Design, Carrying out and Evaluation of the Tests

by:Rainer Hampel

1. Test design

The test design planned at the beginning of the COMCULT project (Cf. Network information => Description of network Pt. 11 Evaluation) had to be slightly altered after work had started in the partner schools.

A) Factual knowledge – Education in Values – Awareness of Values

Asking factual knowledge on a catalogue of questions which was compulsory for all students turned out to be feasible, but took up too much time over the questionnaire, without producing an adequate evaluation of statements. In addition, it would have been possible for teachers to prepare their students between pre-test and post-test for the right answers.

For this reason a list of statements regarding certain values was drawn up and the young people were asked to express agreement or rejection by ticking the relevant columns. In this way it was possible to discover partly indirectly the level of information possessed by the students through their opinions.

All the values in Chapter A) „Awareness of values" in the questionnaire were taken from the "Treaty for a European Constitution" Part 1, Articles 1 and 2, since they are of fundamental importance for peaceful co-existence in the EU:

- Freedom
- Democracy
- Equality
- Constitutional state
- Pluralism

- Tolerance
- Justice
- Solidarity
- Human rights
- Homeland, Nation

In the **original draft of the questionnaire** it can be seen that these values each had seven statements relegated to them in order to obtain a differentiated picture of the knowledge and awareness of values on the part of the students. This order was also maintained for reporting the results (basis data).

For the **final version** of the questionnaire and all translations the statements in Chapter A), C) and partly also in D) were mixed in order to force the young people again and again to give their opinions spontaneously and to leave them no time to respond consciously according to other points of view.

B) Teaching of values

In this chapter it should be explained which values can best be taught through which group or institution. Since certain values play a really important role in different groups and/or institutions, the students were able to tick a maximum of two statements per value. In most cases that is what they did, but it sometimes happens that only one column per value was ticked.

C)   Behavioural attitudes

In the original version of the questionnaire and in the reults (basis data) the following attitudes or characteristics are listed:

- Self-determination
- Universalism
- Benevolence
- Conformity
- Tradition

- Security
- Power
- Achievement
- Hedonism
- Stimulation

These single behavioural attitudes were each allotted two statements to which the young people could react either by agreeing to or rejecting them.[1]

D)   Teaching methods and media competence

At the beginning of our work in the COMCULT network there was the question of whether certain teaching methods had different effects on:

- the durability of the information taught
- the awareness of values or
- on dispositions of behaviour.

Unfortunately the test design was not able to give any unambiguous answers to this question, as trying out the first questionnaire drafts in 2004 showed that it was impossible to find a partner school where certain classes or groups were only taught by one method alone. In most cases the staff combined different learning and teaching methods with one another, so that it was not possible to trace back reliably specific teaching influences to one method or the other.

On the next page a table will be found with

- teaching organization
- the topics treated and
- the teaching methods used with them.

Information provided on the number of teaching staff and students per class or group concerns the entire three-year duration of the project, i.e. a much greater number of young people than those taking part in the questionnaire completion in the third year of the project.

In order to obtain nevertheless information on particular learning and teaching methods in the situation given, students were asked to express their evaluation directly, namely on:

- lessons with the teacher standing in front of the class
- group teaching
- use of internet for teaching purposes.

Five topics for lessons with the teacher standing in front of the class and five for group teaching could be marked with up to 3 ticks by the students. By adding up the ticks per topic it can be seen which aspects of one method or another are particularly appreciated in the eyes of young people.

---

[1] Single items were taken from the following article, altered and partly added to:
JULIA ISER, PETER SCHMIDT. Gefährliche Werte? (Dangerous values?) in „Deutsche Zustände", Folge 2,
Publishers: WILHELM HEITMEYER, Suhrkamp Verlag, Frankfurt a.M. 2003, S. 61-77

The organisation of teaching in different schools of the COMCULT network

		DE 1	GR 2	ES 3	IT 4	NL 5	UK 6	BG 7	CY 8	HU 9	PL 10
3.1	Teaching from the front (teacher led) Number of teachers involved:	10 T * C with 29 S G with 9 S	1 T * C with 22 S	9 T * C with 25 S		6 T * C with 23 S G with 7 S	2 T	2 T * C with 26 S G with 13 S	10 T C with 18 S G with 4 S	9 T * C with 32 S G with 16 S	6 T C with 30 S G with 10 S
	Theme 1	2 C and 5 G	1 C	2 C		1 C and 2 G		2 C	2 C	3 C and 6 G	1 C and 3 G
	Theme 2	1 C		4 C		1 C and 2 G	2 C with 16 S	2 C	*	1 C and 2 G	1 C
	Theme 3					1 C and 2 G		2 C	*	4 K and 6 G	
	Theme 4		1 C			1 C		2 C	2 C		
3.2	Group work with one teacher but **with no** internet access	*	*	4 T * 4 C each G 5 S	3 T C with 13 S each G 3 S	4 T * C with 23 S G with 5 S		2 T		3 T C with 32 S G with 16 S	
	Theme 1	1 C and 5 G	1 C with 4 G	10 G	4 G	4 G		2 G	2 C	3 C and 6 G	
	Theme 2	1 C		15 G	1 G	4 G		2 G		1 C and 1 G	1 C and 3 G
	Theme 3					4 G	4 G with 6 S	2 G		2 C and 4 G	1 C
	Theme 4		1 C with 4 G			4 G			2 C		
3.3	Interdisciplinary teaching with several teachers **with no** internet access	4 T		4 T C with 25 S	3 T C with 13 S	6 T		3 T C with 26 S G with 13 S		4 T C with 32 S G with 16 S	2 T
	Theme 1					1 C		2 C		1 C	
	Theme 2			4 C	1 C	4 G		2 G		1 C	
	Theme 3	1 C			1 C	4 G				3 C	1 C
	Theme 4										
	Interdisciplinary teaching with several teachers and internet access			2 T K with 25 S		6 T		3 T	10 T	3 T C with 32 S G with 16 S	
	Theme 1					1 C		2 G	2 C	1 C and 1 G	
	Theme 2			2 C		4 G		2 G			
	Theme 3					4 G				2 C and 2 G	
	Theme 4								2 C		
3.4	Transnational project work ICT aided teaching	1 C with 31 S	1 C with 20 S	3 C with 25 S average	3 C with 12 S average	1 C with 23 S	2 K with 12 S	2 G with 13 S each	1 C with 18 S	2 C and 1 G with 6 S	1 C mit 30 S
	How many teachers were involved?	3 T	2 T	3 T	3 T	3 T	1 T	2 T	3 T	3 T	2 T

Figure and T = Number of Teachers | Figure and C = Number of Classes | Figure and G = Number of Groups | Figure and S = Number of Students per Class or Group
* Teachers partly also used other teaching methods.
ICT = Information- und Communication Technique (here: Commonly produced video films – partly via Internet)

The original version of the questionnaire shows which statements / opinions were used to discover how students evaluate the following aspects of internet use:

- information range and access
- reasons for prevention of using the internet
- advantages of using it
- disadvantages of using it.

The actual use of the internet in the course of the project can be found in the answers to D 64 in combination with the information provided by staff on teaching organization (Page 3, point 3.3 and 3.4).

E)   Personal evaluations

At the end of the questionnaire a further list of statements and questions was inserted in order to discover students' opinions on:

- the role of politics in school
- attitudes to ethical questions
- self-evaluation in lessons
- priorities in national politics
- homeland and national feelings

The relevant statements / opinions are set out in order in the **original version of the questionnaire**. In the **actually used questionnaire and all translations** the individual statements/opinions are partly mixed.

2.   Carrying out the Tests

Test drafts were tried out in a few school classes in Germany, Hungary and Poland during the second year of the project in order to find out how much time was necessary for carrying them out and which items of the questionnaire were sufficiently informative. What was learnt from this was used in the final version of the questionnaire.

Originally the aim of the external evaluation was to measure the effects of teaching. For this reason at the beginning of the teaching in the classes selected to take part in the COMCULT network, the questionnaire was given out as a **pre-test** so that the initial situation could be documented. After some months of lessons on particular values the same students had to complete the same questionnaire again as a **post-test**. 25 classes or groups produced 461 questionnaires. It is true that for about a quarter either the pre-test or the post-test of one of the students was missing. Thus in the end **365** pre-test and post-test pairs were left from young people who had completed both tests. Only these questionnaires were included in the evaluation, all the others were discarded. The next page contains a list of information on the schools involved, the number of students taking part in the questionnaire completion, as well as the intervals between pre-test and post-test.

3.   Evaluation of the Tests

3.1   Reliability

Not all the chapters of the COMCULT questionnaire meet the requirements regarding reliability or survey precision normally found in test procedures in the social sciences.

Die Durchführung der Pre- und Posttests
The realization of pre- and posttests

Land / Coun-try	Ort / Place	Schule / School	Pretest Datum / Date	Posttest Datum / Date	Differenz in Monaten / Difference in months	Alter der Schüler / Age of students	Schüler-zahl / Number of students
						Jahre/ Years	
DE	Freiburg	MAX-WEBER-SCHULE	23.09.2005	05.07.2006	9	16-17-18	30
DE	Freiburg	MAX-WEBER-SCHULE	27.09.2005	11.07.2006	9	16-17-18	25
DE	Freiburg	MAX-WEBER-SCHULE	27.09.2005	11.07.2006	9	16-17	7
DE	Freiburg	MAX-WEBER-SCHULE	27.09.2005	18.07.2006	9	17-18-19	9
DE	Freiburg	MAX-WEBER-SCHULE	04.10.2005	25.07.2006	9	16-17-18	23
DE	Freiburg	MAX-WEBER-SCHULE	04.10.2005	04.07.2006	9	16-17-18	14
DE	Freiburg	MAX-WEBER-SCHULE	04.10.2005	11.07.2006	9	18-19-20	9
GR	Pallini Attikis	ELLINOGERMANIKI AGOGI	12.10.2005	04.05.2006	7	15-16	19
ES	Cazorla	I.E.S. CASTILLO DE LA YEDRA	18.10.2005	16.06.2006	8	16-17	13
			17.10.2005	13.06.2006	8	16-17	17
			18.10.2005	16.06.2006	8	16-17	20
IT	Lecce	I.T.S. G. DELEDDA	17.10.2005	02.05.2006	6	17-18	11
			10.10.2005	20.04.2006	6	17-18	12
NL	Utrecht	ST. GREGORIUS COLLEGE	16.11.2005	12.05.2006	6	14-15	17
BG	Smoljan	TECHNICAL SCHOOL OF ECONOMICS	17.10.2005	27.04.2006	6	18	18
CY	Larnaca	AMERICAN ACADEMY LARNACA	15.09.2005	08.12.2005	3	17-18	15
HU	Veszprém	VESZPRÉMI KÖZGAZDASÁGI SZAKKÖZÉPISKOLA	14.10.2005	21.04.2006	6	15-16	30
PL	Bierun	LICEUM OGÓLNOKSZTAŁCĄCE im. Powslańców Sląskich	18.10.2005	20.04.2006	6	17-18	23
Gesamtzahl der SchülerInnen mit Pre- und Posttest Total number of students with Pre- und Posttest							**312**

Die folgenden Klassen * (Kontrollgruppen) haben keinen spezifischen Unterricht über Werte bekommen:
The following classes * (control groups) did not get any specific lessons about values:

CZ*	Vsetín	MASARYKOVA GYMNÁZIUM	13.12.2005	06.09.2006	9	15-16	(15)
			05.12.2005	05.09.2006	9	17-18	(17)
DE*	Hildesheim	BISCHÖFLICHES GYMNASIUM JOSEPHINUM	08.02.2006	30.06.2006	5	16-17	(21)
Gesamtzahl der SchülerInnen mit Pre- und Posttest (Kontrollgruppen) Total number of students with Pre- und Posttest (control groups)							**(53)**
Gesamtzahl der SchülerInnen mit Pre- und Posttest **Total number of students with Pre- und Posttest**							**365**

There are in fact chapters with sufficient reliability in the questionnaire, since the repetition of the questioning in the post-test showed results similar to the pre-test, as for example in Chapter B) Teaching of values, Behaviour disposition or D) Teaching methods. But it was precisely in Chapter A) Awareness of Values that the main point was to discover whether teaching with clearly defined aims can bring about a measurable change in the awareness of values in young people.

Probably a survey in a completely differently organized school network would equally well produce different results.

3.2 Validity

As the results in Chapter A) show, there are numerous, and certainly not fortuitous changes on different points between the pre-test and post-test. But it is not at all certain whether they all derive from teaching that was intended to inform with clear aims in accordance with the purpose of the COMCULT network. In the two control classes, too, - with no specific teaching on values – a series of changes between pre-test and post-test is observed.

Often, however, there are much greater differences in the pre-tests and post-tests between the separate schools. This suggests that the test particularly in Chapter A) besides the effects of teaching also measures other effects deriving from factors that could be influenced only in a very limited way by the COMCULT network. For this reason the test has only limited validity as an instrument for measuring teaching efficacy.

3.3 How far can the test results be generalized?

Considerations so far suggest great caution in generalizing the results of the questionnaire. The conditions under which the data were obtained were sometimes very different:

- age differences of the students from 14 to 19 years
- different types of school: general and vocational, private and state schools
- different syllabuses (subjects)
- different curricula
- different teaching methods
- different subject qualifications among the staff, sometimes limited to one subject, sometimes in a team with various subject teachers.

One particular problem with regard to general assertions on test results is the relatively small number of students taking part per class or school in the pre-test and post-test. For this reason it must be borne in mind in every interpretation of the percentages that in a small class of only 18 students even only three of them count for 17%. Purely statistically speaking, it is hardly possible to base weighty assertions of general importance on such minimal variations.

4. Purpose of the questionnaire procedure in the COMCULT network

In view of the above-mentioned weaknesses of the questionnaire procedure the question might be asked: Did it then serve any purpose?

Yes, it has produced some useful knowledge that shows the effort to have been justified:

1. All in all - after all 365 pre-tests and post- tests - the results offer a very useful description of the actual situation in individual schools in the EU. The value of this field-study also lies in the fact that it has confined itself to content and values which are or should be taught in schools. Certainly the EU with its special surveys in the EUROBAROMETER series or the "infas" Institute in Bonn with its "European Values Study 1999" with 40 to 50-page questionnaires go far beyond the framework set by the COMCULT network. But many questions in the EU and "infas" studies aim at things that are irrelevant for concrete school lessons on values.

2. Naturally the questionnaire results are especially interesting to all the staff, who were directly involved in the COMCULT network teaching or wish to continue to work on it in the future. They can also perhaps answer some of the questions left open as to why their students in some cases reacted differently from their contemporaries in other countries.

3. In addition, the test above all reinforces recognition of the fact that the complex questions of values in the EU can only be taught comprehensively by a team of teachers, since here ethical, economic and political problems are closely intertwined.

4. Moreover the need for thinking across and beyond national borders is demonstrated by the questionnaire results. That can only be carried out by the massive support of language teachers.

5. All in all the test results raise questions of educational policy with far-reaching implications: How can schools fulfil complex new tasks in view of a cross-border European identity, when the standards for

- teaching organization
- curricula and
- to some extent for teaching materials

are set only by national governments? The realities and the needs of education are separated by a yawning gap.

_____
Translated from the original German by: Gillian Johnson