Academic Databases in Humanities and Social Sciences Setting: The Case of Students at Osijek University in Croatia

Faletar Tanacković, Sanjica

Academic databases in humanities and social sciences setting: the case of students at University of Osijek

Podatkovne zbirke s področja humanistike in družboslovja: primer študentov univerze v Osijeku

Sanjica Faletar Tanacković

Oddano: 15. 12. 2017 – Sprejeto: 13. 3. 2018

1.02 Pregledni znanstveni članek
1.02 Review article
UDK 004.65:[3+7/9]

Abstract

Purpose: The study investigated perceptions and experiences of students at Faculty of Humanities and Social Sciences in Osijek, Croatia with academic databases.

Methodology: The mixed-method study (self-administered print survey and semi-structured interviews) was conducted from October 2016 through February 2017. Quantitative analysis was conducted on 381 correctly completed questionnaires using the SPSS statistical package. Besides descriptive statistics, Chi-Square tests, T-tests, ANOVA, Mann-Whitney and Kruskal Wallis tests were used to test possible differences between the groups in the sample. Statistical difference was tested at the level of 95%.

Results: Although 82.2% of respondents think that information literacy (IL) skills are important for their academic success, only 63% reported that they received some formal IL training at university level. The respondents self-assessed their Google searching skills with higher grades (Mean 4.31) than their academic database searching skills (Mean 3.69), and they reported a more frequent use of Google (53.8%) than databases (25.1%) for academic purposes. When asked about problems related to database searching, students reported several challenges: their systematic habit of using Google (48%), limited access to databases from home (42.3%), the (foreign) language of scholarly articles (35.2%) and their lack of searching skills (35.2%). In general, the findings suggest that humanities students receive less IL formal training at university level, they are to a lesser degree motivated (both externally and internally) to use academic databases and are more often inclined to use Google for academic purposes than social

sciences students. In addition, findings suggest that there is a disciplinary difference regarding the perception of databases.

Research limitation: Geographical limitations and small sample size.

Originality/Practical implication: The results can influence the design of information literacy programs and library reference services.

Keywords: *academic databases, motivation, perception, use, humanities and social sciences, students, Croatia*

Izvleček

Namen: Namen raziskave je bil ugotoviti, kako študenti Filozofske fakultete v Osjeku, Hrvaška *(Filozofski fakultet Sveučilišta u Osjeku, Hrvatska)* razumejo in uporabljajo podatkovne zbirke s področja humanistike in družbenih ved.

Metodologija: Uporabljeni sta bili dve metodi (vprašalnik v tiskani obliki in delno strukturirani intervjuji), raziskava je zajela obdobje od oktobra 2016 do februarja 2017. V kvantitativno analizo je bilo vključenih 381 pravilno izpolnjenih vprašalnikov, obdelanih z uporabo statističnega paketa SPSS. Da bi ugotovili morebitne razlike med posameznimi skupinami v vzorcu, so bili, poleg opisne statistike, uporabljeni tudi Hi-kvadrat test, T-test, ANOVA, Mann-Whitneyev test in Kruskal Wallisov test. Statistične razlike so bile ugotovljene na ravni 95 %.

Rezultati: Čeprav 82,2 % oseb, ki so bile vključene v analizo meni, da so veščine, na katerih temelji informacijska pismenost, pomembne za doseganje dobrih študijskih rezultatov, jih je le 63 % odgovorilo, da so se v manjši meri formalno usposabljali na tem področju. Študenti so ocenili svoje veščine za iskanje po Googlu dokaj visoko (srednja vrednost 4,31) v primerjavi s samooceno veščin za iskanje po podatkovnih zbirkah s področja humanistike in družboslovnih ved (srednja vrednost 3,69), poleg tega pogosteje uporabljajo Google (53,8 %) kot podatkovne zbirke (25,1 %). Na vprašanje o težavah pri iskanju v podatkovnih zbirkah so navedli različne ovire: da že iz navade pogosteje uporabljajo Google (48 %), da imajo od doma omejen dostop (42,3 %), članki so v tujem jeziku (35,2 %), niso dovolj usposobljeni za iskanje (35,2 %). Na splošno rezultati raziskave kažejo, da imajo študenti humanistike manj formalnega usposabljanja za informacijsko pismenost, so manj motivirani (zaradi zunanjih in notranjih dejavnikov) za uporabo podatkovnih zbirk in se pogosteje nagibajo k iskanju po Googlu tudi za študijske namene. Poleg tega rezultati kažejo tudi na razlike v razumevanju podatkovnih zbirk pri študentih posameznih znanstvenih disciplin.

Omejitve raziskave: Geografske omejitve in majhen vzorec.

Izvirnost/uporabnost raziskave: Rezultati lahko vplivajo na oblikovanje programov izobraževanja za informacijsko pismenost in na referenčne storitve knjižnice.

Ključne besede: *akademske podatkovne zbirke, motivacija, zaznavanje, uporaba, humanistika in družbene vede, študenti, Hrvaška*

1 Introduction

In modern academic environment, rich with online information, students' information literacy skills (IL) and seeking behavior are becoming an increasingly important topic. On one hand, teachers and librarians are trying to provide students with access to high quality information and adequate training aimed at facilitating their academic success. On the other hand, scholars investigate students' academic information behavior to understand their source preferences, search strategies etc. Although many studies looked into the students' online (academic) information behavior, only a few focused specifically on their perception and use of academic databases, an expensive and authoritative source of information. Therefore, this paper aims to contribute to the general understanding of the perception and experiences with academic databases, among humanities and social sciences students at University of Osijek in Croatia.

2 Literature Review

Recent studies into academic information behaviour have confirmed that students in general prefer convenient, least effort electronic information sources such as Google and Wikipedia to authoritative, electronic library sources such as scholarly bibliographic and full-text academic databases (Catalano, 2013; Connaway, White, Lanclos, & Le Cornu, 2013; Dukić & Strišković, 2015; Faletar Tanacković, Đurđević, & Badurina, 2015; Lee, Paik, & Joo, 2012). Although several studies reported that students did not always predominantly use Internet search engines for academic information (George et al., 2006; Junni, 2007; Liu, 2006), inadequate awareness and underutilization of academic databases by students has been increasingly identified by researchers world-wide (Avdic & Ecklund, 2010; Brown, 2005; Gakibayo, Ikoya-Odongo, & Okello-Obura, 2013; Gašo, Faletar Tanacković, & Mičunović, 2015; Kwadzo, 2015; Mbabu, Bertram, & Varnum, 2013; Togia & Tsigilis, 2009).

For example, Brown (2005) discovered that molecular biology students at Oklahoma University in the US did not use bibliographic databases although they were widely accessible. Avdic and Ecklund (2010) also found out that students at Örebro University in Sweden used reference databases infrequently although they were positive about them and believed that there was a difference between sources found on Google and in reference databases. Čižmešija and Vidaček-Hainš (2017) compared online information seeking skills of Croatian students and those of students from 19 European countries and found out that both Croatian and European students preferred Internet search engines to academic databases.

However, they also established that Croatian students were slightly more likely to use Internet search engines than European students, while European students were slightly more likely to use databases than Croatian students. The situation is not much different in relation to the library and information sciences (LIS) students, who should be more knowledgeable about and familiar with benefits of using academic databases. For example, O'Farell and Bates (2009) studied LIS majors at University of Dublin in Ireland and concluded that their preferred source of academic information were websites. Similarly, in the study that focused on Croatia's library and information science (LIS) students', a research team found out that LIS students at Croatia's three state universities preferred to use Internet search engines over academic databases (Faletar Tanacković, Dragija Ivanović, & Cupar, 2017).

In general, the lack of higher level searching skills and inadequate awareness of quality online information sources and academic databases in particular have been recognized as most important causes of their low utilization by students (Dukić & Strišković, 2015; Head, 2008; Liu, 2006). Some studies indicated that the frequency of academic databases use differs between students at different study levels and with different research experience. Several studies have shown that postgraduate and graduate students tend to use them more frequently than those at graduate or undergraduate level (Dukić & Strišković, 2015; Faletar Tanacković et al., 2017; Sloan & McPhee, 2013). In addition, some differences regarding the use of online information resources have been noted regarding the subject discipline (Dilevko & Gottlieb, 2002; George et al., 2006; Liu, 2006; Siebenberg, Galbraith, & Brady, 2004). For example, based on the analysis of library statistical data at Zagreb University, Croatia, Mučnjak (2009) has reported disciplinary difference in the frequency of the usage of electronic resources (e. g. electronic journals) between humanities and social sciences students whereas the latter use them more frequently. Also, in her study on differences in the use of print and electronic resources among LIS, computer science and business students, Liu (2006) found out that the use of resources varies among different disciplines, whereas LIS students were unique in their use of e-journals.

Although substantial effort has been made to understand reasons behind students' source preferences and search strategies in general, additional studies in diverse academic contexts and subject disciplines are required to understand their perceptions, motivations and experiences with academic databases. In order to bridge this gap in the professional literature the study presented in this paper looked into the seeking behaviour of humanities and social sciences students at University of Osijek in Croatia as related to their utilization of academic databases in particular.

3 The study

The aim of this study is to understand how students at Faculty of Humanities and Social Sciences in Osijek (FHSSO), Croatia, perceive and use academic databases. The study also seeks to establish if the perception and use of databases differs among humanities and social sciences students, between graduate and undergraduate students, and those with higher or lower GPA (Grade Point Average). The study tried to answer the following research questions:

- How do humanities and social sciences students perceive their IL skills and how important they think IL is for their academic success?
- How do humanities and social sciences students perceive academic databases?
- How and why do humanities and social sciences students use academic databases in their academic work?
- What problems do humanities and social sciences students face when searching academic databases and where do they seek help?
- Does the perception and usage of academic databases differ between different groups of students (humanities vs. social sciences; graduate vs. undergraduate; students with higher vs. lower GPA)?

3.1 Methodology

The data were gathered with the help of quantitative and qualitative methodology (a survey by questionnaire and semi-structured interviews). A self-administered print survey was distributed to undergraduate and graduate students enrolled at accredited programs taught at FHSSO in October 2016. The questionnaire consisted of 17 closed and multiple choice questions and Likert-like scale type of questions. The survey questions covered the following thematic areas:

- questions related to demographic information about students;
- questions related to students' information literacy skills and training;
- questions related to students' perception of academic databases;
- questions related to students' motivation to use academic databases;
- questions related to the frequency of students' use of academic databases; and
- questions related to problems faced by students when using academic databases.

The questionnaire was filled out by 381 respondents (out of the total of 1038 students), resulting with recall of 36.7%. Data was analyzed using SPSS software for statistical analysis. Besides descriptive statistics, Chi-Square tests, T-tests, ANOVA, Mann-Whitney and Kruskal Wallis tests were used to test possible differences between the groups in the sample. Statistical difference was tested at the level of 95%.

Semi-structured interviews with open-ended questions were conducted with ten respondents (R1-R10) who participated in the quantitative part of the study and volunteered to participate in the follow-up study. Interviews provided a means to explore the following topics related to the research questions more broadly and gain deeper understanding of the issues studied in the survey: information literacy training, the use of electronic information resources (Google vs. academic databases) and their motivation, problems encountered when searching academic databases and seeking help in such situations. Interviews were conducted during January and February 2017 at Faculty premises. The average interview took twenty minutes. All interviews were audio recorded and later transcribed, coded into meaningful categories and analyzed. The content analysis of the transcripts was carried out manually. The data were analyzed qualitatively but also, where appropriate, quantitative results were identified in order to make the interpretation of the results less subjective (Chi, 1997).

3.2 Respondents

The largest number of respondents in the quantitative study were female students (81.1%) and students in the field of social sciences (70.9%). A 60% of respondents were undergraduate students. These characteristics suggest that the sample is representative of the general student body investigated. In relation to their academic success, the majority of respondents (55.9%) fall into the group with the GPA between 3.0 and 3.9. Table 1 shows the distribution of respondents in relation to their demographic characteristics.

Table 1. *Respondents by demographic characteristics*

Gender	%
• Female	81.1
• Male	18.9
Study level	%
• Undergraduate	60
• Graduate	40

Academic success (GPA)	%
• up to 2.9	0.3
• 3.0–3.9	55.9
• 4.0–5.0	43.9
Degree	%
• Social Sciences	70.9
• Humanities	29.1

4 Results

4.1 Information literacy skills

Over 80% of respondents stated that information literacy skills (in particular in relation to online information searching) are important or very important (38.6%

and 43.6% respectively) (Mean 4.2) for their academic success. Only 4.9% indicated that IL skills were not important, and 12.9% reported that these skills were neither important nor important. Upon examination of the responses to this question, no statistically significant differences were identified in relation to the studied variables (field of study, level of study, academic success as measured by GPA).

Students were then asked to self-assess their skills in searching online information (Google vs. academic databases) on a scale from one (very poor) through five (very good). As can be seen at the Table 2, more respondents are proficient in searching Google (Mean 4.31) than databases (Mean 3.69). While 87.4% believe that their Google searching skills are good or very good, a smaller proportion of respondents (60.8%) think their skills in searching academic databases are good or very good. Besides, it is interesting to note that 32.3% of respondents believe that their database searching skills are neither poor nor good, and only 11.8% of respondents state this level of proficiency for their Google searching skills. This could imply that infrequent use of academic databases resulted in such a large number of neutral answers to this question. Upon examination of the responses to this question, statistically significant difference was established only for academic database searching skills, in relation to students at different study levels (P=0.016). Undergraduate students reported lower level of proficiency of database searching skills (Mean 3.61) than graduate students (Mean 3.82).

Table 2. *Students' self-assessment of online searching skills*

	Very poor	Poor	Neither poor, nor good	Good	Very good	Mean
Google	0%	0.8%	11.8%	43.3%	44.1%	4.31
Academic database	1.1%	5.8%	32.3%	44.7%	16.1%	3.69

Interviewed students confirmed that they feel much more comfortable when searching Google than library catalogue or academic databases. They believe that this is the result of the fact that they use Google much more often (basically on a daily basis) than databases.

"I always use Google." (R1)[1]

"Google is always my first choice." (R3)

[1] Interview quotes were translated by author from Croatian into English.

When asked how many times did they use academic databases in the last semester the respondents' answers varied; half of the students used them only couple of times in semester and the other half used them several times a month or on a weekly basis.

In the next question, respondents were asked to indicate how they obtained information literacy training, in particular regarding searching and using academic databases, by choosing all options that described their experience. The majority of respondents (63%) reported that they received formal training at university. Interestingly, slightly more than a quarter (26.6%) indicated that they learned to search databases on their own and 18.4% reported receiving some instruction in the library. Upon examining responses to this question, statistically significant difference was established in relation to students' field of study (P=0.000) and level of study (P=0.000). For example, the results indicate that IL training is more frequently embedded in courses offered in social sciences programs (90%) than in the humanities (10%). In line with this, the humanities students received IL training more frequently in libraries (55.7%) than the social sciences students (44.5%). It is interesting to note also that social sciences students learned to search databases on their own more frequently (52%) than humanities students (48%). While undergraduate students received IL training more frequently in their courses (65.8%) than graduate students (34.2%), the graduate students reported more frequently that they learned to use them on their own (55%) than the undergraduate students (45%).

All students who received some kind of IL training reported that they now feel much more comfortable with database searching, and that they consequently use them more often. Most students noted that the practical assignments were particularly useful and helped them to understand the benefits of using databases.

> "Now, with the knowledge of databases, I find the stuff I need faster. And I find the more relevant stuff." (R2)

Interestingly, the students who did not receive any IL training do not think that such training should be introduced because, based on their own experience, students can manage to learn how to search information resources on their own. They admitted that they are, in most cases, successful in finding good enough information only with the help of Google.

> "Nothing has changed in my searching patterns and strategies from my first year of study. I still use, almost exclusively Google and Google Scholar, and with the help of key words I find what I need." (R3)

4.2 Frequency of students' use of library and electronic resources

In this section author examined how often students used library print resources, general search engines (such as Google) and academic databases when writing academic assignments. As shown in Table 3, Google is used far most frequently. While 53.8% use Google always i. e. whenever they have an assignment, only 25.1% of respondents use databases always when they need to find relevant resources for their academic assignments. Upon examination of responses to this question, a statistically significant difference was identified only for the use of databases between respondents at different levels of study level. Academic databases are used more frequently by graduate than undergraduate students (P=0.003).

Table 3. *Frequency of students' use of information resources*

	Never	Rarely	Sometimes	Often	Always
Library	0.5%	7.3%	18.6%	37%	36.5%
Google	0%	1.6%	10%	34.6%	53.8%
Scholarly electronic databases	4%	11.1%	26.1%	33.8%	25.1%

Nearly all students mentioned that they use Google in their everyday searching for any kind of information, and databases (if they use them) only for academic purposes. This clear divide is evident from the following statement:

> "Well, I use Google every day, whenever I want to look for some information. And databases I use only when I have an assignment, for example if I have to write an academic paper." (R5)

4.3 Students' motivation for the use of academic databases

When asked about reasons behind their use of academic databases, the majority of respondents (59.9%) reported intrinsic motivation and explained that they use databases because they personally believe they should do so because of their quality. A total of 40.1% reported extrinsic motivation and said that they use databases because they are required to do so by teachers. In response to this question, there were some marked differences between users in different fields of study (P=0.000) and at different levels of study (P=0.001). Social sciences students are both externally and internally more frequently motivated to use databases than humanities students (83.9% and 63.6% for social sciences students versus 16.1% and 36.4% for humanities students). Undergraduate students are more frequently externally motivated to use databases than graduate students (70.6% and 29.4% respectively).

> "Lately, I prefer databases, such as Emerald, to Google. Because the articles I find in databases are more relevant. The articles are more professional in a sense that they must go through a rigorous review process." (R2)

> "Google is generally my first choice but if I have an assignment, then I will also use databases. For example, I will first 'google out' whatever I can on the topic to get an idea of what I am supposed to write about and what is available, and then I will move on to databases. Also, sometimes teachers insist that we use databases. If they insist, I always make sure I use them." (R4)

> "I think that we are all a little bit lazy and we chose the least effort option. And Google is always here so it is easy to use it." (R7)

> "If I am required to have a certain number of references from databases in my paper, then I will stop searching when I find the required number, say two articles." (R10)

In order to understand better their motivation for the use of databases, respondents were also asked to mark their level of agreement with three statements, on a scale from one (fully disagree) through five (fully agree). It is interesting to see that students agree to a much larger degree with statement that their academic assignments will be of higher quality if they use databases (Mean 3.44), than with statements that they will get better grades (if they use them) (mean 2.88) or that teachers will appreciate them more (Mean 2.76) (Table 4).

Table 4. *Students' motivation for the use of databases*

	Fully disagree	Disagree	Neither agree nor disagree	Agree	Fully agree	Mean
If I use databases, my paper will be of higher quality.	7.1%	10.6%	30.3%	35.6%	16.4%	3.44
If I use databases, I will get a better grade.	14%	16.6%	42.5%	21.1%	5.8%	2.88
My teachers will appreciate me more if I use databases.	18.3%	22.8%	32.4%	17.2%	9.3%	2.76

Students explained that in databases one can find better, and a more relevant information, which will ultimately result with academic success.

> "Information found on Google can be wrong, there is so many fake news on the web... But in databases we do not have to lose time, we can immediately find better information, and get a better grade." (R8)

> "One can find something on Google much more faster than in databases. But when you find something in databases you are sure you have the right thing, right away." (R4)

Upon examination of responses some marked differences were identified between users in different fields of study (P=0.000) and at different levels of study (P=0.000). Graduate students (Mean 3.82) tend to agree more frequently than undergraduate students (Mean 3.61) with the statement "If I use databases, my paper will be of higher quality." Students in social sciences agree more frequently with all three statements than humanities students: "If I use databases, my paper will be of higher quality." (Mean 3.59 and 3.05 respectively); "If I use databases, I will get a better grade." than humanities students (Mean 3.02 and 2.55 respectively) and "My teachers will appreciate me more if I use databases." (Mean 2.93 and 2.36 respectively).

4.4 Problems in database usage

On the question regarding problems that they face when using databases, students reported several challenges: their systematic habit of using Google (48%), limited access to scholarly databases (as opposed to Google) (42.3%), problems with English (since majority of articles are in English) (35.2%) and their lack of skills required to search databases effectively (35.2%). They further described that searching databases is time-consuming (31.2%), that they can find good enough articles faster on Google (25.7%) and that databases are too complicated to use (13.6%).

> "Uhm, I use Google in most cases because it is on the start page of my computer, and I am totally used to it... Some databases can only be accessed from the library, and I like to work at home. So this also puts me off using databases. Also, although I speak English very well, it is not enough to understand scholarly language of English journal articles." (R6)

> "Databases are surely a better source of academic information but I have this bad habit of always using Google. I always seem to end up with my good old Google." (R4)

> "Well, on Google I always find something in Croatian. On the other hand, I think that in databases I have never found anything in Croatian... I find it difficult to understand professional text in English, and that's probably one of the main reasons why I prefer information on Google." (R6)

> "I find it difficult to use databases because I do not know how to efficiently use Boolean operators... I use them very rarely... And also I have a language problem." (R5)

Upon examination of responses to this question, statistically significant differences were identified between respondents in different fields of study. While social sciences students reported more frequently the problems with the foreign language because the majority of publications are not in Croatian but in English (P=0.000) and inadequate access to databases from home (P=0.003), the humanities students indicated more frequently their problem of having a strong habit of using (only) Google (P=0.001).

Students were then asked to indicate who they turn to for help when they come across a problem when searching databases. The largest number of respondents reported that they turn to other students for help and advice (52.2%). Interestingly only 22.8% seeks help from librarians, and 20.5% from teachers.

> "I find it more pleasant and less stressful to speak with a friend. Sometimes I will use AskALibrarian but very rarely will I seek advice from my teacher." (R2)

> "If I cannot find anything in the database, I will first ask my friends. Only if they cannot help me, I will turn to my teacher." (R8)

A total of 31% indicated that they never ask for help. Upon examination of responses to this question, statistically significant difference was identified between respondents in different fields of study. Social sciences students turn to librarians more frequently than humanities students (P=0.000).

In order to gain deeper understanding of students' help seeking behavior, the respondents were asked to mark their agreement with three statements, on a scale from one (fully disagree) through five (fully agree). As can be seen in Table 5, these results correspond with those to the above mentioned question: respondents agree to a slightly larger degree with the statement that help can easily be obtained from teachers (Mean 3.01), than with the statement that help can easily be obtained from librarians (Mean 2.92). Statistically significant difference was identified in relation to the field of study (P=0.000) and the level of study (P=0.010). Both humanities students and undergraduate students disagree more

frequently with the statement "It is easy to get help from librarians when searching databases." than social sciences students and graduate students. High values for neutral answer (neither agree nor disagree) can probably be explained by the respondents' lack of experience with the seeking of help.

Table 5. *Students' view of available help*

	Fully disagree	Disagree	Neither agree nor disagree	Agree	Fully agree	Mean
It is easy to get help from librarians when searching databases.	15.9%	20.3%	43%	14%	6.8%	2.92
It is easy to get help from teachers when searching databases.	8.3%	14.6%	39.5%	28.8%	8.8%	3.01
Online help with databases is good.	6.8%	22.7%	50.7%	16.9%	2.9%	2.92

4.5 Students' perception of academic databases

Finally, in order to shed light on students' general perception of databases, respondents were asked to mark their level of agreement with three statements, on a scale from one (fully disagree) through five (fully agree). A total of 20.6% respondents agree and 39.6% disagree with the statement "There is not much difference between databases and Google." Also 20% agree and 46.5% disagree with the statement that their teachers overestimate the importance of databases. Interestingly, a large proportion of respondents selected a neutral response (neither agree, nor disagree) for both of these statements (39.8% and 33.5% respectively) which might suggest that respondents are not familiar enough with databases to have a clear judgement on these issues (Table 6).

Table 6. *Students' perception of databases*

	Fully disagree	Disagree	Neither agree nor disagree	Agree	Fully agree	Mean
Teachers overestimate the importance of databases.	17.8%	28.7%	33.5%	14.4%	5.6%	2.61
There is not much difference between databases and Google.	9%	30.6%	39.8%	16.6%	4%	2.76
I do not understand the benefits of using databases.	43.2%	29.4%	21%	4.2%	2.1%	1.93

Upon examination of responses to this question, statistically significant differences were identified only between respondents in different fields of study. Humanities students agree more frequently with all three statements: "There is not much difference between databases and Google." (P=0.000), "Teachers overestimate the importance of databases." (P=0.009) and "I do not understand the benefits of using databases." (P=0.000).

5 Concluding discussion

The study reported in this paper aimed at understanding the perception and use of academic databases by students at Faculty of Humanities and Social Sciences in Osijek (FHSSO), Croatia. Also, the study sought to establish if the perception and use of academic databases differ among the following groups of respondents: humanities and social sciences students, graduate and undergraduate students, and students with higher and lower GPA.

Although almost 40% of students reported they did not receive formal information literacy (IL) training at university, findings indicate that nearly 80% think IL skills are important for their academic success. While no statistically significant differences were identified among studied groups of respondents in relation to their opinion regarding the importance of IL skills for academic success, the findings indicate that social sciences students receive more formal IL training than students in humanities.

While both humanities and social sciences students reported poor database searching skills (as compared to their Google searching skills), the statistically significant difference in this respect was identified only in relation to the respondents' study level. Namely, undergraduate students reported lower level of proficiency with databases than graduate students. Findings also suggest that belonging to either subject discipline does not make any (statistically significant) difference in the database searching skills. It is interesting to note that the results suggest that students who received some formal IL and database training tend to use them more frequently than those who did not receive any training. Also, similar division of opinion was recognized among respondents regarding the introduction of IL training into curricula and library training: students who received IL training were more in favor of introducing such course content for all students than respondents who did not have such training. They, on the other hand, thought that students could learn all that they need on their own.

Findings further indicate that all studied groups use Google far more frequently than databases, which is consistent with many previous studies (e. g. Čižmešija & Vidaček-Hainš, 2017; Gašo et al., 2015; Lee et al., 2012; O'Farrell & Bates, 2009). Students use Google, as a rule, in their everyday information seeking but also to a considerable extent for academic purposes. On the other hand, databases are used solely for academic purposes.

The findings suggest that statistically significant difference regarding the use of databases exists only among students at different study levels (i. e. undergraduate and graduate students), and not among students in different subject fields or students with different level of academic success (GPA). In line with some earlier studies (Dukić & Strišković, 2015; Faletar Tanacković et al., 2017), senior students (who have more research experience) tend to use academic databases more frequently. On the other hand, this study did not confirm the results of earlier studies that established disciplinary differences regarding the use of academic databases (e. g. Liu, 2006; Mučnjak, 2009). Although social sciences students in this study tend to use database slightly more frequently that the humanities students, there was no statistically significant difference regarding the frequency of their use.

However, the findings of this study suggest that there is a disciplinary difference in the perception of academic databases. Social sciences students have a higher opinion of databases than students in humanities. Students in social sciences believe that database usage can help them prepare better assignments, get better grades and gain more respect from teachers. On the other hand, students in humanities tend to believe to a larger degree that there is not much difference between library databases and Google, and that teachers overestimate their importance. Ultimately, humanities students also admitted, to a much larger degree, that they do not understand the benefits of using databases.

Findings suggest also that social sciences students are more motivated, both internally and extrinsically, to use academic databases than students in humanities. Apart from this disciplinary difference in motivation, difference in motivation for database use has been identified also in respect to the respondents' level of study. Undergraduate students tend to use databases because they are required to use them by their teachers, while graduate students use them because they think they are the best source of academic information.

Students reported that their use of databases is marked by a number of problems, such as their strong habit of using Google, inconvenience i. e. fact that some databases are not accessible from outside the academic library, problems with English and lack of adequate searching skills. These findings are to a large

degree consistent with earlier studies that pointed out to the competence problem, and habitual and cultural issues in accessing databases with predominantly English literature (Al-Moumen, Morris, & Maynard, 2012; Faletar Tanacković et al., 2017). Consistent with earlier research (Barrett, 2005), the findings indicate that students will, when faced with some obstacles in searching databases, most frequently turn to their colleagues and friends because they find it more pleasant and less stressful than talking with librarians or teachers.

Despite geographical limitations and limited sample size (students from only one institution), the findings of this study contribute to the increase of the body of knowledge about the academic information behavior, and in particular the database use and perception, of social sciences and humanities students. The mix of quantitative and qualitative research methodology proved to be an excellent way to obtain both insight into general trends and issues but also to explore the topic more broadly and gain deeper understanding. The findings reported in the paper have implications for academic librarians and teachers mandated with information literacy training and could be used in rethinking the approach taken in promotion of databases through their seamless integration into the existing electronic library services (e. g. through single access point via online library catalog) but also in designing curriculum-embedded IL instruction. Both librarians and teachers should make sure they continuously and clearly communicate the benefits of database use for academic purposes to their students, and provide ample opportunities for their practical engagement with this valuable source of information which will result in an adequate level of students' competencies (as they progress in their studies and research tasks), change their source preference and eventually lead to the regular use of academic databases.

References

Al-Moumen, N., Morris, A., & Maynard, S. (2012). Modelling information-seeking behaviour of graduate students at Kuwait University. *Journal of documentation, 68*(4), 430–459.

Avdic, A., & Eklund, A. (2010). Searching reference databases: what students experience and what teachers believe that students experience. *Journal of librarianship and information science*, *42*(4), 224–235.

Barret, A. (2005). The information-seeking habits of graduate student researchers in the humanities. *Journal of academic librarianship*, *31*(4), 324–331.

Brown, C. M. (2005). Where do molecular biology graduate students find information?. *Science and technology libraries*, *25*(3), 89–104.

Catalano, A. (2013). Patterns of graduate students' information seeking behavior: a meta-synthesis of the literature. *Journal of documentation*, *69*(2), 243–274.

Chi, M. T. H. (1997). Quantifying qualitative analyses of verbal data: a practical guide. *Journal of the learning sciences*, *6*(3), 271–315.

Connaway, S. L., White, D., Lanclos, D., & Le Cornu, A. (2013). Visitors and residents: what motivates engagement with the digital information environment?. *Information research*, *18*(1), paper 556. Retrieved 20. 8. 2017 from: http://InformationR.net/ir/18-1/paper556.html

Čižmešija, A., & Vidaček-Hainš, V. (2017). Case study of online resources and searching for information on students' academic needs. In *Proceedings of MIPRO 2017* (pp. 840–845). Rijeka: Croatian Society for lnformation and Communication Technology, Electronics and Microelectronics – MIPRO.

Dilevko, J., & Gottlieb, L. (2002). Print sources in an electronic age: a vital part of the research process for undergraduate students. *Journal of academic librarianship*, *28*(6), 381–392.

Dukić, D., & Strišković, J. (2015). Croatian university students' use and perception of electronic resources. *Library & information science research*, *37*(3), 244–253.

Faletar Tanacković, S., Dragija Ivanović, M., & Cupar, D. (2017). Scholarly electronic databases and library & information sciences students in Croatia: motivations, uses and barriers. *Information research*, *22*(1), paper 1625. Retrieved 20. 8. 2017 from: http://InformationR.net/ir/22-1/isic/isic1625.html

Faletar Tanacković, S., Đurđević, A., & Badurina, B. (2015). Wikipedija u akademskom okruženju: stavovi i iskustva studenata i nastavnika. *Libellarium*, *8*(2), 161–199.

Gakibayo, A., Ikoja-Odongo, J. R., & Okello-Obura, C. (2013). Electronic information resources utilization by students in Mbarara University library. *Library philosophy and practice (e-journal)*, paper 869. Retrieved 20. 8. 2017 from: http://digitalcommons.unl.edu/libphilprac/869

Gašo, G., Faletar Tanacković, S., & Mičunović, M. (2015). The role of modern academic libraries: survey of perceptions and experiences of graduate students in social sciences and humanities. *Libellarium*, *8*(2), 81–108.

George, C., Bright, A., Hurlbert, T., Linke, E., Clair, G., & Stein, J. (2006). Scholarly use of information: graduate students' information seeking behavior. *Information research*, *11*(4), paper 272. Retrieved 20. 8. 2017 from: http://www.informationr.net/ir/11-4/paper272.html

Head, A. J. (2008). Information literacy from the trenches: how do humanities and social science majors conduct academic research?. *College & research libraries*, *69*(5), 427–445.

Junni, P. (2007). Students seeking information for their master's thesis: the effect of the internet. *Information research*, *12*(2), paper 305. Retrieved 20. 8. 2017 from: http://www.informationr.net/ir/12-2/paper305.html

Kwadzo, G. (2015). Awareness and usage of electronic databases by geography and resource development information studies graduate students in The University of Ghana. *Library philosophy and practice (e-journal)*, paper 1210. Retrieved 20. 8. 2017 from: http://digitalcommons.unl.edu/libphilprac/1210

Mbabu, L. G., Bertram, A., & Varnum, K. (2013). Patterns of undergraduates' use of scholarly databases in a large research university. *Journal of academic librarianship*, *39*(2), 189–193.

Lee, J. Y., Paik, W., & Joo, S. (2012). Information resource selection of undergraduate students in academic search tasks. *Information research*, *17*(1), paper 511. Retrieved 20. 8. 2017 from: http://www.informationr.net/ir/17-1/paper511.html

Liu, Z. (2006). Print vs. electronic resources: a study of user perception, preferences, and use. *Information processing and management*, *42*(2), 583–592.

Mučnjak, D. (2009). Usage of print and electronic resources at the Faculty of humanities and social sciences' library, University of Zagreb: analysis and comparison based on the usage statistics. In *Proceedings of conference INFuture2009 "Digital resources and knowledge sharing"* (pp. 461–468). Zagreb: Faculty of Humanities and Social Sciences.

O'Farrell, M., & Bates, J. (2009). Student information behaviours during group projects: a study of US students in University College Dublin, Ireland. *Aslib proceedings*, *61*(3), 302–315.

Siebenberg, T. R, Galbraith, B., & Brady, E. E. (2004). Print versus electronic journal use in three Sci/Tech disciplines: what's going on here?. *College & research libraries*, *65*(5), 427–438.

Sloan, M., & McPhee, K. (2013). Information seeking in context: results of graduate student interviews. *Partnership*, *8*(1). Retrieved 20. 8. 2017 from: http://www.criticalimprov.com/index.php/perj/article/view/2009#.Wc4z61S0OUk

Togia, A., & Tsigilis, N. (2009). Awareness and use of electronic information resources by education graduate students: preliminary results from the Aristotle University of Thessaloniki. In *Proceedings of QQML2009: Qualitative and quantitative methods in libraries, international conference, Chania Crete Greece, 26–29 May 2009*. Singapore: World Scientific. Retrieved 20. 8. 2017 from: http://www.isast.org/proceedingsQQML2009/PAPERS_PDF/Togia_Tsigilis-Awareness_electronic_information_resources_Aristotle_University_PAPER-QQML2009.pdf

dr. Sanjica Faletar Tanacković

Department of Information Sciences, Faculty of Humanities and Social Sciences, Josip Juraj Strossmayer University of Osijek, L. Jägera 9, 31000 Osijek, Croatia
e-mail: sfaletar@ffos.hr