

**Title: Specific information literacy instruction, in several different languages, for pupils studying for university entrance examinations**

**Subtitle: School Library and Information Centre, Kalsbeek College, Woerden, The Netherlands.**

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The purpose of this paper is to describe the instruction in specific information literacy skills, in several different languages, for final examination pupils, which has taken place during 2005. This instruction is part of a structure or matrix for information literacy instruction and training, for pupils aged between 11 and 18 years of age, which has been developed in the School Library and Information Centre at the Kalsbeek College, Woerden, the Netherlands.

## **1) Introduction**

The importance of information literacy skills is clearly stated in *The Prague Declaration “Towards an information literate society”*<sup>1</sup> which was published by the participants at the Information Literacy Meeting of Experts, organised by the US National Commission on Library and Information Science and the National Forum on Information Literacy, with the support of UNESCO, representing 23 countries from all of the seven major continents, held in Prague, the Czech Republic, September 20-23, 2003. The second paragraph of the statement is as follows:

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<sup>1</sup> The Prague Declaration “Towards an information literate society”.  
<http://www.nclis.gov/news/pressrelease/pr2003/Prague.html> . Accessed on 31.3.2006.

*“Information Literacy encompasses knowledge of one’s information concerns and needs, and the ability to identify, locate, evaluate, organize and effectively create, use and communicate information to address issues or problems at hand; it is a prerequisite for participating effectively in the Information Society, and is part of the basic human right of life long learning.”*

The Alexandria Proclamation on Information Literacy and Lifelong Learning<sup>2</sup> was made at a the High Level Colloquium on Information Literacy and Lifelong Learning held at the Bibliotheca Alexandrina on 6-9 November 2005. It proclaims that:

*“ information literacy and lifelong learning are the beacons of the Information Society, illuminating the courses to development, prosperity and freedom.*

*Information Literacy lies at the core of lifelong learning. It empowers people in all walks of life to seek, evaluate, use and create information effectively to achieve their personal, social, occupational and educational goals. It is a basic human right in a digital world and promotes social inclusion of all nations.*

*Lifelong learning enables individuals, communities and nations to attain their goals and to take advantage of emerging opportunities in the evolving global environment for shared benefit. It assists them and their institutions to meet technological, economic and social challenges, to redress disadvantage and to advance the well being of all.”*

On 10 February 2006, the FILTER Closing Event was held in Amsterdam, the Netherlands<sup>3</sup> This event was supported by the European Commission, Directorate General Education and Culture, The eLearning Initiative. The subject of the meeting was: Filtering of online content in a globalized world : good practice and recommendations. The introductory statement for the FILTER Closing Event began as follows:

*“The amount of information that is online and potentially relevant to lifelong learners is enormous. Finding, selecting and judging relevant online content are important competencies in a world where lifelong learning is becoming a must. In practice, online content is the subject of economic, language and cultural filtering, arising from design features such as browsers, commercial search engines, portals, and intellectual property protected software. Local knowledge becomes more vulnerable and less easy to find on the web. Filtering of online content may affect the mind-map of e-learners and diminish the independence of their opinions in school, university or the workplace.*

The book *World Wide Work : filtering of online content in a globalized world*<sup>4</sup>, was published in February 2006, and describes the work of the European FILTER project. It contains contributions from a team of international experts. They present their

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<sup>2</sup> The Alexandria Proclamation on Information Literacy and Lifelong Learning, <http://www.ifla.org/III/wsis/BeaconInfSoc.html> . Accessed on 31.3.06

<sup>3</sup> [www.filternetwork.org](http://www.filternetwork.org). Accessed on 25.3.2006.

<sup>4</sup> *World Wide Work : filtering of online content in a globalized world* / Editor: Sylvia van de Bunt-Kokhuis. (2006) Amsterdam, The Netherlands : VU University Press.

research findings and experience from practice. Emphasis is placed on the enormous amount of information, in many different languages, which is available today. This information is subject to, for example, economic, cultural and language filtering.

## 2) Information Literacy in secondary schools

The introduction of computer technology in secondary schools has had an enormous impact on teaching methods.

Information literacy has become a very important issue within secondary schools all over Europe. The amount of information which is now available through both traditional methods and multimedia is enormous. In the school library and information centre, pupils can individually search for information for a project, using both traditional methods and also information technology.

Pupils in secondary schools need to be made aware of the problems mentioned above and need to be taught to search for and evaluate accurate information, to select information, to use it to answer the questions which have been asked and to provide an accurate summary of the resources which have been used. The concept of individual learning is encouraged.

As mentioned in the abstract, the Kalsbeek College uses a structure or matrix for the teaching of information literacy skills from year 1 to year 6, for pupils aged between 11 and 18 years of age. This matrix, known as the KILM. KILM is an abbreviation for the Kalsbeek Information Literacy Matrix. Instruction takes place in the School Library and Information Centre.

This paper is concerned with the specific help and instruction (within that matrix) which is given to final examination students. The skills learnt by students during this instruction are useful for, and relevant to their tertiary (and any further) education. The Alexandria Proclamation stated that “*information literacy lies at the core of lifelong learning*”<sup>2</sup>.

In her paper entitled *High school to university: What skills do students need?*<sup>5</sup>, Eileen Daniel makes the following statement:

*“The problem of transferring library and information searching skills from high school to college is not new, but has become intensified in the last decade by the pressures of the information explosion, new technologies, and budget reductions. This paper compares the library skills required by students in their final year of high school with those needed in the first year of college. The primary focus was on the Canadian province of Ontario, where students conduct independent research projects”*

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<sup>2</sup> The Alexandria Proclamation on Information Literacy and Lifelong Learning, <http://www.ifla.org/III/wsis/BeaconInfSoc.html> . Accessed on 31.3.06

<sup>5</sup> Daniel E. (1997). High school to university: What skills do students need? In L. Lighthall & K. Haycock (eds.), *Information rich but knowledge poor? Emerging issues for schools and libraries worldwide* (pp. 53-61). Seattle, WA.: International Association of School Librarianship.

*during their final year of high school. The study showed that teacher-librarians are already teaching students the skills they need for college.”*

Changes which have taken place in the information society since 1997, when Eileen Daniel wrote her paper, are enormous and make it essential that high school students receive even more instruction in information literacy skills before beginning their tertiary education.

The use of web-based networks, content management systems (CMS's), web-based school library programmes, ELO's (Electric Learning Environments) will greatly increase the amount of information which is stored within the school environment (in digital and traditional form). Information within the environment needs to be planned, managed and controlled. Strategies need to be developed and instruction needs to be given so that teachers and pupils are able to find and use the required information. The qualified school librarian and information specialist plays an important role in the co-ordination of this information and instruction in search strategies.

At the Kalsbeek College in Woerden, school leaders, teachers and the chief librarian have joined forces to try to provide students with the information literacy skills which they will need, not only during their tertiary education but in their day-to-day life as lifelong learners.

The instruction which will be described in this paper is important for the following reasons:

- It meets a specific need.
- It is interdisciplinary. This means that is not applicable to one specific school subject, but covers a number of different school subjects.
- This interdisciplinary instruction is taught by the school librarian and information specialist.
- These interdisciplinary information literacy skills can be used by the pupils in their later lives, as tools for lifelong learning.
- The school supports the concepts of individual learning and information literacy, as tools for lifelong learning. Reference is made to the work of Robert J. Marzano<sup>6</sup> which includes descriptions of the advantages of individual learning.
- The school leadership believes that this instruction helps to prepare pupils for tertiary education.
- The school leadership believes that it is essential that pupils develop good study habits. Pupils were encouraged to use the School Library and Information on a regular basis. Statistics prove that students who were required to visit the library during the preparation of their *Profielwerkstuk* (research project), have continued to do so, on a regular basis, after their paper was handed in.

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<sup>6</sup> Marzano, Robert J. A different kind of classroom : teaching with dimensions of learning. (1992). Alexandria, VA : Association for Supervision and Curriculum Development.

- The pleasant, friendly, helpful atmosphere, the modern decoration and the excellent facilities (information in traditional and digital form, hardware and software) in the School Library and Information Centre (SLIC) play an integral role in making the SLIC a pleasant and inspiring place to be.
- The importance of language. This instruction teaches pupils to look for specific information in a number of different languages. Pupils at the Kalsbeek College speak Dutch as their mother tongue, a European language spoken by approximately 19 million people. The school leaders believe that, because of the enormous diversity of information which is available in the world today, in many different languages, it is very important that pupils should learn to search for and find information in different languages<sup>3</sup>. Pupils at the Kalsbeek College receive information literacy instruction in up to 4 different languages (Dutch, English, French and German). Greek and Latin are also taught at the school (to pupils in the Gymnasium).
- The school has tried to develop a strategy, to be used throughout the whole school, to counteract plagiarism.
- The school has also published guidelines which give students advice on how to prepare and write a paper. These guidelines also include information literacy tips. They also give student specific instruction on how to present references (bibliography). The guidelines are used throughout the whole school, from year 1 to year 6, by all teachers and subject groups.
- At the time of writing of this paper, all *Profielwerkstukken* prepared in school year 2005/2006 have been handed in, marked, and presented to fellow pupils, teachers, parents and other visitors to the school. Initial findings confirm that the quality of *Profielwerkstukken* has increased. A questionnaire will be sent to all teachers concerned in this process, in an attempt to ascertain whether or not the specific information literacy instruction was an important factor in the increased quality of the papers which were submitted.

### 3) Background Information.

#### a) What is Information Literacy?

Information Literacy is described in the KILM as:

*Information literacy is a set of abilities requiring individuals to "recognise when information is needed and have the ability to locate, evaluate and use effectively the needed information".<sup>7</sup>*

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<sup>3</sup> World Wide Work : filtering of online content in a globalized world / Editor: Sylvia van de Bunt-Kokhuis. (2006) Amsterdam, The Netherlands : VU University Press.

<sup>7</sup> ALA American Library Association, Chicago, Ill.  
<http://www.ala.org/ala/acrl/acrlstandards/informationliteracycompetency.htm#ildef>. Accessed on 18.1.2006.

## b) Secondary Schools in Europe.

During her research, the writer has become distinctly aware of the enormous differences in secondary schools systems and education within Europe. Research in comparative education within Europe confirms this <sup>8</sup>. EURYDICE, The information network on education in Europe, was established in 1980 by the European Commission and Member States. Its purpose was to boost co-operation, by improving understanding of systems and policies. Since 1995, EURYDICE has also been an integral part of Socrates, the European Community action programme in education. The EURYDICE database contains descriptions of education systems in European countries.

An objective of the research presently being carried out by the writer is to see whether or not the KILM could be applied and used in secondary school in other countries within Europe. This paper describes an instruction which takes place within the KILM.

## c) Secondary Schools in the Netherlands

Secondary schools in the Netherlands are divided into three groups:

**VMBO:** Voorbereidend Middelbaar Beroepsonderwijs (Preparatory Vocational Training, Secondary Education). This is a 4 year study for pupils from 11-16 years of age. The lower school is for pupils in year 1 and 2; the upper school is for pupils in year 3 and 4.

**HAVO:** Hoger Algemeen Voortgezet Onderwijs (Higher General Secondary Education). This is a 5 year study for pupils from 11-17 years of age. The lower school is for pupils in year 1, 2 and 3; the upper school is for pupils in year 4 and 5. Pupils who have obtained a HAVO certificate have qualified for admission to colleges (HBO- tertiary professional training) and (some) universities within the Netherlands.

**VWO / Gymnasium:** Voorbereidend Wetenschappelijk Onderwijs (Preparatory Academic Education, Secondary Education). This is a 6 year study for pupils from 11-18 years of age. The lower school is for pupils in year 1, 2 and 3; the upper school is for pupils in year 4, 5 and 6. Pupils who have obtained a VWO certificate have qualified for admission to colleges (HBO- tertiary professional training) and all (academic) universities within the Netherlands.

In the Netherlands, ***Basisvorming*** (*Basic forming*) is the name given to secondary school education in year 1 and 2. The *Basisvorming* is for pupils in the VMBO, HAVO, VWO and Gymnasium.

Pupils who are attending the HAVO or VWO, begin the Second Phase (Tweede fase) of their secondary school education in year 4. During the introduction of the Second Phase in 1998, the term ***Studiehuis*** (*Study House*) was used as a synonym for the Second Phase of secondary school. This term was used in an attempt to accentuate the importance of independent learning and the responsibility which pupils have for their own learning. The word *Studiehuis* has fallen into disuse as it did not completely describe all the educational

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<sup>8</sup> [www.eurydice.org](http://www.eurydice.org). Accessed on 25.3.2006.

philosophies and changes which took place in the educational system after the Second Phase (Tweede Fase) was introduced in 1998.

Pupils who have entered the **Tweede Fase** in year 4, chose what is known as a profile of subjects which they will study for their final exam. There are 4 profiles <sup>9</sup>:

- CM - Cultuur en maatschappij (Culture and Society)
- EM - Economie en maatschappij (Economics and Society)
- NG - Natuur en gezondheid (Nature and health)
- NT – Natuur en techniek – (Nature and technology)

Most students take examinations in 5 (HAVO), 6 (VWO) or 7 (Gymnasium) subjects.

The Dutch law and rules for the Tweede Fase (HAVO/VWO) very clearly describe the obligations of pupils who want to pass their final examination.<sup>10</sup> One of these obligations is described below.

Dutch law demands that final examination pupils in examination classes (5HAVO and 6VWO) prepare a *Profielwerkstuk* (a research paper which is relevant to the profile which they have chosen). Pupils may choose their own topic. This research paper can be presented in traditional or digital form and must receive a (pass) mark before a pupil can take part in the final examination process. Please refer to Eileen Daniel's paper<sup>1</sup> in which she describes the independent research projects which are carried out by students during their final year of high school in the Canadian province of Ontario.

Pupils in the Netherlands are allowed to choose their own topic for their final examination research project (*Profielwerkstuk*), sometimes with the help and advice of their parents, a teacher or a coach. It became apparent that some final examination pupils in year 5 (HAVO) and year 6 (VWO) did not have enough information skills to find the information which was required for their own specific research paper (*Profielwerkstuk*). The specific instruction described in this paper was begun at the request of teachers and pupils who experienced difficulty in locating specific information (in both traditional and digital form) for the chosen subject

This paper describes problems which final examination pupils at the Kalsbeek College encountered in 2005, in their search for and selection of relevant information about their selected topic, and how these problems were solved.

#### **4) Information literacy instruction at the Kalsbeek College.**

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<sup>9</sup> Tweede Fase Adviespunt. The Hague, The Netherlands. <http://www.tweedefase-loket.nl/informatie/studielast.php> . Accessed on 28.3.2006.

<sup>10</sup> Zakboek Tweede Fase / Tweede Fase Adviespunt; Den Haag, november 2001.

<sup>1</sup> Daniel E. (1997). High school to university: What skills do students need? In L. Lighthall & K. Haycock (eds.), *Information rich but knowledge poor? Emerging issues for schools and libraries worldwide* (pp. 53-61). Seattle, WA.: International Association of School Librarianship.

- a) The Kalsbeek College is a large secondary school, with a total of approximately 2,300 pupils. The school has two locations – one for VMBO pupils and one for HAVO and VWO pupils.
- b) The policy statement (*beleidsplan*)<sup>11</sup> of the Kalsbeek College clearly states that the school places special emphasis on the teaching of information literacy skills to pupils.
- c) Pupils from year 1 to year 4 (HAVO) and year 5 (VWO) receive regular, graded instruction in interdisciplinary information skills using the KILM. This instruction takes place in the School Library and Information Centre (SLIC) and is given by a qualified school librarian and information specialist. Lessons for years 1 to 6 have been prepared and documented. Instruction is frequently updated to comply with new projects which are taking place within the school and to use search strategies for new forms of digital information.
- d) This paper is specifically concerned with help and instruction (within that matrix) which is given to final examination students in 5 (HAVO) and 6 (VWO).
- e) The SLIC is a learning environment within the school which provides pupils with facilities to develop their own abilities; where they can individually develop their knowledge and skills at different levels and at their own pace.
- f) The Kalsbeek College has two SLIC's plus an additional study hall. These are all managed by the chief school librarian and information specialist.

The SLIC at the HAVO/VWO location has an area of 400 square metres and can accommodate  $\pm$  110 pupils at one time. The additional study hall at this location, which is also managed by the Chief Librarian, can accommodate up to 40 pupils.

At the moment a new SLIC is being built at the VMBO location. It has an area of approximately 260 square metres and can accommodate approximately 50 pupils.

The school library catalogue of the Kalsbeek College has a total collection of  $\pm$  18,000 entries (traditional and digital information in many different formats).

At the date of writing of this paper, investigations are taking place for the transfer of the catalogue to a web-based school library catalogue. The school network is web-based. The school has also recently begun working with a web-based ELO (Electronic Learning Environment).

- g) Co-operation between teachers, pupils, school librarians, system managers and the school ICT co-ordinator is extremely important. Good leadership and advice is essential. The co-operation mentioned above has been made possible by the Director, HAVO/VWO, Dr. Jaco Schouwenaar, thanks to his insight into new educational theories and the changes which have already taken place in the educational process since the introduction of ICT into secondary schools.

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<sup>11</sup> Kalsbeek College, Locatie Jozef Israëlslaan, Woerden (2003). Beleidsplan 2003-2004.



- h) From year 1 to year 6, pupils at the Kalsbeek College receive graded instruction in “How to prepare a research paper”. Each year, the instruction increases in complexity. Guidelines, at various levels, have been prepared and are used as a criteria to mark papers which are prepared (in traditional and digital form) for various subjects.
- i) An important part of the guidelines is the chapter which describes information strategies : *"How to recognise when information is needed and have the ability to locate, evaluate and use effectively the needed information"*.<sup>12</sup>
- j) The guidelines also contain a chapter relating to the presentation of references (bibliography). After discussions with faculty groups and individual teachers, it was decided that one set of guidelines for the presentation of references (bibliography) should be used throughout the school, for all subjects. This was less confusing for the pupils.

#### **5) Problems encountered by final examination pupils during their search for information for their *Profielwerkstukken*.**

- a) Some selected topics were very specific and sometimes dated.
- b) Pupils found it difficult to make a selection from the enormous amount of information which is available (in both traditional and digital form).
- c) Some pupils were unable to discern (or distinguish) between reliable and unreliable information.
- d) The fact that the required information was often interdisciplinary – it was not applicable to one specific school subject, but to a number of different school subjects. Although some teachers are proficient in searching for information in their own subject area, their skills are not interdisciplinary.

Research into teachers' information literacy skills is currently being carried out by Dr. Albert Boekhorst, University of Amsterdam, Amsterdam, the Netherlands and Drs. Maarten van Veen, Open University Netherland<sup>13</sup>.

- e) The fact that, often, the required information was unavailable in the Dutch language.
- f) The cost of certain information.
- g) Access to PC's and Internet for some pupils and teachers (outside school hours). In 2006, a project has been commenced, which will help to identify these problems.

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<sup>12</sup> ALA American Library Association, Chicago, Ill.  
<http://www.ala.org/ala/acrl/acrlstandards/informationliteracycompetency.htm#ildef>. Accessed on 18.1.2006.

<sup>13</sup> Door de bomen het bos : Informatievaardigheden in het onderwijs / Editor: M.J.P. van Veen (2005). Heerlen, The Netherlands : Open Universiteit Nederland.

- h) The attitude of some teachers. Some teachers appear to have a somewhat negative attitude to the instruction described above. At the Katholieke Universiteit Nijmegen, Nijmegen, the Netherlands, research has recently taken place into fears which some teachers have with regard to the changes in the educational process since the introduction of ICT within the schools and their own lack of ICT skills <sup>14</sup>.
- i) Social aspects. In her paper “*A place to learn or a place for leisure? : students’ use of the school library in Norway*” <sup>15</sup>, Elisabeth Tallaksen Rafste describes the use and value of the school library, as part of the daily practice within the school. She also describes who the users of the library are. While some (often younger) students valued the school library as a social meeting place, final year examination students wanted a peaceful, quiet place to study and carry out their research.

**6) By using the following approach, an environment was created where the information problems were solved.**

- a) An extra instruction, which provided a structure for a specific information search, for not only text, but also sound, video’s, pictures, animations, DVD’s etc., was prepared and documented by the librarian,.
- b) Pupils were taught to use specific information strategies, using browsers, commercial search engines, portals, databases and the catalogi from digital and traditional libraries.
- c) Pupils then received help from the librarian in selecting relevant, reliable, interdisciplinary information.
- d) Pupils were helped to search for information not only Dutch, but also in English, French and German.
- e) A considerable amount of information (books from large libraries throughout the Netherlands, and certain magazine articles) had to be ordered through the Public Library service. This information was not available free of cost, because of copyrights. Due to the school’s belief or policy that all pupils should have access to the necessary information in different forms, these costs were paid for through the school library budget.
- f) A questionnaire showed that some pupils did not have adequate Internet access at home. The school library and information centre was opened from 8.30am to 4.30pm, on weekdays, in an attempt to provide these pupils with the necessary facilities. Local public libraries also co-operated in providing extra facilities for these pupils.

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<sup>14</sup> Veen, Klaas van (2003). Teachers’ emotions in a context of reforms : Een wetenschappelijke proeve op het gebied van de Sociale Wetenschappen. Proefschrift, Katholieke Universiteit Nijmegen, Nijmegen, The Netherlands.

<sup>15</sup> Rafste, Elisabeth Tallaksen (2005). A place to learn or a place for leisure? : Students’ use of the school library in Norway. In *School Libraries Worldwide*, vol. 11, Nr. 1 (pp. 1-16). Seattle, WA.: International Association of School Librarianship.

- g) Unfortunately some teachers took the attitude that pupils could find all the information they needed via certain popular commercial search engines and that the extra instruction was unnecessary. The librarian held a special instruction for teachers, in order to explain the importance of the new information strategies which pupils were learning.
- h) Teachers who were marking the research papers were also given specific instruction in “anti-plagiarism” strategies.
- i) Instruction took place in small groups. Pupils received a lot of individual attention and encouragement. A good relationship with the librarian was created.
- j) A designated part of the school library (with work tables and PC’s) was specifically allocated to students of all ages who wanted to work in a quiet, studious atmosphere (the *Stilte Ruimte*). The purpose of the *Stilte Ruimte* was explained to all pupils throughout the school. They were requested to be considerate and to show respect for the wishes of some of their fellow pupils within the school. A member of the library staff, who has a desk in the *Stilte Ruimte*, tries to maintain a peaceful atmosphere in this part of the SLIC.
- k) Each pupils receives a copy of the library “House Rules” at the beginning of each school year. A great deal of focus is needed to ensure that pupils adhere consistently to the “House Rules”.
- l) Preparations have been made for students who will enter their final examination year in August 2006:
  - i) Parents of these pupils have already been invited to the school for a presentation by the chief librarian and information specialist. At this meeting, Dr. Jaco Schouwenaar explained to the parents why this special instruction was taking place. The chief librarian and information specialist then explained the content of the instruction.
  - ii) Special instruction for these pupils will take place in the second week of the first term of school year 2006/2007. Because of the specific nature of the individual research which is being carried out, pupils and teachers may then request individual help and instruction, as required. They are encouraged to make an appointment with the school librarian and information specialist whenever the need arises.

## **7) Conclusions.**

- a) It becomes more and more evident that, although many pupils are very competent with regard to ICT skills, their information literacy skills need to be developed.
- b) Quite often, teachers have developed information skills within their own subject, but these skills are not interdisciplinary.

- c) Instruction in information literacy skills, by a qualified school librarian and information specialist becomes an essential part of secondary school curriculum.
- d) The (interdisciplinary) skills, including language skills, of the trained school librarian were extremely important. The language skills are especially important in a European context.

Discussions are taking place within the Netherlands with regard to the need and value of a qualified (University level – HBO) librarian in secondary schools. Arguments are being put forward that library clerks (at technical college level – MBO) may be able to maintain the school library, at a lower personnel cost.

- e) This study (and the present research being carried out by the author of this paper) confirms the necessity for a University level – HBO trained librarian, because of the complexity of the information society (confirmed by the FILTER project <sup>1</sup> and <sup>2</sup>). It goes without saying that the interdisciplinary information skills, didactical skills and the level of general knowledge which the school librarian has learned during his or her study are of utmost importance.. This is confirmed in the publication *De Schoolmediathecaris in het Voortgezet Onderwijs : Een beroepsprofiel* , which was published by the LWSVO (Landelijke Werkgroep Schoolmediathecarissen Voortgezet Onderwijs) in January, 2004 <sup>16</sup>. An English translation of the title is: *The School Librarian in Secondary School : a professional profile*.
- f) The filters described in the introduction make it even more difficult for pupils and teachers to search for and find the relevant (interdisciplinary) information.
- g) The atmosphere within the SLIC plays an important role.
- h) The use of web-based networks, content management systems (CMS's), school library programmes, ELO's (Electric Learning Environments) etc. will greatly increase the amount of information which is stored within the school environment (in digital and traditional form). Strategies need to be developed and instruction needs to be given so that teachers and pupils are able to find and use the required information. The qualified school librarian and information specialist plays an important role in the co-ordination of this information. Information within the whole environment needs to be carefully planned, managed and controlled. The environment should not become a "garbage" dump for old, irrelevant information which is no longer used.

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<sup>1</sup> [www.filternetwork.org](http://www.filternetwork.org). Accessed on 25.3.2006.

<sup>2</sup> World Wide Work : filtering of online content in a globalized world / Editor: Sylvia van de Bunt-Kokhuis. (2006) Amsterdam, The Netherlands : VU University Press.

<sup>16</sup> LWSVO Landelijke Werkgroep Schoolmediathecarissen Voortgezet Onderwijs (2004). *De Schoolmediathecaris in het Voortgezet Onderwijs – Een beroepsprofiel*. Utrecht, The Netherlands. <http://www.nvbonline.nl/index.php?id=273> Accessed on 31.3.2006.

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## Biographical Notes

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