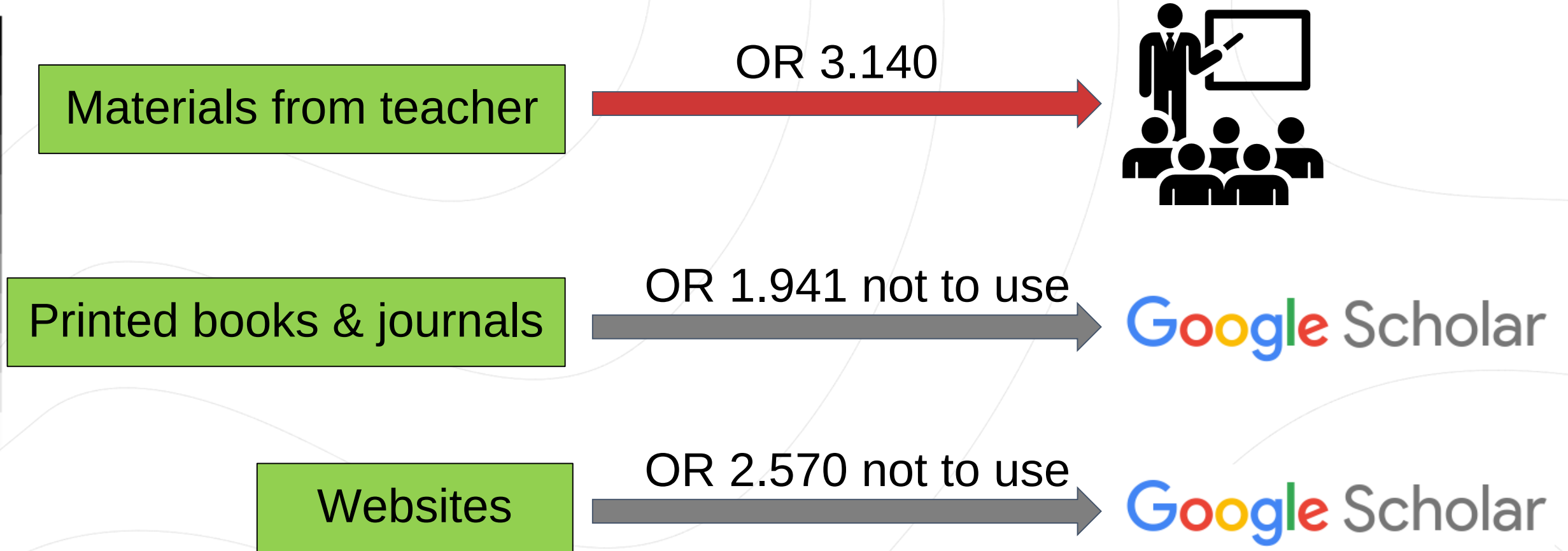
Results: Informational Resources Assistance



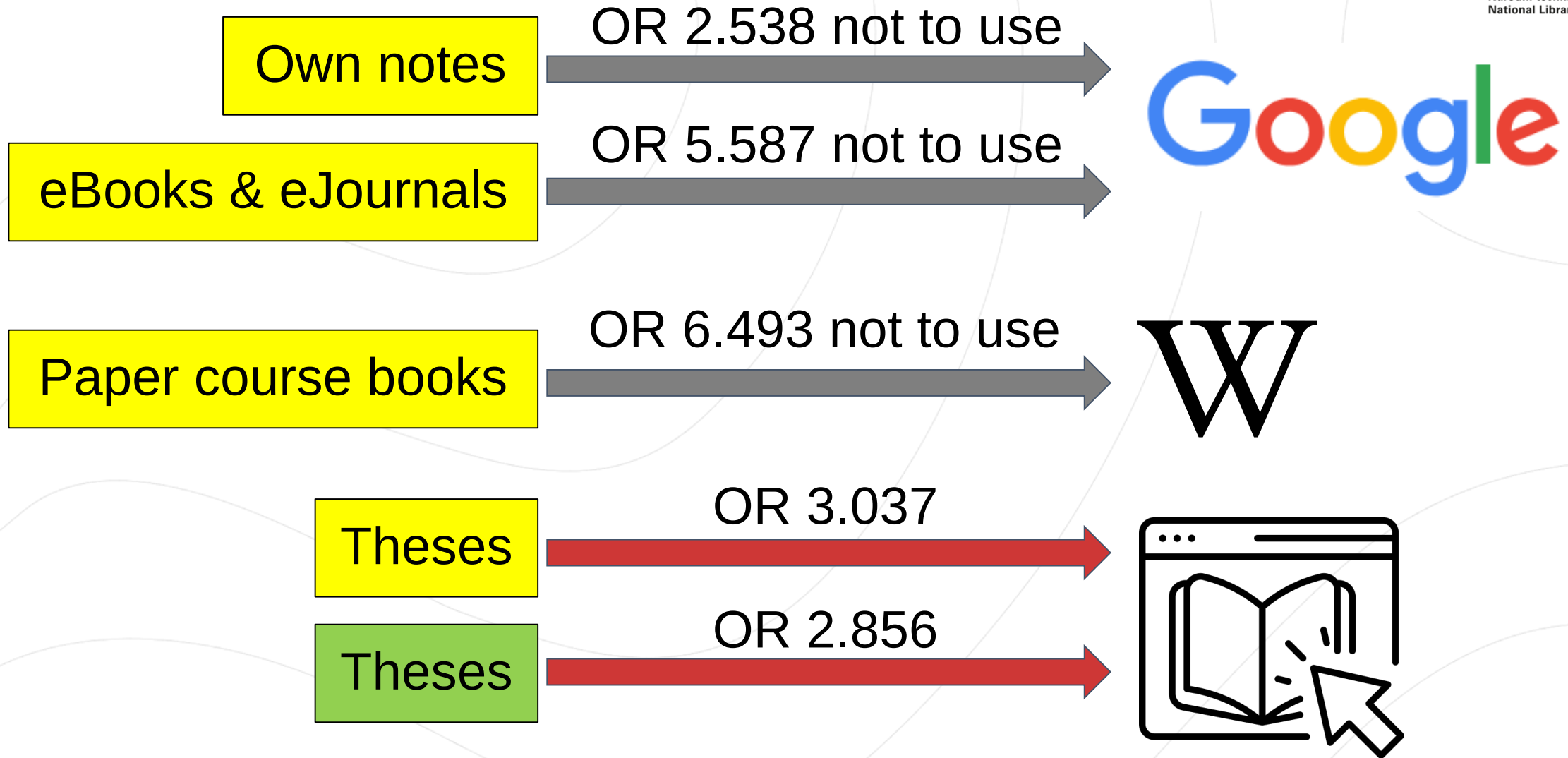
I search for information in subscription/fee-based databases (i.e., Web of Science, IEEE, PubChem)

The probability that a student will use subscription databases is 23%.

Level of Study Analysis: Undergraduates



Level of Study Analysis: Graduates



Affiliation Analysis: Czech Technical University

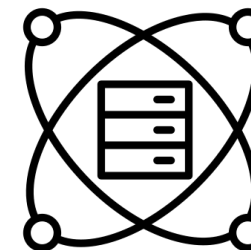
Paper course books

OR 2.967 not to ask

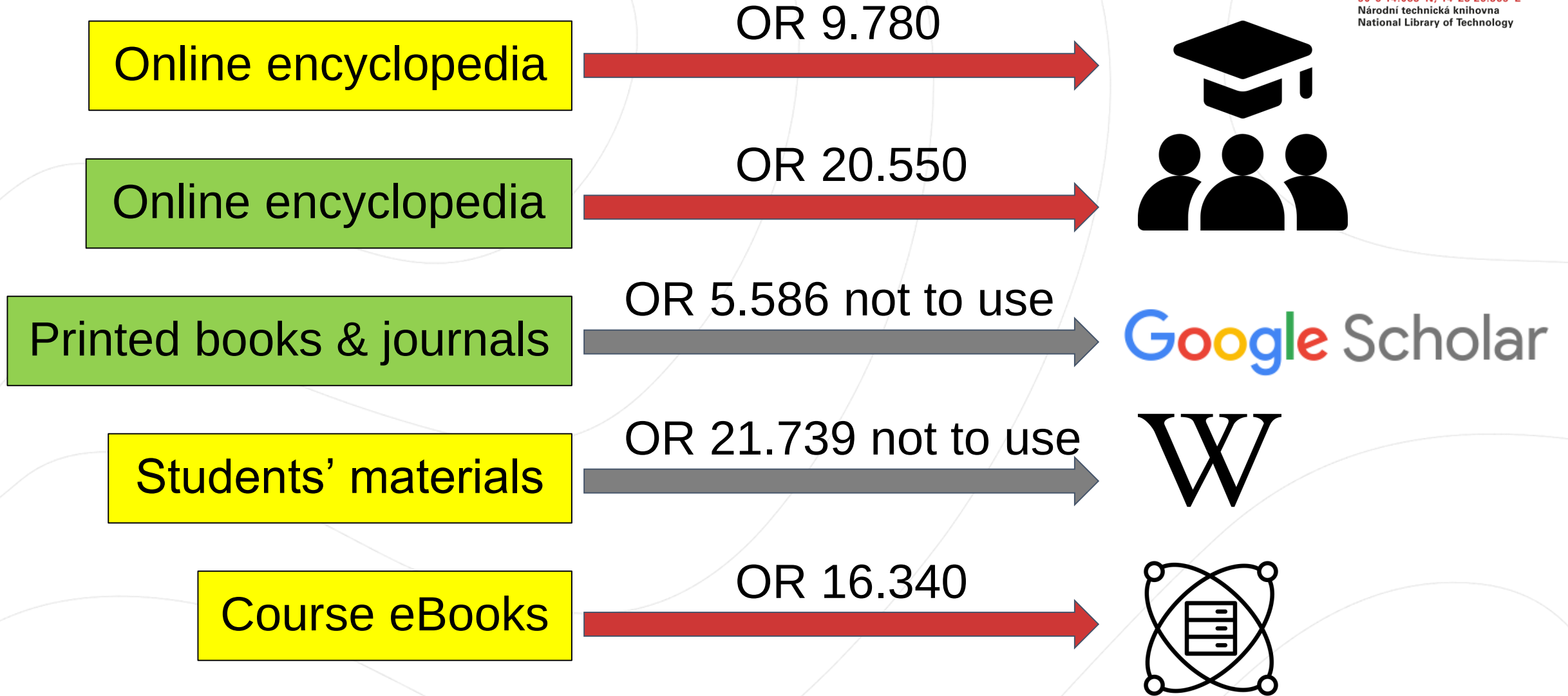


Theses

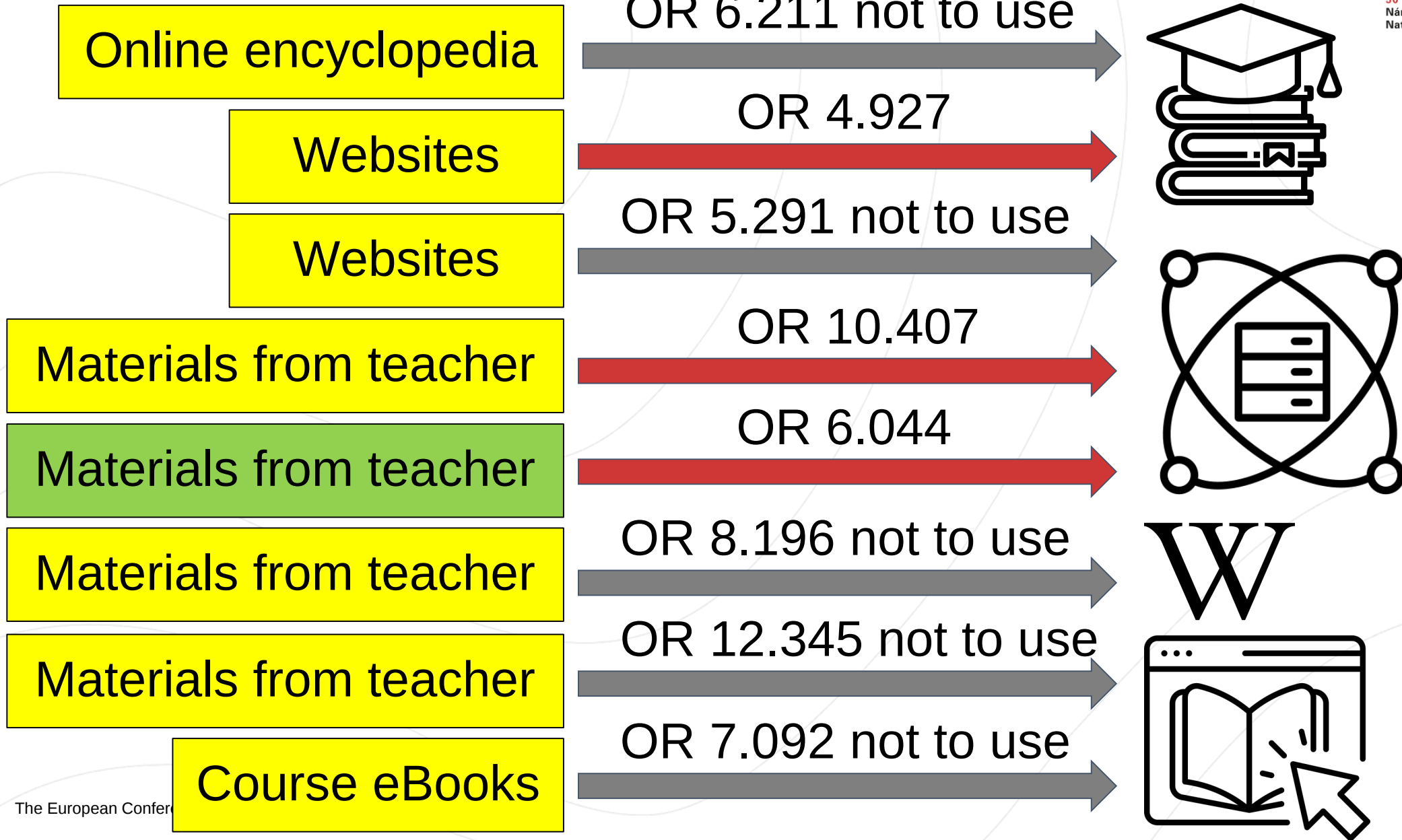
OR 3.236 not to use



Affiliation Analysis: University of Chemistry and Technology



Affiliation Analysis: Czech University of Life Sciences



- The **choice of specific academic help sources** is influenced by students' **perceived importance** of informational resources utilized for academic writing assignments.
- Awareness and usage of **specialized academic informational resources** lead to seeking professional assistance and sources.
- Reliance on and perceived importance of **general and amateur resources** leads students to depend on less professional sources of help.
- The importance of **cultivating effective practices and habits** in the use of quality informational resources.

Limitations and Future Research

Limitations	Future Research
• The data were collected during the COVID-19 pandemic • Open Access resources and/or Open Educational Resources were not explicitly defined • Self-reported data and limited demographic data • (Gen)AI tools are not considered	• Contemporary shifts in students' information behavior • Monitoring the level of AI use by students and the development of institutional policies • Plan to conduct follow-up research and a comparison study in 2026 • Have (Gen)AI tools already substituted some of the sources of help, or it is a game-changer in help-seeking behavior?

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Ready for Questions

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