

Short educational ICT-interventions increase knowledge and behaviour in media literacy

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Introduction

- Media literacy is a critical issue when learning within technology enhanced learning environments
(Buckingham, 2013; Hobbs & Jensen, 2009; Simon, Kosnik, Rowsell, & Williamson, 2013).

- It is still debated controversial how to integrate it in curricula
 - e.g. Switzerland new curriculum 21:
 - Media Literacy is a key competence
 - multidisciplinary vs. Informatics education

- Within our research we have noticed, that also short interventions have positive effects on learners media literacy, if the contents are interesting enough



Focus on Computer & Information Literacy

- media literacy consists of four dimensions:

- Media review
- Media knowledge,
- Media use,
- media design (innovation, creativity)

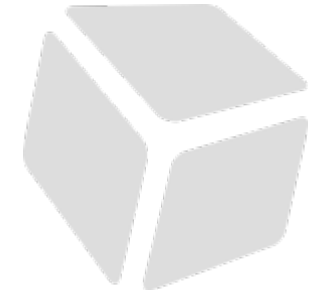
(Baacke, 2007)

- International Association for the Evaluation of Educational Achievement (IEA) defines computer and information literacy (CIL) as:

“an individual’s ability to use computers to investigate, create and communicate in order to participate effectively at home, at school, in the workplace, and in the community.”

- Strand 1: collecting and managing information
- Strand 2: producing and exchanging information.

(Fraillon, Schulz & Ainley, 2013)



Research objective of the actual study

Measuring the one month efficacy of a short term intervention to improve the media literacy in secondary schools (7th to 9th grade).



Educational Intervention

Short term intervention to improve CIL in secondary schools

- External Provider (Swiss telecom) - expert
- 5 modules
 - “The fascination of digital media”
 - “Law on the Internet”
 - “Social Networks”
 - “Surfing safely”
 - “Cyber mobbing”

Each module consists of 45 minutes teaching.

- Target group: secondary (I) school students (12 to 16years old)
- Overall Goals:
 - Enhancement knowledge about the Use of the Internet
 - Prevention of the dangers by using the Internet

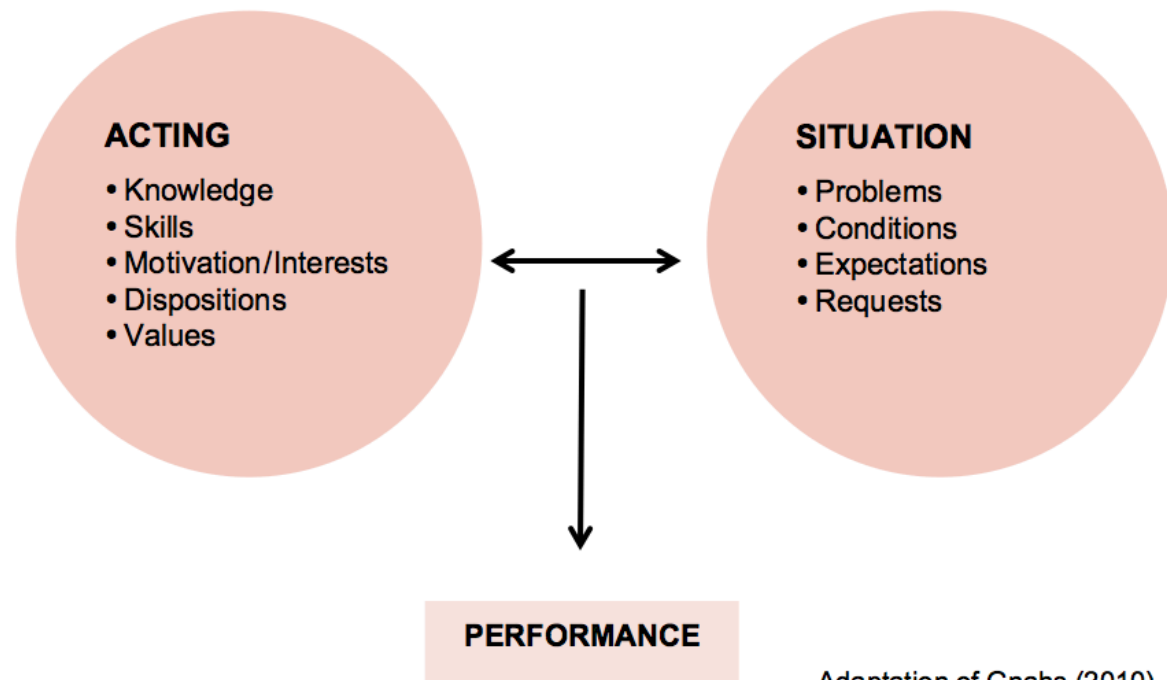


Methods - Measure

Model: decision-making and responsibility

We measured three factors of the action competence model of Gnahs (2007):

- Knowledge
- Motivation (Interests)
- Skills



Adaptation of Gnahs (2010)



Methods - Measure

Questionnaire (44 questions; + 5 questions at T2: satisfaction with course)

■ General questions

- Gender, age, grade, hours of computer use

■ some crucial knowledge

- Who decides about publication of intellectual property?
- Is the following behaviour problematic? (e.g. publishing home addressee on Facebook)

■ Skills

- Judge the following statements! (e.g. Everything on Internet is true.)
- Write a really good password! (0 to 4 points; e.g. big letters, small letters, special characters)

■ Interests

- How much is your interest for the following issues: New Media, law and Internet, social networks, security and Internet, cyber mobbing



Methods - Calculations

Indexes

We calculated indexes for each student:

- A general performance index (knowledge and skills)
- Performance indexes for each of the five modules

Building the index of each module:

- dichotomization of the scales
- calculation of the scale average
- standardization to values from 0 to 10 (to compare between the modules)

The efficacy of the course was analysed with one way ANOVAs



Methods - Calculations

Index Module 1: New Media

- conscious use of new media
- comparison with new media use of others
- knowing dependent behaviour exists
- identifying dependent behaviour

Index Module 2: Law and Internet

- knowledge about copyright
- handling of copyright
- knowing about personal rights
- handling of personal rights



Methods - Calculations

Index Module 3: Social Networks

- dangers (disadvantages) of social networks
- posting (think before you post)
- Facebook (settings, profile)
- risks of publishing on social networks (e.g. home address)

Index Module 4: Security and Internet

- knowing risks
- knowing sources of risks
- Internet rules
- writing a good password



Methods - Calculations

Index Module 5: Cyber mobbing

- motives of cyber mobbing
- consequences of cyber mobbing
- cyber mobbing is no fun
- reactions to cyber mobbing
- help against cyber mobbing



Methods - Measure

Sample

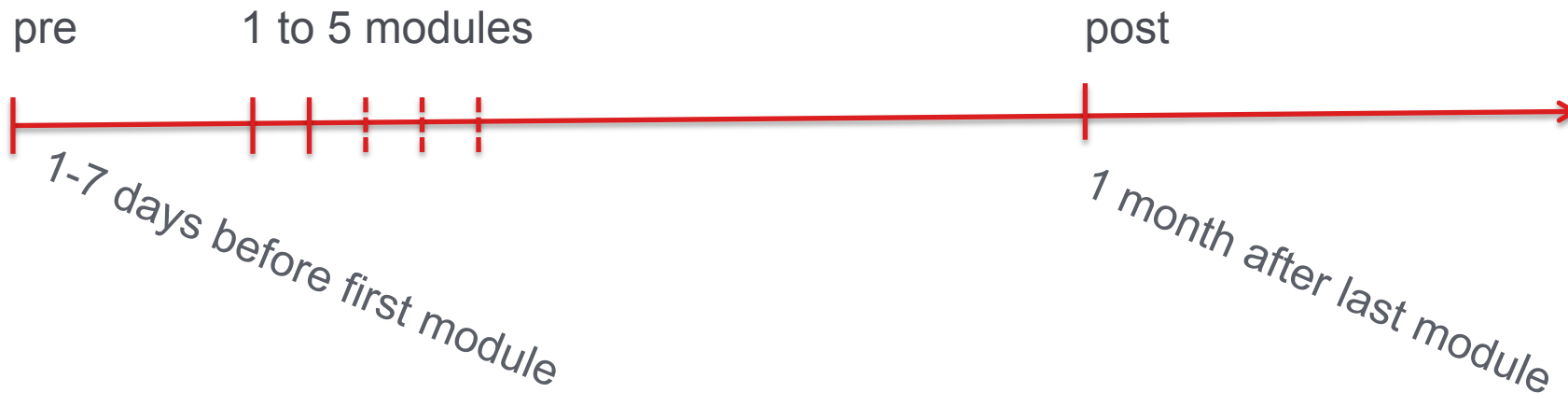
course group:

n=175; 45% female; 14.6 years; 12 classes in 6 schools of 5 Swiss Cantons

control group:

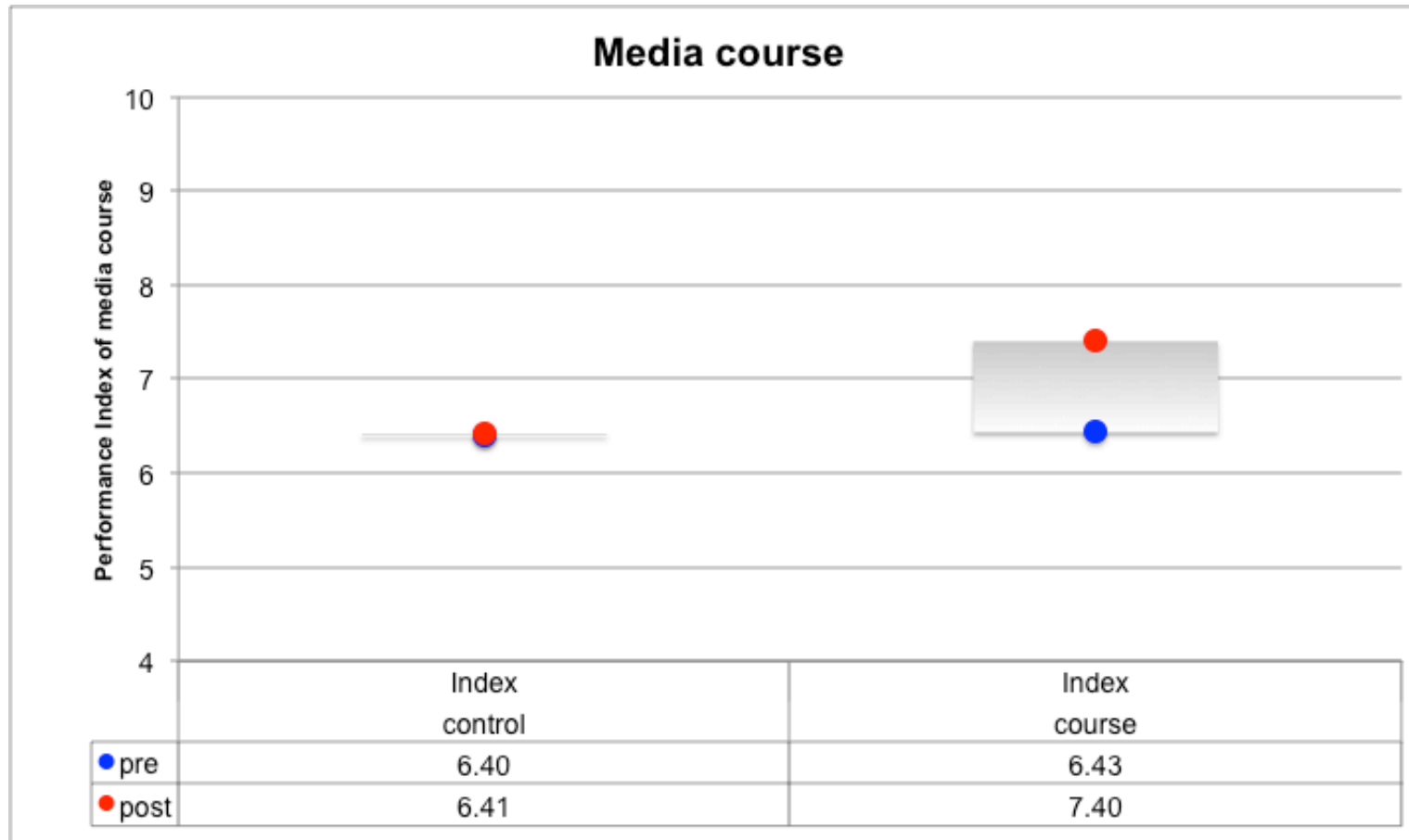
n=311; 53% female; 14.2 years; 20 classes in 12 schools of 5 Swiss Cantons

Design





Results – main effect of performance



**Interaction
time*group**

**Performance
Index (1-10)**

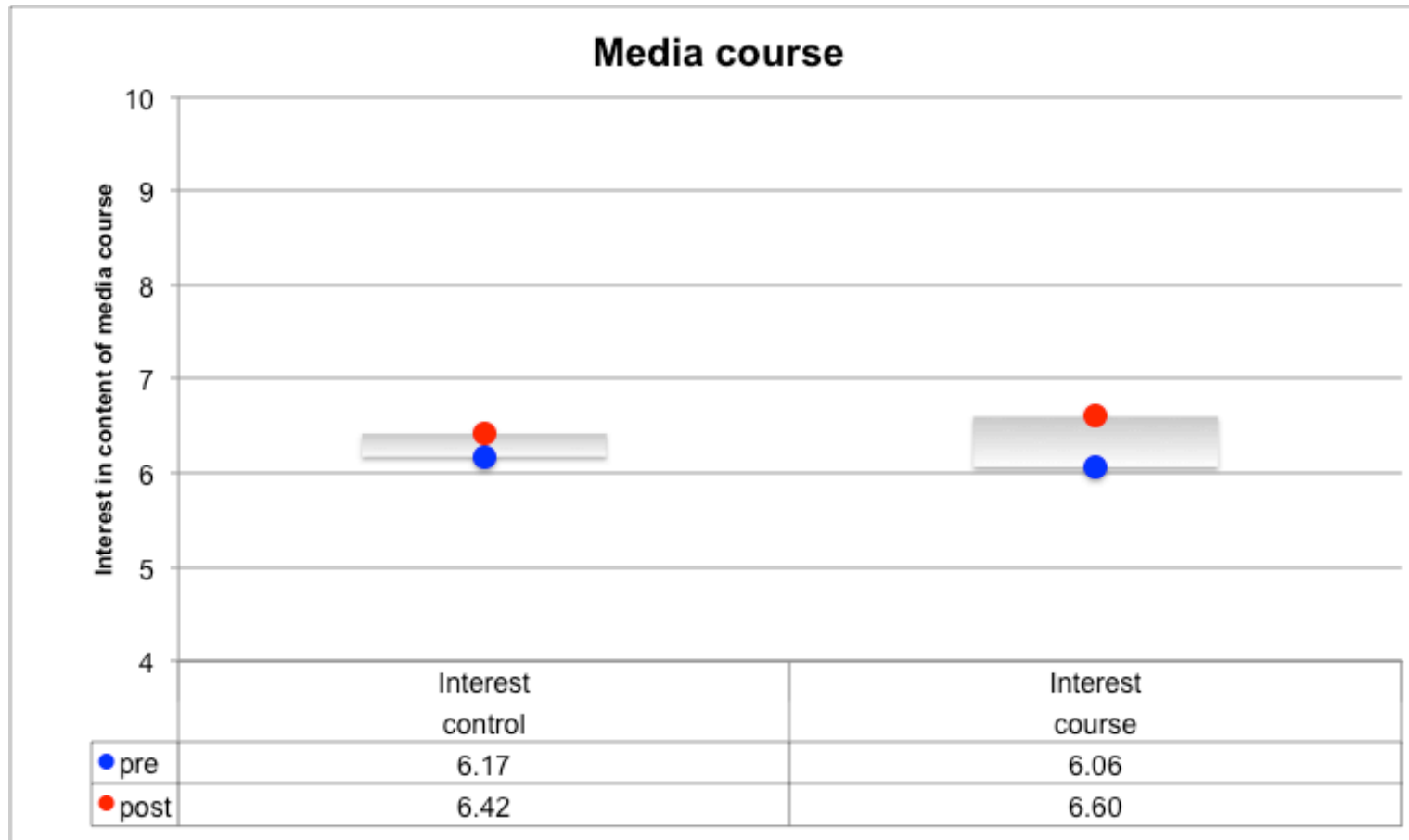
F= 44.76

p= .000

d= .64



Results – main effect of interest



Interaction
time*group

Interest (1-10)

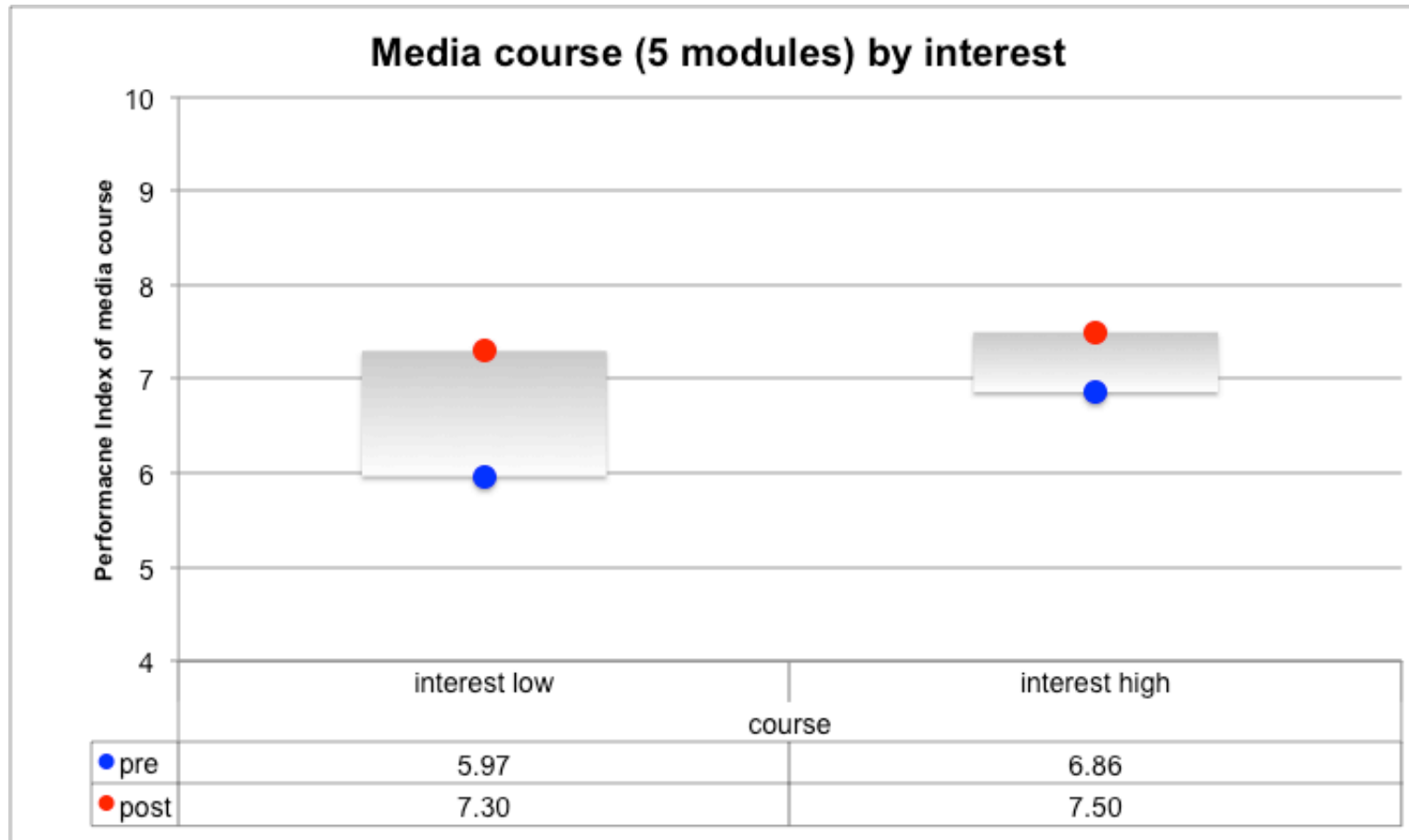
F= 3.88

p= .050

d= .18



Results – interaction Interests by performance



**Interaction
time*interest**

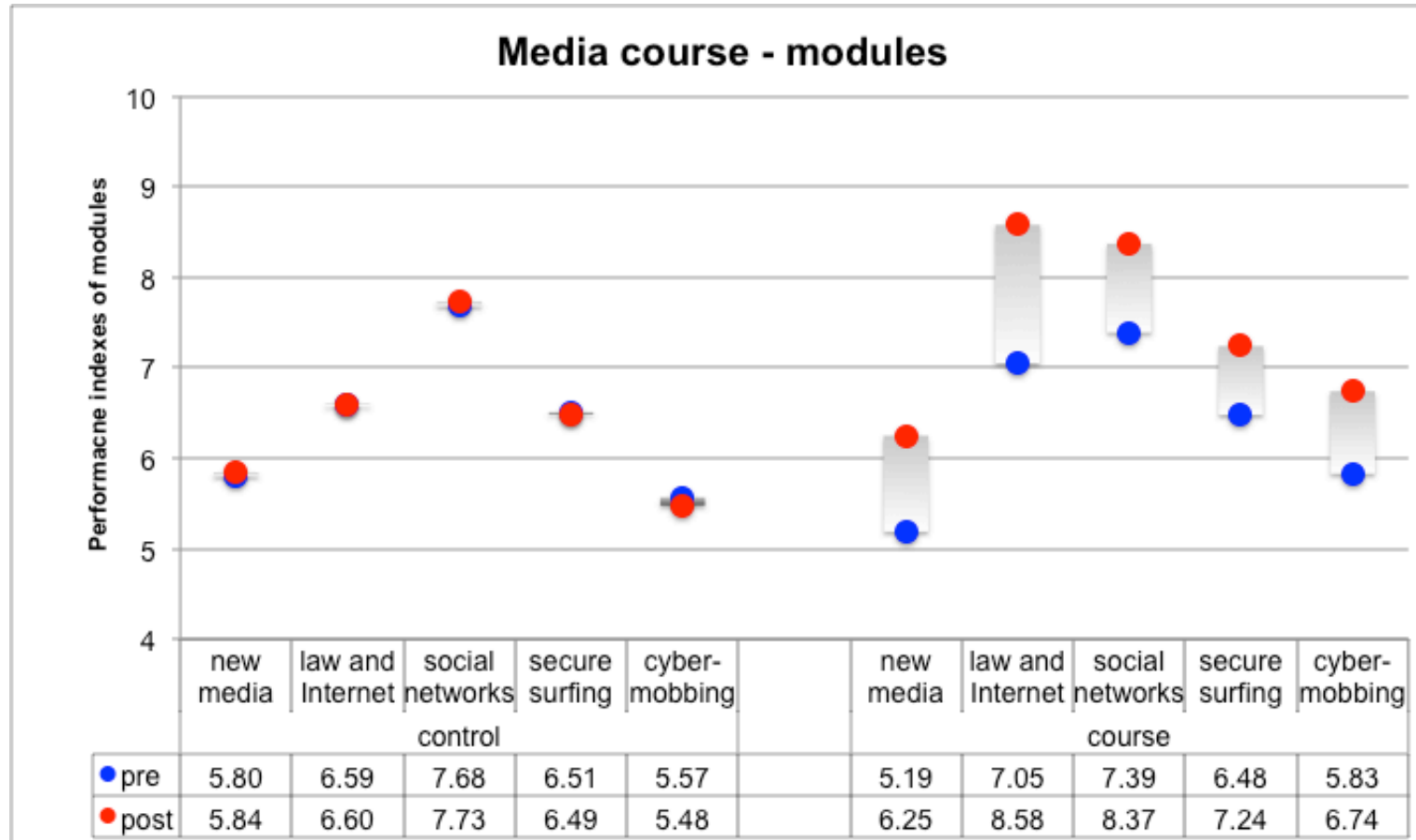
F= 6.33

p= .013

d= **-.34**



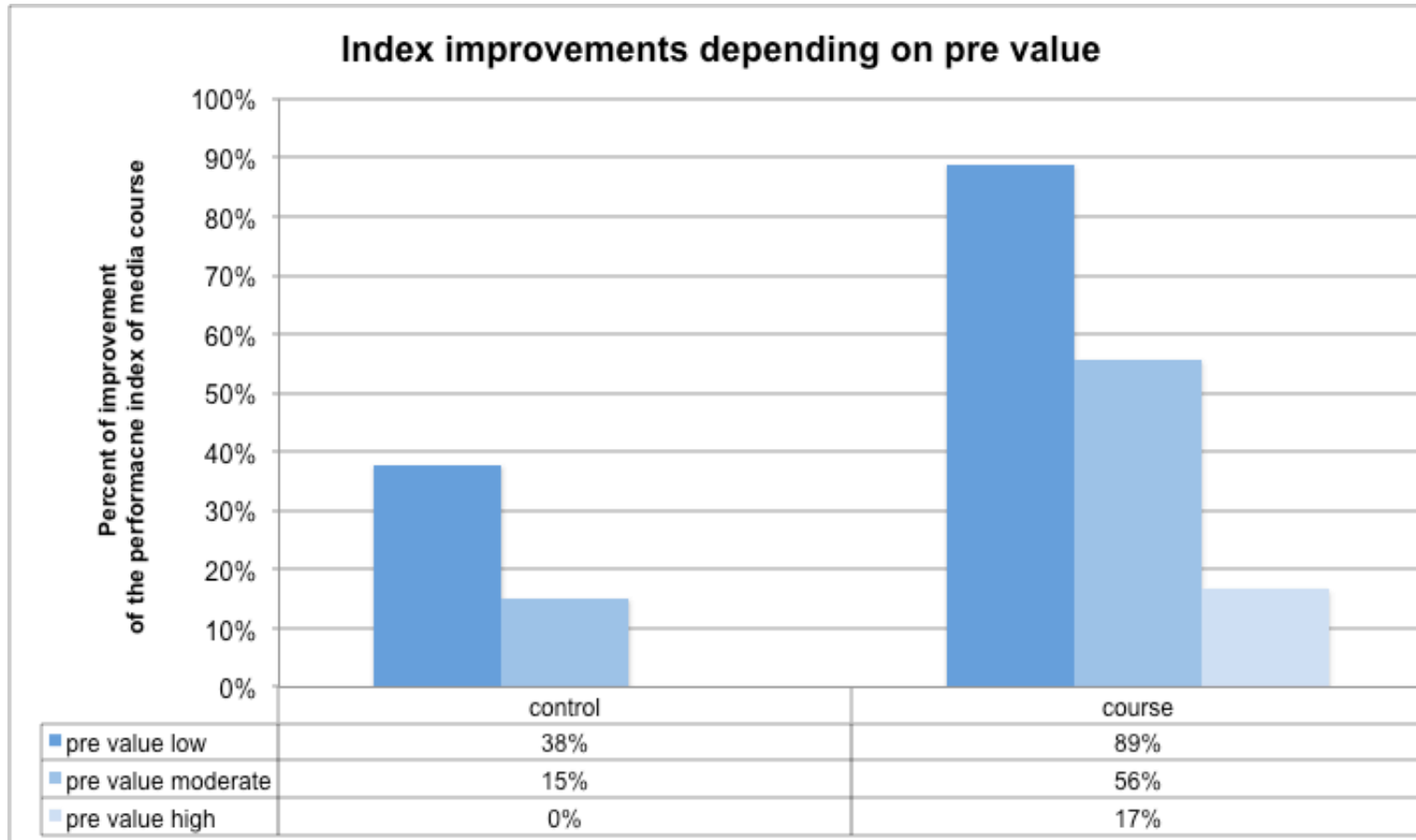
Results – effects of five modules



Interaction	F	6.22	28.66	12.30	11.52	10.56
time*group	p	.013	.000	.001	.001	.001
	d	.43	.81	.43	.46	.46

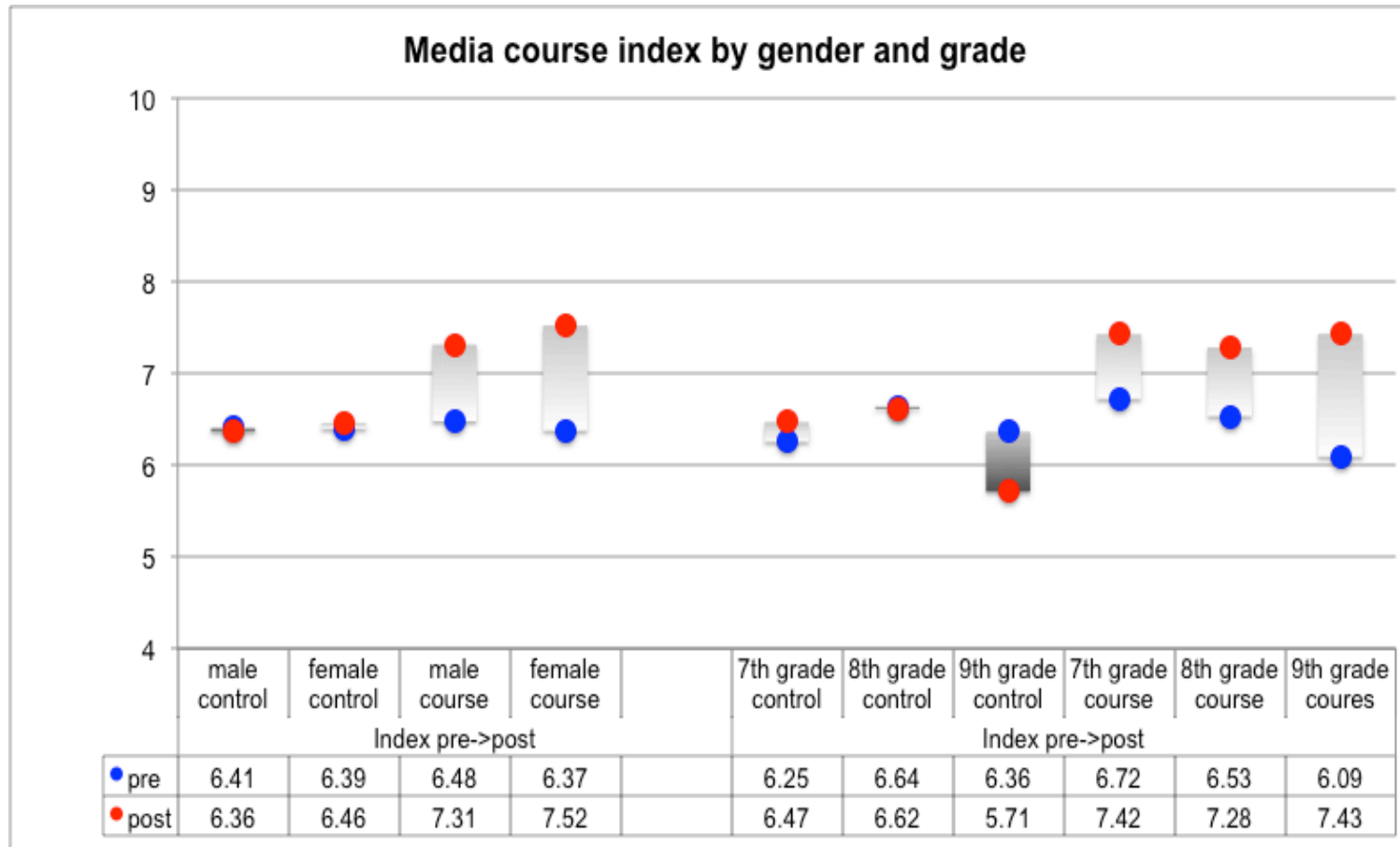


Results – improvements





Results – gender and grade



**Interaction
time*gender**

Index (1-10)

F= 1.70

p= .193

**Interaction
time*grade**

Index (1-10)

F= 0.79

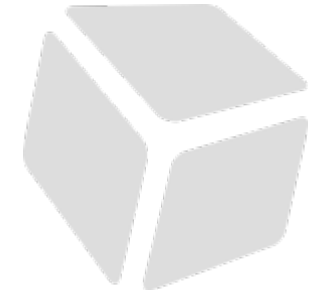
p= .454



Discussion

- Effects in prevention get moderate effects of about .47 (Lipsey & Wilson, 1993)
- The media course of the Swiss telecom provider gets moderate to high results in spite of short (45 minutes) learning modules in the classes (total: **d=.64**; modules d=.43 to .81).

- Reasons for this good results may be:
 - good pedagogical and didactical design of the media course
 - good formation of the extern teachers
 - (self) selection of the schools and classes
(often the modules were ordered after some new media problems at school)



Conclusion

This evaluation shows,

- it is possible to improve media skills of secondary school students with short educational interventions.

That is an amazing and promising result.

A repetition of the one month effects and a evaluation of the long term effects of the media courses over four to six months in primary schools (5th and 6th grade) and secondary schools (7th to 9th grade) is under progress.



Thank you for your attention!

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