

Fostering information literacy in German Psychology students using a Blended Learning approach

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6th. International Conference on Computer Supported Education
Barcelona, April 1-3, 2014

1. Definition of information literacy
2. Information literacy instruction
3. Course details
4. Information literacy assessment
5. Empirical study
6. Results
7. Conclusion

the ability to realize when there is a need for information, and the ability to identify, locate, and evaluate additional information which is required to meet this need (NFIL, no date).

- Important in nearly every domain (Eisenberg, 2008)
 - Clear definition required to start with
- ➔ Focus on information literacy in higher education, especially Psychology

ACRL Psychology information literacy standards (ACRL, 2010)

- Determining the nature and amount of information needed
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- Evaluating information and incorporating information into one's knowledge system
- Using the information effectively to accomplish a specific purpose

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➔ Focus on standards 1 to 3

- Courses by nearly every German university library
 - Most courses cover only a facet of academic information literacy
 - Not subject /domain specific
 - Evaluation usually only based on feedback by participants, not on performance data
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- ➡ Creation of an instruction program to teach information literacy to undergraduate Psychology students
 - ➡ Evaluation based on performance data

- ➔ Based on Psychology information literacy standards (ACRL, 2010)
 - Scholarly communication patterns in Psychology
 - Common publication types (e.g. empirical article)
 - Different information resources
 - Appropriate use of these resources (e.g. thesaurus and Boolean operators)
 - Inclusion of resources provided by related disciplines
 - Options for the acquisition of literature (e.g. use of electronic journal subscriptions, the local library catalogue, or interlibrary loan)
 - Criteria for the selecting publications beyond their content, e.g. Journal Impact Factor.

Blended learning approach

= combination of classroom and online learning

- Reduction of dropout (López-Pérez et al., 2011)
- More effective than classroom, or online learning (Clardy, 2009)

Our course

- Knowledge imparted mainly through online materials
- Classroom seminars for discussion

Technical details

- Online materials provided via „Moodle“
- Mainly passages of text and illustrations, screenshots, some videos
- 2 classroom seminars (90 min. each)
- Total duration: two weeks

- Most common method: multiple choice tests (e.g. Project SAILS, 2013; Noe & Bishop, 2005)
- However, complex abilities cannot be captured by knowledge tests (Shavelson, 2010)

Multimethod approach

- Multiple choice information literacy test
- Information search tasks

Multiple choice test (Leichner et al., 2013)

- 35 Multiple-Choice items
- Based on standards 1 – 3 (ACRL, 2010)
- Acceptable internal consistency $\alpha = .49$ ($N = 184$)

Sample item:

Which differences exist between Internet search engines (e.g. Google Scholar) and bibliographic databases?

- **Bibliographic databases usually have a thesaurus search**
- Boolean operators can only be used with bibliographic databases
- **The order of items on the results page is not affected by the number of clicks on each item**

Information search tasks (Leichner et al., in press)

- based on a task taxonomy
- taxonomy includes 3 task types of varying difficulty (= competencies and abilities required)
- creation of several tasks having the same structure
- scoring of outcome and procedure

Sample task (type 2):

Are there meta-analyses published after 2005 investigating “risk factors” for the development of a “Posttraumatic stress disorder”? If possible, indicate two publications.

Outcome scoring rubric

- Scores awarded for every relevant criterion met by the publications found.
- For the sample task:
 - Thematic focus (search terms, or synonyms included in title, abstract, or subject headings: 0.5 pts per term)
 - Publication date (after the year mentioned in the task description: 0.5 pts)
 - Methodology used in study as required by the task description: 0.5 pts

Maximum points per publication found: 2

Maximum points per search task: 4

Procedure scoring rubric

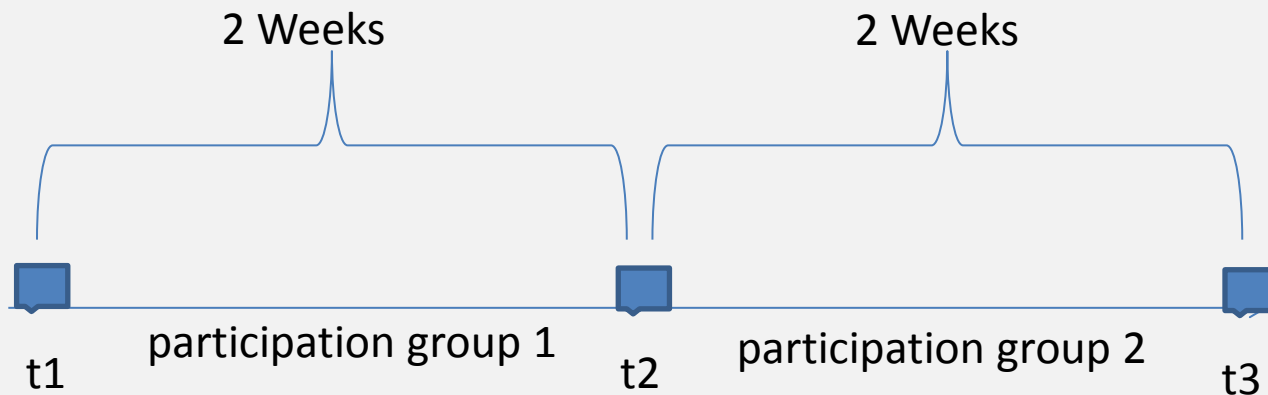
- Scores awarded for choosing an adequate resource, and using adequate functions of this resource
- For the sample task:
 - resource (bibliographic database: 1 pt, Google Scholar: 0.5 pts)
 - adopting the search terms from the task description: 1 pt, else 0 pts.
 - use of Boolean Operators: 1 pt
 - filtering by methodology used in study, or filtering by publication year: 1 pt each

Maximum scores awarded per task: 5

Participants

- $N = 67$ undergraduate Psychology students
 - thereof $n = 34$ first year, $n = 33$ second year students
- Sample splitted into two groups

Procedure



Measures

- Information literacy knowledge test
- Information search tasks (one task of each type)

- (1) Correlation between multiple choice test and information search tasks
- (2) Improvement of scores through training participation
 - Group differences at t2

outcome and procedure scores for all information search tasks presented at one time of measurement were added separately. The cumulative values were rescaled to a range of 0 - 1.

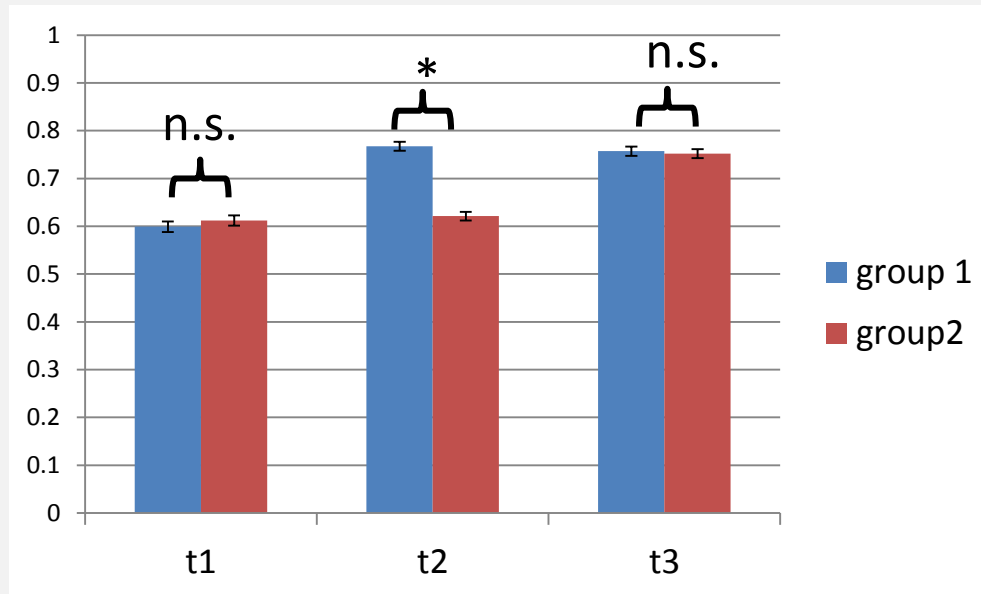
(1) intercorrelations among measures at t1

	1	2	3
1 knowledge test			
2 search tasks outcome	.29**		
3 search tasks procedure	.48**	.22*	

** $p < .01$

* $p < .05$

(2) improvement of scores through training participation Information literacy multiple choice test

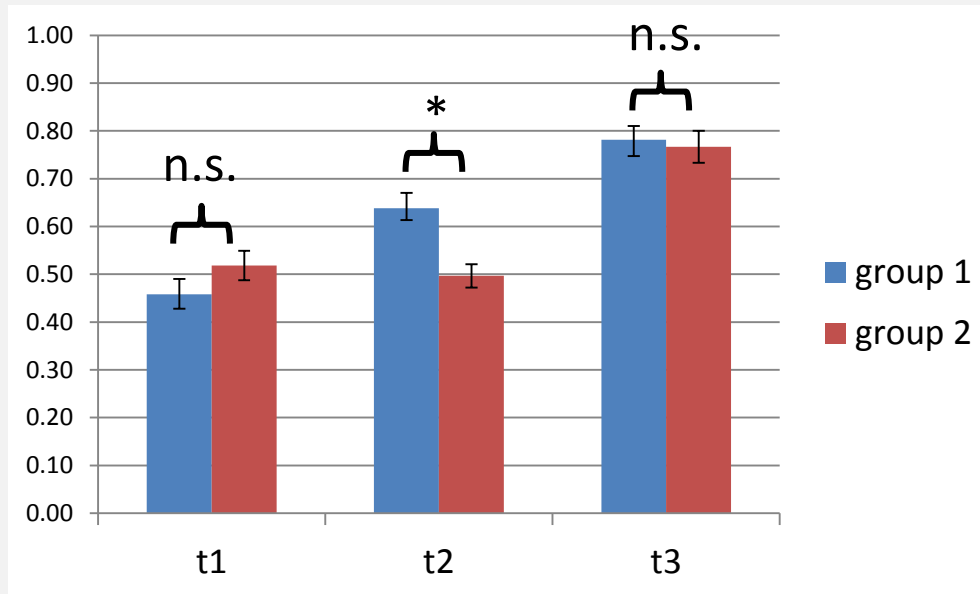


scaled to the
range from 0 to 1

Interaction: $F(2,130) = 73.13, p < .01$

No differences between 1st year and 2nd year students

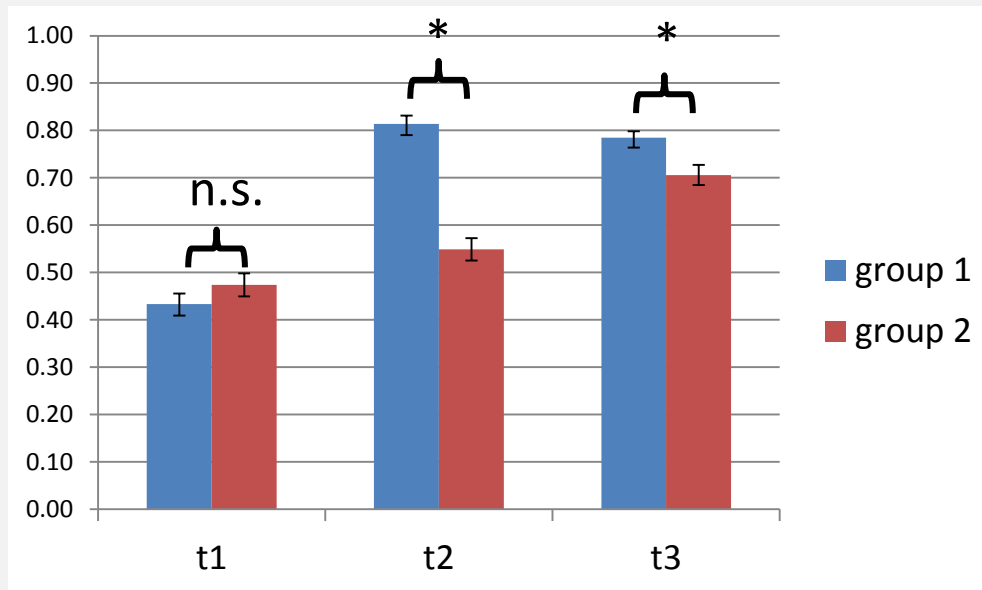
(2) improvement of scores through training participation Information search tasks: outcome scores



Interaction: $F(2,130) = 5.45, p < .01$

No differences between 1st year and 2nd year students

(2) improvement of scores through training participation Information search tasks: procedure scores



Interaction: $F(2,130) = 37.38, p < .01$

No differences between 1st year and 2nd year students

- Concerning information literacy assessment:
 - Correlations between instruments:
 - Different facets of information literacy captured.
 - Not-perfect correlation between search task outcome and procedure: a sophisticated approach does not inevitably lead to a good result.

- Concerning the instruction program
 - Training programme was effective
 - 3 dropouts
 - Adds to the field a thoroughly evaluated German language information literacy course for Psychology students

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