

## Introduction

Research on how various groups go about finding necessary and relevant information has been quite popular throughout the last decades.<sup>1</sup> There is a wealth of materials available on human information behaviour in general but also on scholars in different disciplines.

Theologians seem to have received less specific attention as to the behaviours they choose when seeking material for their research. This study attempts to extend understanding of the information behaviour of a small group of theology students working in a cross cultural setting by analysing information needs and behaviours of master's and doctoral theology students currently studying at the International Baptist Theological Seminary (IBTS) in Prague, Czech Republic. A better understanding of their needs, an appreciation of the methods used to discover information, and an understanding of problems encountered while obtaining information may help the library respond more effectively to expressed or implied needs. The aim of the research is two-fold: to better understand activities and attitudes in research processes of theologians-to-be and an attempt to provide strategic guidance for the development of information services for this group of research students.

**Target group.** The study focuses on Central and Eastern European (CEE) postgraduate theology students enrolled for doctoral studies (26 persons) and Master level students at dissertation stage (17 persons)<sup>2</sup>. A second smaller group are nationals of so called western countries (UK, USA, Canada) who are also studying part-time non-residentially at IBTS in the same doctoral (14 persons) or master's degree (6 persons) programmes. They have the same supervisors but usually come from a different educational system and are located in an information rich country with more accessibility to information. The second group functions as a control group anchor.

Students mainly study part-time, non-residentially and visit the campus library about once per year when they come to Study Schools (master's) or to the annual two-week Research Seminar with their supervisors and co-students (doctoral students). Their theses and dissertation topics are usually related to theological issues in their own context, which means that they use much local information (in their own language and available close to their homes) beside resources offered by the IBTS library. Theses and dissertations are written in English and the students' English skills are between adequate to excellent. Often they have reading skills in one or more additional languages. As research postgraduates they are therefore somewhat unusual in the distance learning approach required and in the cross cultural issues that need to be integrated into their research.

The group is diverse; however, in aspects that are analysed in the current study, the participants are quite homogenous. Some of the common characteristics are their often Slavic roots and their maturation in a "homo sovieticus"<sup>3</sup> under a communist regime whose influence is still felt in many areas of society, including education, leadership styles, initiative and responsibility taking, conservatism in outlook on life and theological orientation. Many participants' similarities include:

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<sup>1</sup> Admitting the difficulties to establish hard data on the number of information-seeking publications, Case (2007:242) suggests that there is an "escalating growth rate: 30 items per year during the early 1970s, 40 during the early 1980s, 50 by the late 1980s, 100 by 1990, and 120 items per year by 2005." He continues: "It is likely that over 10,000 publications have been published on information needs, uses, seeking, and other aspects of information behaviour, even in the strictest senses of those terms" (243).

<sup>2</sup> Master's students before dissertation stage have to follow certain essay questions in their research activities (imposed queries), which results in different information behaviour.

<sup>3</sup> Created by Aleksandr Zinoviev in 1986, the term "homo sovieticus" describes a certain social-cultural type of personality: people grown up under and shaped by communist ideology, being denigrated to a screw in a huge system, experiencing every day the loss of freedom and dignity, without information from the rest of the world and at the same time experiencing extreme information thirst. This identity, especially its negative consequences, still remains ingrained and influential in much of the CEE population.

- enrolled in the same programme;
- deal with supervisors with similar approaches, expectations and institutional culture;
- similar cultural and educational background;
- similar intellectual, spiritual and societal standing;
- encounter difficulties as non-resident students and working in an information-poor environment.

**Literature Review.** The literature search on the availability of research on information needs and behaviours of theological academicians involved in the scientific study of theology, religion and religious praxis, reveals that few studies have touched this topic.<sup>4</sup> A wealth of materials is available on humanists' research behaviour and on human information behaviour that provide helpful guidance for research design and a sounding board for result comparisons. As theology is classed with the humanities, the present study accepts findings of research with humanity scholars, especially historians, as a theory/hypothesis that needs to be tested with theologians, and as a framework for comparison of similarities and differences observed in theologians' research behaviour. The working hypothesis is that theologians are possibly similar to humanists in their preference for sources of information, in their methods of information discovery and how these are consciously transferred to the next generation, and in their attitudes toward electronic sources.

Singular studies of theologians' information behaviour have been conducted throughout the world but they have not (yet) interacted with or enriched each other. They have demonstrated the validity of the assumption mentioned above but they were either not representative because of a small sample size (Wenderoth 2007, Michels 2005), or ventured in a different direction attempting to prove a certain model (Bronstein 2007), or were conducted before the advent of electronic resources, therefore, did not consider theologians' attitudes to these (Gorman 1990). Also, all these studies were performed in well-developed, from an information provision point of view, countries while this study will compare previous findings with findings of CEE theologians.

**Methodology.** The study attempts to replicate in a modified way studies by Gorman (1990) and Stieg Dalton and Charnigo (2004) and, therefore, also follows a quantitative research approach with a self-completion questionnaire employing closed and open questions. Participants had to select from a choice of answers (56% of questions), weigh information sources and activities and list them in order of importance (6%), or provide short factual or reflective answers (38%). Some closed questions include the option "other" encouraging participants to expand the listing of possible resources or methods, but this opportunity was not used often. Leaning on previous research helped to benefit from Gorman's and Stieg Dalton and Charnigo's experience and professionalism and offered the possibility to compare findings with their and other research.

### **Part 1: Results**

The presentation of findings will follow the questionnaire's main subdivisions and include sections on sources used, use of electronic resources, methods for the discovery of necessary information, and preferences for library services. The discussion of these findings will take place in a subsequent part. First of all, a profile of participants is sketched.

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<sup>4</sup> See the extended literature review in TL 2,1 2009 at <http://journal.atla.com/ojs/index.php/theolib/article/view/79/236>.

## 1.1 Profile of respondents

The survey limits participation to doctoral and master's students at dissertation stage. Sixty three self-completion questionnaires were sent as e-mail attachments. Forty eight were returned for a response rate of 76.2%. More master's than doctoral students and more females than males responded to the questionnaire. Those actively involved with the library, interested in and appreciative of its resources were the first to respond and so added a bias toward a more positive evaluation. It is likely that some results are too optimistic also due to non-response of certain users. The non-respondents were usually also non-users or very infrequent users of library resources.

According to Pareto's law, 80% of library services are used by 20% of users. It is assumed therefore that the survey has tapped the views of the active and less active users, and their informed reflections provide valuable insights for improvements.

**1.1.1 Demographic information.** Of the forty eight respondents nineteen are finishing their master's dissertation and twenty nine are involved in doctoral studies (Table 1). The gender distribution of the thirteen master's and doctoral students, who come from western countries (USA, UK, Canada) is almost equal: seven males and six females (53.8% and 46.2% respectively). In the larger group of thirty five respondents from CEE<sup>5</sup> the predominance of males is obvious, 82.8%. Participants vary in age from their twenties to fifties but the mode is the 30-39 age range.

|                            | Master's | Doctoral | Male | Female | East | West | Total: |
|----------------------------|----------|----------|------|--------|------|------|--------|
| Baptist/Anabaptist Studies | 1        | 9        | 7    | 3      | 6    | 4    | 10     |
| Biblical Studies           | 8        | 4        | 9    | 3      | 9    | 3    | 12     |
| Applied Theology           | 7        | 15       | 16   | 6      | 16   | 6    | 22     |
| Contextual Missiology      | 3        | 1        | 4    |        | 4    |      | 4      |
|                            | 19       | 29       | 36   | 12     | 35   | 13   | 48     |

Table 1: Demographic profile of participants

The age distribution compares well to the profile of the IBTS student population: 36.4 as average age of all M level students and 43.2 as average age of all doctoral students. The gender distribution of students also matches the overall profile, but is nevertheless quite worrying when one looks at the low number of female doctoral students from CEE countries. While the representation of females in M level programmes is roughly one-quarter (27%), in doctoral studies they make up only 9.6%. It seems that advanced theological studies for females are not popular or not as acceptable in religious circles, in CEE as in western countries.

**1.1.2 Language skills.** Participants from CEE countries have reading knowledge of at least 2-4 languages while representatives of western countries usually know one language well (English) and have some reading ability in French, German or Spanish. One respondent in Biblical Studies from the USA reads eight languages and one CEE respondent speaks ten. CEE respondents in this study know their native language, possibly the language of a neighbouring state, and conduct their current education in English as a third or fourth language. Western students seem more relaxed about ignoring a source in a foreign language (30% chose this option). CEE students sometimes also choose this option but always in

<sup>5</sup> Represented countries include: Albania (1), Belarus (1), Bulgaria (4), Czech Republic (4), Estonia (1), Hungary (1), Latvia (2), Lithuania (3), Moldova (2), Poland (1), Romania (2), Russia (7), Serbia (1), Ukraine (5).

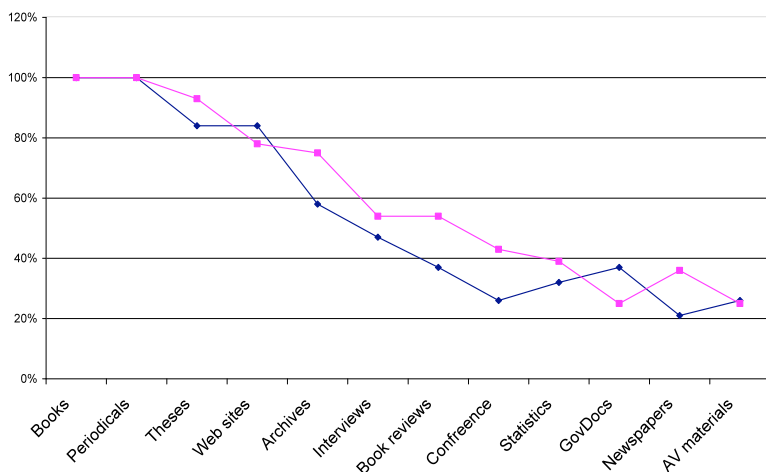
combination with other possibilities, such as finding a translation. While an overwhelming majority of 80% try to find a translation, only 15.5% trust computer translation software and 35.5 % try to find an abstract/summary.

## 1.2 Sources of information

As in previous studies, standard sources in theology and humanities, such as books and journal articles, receive the highest appreciation from respondents, independently of study programme and origin (Figures 1, 2). Theses and dissertations rank third followed, surprisingly, by websites. Students from CEE countries (light pink type) scored websites at 88%. Manuscripts and archival documents continue to be important primary sources as are oral interviews and, for CEE students, statistical sources.

Usually there is no substantial difference between master's (dark blue type) and doctoral (light pink type) students in their use of sources, except that doctoral students use more sources.<sup>6</sup> Still, several types of materials seem to be more important for doctoral students: book reviews, conference proceedings, archival documents, statistical sources and newspapers. When asked to rank three preferred material types in the order of importance books come first, journals second,<sup>7</sup> and journals, websites, theses, archives and oral interviews share third place (Figure 3).

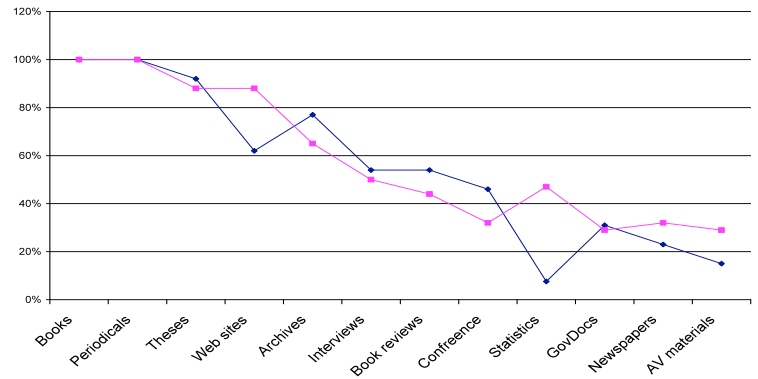
Figure 2: Variation in sources: Master's vs. Research



additional helpful materials unanswered while the few that do respond mention: personal experience; blogs; e-zines; surveys; primary materials, such as Bible, hymnals, sermons, prayers.

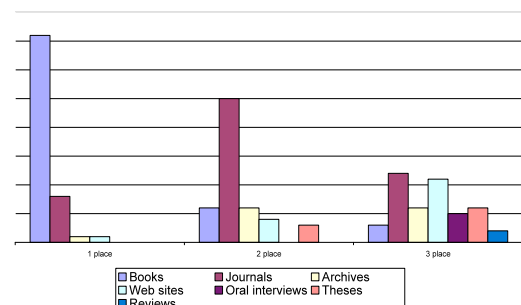
The theological/denominational orientation of sources does not seem of great importance to participants (Figure 4). This is especially true for doctoral students (dark violet type) who are less

Figure 1: Variation in sources: East vs. West



Most respondents (74%) leave the open question to list

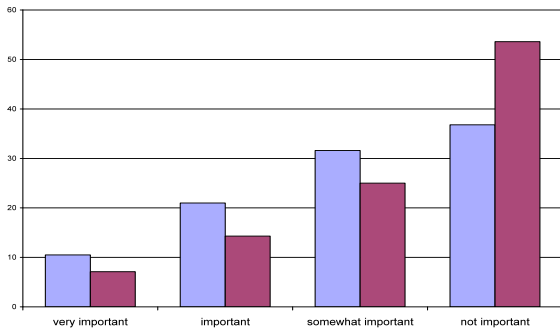
Figure 3: Preferred sources



<sup>6</sup> As Gorman (1990) notes, those pursuing higher degrees are usually more demanding of library sources and services. This has been reflected several times in the present study with doctoral students using a broader spectrum of sources and information discovery methods, including discussions with librarians, than master's students.

<sup>7</sup> More variation already becomes obvious here: journals are chosen second by 57% of the respondents, books and archives by 14%, websites by 9% and theses by 7%.

Figure 4: Theological orientation of sources



likely to consider denominational or theological conformity as important. They are open to use any source as long as it is academic, relevant to their topic, and accessible.<sup>8</sup>

While involved in theology studies most participants believe they need to work interdisciplinary, by consulting sources that address areas other than theology. In fact, 42.5% believe that between half or three quarters of their materials come from other disciplines. Around

half (51%) think that 25% of their materials need to come from other disciplines. There is clearly a difference between master's and doctoral students in these attitudes: only three master's students insist that all of their materials be directly related to theology while none of the doctoral students relies only on theological materials.<sup>9</sup>

Disciplines that were listed as directly related to participants' theology research primarily come from humanities and social science. History is listed by 64% of participants. This supports the assumption of strong similarities between theologians and historians and helps to confirm reliance on Stieg Dalton and Charnigo (2004) in questionnaire design. Other humanities include philosophy (25.5%), literature (19%), linguistics (13%), also ethics, rhetoric, liturgics, law, archaeology, and spirituality. Social sciences seem relevant with sociology (38.3%), psychology, education, and social science in general (each receiving 10.6%) and with anthropology, political science, economics, environmental studies, computer science also mentioned.

<sup>8</sup> The question about the importance of theological orientation of sources was triggered by Wick's (1999) findings that his pastoral respondents move between a closed and open approach to information seeking, depending on their role and work world. He suggests to future researchers (Wicks 1999:221) to analyse whether "academics seek information largely within their own discipline world or whether they are more 'open' and willing to go beyond those worlds". From the current survey it seems that theologians are definitely forced to go beyond their denominational and theological worlds and to engage materials presenting differing points of view, and many do. On the other side, the respondents' context is still quite conservative and shame-oriented so when doing denominational research they will be careful as to sources they choose and especially as to what conclusions they draw. Nevertheless, cf. a quote by a CEE participant who is involved in denominational research: "If these sources will share only my theological position or denominational view then I will not be able to see my position in a wider Christian context" (MAB1).

<sup>9</sup> A chi-square test shows an association between use of materials from various disciplines and the course of study: When types of resources are divided into '75% or more theology materials' and 'less than 75% theology materials' and master's and doctoral students are compared, the test results come to following: chi=5.09 with Yates correction, number of degrees of freedom 1, p=0.02. This indicates an association between resource use and course of study.

### 1.3 Electronic sources

**1.3.1 Use of sources.** The positive ranking of websites in response to Q1.1. comes as no surprise as 70% of respondents use with the same satisfaction both print and electronic formats. Nevertheless, some feel more comfortable with print rather than electronic sources, and this seems not to be age or context related: of the 10 print-bound respondents three are 20-29 years of age, three 50-59 while four are 30-39. Four males prefer only electronic sources, and only two (women) feel comfortable with microforms.

Table 2 shows most respondents use online catalogues, though master's less than doctoral students. They consult the catalogue of the institution where they study but also list other Internet accessible library catalogues.<sup>13</sup> They use full-text electronic journal databases with master's and CEE students sometimes scoring lower. About a third seek out freely accessible but less user-friendly open

|                                     | Average (%) | Masters (%) | Doctoral (%) | CEE (%) | West (%) |
|-------------------------------------|-------------|-------------|--------------|---------|----------|
| IBTS online catalogue <sup>10</sup> | 89          | 74          | 97           | 88      | 92       |
| ATLASerials                         | 72          | 68          | 75           | 76      | 69       |
| Ebsco Host                          | 62          | 31          | 71           | 56      | 77       |
| ProQuest Religion <sup>11</sup>     | 49          | 42          | 54           | 50      | 46       |
| Wales Online Library <sup>12</sup>  | 30          | 21          | 29           | 26      | 31       |
| EZB (UoR)                           | 28          | 37          | 21           | 32      | 15       |
| Open access journals                | 34          | 26          | 39           | 41      | 15       |
| ATLA (Index)                        | 55          | 37          | 68           | 71      | 15       |
| Index Theologicus                   | 8           | -           | 14           | 9       | 8        |
| Cambridge e-books                   | 17          | 16          | 18           | 18      | 15       |
| Gutenberg Project                   | 13          | 11          | 14           | 9       | 23       |
| UMI dissertations                   | 13          | -           | 21           | 9       | 23       |
| TREN (dissertations)                | 8           | -           | 14           | 9       | 8        |

Table 2: Electronic sources

access electronic journal databases; CEE students clearly more often than western students. Relying on resources offered by IBTS, they also seek out other full-text databases. Index databases are not as attractive; there is a discrepancy between a moderate use of the ATLA RDB (average 55%) and the almost complete neglect of Index Theologicus (average 8%). Doctoral students from CEE countries make up for most of the use.

It seems that while full-text electronic journals have become "standard" resources, e-book use still falls far behind. Dissertation databases (that offer no full text or abstracts) are less attractive. Only 15% of respondents frequently use digitized primary sources, the majority (about 60%) seek them out only rarely or never, and 25% use these sometimes.

Still, 62% emphasise that electronic sources have been "very helpful" in information seeking; together with 32% who believe they were "sometimes helpful".<sup>14</sup>

**1.3.2 Advantages and disadvantages in databases.** In databases respondents most appreciate the inclusion of primary sources (68%). Directly relevant theology materials are

<sup>10</sup> The table includes databases of electronic resources that are listed on the IBTS Library website; to some IBTS subscribes and others are freely available on the Internet.

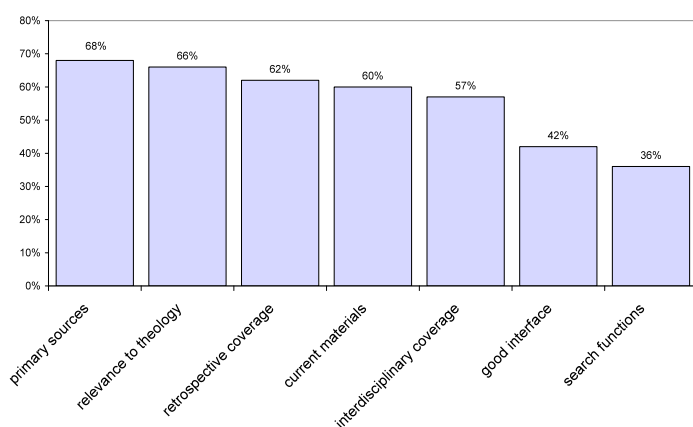
<sup>11</sup> ProQuest Religion at that point was accessible only on campus and so could be used only when students were actually in Prague. This may explain the lower results for this database.

<sup>12</sup> This online library is accessible only to students registered in the U of Wales programmes, that is, to 43 of the respondents.

<sup>13</sup> Under Q 2.1. "other" library catalogues, respondents underlined that they use "many" online catalogues, beside the one of IBTS, and that it was difficult to list them all.

<sup>14</sup> The question (Q2.9.) was positioned at the end of the section on Electronic sources and this way related to all kinds of previously mentioned electronic sources (full-text databases, index and dissertation databases, digitized primary sources, websites, devices such as Google Books or Amazon's 'Search inside' that allows one to see bits and pieces of information).

Figure 5: Perceived advantages of databases



very important (66%) but also, with slight variations, retrospective coverage (62%), currency of materials (60%) and broad interdisciplinary coverage (57%). The question of good interfaces and varied search functions seems less relevant and important (42% and 36% respectively),<sup>15</sup> but is not to be neglected by database designers.

When describing problems with searching databases, these issues – beside lost passwords, lack of skills due to infrequent usage, and lack of time – figured prominently: respondents

mentioned frustration with user-unfriendly interfaces, difficulties with limiting search results, and that searches are often cumbersome. Other complaints relate to database scope, content and indexing.

The problems described above were admitted by only 25% of the respondents because so few responded to the open question: 85% of Western and 48% of CEE students left the question unanswered. Several CEE students explicitly stated that they “have no problems”. In the responses, no variations were detected between students whose first language is English and those who work with English as second or third language. A comment that indexing terminology is “difficult/unfamiliar” came from an UK student.

**1.3.3 Usage skills.** Similarities but also significant differences can be observed in how participants learned to use electronic sources. They are primarily self-taught with strong input from teachers, co-students and librarians, especially for males from CEE countries. Outside resources that require additional initiative, effort and

time, such as IT classes, workshops, online tutorials, are underrepresented (only 2-3 out of 48 use them), in spite of available opportunities. Only two males (50-59 age group) admitted to have learned from their children.

One quarter (25.5%) of the respondents state they would like more instruction in electronic resources use; this attitude is strikingly different in the various groups. Males (30 of 36) believe that their search skills are satisfactory and they need no additional help. This is truer of males from CEE countries. Women are more open to instruction but again those brought up in CEE countries believe they can, or have to, manage this challenge by themselves. (Table 3)

|                                | Male, CEE | Male, West | Female, West | Female, CEE |
|--------------------------------|-----------|------------|--------------|-------------|
| Total                          | 29        | 7          | 6            | 5           |
| Taught myself                  | 21        | 5          | 6            | 5           |
| Learned from teachers/students | 12        | 1          | 2            | 0           |
| Learned from a librarian       | 19        | 3          | 2            | 4           |
| Class or workshop              | 2         | 0          | 0            | 1           |
| Online tutorials               | 0         | 0          | 2            | 0           |
| Learned from my children       | 1         | 1          | 0            | 0           |
| Would like more instruction    | 4 (14%)   | 2 (29%)    | 4 (66%)      | 2 (40%)     |

Table 3: How have you learned to use electronic sources?

When they receive too many hits, respondents either select the most respected authors or sources in the field (57%), think of new search terminology (55%), or use limiters (51%). Currency of materials (often marked together with choosing results from most respected authors and sources) seems important to 45% of the participants. Over a third (34%) do not

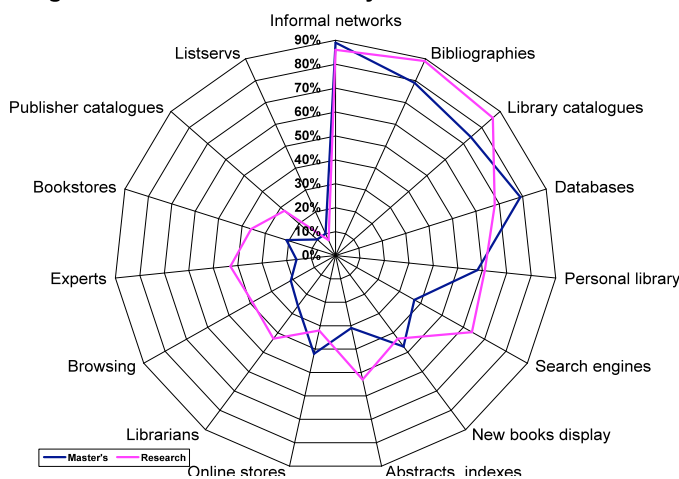
<sup>15</sup> There was no significant difference between the genders: interfaces seemed important to 38.8% men and 54.5% women and search functions to 33.3% men and 45% women. The higher ranges for women can also be caused by the low number of participating women.

want to miss any valuable information and review all results. Only 15% and 13% respectively are discouraged by too many hits to the extent that they start over again or look for a different database. The need to start over often seems unavoidable to 83% of the respondents when the search yields too few results. They then check the indexing terminology of the database or look for another database (both options received 47%). 13% in this case also decide to approach a librarian (only 9% believe this is necessary when there are too many results).

### 1.4 Methods for information discovery

The great variety of information needed for successful interdisciplinary research poses

**Figure 6: Methods of discovery: Master's vs. Research**

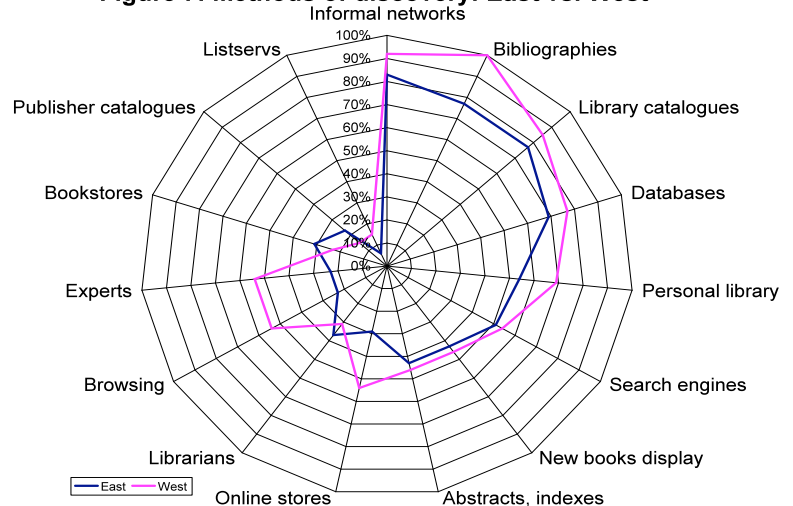


specific challenges and students employ a great variety of methods finding necessary information. As the four main activities range: conversations with teachers and co-students, bibliographies (reference chaining), library catalogue and database searches. About 60% of the respondents rely on their personal library and search engines to seek relevant information. All fifteen listed possibilities seem sufficiently relevant, except listservs, forums, and blogs are used by only four persons. When asked to list additional

methods of information discovery, 76% did not answer, while those who provided suggestions added Google Book Search, interviews, search of historical society archives, attendance of seminars and conferences.

There were significant variations between doctoral and master's students habits (Figure 6): doctoral students rank higher the consultation of experts and librarians, they more often use search engines, abstracts and indexes, and publisher catalogues, and more often engage in browsing. Master's students, on the other side, excel in database searches. When contextual influences are compared, it seems that western students have more access to bibliographies, experts at other institutions, possibilities to physically browse libraries and build their personal library via online stores (Figure 7).<sup>16</sup>

**Figure 7: Methods of discovery: East vs. West**

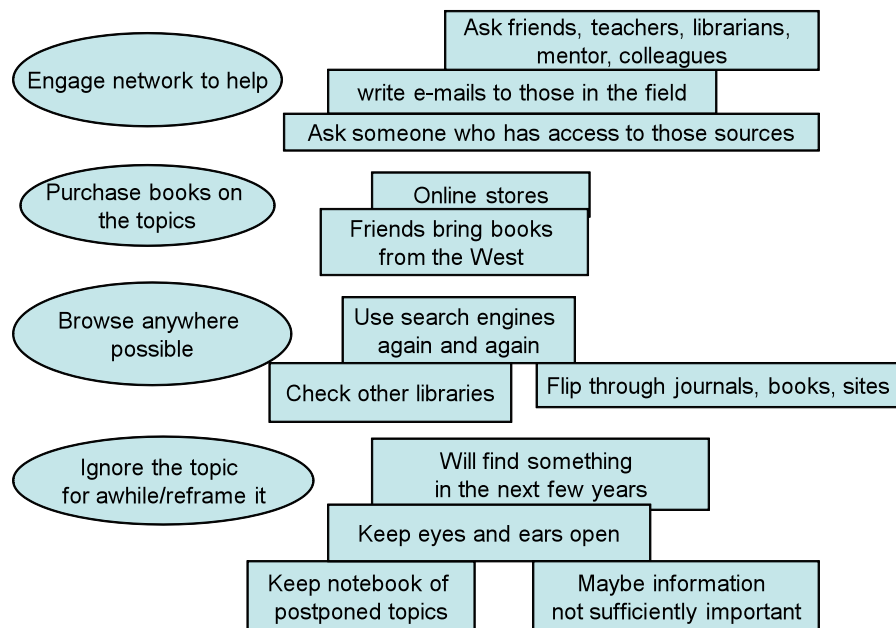


<sup>16</sup> While a chi-square could not prove an association between type of student and methods of discovery/sources preferred for study and research – probably because many more variables influence choice of sources and discovery methods – a Spearman rho test underlines that the similarities between master's and doctoral students as well as between CEE students and those from the West are stronger than any apparent differences.



When all “usual” possibilities remain unsuccessful, respondents’ methods can be grouped into four categories (see Figure 8). Interestingly, many responded to this open question (only five did not), probably because it is a wound spot. Again the highest priority is given to contacting people (38% of Western and 51% of CEE students) orally, by e-mail or on forums. Other options include expanding one’s personal library, browsing in places that potentially produce a lead, or simply putting the issue on the back burner while “keeping eyes and ears open”. Not many use alerting or notification services for recently published information: while 47% did not respond, 4 explicitly said that they do not use such services. Of the remainder, 8% use RSS feeds, 21% Table-of-Contents services and 17% publishers’ alerts.

**Figure 8: If all else fails, try...**



Serendipity plays an important role in information discovery: 32% consider it a frequent and 62% an occasional phenomenon. Accidental discovery usually happens when reading books or reviews (78%) and browsing stacks in a library (64%). Important also are library catalogue searches (57%), Internet browsing (55%), database searches (53%) and discussions with scholars (51%). Doctoral students score higher on all of these activities, especially on browsing (75%), database searches (64%), discussions (61%), and library catalogue searches (64%).

Few are aware of, or admit information avoidance: 45% provided no response and 25% cannot recall any such situation. Those who responded underlined that usually there is too little rather than too much information.

### 1.5 Library services

It comes as no surprise that the library service most frequently used is the circulation of materials (91%). Two-thirds value assistance in finding relevant materials (66%) and in using appliances such as copy machines, scanners, DVD-writers (62%). Less than one half (45%) request assistance with databases or interlibrary loans and, although they study at a distance, only one third (32%) draw on the possibility of receiving a document (scanned article or chapter) sent to them (Table 4).

When asked how the library could better assist in information seeking and research, 36% had no answer and 23% stated that they were quite happy with library services so far. The nineteen remaining respondents offered a list of

|  |    |     |
|--|----|-----|
| Circulation                              | 43 | 91% |
| Assistance in finding relevant materials | 31 | 66% |
| Assistance with appliances               | 29 | 62% |
| Assistance in using databases            | 21 | 45% |
| ILL                                      | 21 | 45% |
| Assistance in locating materials         | 20 | 42% |
| Document delivery                        | 15 | 32% |
| Discuss research with librarian          | 14 | 30% |
| Order books through library              | 14 | 30% |
| Search skills training                   | 9  | 19% |
| Table 4: Use of Library Services         |    |     |

improvements, emphasising following needs:

- more electronic remotely accessible content;
- have books mailed to them;
- clearer, more timely information on library services and available databases;
- add short book reviews to books displayed on the New Books webpage and offer Table of Contents of received journals;
- view in the library catalogue books as they are arranged on the shelf (substitute for browsing);
- search all databases under one interface;
- receive bibliographies on their topic;
- more specific and preferably web-based search training.

One respondent, warning against an over reliance on technology, emphasised the importance of maintaining the library as an open and hospitable physical space.

## 1.6 Summary of findings

From the questionnaire findings it seems that theology students at IBTS use many and varied types of materials in their interdisciplinary studies while giving clear preference to books, periodicals and theses. Most of the participants are comfortable with print as well as electronic formats and one observes a relatively extensive use of the latter, marked by high scores for websites, online catalogues and databases of electronic journals (but not yet e-books). To satisfy their research needs they employ a variety of methods to find relevant information and fall back on “typical” humanists’ research behaviours when “usual” channels do not work: engage their networks, expand their personal library, and browse. Their suggestions for library services improvements emphasise accessibility of relevant content, possibilities for “remote” browsing and search skills training. Certain differences, due to their course of study and/or context, can be observed among participants.

## Part 2: Discussion

The discussion follows a meta-synthesis approach as it attempts to analyse results by placing them into a framework that integrates main themes emerging from research on information seeking behaviours of humanists/theologians, with main themes emerging from the results of this study. Aspects are compared and contrasted within these themes to identify similarities and differences; contextual and sometimes gender issues that have an influence on information needs and behaviours of the participants are discussed. From the extensive literature produced on information seeking behaviours of humanists several themes seem to recur that are also reflected in the current study. These concern 1) sources preferred by humanists; 2) attitudes toward electronic resources and difficulties associated with database use; and 3) the multitude of methods and approaches in finding and processing helpful information. The following table summarises similarities and differences to humanists observed in the current study.

| Themes recurring for humanists/theologians | Similarities  | Differences  |
|--|---|--|
| Sources                                    | <ul style="list-style-type: none"> <li>- Importance of primary sources</li> <li>- Text and print bound</li> <li>- Importance of personal collections</li> <li>- Avoidance of indexes</li> </ul> | <ul style="list-style-type: none"> <li>- Increasing variety of formats: the thinking that a primary source is a text is somewhat broken;</li> <li>- Increased use of materials from other disciplines</li> </ul> |

|  |  |   |
|--|--|---|
|  |  | - Increased importance of personal collection for CEE students  |
| Attitudes toward electronic resources              | <ul style="list-style-type: none"> <li>- Cautious and differentiated</li> <li>- Only if perceived time savings and if contains relevant content</li> <li>- Database design not humanist-friendly</li> <li>- Similar problems in use</li> </ul>       | <ul style="list-style-type: none"> <li>- IT is common tool for research</li> <li>- Increased use of websites and search engines</li> <li>- Database searches still more attractive than search engines</li> <li>- Low use of e-books and indexes</li> </ul> |
| Multiple research approaches and discovery methods | <ul style="list-style-type: none"> <li>- Primary search method is chaining (citation tracking)</li> <li>- Browsing more than searching</li> <li>- Solitary research, but heavy reliance on exchange of ideas with teachers and colleagues</li> </ul> | <ul style="list-style-type: none"> <li>- informal networks important at any research stage</li> <li>- Lower emphasis on browsing</li> </ul>   |

Table 5: Summary of findings

## 2.1 Sources of information

Listings of preferred types of materials (Figure 3) demonstrate that participating theology students are quite book and print bound, possibly encouraged by their supervisors. In this, they follow the humanist profile who focus on texts and their interpretations and who, even if using electronic materials, print them out for reading (Wenderoth 2007:180).<sup>17</sup> However, when respondents to the current study list journals as their second favourite type of material they also think of electronic journals as the heavy use of electronic journals databases suggests. They embrace new technologies because these provide accessibility.

Already Stieg Dalton and Charnigo (2004) had noticed an increase in dissertation use. In the current study, theses and dissertations rank third, because of the kind of academic work in which these respondents are involved. Barrett's (2005:329) participants also comment on how "tremendously useful" it was to read an accomplished scholar's product. Similar to studies on historians, manuscripts and archival materials feature highly in this study but, because topics and concentrations vary widely, their value for research is somewhat lower. Oral interviews play an important role, especially in contextual (CEE) theological research where fewer written sources exist.<sup>18</sup> The close association between textual manuscripts and primary sources seems somewhat broken to include other formats.

As increasingly obvious in other disciplines, theology students must interact with concepts and sources from other areas of study. Doctoral students are under much more pressure to integrate their theological research into the wider world of knowledge while master's (only) need to demonstrate their knowledge of ideas and relations inside the theology field. The variation in the degree of inclusion of non-theological sources is probably caused

<sup>17</sup> British English academics also continue to make higher use of printed materials, mainly from their personal library (Gardiner et al 2006, p. 347-8).

<sup>18</sup> Students from western countries value oral interviews to the same extent.

by these topics and some, more than others, require interrelations with other disciplines.<sup>19</sup> Doctoral students are moving toward becoming interdisciplinary scholars with study findings coming close to characteristics of interdisciplinary scholars: the great heterogeneity of sources and channels; heavy dependence on informal networks, including experts from other disciplines who provide hints to current relevant sources, help shape research and teach use of appropriate technology (Palmer and Neuman 2002); the immense importance of context (cf. Foster 2004).

## 2.2 Electronic Sources

**2.2.1 Usage of sources.** The high ranking of websites is surprising but also indicative of rapid Internet inclusion of helpful academic information. Already 58% of Stieg Dalton and Charnigo's historians believed that websites contain helpful materials, even for primary research (2004:405). IBTS students, in general, are younger than those researched by Stieg Dalton and Charnigo and are open to new technologies.<sup>20</sup> The fact that IBTS students from CEE countries score websites much higher (cf. Figure 1+2) may indicate that, due to the non-existence and inaccessibility of theological libraries in their proximity, they are more under pressure to find information, are less inhibited in considering websites for academic research, and are less established in print-bound research patterns. One would need to verify with a citation study whether websites are really quoted as often as claimed. They may be used for orientation, a broad overview, guide to other materials and not necessarily used as the foundation on which research is based. The websites listed by respondents as helpful in Q2.4. display considerable breadth and seem to provide sufficiently serious content. Often these are websites pre-selected and categorised in academic portals/gateways, sites that contain national historical and archival collections, denominational sites that collect historical and current denominational materials, news sites or sites with open access e-books or e-journals. Regularly mentioned are Google Scholar, Google Book Search and Amazon's Search Inside.<sup>21</sup>

The positive attitude toward electronic resources suggests that generations have changed and a shift has occurred in that information technology has become a common tool in research, even for theologians. The prominent use of the free web and consideration of e-zines, blogs and other non-traditional formats for research (see 1.2) poses a challenge for faculty and librarians in educating students in effective searching and ways to evaluate and discern the reliability and accuracy of electronic information. One possibility to provide a filtering mechanism and increase accessibility is to include relevant and credible resources from academic portals, i.e. Intute, Wabash Center and others, into the online catalogue.

Figures for online catalogue (97% of doctoral and 74% of master's students) and journal databases use (49%-72%, depending on database) are higher in this study than

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<sup>19</sup> Stieg Dalton and Charnigo (2004) mention that their historians cite from various other disciplines (allocation) and their list of disciplines comes very close to what my respondents listed, except maybe agriculture, military and naval science. DeTiratel (2000) also finds that more than half of her philosophy and history professors' citations come from other fields (philosophy: autocitation 58.5%, allocation 41.5%; history: autocitation 46.2%, allocation 53.8%). Those in my study who use only theology materials write a master's dissertation in Biblical Studies and use primary biblical texts together with other scholars' commentaries on these

<sup>20</sup> The increasing importance of websites is confirmed by other studies. Kelley and Orr (2003:187) note that 56% of their USA undergraduates and 71% of graduate students use the free web frequently. Use of general and discipline specific websites is also noted among British academics, with about 47% of English professors using news websites and some 20% using work related sites about once a week (Gardiner et al 2006:347)

<sup>21</sup> Maula and Talja (2003:681) note the excitement of humanities scholars about Amazon, which the latter consider to be "complete in coverage" and offering a convenient possibility for purchase. Again the preoccupation of humanists with books can be noted.

reported by others.<sup>22</sup> Buchanan's et al (2005) observation that scholars less privileged with access to well stocked print libraries are more open to electronic resources seems to apply to these respondents.<sup>23</sup> The difference in numbers between established scholars and students, as observed in the literature, may be caused by the fact that students are unsure of the field and so engage in more and varied searches, while scholars have already accumulated a knowledge base and developed strategies for current awareness that do not necessarily include library catalogues and database searches (see also Maula and Talja 2003).<sup>24</sup> It is also reassuring to see that library licensed databases are still considered more helpful (72% use them to discover information) than search engines (53%) (see also Kelley and Orr 2003:187).

The numbers of non-users are worrying: an average of 11% (26% of master's students) never use library catalogues and 19% do not consider them helpful in discovering information. Wenderoth (2007:180) also finds that theologians avoid bibliographic work with library catalogues – the problem is assumed to lie in the controlled vocabulary – and prefer to find relevant materials through personal recommendations, online bookstores and search engines. To improve library catalogue use, respondents suggested adding in the catalogue a virtual shelf view to enable browsing along materials of similar topics. This seems important if considering that 64% noted that serendipitous discovery happened for them while browsing along shelves.

Several accessible databases remain unused, such as IngentaConnect, RIM, Ebrary. Low usage is observed for dissertation databases in general (no full-text) and of e-books. The possibility to list "other" helpful resources was used little, either because respondents did not bother to write down resources or they use no additional resources – possibly an instance of the 'principle of least effort' in effect. Though disappointing, these results are not far off findings in other studies. As Gardiner et al point out, 42% of English academics in their study never use e-books and only 15% of all respondents use indexing and abstracting databases (2006:348). Even though the follow-up study of historians demonstrates that "historians showed considerably greater knowledge of indexes and abstracts" as before (Stieg Dalton and Charnigo 2004:409), their usage barely reaches 20%.

Surprisingly the difference in use of the ATLA index database (55%) and of Index Theologicus (8%). ATLA is a long established tool in theological research while Index Theologicus is less known and available online since 2006. This may be the reason for low use. There may also exist the (faulty) perception that, due to some overlap between the databases, it suffices to search one. As indexes do not seem to be favourite research tools for theologians, they stay with the index they know.

Possibly, low use of materials, including electronic, is due to their subject irrelevance and to the imbalance between received results and invested time and effort, to which humanists seem to be especially sensitive (cf. Wiberley and Jones 2000). No respondent has mentioned using WorldCat, possibly also because of the discouraging situation that, even though one would know about the existence of these resources, due to the weak ILL infrastructure in CEE, there would be no possibility to get them. E-books will need to prove

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<sup>22</sup> Barrett's graduate students provide a similar list of electronic resources as considered helpful in this study: OPACs, discipline-specific CD-ROMs, Internet search engines, and websites (2005). Having done qualitative interviews, Barrett offers only a situation description and no statistical figures.

<sup>23</sup> Library catalogue use comes to 55.1% of students in Kelley and Orr's study (2003:180), to 29% of British English academics in Gardiner's et al study (2006:) and to 4% of historians (though 18% use WorldCat) in Stieg Dalton and Charnigo's study (2004:411). 69% of Kelley and Orr's graduate students use databases (2003:186) as do between 28% and 14% (depending on the database) of historians (Stieg Dalton and Charnigo 2004:411).

<sup>24</sup> This seems to correspond to Lonnquist's categories of two types of searchers, mature and non-mature scholars, as she calls them (1990).

yet that they can offer advantages in content that is not yet available in print materials or digital libraries of journals.

**2.2.2 Problems in use.** While theology students use electronic sources extensively this does not mean that they are effective. The study neither asked for a self-evaluation on the success of their searches nor did it analyse search logs of these respondents.

All respondents were born before the age of the Internet and IT was not included in their school curricula. Some of the younger participants could have grown up with Internet access and exposure to electronic sources but, if economic considerations and the lack of spread of Internet access in the East is considered, none of the participants is likely to have had exposure before their adulthood. Q2.8. has, somewhat short-sightedly, combined teachers and co-students in one line – it may have been more co-students rather than teachers who were instrumental in helping them learn to use electronic resources. The importance of these persons, especially to CEE male students, can be explained by the predominance of males in seminary and church education in these contexts, so communication on technology issues happens in gender limits. The high number of those who learned to use electronic sources from librarians possibly reflects participation in the Information Literacy workshop obligatory for all incoming IBTS students. So, in a sense, the answers also intend to communicate to the library that their input has not been forgotten. The low number of CEE men and women who believe they would benefit from more instruction reflects the fact that they were taught to be self-sufficient and manage electronic sources by themselves, as well as other changes and upheavals in life.

From responses to search strategy questions (Q2.5. and Q2.6.), students have some skills in database use. However, to see that these activities (variation in search terminology, use of limiters, check subject terms) are performed by just over half of the participants is not reassuring and does not guarantee they actually find all materials the databases provide. When a third of the respondents claim to look through all results, this may be because of low skill, because of their habit of browsing, because they are afraid to lose something in the process, or maybe even a somewhat unrealistic estimate. Buchanan et al (2005:228) observe that only a few humanist users carefully select search criteria and when information seeking moves from a clearly defined goal to a new subject, problems in searching emerge. Stone anticipated that information technology will force humanists to think thoroughly through an issue before starting to search (1980:300), but others believe that the solution will not be as easy and that the nature of humanities' research is just "not based on technical searching" (Maula and Talja 2003:680).

Obviously, different respondents look in databases for different things; cumulatively, they closely match the humanist profile in that they appreciate primary sources, retrospective coverage, and directly relevant content. The prominence of primary sources stated here seems to contradict the slight disinterest for digitized primary sources in the question just prior to it (Q2.3.). This may express pragmatic thinking. Respondents do not like hunting for digitized primary sources all over the Internet, as the question implied, but prefer to find them accumulated in a database. Annoyance with useful information scattered in many databases is explicitly expressed in the suggestion to provide an overarching "comprehensive" database (RAT6), a non-librarian's way to describe federated search. Respondents are ready to use paid-for subscription databases and expect the library to provide more electronic texts, or to digitize materials for them. They are not ready, or not able, to pay for materials themselves, quite in keeping with Gardiner's et al study where 50% of British academics asserted that payments discourage them from using electronic resources (2006:354).

## 2.3 Methods for information discovery

With the great variety of strategies that respondents use in parallel – more than 50% use at least six methods: informal networks, citation chaining through bibliographies, library catalogues, database searches, personal libraries and search engines – they fit Weintraub's characterisation of humanists as detectives (1980) and Barrett's participants' summary of the research process as recursive, with “constant reading, digging, searching, following leads, and citation chasing” (2005:327).

**2.3.1 Informal networks.** Although conversations with colleagues do not figure prominently with Stieg Dalton and Charnigo's historians, all four studies on theologians emphasise the importance of informal networks. Gorman (1990:149) finds that 82.7% rely on peer consultation, Wenderoth's interviewees seek support from their informal networks when starting a project and for current awareness (2007:179), Michels' study is all about people as informal research sources, and, while Bronstein (2007) extracts a separate information activity such as networking, contacts with colleagues permeate almost each of the other activities. This study is no different: even though they are involved in one-author projects, theology students depend on and value conversations with their supervisors, experts in the field, colleagues, and librarians. There is neither a significant difference between master's and doctoral students nor between students originating in East European or Western cultures. One must add that the institution consciously encourages interaction and provides venues for students to share research results to the wider public and receive feedback.<sup>25</sup> Such input proves valuable and is appreciated by students since they mark informal networks highest of the information discovery strategies and indispensable if “usual” channels break down.

Librarians only partially belong to these informal networks, although 36% of the respondents (among doctoral students it is 43%) consider them helpful. These numbers are higher than in other studies, possibly because of the small size of the institution where personal contact comes about somewhat more easily. While Barrett finds that his participants appreciated librarians primarily for help in locating hard-to-find materials (2005), no differentiation as to activities looked for in librarians was possible in this study. Considering the importance attached to informal networks by theologians and considering the usually ambivalent or even strained relationship between humanists and librarians in other studies, theological librarians should strive to belong to users' informal networks more closely and naturally. To do so, one will need to overcome the image of librarians as being unfamiliar with subject areas (Michels 2005 as well as many other studies) and too busy<sup>26</sup>. One will need to strengthen the impression that one can actually offer serious training in search skills, an expressed need of humanists, including participants of this study. They wish for focused search skills training in order to find appropriate materials “without losing too much time in the process” (cf. also Wiberley and Jones 2000 observations). Possibly the prediction of Jack King, as quoted in Delgadillo (1999:248), is coming true that as the number and complexity of electronic sources continues to grow humanists will increasingly rely on librarians for guidance. Very important will be, as Bronstein (2007) underlines, the ability to understand and empathise with theologians' perceptions of effective research, to recognize patterns in research behaviours and to adequately respond to activities they perform at different stages (cf. Kuhlthau's Zones of intervention).

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<sup>25</sup> This emphasis is in line with standards set by accrediting agencies who underline that “theological research is both an individual and a communal enterprise, and is properly undertaken in constructive relationship with the academy, with the church, and with the wider public.” (ATS General Institutional Standards, <http://www.ats.edu/accrediting/standards/05GeneralStandards.pdf>).

<sup>26</sup> See a remark by RAT5: „Of course, I would be happy to discuss my work with the librarians and would be happy for them to recommend/suggest sources for my research work. However, I'm not sure that a library like ours has enough staff time to be caring about individual research topics when the researcher is neither 'stuck' nor asking specific questions.”

**2.3.2 Chaining and browsing.** While citation tracking and chaining is key for historians (Stieg Dalton and Charnigo 2004), it is also very important for theologians (see Bronstein 2007). Browsing through physical stacks seems to receive less excited responses, and Gorman (1990:149) finds that 17.4% of his theologians don't browse at all. The number is even higher in my study where only 21% of master's and 39% of doctoral students actually browse stacks in a library. As they visit the campus library only once per year and may not have an adequate theological library in geographical proximity, this explains the numbers, but also indicates an area urgently needing improvement. The Internet seems helpful for browsing and chaining. Many databases allow users to view the references in a way that encourages chaining. As browsing activities shift to include electronic resources (websites and subject directories, online bookshops, publishers and library catalogues), the library needs to interlink these with its catalogue and offer links to TOCs, book reviews, snippets of full-text (Amazon and Google Book Search), any other abstracts that would allow more information about a book, journal, or other materials.

Web 2.0. technologies provide a powerful way to enhance library catalogues – as most respondents to this study seem to (still) extensively use it, - with the students' own knowledge base; this would enable them additional access to their valued informal networks.

**2.3.3 Personal library.** Though Barrett does not find that his participants rely on personal collections (2005:329), both Wenderoth (2007:181) and Gorman (1990:150) mention the tendency of theologians to use materials from personal libraries, for starting a project or in current research (21.2% in Gorman's study). The number is higher in this study, an average of 60%, possibly because of the distance education mode, geographical distance to a solid theological library, and the almost non-existent interlibrary loan structures in CEE libraries. One of the solutions for finding information if "usual" channels do not work is then to purchase necessary books through online bookshops or ask overseas friends to bring them. Because of financial considerations, CEE students mark this strategy 13% lower and use online bookstores 29% less than their western counterparts (Figure 7).

**2.3.4 Other issues.** The study did not provide sufficiently helpful results on methods for current awareness, due to problems in questionnaire design. As Gorman (1990:151) demonstrates, about one fifth of current awareness activities happen orally through colleagues. It is difficult to compare other figures as the services listed in the two studies don't overlap. It seems, however, that participants of this study are not very familiar with or don't like to use RSS feeds, as they also don't appreciate forums, blogs and listservs (cf. also Toms and O'Brien 2008:106).

Participants do not believe they suffer from information overload or engage in information avoidance (see similar results for historians, Stieg Dalton and Charnigo 2004). One respondent underlines that he "must use any [found] information because it is so scarce in my area of research" (RAB5) and another insisted that he usually goes to substantial effort to acquire anything relevant (RAB10). Between the lines, however, becomes apparent that they are tired of sifting through large amounts of returned results, due to poor database design or possibly not very efficient search strategies. Relevant information is neglected when due dates or lack of time become pressing, when respondents believe they have collected sufficient information, when information needs to be paid for and it is not obvious that the value of the information justifies the cost, when the argument seems flawed or biased and the quality of information is not quite suitable for the academic exercise. Annoying pop-ups also encourage avoidance.

## **Summary**

The study set out to better understand activities and attitudes of theology students in the research process and attempt to collect ideas for library development to enhance research.



It was found that while theologians display clear similarities with humanists there are also notable differences. Theologians tend to work interdisciplinary, which results in a diversity of approaches taken to discover relevant information and an openness to various formats of sources. Partly differences are caused by the fact that the group under consideration are students, and not accomplished scholars. They are experimenting with various strategies, and behaviours, that will be eventually accepted as effective, are only emerging. Some differences are due to technological developments that have changed research processes and behaviours for theology. Information technology has been, partly successfully, embraced as a tool that expands accessibility and enhances certain processes of information seeking, but there is still a long way to go before technology's full potential is realised and used by these scholars. For this, database design needs to adapt to their specific ways of searching and browsing, include relevant content (retrospective coverage, primary sources, theological and interdisciplinary materials), and there must be the possibility for federated search.

Differences are also caused by contextual aspects, such as studying at a distance, always being pressed for time, acquiring information competency "on the run" and self-initiated, living in an information-poor environment and finding creative ways to overcome barriers. While the humanist profile is evident throughout the diverse group, contextual, interdisciplinary and technological aspects need to receive due attention in planning library services.

For the local library, study results point specifically to the necessity of improvements in the area of in-depth search skills training, the necessity to acquire more electronic resources, possibly also digitization of certain (primary/required reading) materials. Developments in Web 2.0 technology need to be used to design the catalogue and other library practices more interactively. Sufficient and timely information (including reminders) on services and databases, especially in propagating document delivery and ILL, seems vital to connect to students and their needs. Librarians need to become an integral part of the students' informal networks and know their research processes well to be able to conduct proactive reference services.

The study offers a good description of a local situation. Because of the non-representative sample at a multi-cultural institution that gathers initiative-taking and barrier-crossing students, the study findings cannot be fully transferable to all theologians. Although some traits will be common (see also de Tiratel's 2005 assertions) and confirm patterns observed in research on humanists' information behaviour, generalisation across the field is not legitimate until similar studies are replicated.

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