



## Improving the Coherence in the Psychology Curriculum a Pilot Study

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### Abstract

*To teach students a solid and coherent knowledge of how to do research in Psychology, and of how to review research in the field of Psychology, an easily accessible overview of the research skills that are taught and used in the different courses of the Psychology Bachelor is important. To improve the accessibility of the content of the research skills curriculum a web tool was designed that allows both students and teachers to see where they learned and used different research skills. Students are often directed at the content of a Psychology course and on passing the exam of the course. With the newly designed web tool students can be stimulated to place the new knowledge (from a certain course) in their existing knowledge, the research skills they have already learned in previous courses.*

*Over and above, the use of the web tool allows teachers to improve the alignment of the curriculum. With the same web tool lecturers and teachers can easily oversee the curriculum of the Psychology Bachelor and by doing that, they can improve the alignment of the courses. During a meeting (once a year) the alignment of the curriculum is discussed. Furthermore, in the Psychology courses that are not aimed at Methodology & Statistics lecturers can refer more easily to previously taught knowledge on research skills.*

*In the bachelor of Clinical and Health Psychology of Utrecht University a pilot study is being done where both students and teachers are involved in creating the content of the web tool, and in using the information in their courses. At the end of their Bachelor Psychology students are doing their own Psychological study (or involved in a larger research project). By using the web tool they have an easy access to the research skills they have learned during the first two years of their bachelor. From the beginning of the bachelor they are stimulated to reflect on the accumulation of their knowledge on doing and reviewing research within the Psychological Field.*

*A grant is awarded to expand the use of the web tool to other bachelor studies, such as veterinary medicine and theater, film and television studies.*

### 1. Introduction

At some point in time the Psychology curriculum at your institute (or any curriculum for that matter) was put together based on the learning goals that were set by your institute. Ideally the courses were constructed in a way that they were perfectly aligned on content and skills over the whole curriculum. In contrast, experience has shown that over the years the alignment within the curriculum, between the courses, decreases substantially by means of both internal and external factors influencing the content of the courses. For example course coordinators change over time, educational innovations are introduced or coordinators have to work with budget cuts. Very often the curriculum at that point exists of separate courses coordinated and taught by teachers that are mostly involved with their own course. Skills and knowledge that is taught and learned over the span of the curriculum, for example research knowledge and skills for the Bachelor Psychology curriculum, are split up and are now misaligned.

Some time ago a problem was noted with students starting with their Psychology Bachelor Thesis (the concluding research thesis at the end of the Psychology bachelor). Every year a number of students told the teachers of the Thesis that they hadn't learned how to go through the subsequent stages of a research project and that they often don't feel prepared to start their research project. The conclusion was that the students haven't integrated the knowledge from the different courses and lack an overview over the different courses. Students' perception of the Methods and Statistics courses is often that it is something they are obligated to do, but that it can be forgotten afterwards. It is a challenge to make them understand that to be a good psychologist, you need to understand that all evidence for psychological theories actually comes from research. Therefore, you have to understand and also be able to apply research knowledge and skills and be able to transfer this to new situations. Educational research has shown that it is hard for students to transfer complex skills to new situation. To promote this process, students have to reflect on previous knowledge. In a perfect world the student would intrinsically understand how to reflect on the use of the skills, and how to integrate their



previous knowledge of what they have learned to the content area for which they will specialize, but in the real world the student might need a hand to get a good overview of the curriculum and to get a good understanding of the alignment of the academic and research skills in the curriculum.

Furthermore, a teacher who is preparing to teach his or her course often wants to know what the level of knowledge and skills of the students is, so they can aim at expanding and deepening the knowledge and skills. But reality shows that beside the fact that teachers are often very busy and lack to time to search for the incoming level of their student, it often complicated to get access to what part of the content and skills are taught in different courses.

Finally, the directors that are responsible for the alignment within the curriculum have to cope with continuous changes. At a certain point in time the curriculum was build and aligned but since that time changes have been made, and the curriculum as a whole might show redundant repetition and in other parts gaps. To have all the changes that are made in the courses, and therefore the curriculum coordinated, let alone aligned is often hard because of lack of communication or of lack of realization that alignment of courses is part of changes to be made to a curriculum. Especially for general academic and research skills the alignment within the curriculum often not easily made clear and accessible.

## 2. Design of the web tool

To make both students and teachers more aware of the alignment of the research knowledge and skill throughout the curriculum a new web-tool was designed aimed at presenting a compact but still informative overview of the Psychology curriculum on a core value of the curriculum (in this case Research knowledge and skills). Furthermore, the overview is easy to access and to maintain, and will be able to be used for years to come.

When opened, the webtool will show an overview of the first year of the bachelor Psychology (see figure 1). Per course you can see the five phases of research, and per course there is color-coded whether basic knowledge and skills are taught in the course (green), knowledge and skills have to be applied during the course (red) or whether it is not applied during the course (grey). By clicking on a course the student will get more information on how the information is embedded in the course (figure 2). Teachers can add documents to a course to show what the student will learn during that specific course, e.g. an assignment, a powerpoint of a lecture, a reference to a source etc. In the webtool students can search on specific words to see where they've learned what.

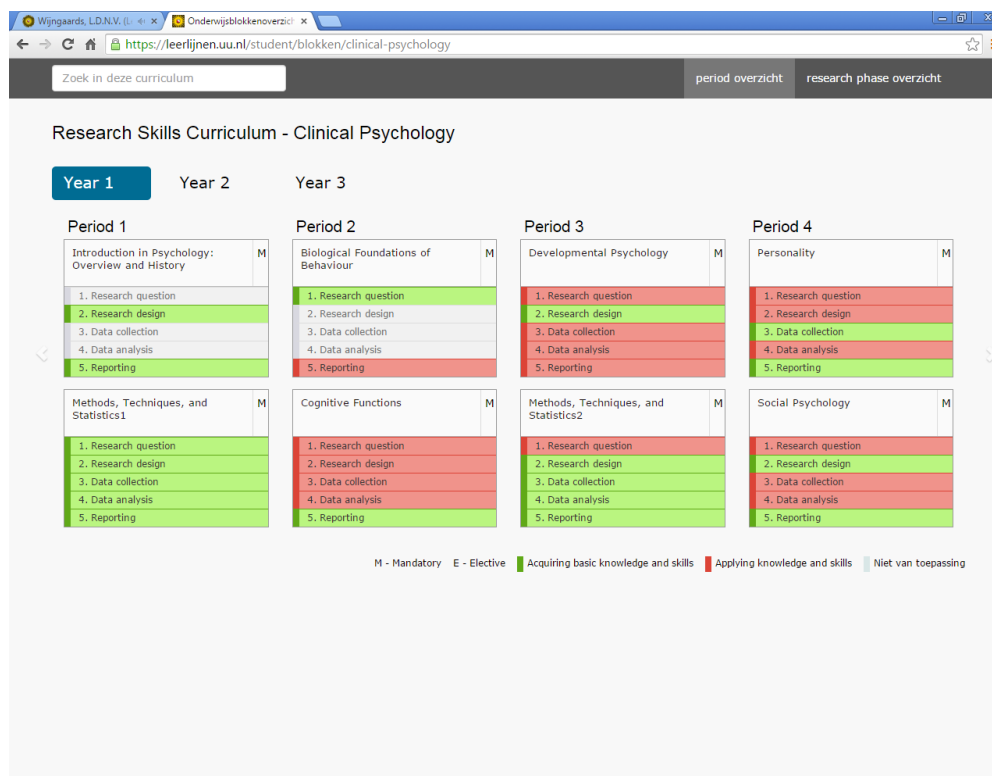
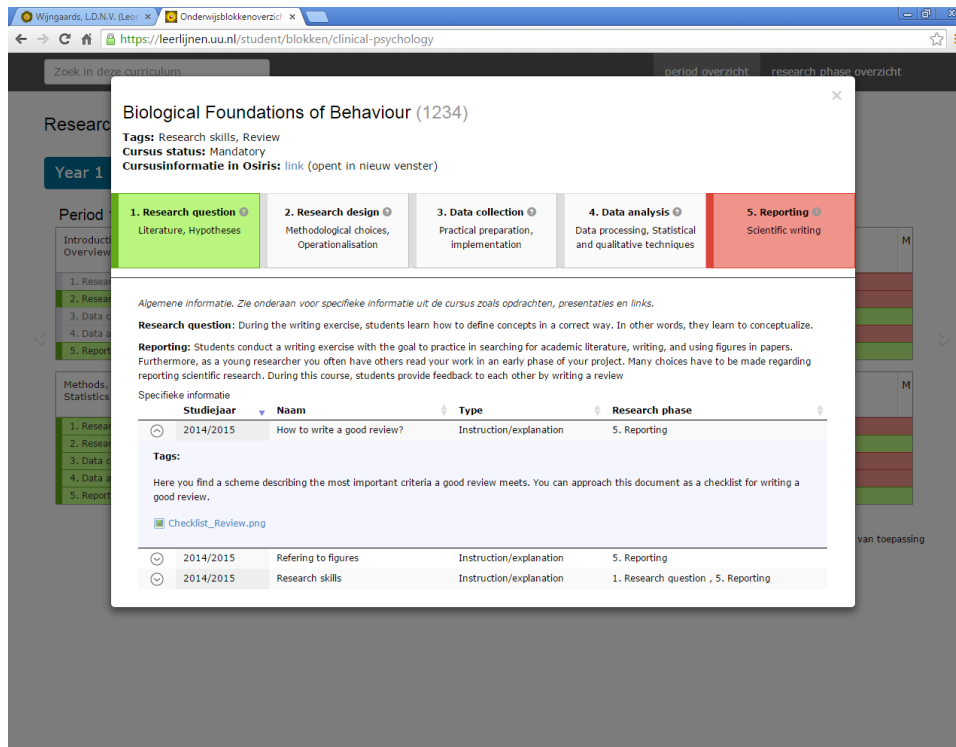


Figure 1 Overview of first year curriculum on research knowledge and skills



**Biological Foundations of Behaviour (1234)**

Tags: Research skills, Review  
 Course status: Mandatory  
 Course information in Osiris: [link](#) (open in nieuw venster)

1. Research question  
 Literature, Hypotheses

2. Research design  
 Methodological choices, Operationalisation

3. Data collection  
 Practical preparation, implementation

4. Data analysis  
 Data processing, Statistical and qualitative techniques

5. Reporting  
 Scientific writing

Algemene informatie. Zie onderaan voor specifieke informatie uit de cursus zoals opdrachten, presentaties en links.

**Research question:** During the writing exercise, students learn how to define concepts in a correct way. In other words, they learn to conceptualize.

**Reporting:** Students conduct a writing exercise with the goal to practice in searching for academic literature, writing, and using figures in papers. Furthermore, as a young researcher you often have others read your work in an early phase of your project. Many choices have to be made regarding reporting scientific research. During this course, students provide feedback to each other by writing a review

Specifieke informatie

Studiejaar	Naam	Type	Research phase
2014/2015	How to write a good review?	Instruction/explanation	5. Reporting
2014/2015	Referring to figures	Instruction/explanation	5. Reporting
2014/2015	Research skills	Instruction/explanation	1. Research question , 5. Reporting

Tags:  
 Here you find a scheme describing the most important criteria a good review meets. You can approach this document as a checklist for writing a good review.

[Checklist\\_Review.png](#)

Figure 2 Example of course information

### 3. Implementation

The general idea is that both students and teachers actively use the webtool during the bachelor Psychology. For students we have incorporated two moments in the core program where they are confronted with the overview. To stimulate students to use the curriculum overview in the second year an assignment is embedded in Methods and Statistics course 201. In the assignment students have to reflect on the goals they have reached in the first year (concerning research skills and knowledge) and have to look forward to see where they are heading. During the bachelor thesis students are now encouraged by teachers to use the webtool in refreshing their memory on the different aspects of doing research.

The webtool can also help to improve the coherence within the curriculum by giving the teachers the opportunity to see what other courses offer on a specific topic. We bring the teachers together once a year to discuss the alignment of the research knowledge and skills within the bachelor. Topics that will be discussed are (1) whether all critical parts are represented to the needed extent within the current curriculum, (2) whether the parts that are present are aligned, does the course build on the knowledge and skills from the previous course? (3) whether changes have to be made following the results from step 1 and 2.

One pitfall of the project is the involvement of the course coordinators in filling in the content and keeping it up to date one a year. Although not everyone was convinced of the importance of the overview in the beginning, as soon as the web tool was filled with content people started to see the benefits of the easy accessible overview of research skills and knowledge.

### 4. Preliminary results

Although we are still in the process of implementing the web tool in the curriculum and pitching it with both students and teachers, the first results are quite positive. Students who work with the web tool mention for example that it emphasizes the broader scope of the use of research knowledge and skills. In addition they state that they appreciate the opportunity provided by the tool to look back as well as look forward in their study program. Furthermore, students realize the additional value of the tool above general online applications like Google and Wikipedia, because often information on the internet is not exactly what they need, or how they have learned topics during class.

The mere introduction of the web tool has inspired several teachers to discuss the alignment between courses within the bachelor curriculum. This effect is stimulated by organizing meetings for teachers



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within a curriculum to discuss the alignment, and address both the unnecessary repetition and the deficits of the curriculum. Furthermore, teachers typically use the tool to point out to students where specific topics have been taught. By doing that they both save time for themselves (they don't have to explain the topic again) and save time for the students (they don't need to search at different places to find the information).

The project has received an Innovation of Teaching grant from Utrecht University, and the use of the tool is now (among others) expanded to the Faculty of Sciences (Pharmacy), Faculty of Veterinary and the Faculty of Humanities (Film & Television sciences) of Utrecht University.