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CiCe
Institute for Policy Studies in Education
London Metropolitan University
166 – 220 Holloway Road
London N7 8DB
UK

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The gap between teachers' understanding of their teaching and students' experiences in secondary schools of Cyprus

Mary Koutselini and Sofia Agathangelou
University of Cyprus (Cyprus)

Abstract

This study aims to compare teachers' understanding of their teaching and students' experiences in secondary schools of Cyprus. Otherwise and using Goodlad's (1979) terminology, the focus is placed on the differences between the perceived curriculum (what teachers perceive and implement) and the experienced curriculum (what students'experience). For the purposes of this study, two questionnaires were developed, one addressed to students and one to teachers. An effort has been made to use the same questionnaires in five European countries (Cyprus, Germany, Italy, Portugal, Romania), adapting them to the school context, in order to allow comparison of results between the countries. This study presents the results derived by a representative sample of 545 secondary school teachers, as well as of 1282 students (age 14 and 16) all over Cyprus. The interpretation of the data is based on research on perceived and experienced pedagogy in relation to the characteristics of education for active citizenship.

1. Theoretical Background

Different types of Curricula

ohn Goodlad and his associates (1979) have proposed five different curricula, each operating at a different level. Among them, the perceived curriculum is what the teachers perceive the curriculum to be. Teachers interpret the formal curriculum in many ways. Often there is little relation between the formally adopted curriculum and the teachers' perception of what the curriculum means or should mean in practice. Another type of curriculum is the experiential which consists of what students derive from and think about the operational curriculum - what actually goes on in the classroom.

Education for Active Citizenship

Successful implementation of active citizenship requires a holistic and coherent approach, developing citizenship in the interrelated components of curriculum, of school as a community and in partnership with the wider community (Kerr, Ireland, Lopes, Craig and Cleaver, 2004). Factors like the relationship between students and teachers, extra curricular activities and school efficacy, in terms of students having their views listened to and valued, influence the way in which active citizenship within the school as a community is developed (Kerr et al, 2004). Autonomy and creativity, critical thinking, teamwork, peaceful dialogue and negotiation, participation and belonging, as well as respect for diversity are considered some of the skills and competences for democratic citizenship (Project on 'Education for Democratic Citizenship', 2000).

Students' perceptions

Learning is influenced by many educational factors, including students' perceptions of the appropriateness of the learning environment (Fraser, 1994; McRobbie and Fraser 1993); teaching and instructional styles; the examples provided; the teaching model used in the design of lessons and the difficulty level of the academic tasks (Bull and Solity, 1987). Although students' perceptions might not be consistent with the reality generated by outside observers, investigating their perceptions provides rich information for understanding students' cognition and classroom processes, as well as it presents the range of reality for individual students and subgroups in the classroom (Knight and Waxman, 1991).

Research has shown that students' beliefs of teacher quality were distributed differently across students' profiles, with students of higher achievement holding significantly more positive views of their teachers (Heck and Mahoe, 2010). In another study, it is argued that girls rated the schools higher on average than boys (Young, 2007).

Teachers' perceptions
A crucial aspect which will certainly affect teachers' perceptions on quality teaching is their belief about the nature of transmitting knowledge. Commonly teachers' perceptions on the nature of teaching are divided in two main categories: (a) belief in direct transmitting of information and straightforward teaching, (b) belief in the constructivist approach of teaching and learning (OECD, 2009). As a result their beliefs on "qualitative teaching" differ.

2. Aim

This research study has a twofold aim:
(a) To present teachers' understanding of their teaching and students' experiences in secondary schools of Cyprus and
(b) To compare teachers' perceptions with students' experiences.

3. Methodology

Participants in the study were 545 secondary school teachers, as well as 1282 students of the second class of Gymnasium (age 14) and of the first class of Lyceum (age 16) all over Cyprus. The teachers' sample consists of 306 (60.2%) teachers, teaching at the Gymnasium (students' ages 12 – 15) and of 202 (39.8%) teachers teaching at the Lyceum (students' ages 15 – 18). The 27% of the teachers' sample were male, while the 72.8% were female. The students' sample consists of 512 (40.1%) students of the second class of Gymnasium and of 766 (59.9%) students of the first class of Lyceum. The 42.17% of the students were male and the 57.9 % were female.

The instruments used for this study were two questionnaires, one addressed to students and one to teachers. The teachers' questionnaire measures teachers' understanding about the characteristics of their teaching, while the students' questionnaire refers to students' experiences regarding teaching. The statements in the students' questionnaire correspond to the statements in the teachers' questionnaire and vice versa so as to allow comparison between students' and teachers' perceptions. The questionnaires were translated from

Italian to Greek. An effort has been made to use the same questionnaires in five European countries participating in this research (Cyprus, Germany, Italy, Portugal, and Romania), adapting them to the school context, in order to allow comparison of results between the countries.

The students' questionnaire consists of 28 statements scaled from 1 to 5 (Likert Scale, 1 = never , and 5 = always). Also, background information (class, gender and nationality) were collected by participants.

The teachers' questionnaire consists of 51 statements scaled from 1 to 5 (Likert scale - 1 = never, and 5 = always). A second part of the questionnaire consists of questions about teachers' background factors. Hence, further data were collected about teachers' gender, age, years of experience, level of education and discipline of teaching.

Data were entered and statistics calculated by SPSS 15.0 for Windows program.

4. Results

Descriptive statistics

Overall scale scores of the teachers' questionnaire showed satisfactory reliability, with a Cronbach's alpha of $\alpha = 0.924$. The standard deviations for all statements, except from one, is below 1, a value that indicates a satisfactory degree of coherence among the teachers' answers.

Table 1 presents the mean score and the standard deviation of the statements with the highest mean scores (M > 4.5). The last column of Table 1 presents the percentage of teachers that chose 5 (always) as their answer.

Table 1. **Teachers' questionnaire: The statements with the highest Mean scores (M > 4.5)**

	Statements	Mean	St. Dev.	% Answers with 5
1	35. I respect the responsibilities I undertake towards my students and colleagues	4.74	0.56	77.8
2	41. I make sure I teach values to students through my own behaviour	4.69	0.57	72.6
3	14. When I introduce new terms in my teaching, I make sure that they are understood by all students	4.68	0.59	72.4
4	37. I try to behave unbiased, appreciating the differences of my students	4.67	0.57	70.1
5	38. I try to offer equal opportunities	4.66	0.56	68.9
6	47. I am interested in realising whether my students learn and not just in delivering the lesson	4.66	0.55	68.5
7	42. The lesson should be understood by all students	4.65	0.60	69.9
8	30. I use evaluation criteria that correspond to the aim of my instruction	4.64	0.59	68.5
9	46. I am unbiased in grading my students	4.64	0.57	66.9
10	24. I always try to make my interlocutors	4.61	0.59	64.9

	feel comfortable			
11	29. When grading my students, I use transparent criteria, which I announce in advance	5.58	0.71	67.8
12	28. When I decide to do something, I manage to fulfil it, even if it is tiring or difficult	4.55	0.63	60.6
13	39. I organise the elements of my teaching carefully	4.55	0.61	59.0

The following observations arise from Table 1:
Teachers appear to evaluate themselves high in relation to their assessment competences (St. 30, 46, 29), their interest in organising their instruction so that to correspond to all students (St. 14, 42, 47, 39), their effort to be unbiased and offer equal opportunities to their students (St. 37, 38), their respect towards the commitments they undertake (St. 28, 35) and their emphasis in teaching values to students through their own example (St. 24, 41). It is remarkable that the majority of teachers (a percentage of 50% and above) evaluate themselves very high (choose 5 as their answer) in relation to the statements in Table 1.

Among the statements with the lowest mean scores are those that refer to the opportunities teachers offer to students to link school material with cultural activities beyond school (St. 50, M=3.57, SD= 0.91) and to increase students' learning time beyond class (St. 48, M=3.7, SD=0.9)

Overall scale scores showed satisfactory reliability of the students' questionnaire, with a Cronbach's alpha of $\alpha = 0.953$. Standard deviations for all the statements are slightly above 1, indicating discrepancy among students' answers.

Table 2 presents the mean scores and the standard deviation of the five statements with the highest mean score. The last column of Table 2 presents the percentage of students that chose 5 (always) as their answer.

Table 2. **Students' questionnaire: The statements with the highest Mean score**

	Statements	**Mean**	**St. Dev.**	**% Answers with 5**
1	22. They know well the subject-matter they are teaching	3.63	1.21	28
2	5. They respect the responsibilities they undertake	3.49	1.15	19.8
3	3. They allow students to express their own opinion, they do not impose their opinion in discussions	3.37	1.15	16.7
4	8. They provide clear explanations of the lesson	3.27	1.07	12
5	13. They announce the evaluation criteria before every examination / test	3.27	1.21	18.8

As Table 2 presents, students evaluate their teachers high in relation to their subject-matter knowledge (St. 22), their ability to provide clear explanations of the lesson (St. 8), their commitment to their responsibilities (St. 5), their openness to students' opinions

(St. 3), as well as to the announcement of the evaluation criteria (St. 13). It should be noted that the percentage of students that choose 5 (=always) in order to describe their teachers behaviour is in all statements low, compared to that of their teachers.

The statements with the lowest mean scores in the students' questionnaire refer to the frequency in which teachers put themselves into their students shoes (M = 2.8, S.D. = 2.38), link the school activities with cultural activities beyond school (M=2.28, SD= 1.08) and offer students the opportunity to improve themselves beyond class by offering them useful material, exercises on prerequisites (M=2.43, SD=1.21).

Comparing the statements with the highest mean scores for students and for teachers, it is observed that most of the statements are common. Specifically, teachers and their students agree that teachers have good subject-matter knowledge (St. 22 Student Questionnaire - SQ – St39 Teacher Questionnaire - TQ), respect the responsibilities they undertake (St. 5 SQ – St 28, 35 TQ), announce the evaluation criteria in advance (St. 13 SQ – St. 29 TQ) and explain the lesson in a clear manner for all students (St. 8 SQ – St. 14, 42, 47 TQ). Among the statements with the lowest mean scores in both questionnaires are those that refer to the opportunities teachers offer to students to link school material with cultural activities beyond school and to increase students' learning time beyond class.

Comparing the mean scores in the two questionnaires, mean score in the students' questionnaire ranges from 2.05 to 3.63, while mean score in the teachers' questionnaire ranges from 3.1 to 4.74. None of the statements in the students' questionnaire has a mean score above 4. In contrast, the statements in the teachers' questionnaire with a mean score above 4 are 38 (out of 51). None of the statements in the teachers' questionnaire has a mean score below 3.00, while 13 statements in the student questionnaire have a mean score below 3.00.

Factor Analysis

Factor analysis of principal components was conducted in order to reveal underlying scales in the questionnaires. Separate analyses were performed for all items included in the teachers' questionnaires and for all items in the students' questionnaires.

For teachers' questionnaire, an extraction of ten factors was made with eigenvalues over 1.00. Table 3 presents the rotated factor matrix which was derived by using the varimax rotation procedure. Moreover, 59.7 % of the total variance is attributable to the first ten factors. Twelve statements were not included in the model, due to the fact that they had loadings in many factors and they did not load high in any of them.

The following observations arise from Table 3. The first 15 items presented in the table have high factor loadings on the first factor. This factor refers to the teaching/learning environment. Factor 2 loads on all the next five items. This factor has to do with teachers' pedagogical awareness. The next five items have high factor loadings on factor 3, which refers to supporting learning. The next three items have high factor loadings on factor 4, which refers to collaboration with colleagues. Factor 5 loads on the next three items, namely extra-content activities. Acceptable levels of internal consistency were

indicated by Cronbach's Alpha coefficients ranging from .65 to .90 for the first five factors. The remaining five factors consisted only of one or two questions and therefore they were not considered in the structure.

Table 3. **Factor Loading of the Ten Factors in the Teachers' Questionnaire Derived From Varimax Rotation Procedure.**

	Factors										
Statements	**1**	**2**	**3**	**4**	**5**	**6**	**7**	**8**	**9**	**10**	**h^2**
35. I respect the responsibilities I undertake towards my students and colleagues	.739										0.63
38. I try to offer equal opportunities	.736										0.60
37. I try to behave unbiased, appreciating my students' differences	.710										0.57
42. The lesson should be understood by all students	.674										0.55
41. I make sure that I teach values to students through my own behaviour	.663										0.55
24. I always try to make my interlocutors feel comfortable	.662										0.56
39. I organise the elements of my teaching carefully	.624										0.54
47. I am interested in realising whether my students learn	.596										0.52
14. When I introduce new terms in my teaching, I make sure that they are understood by all students	.588										0.50
46. I am unbiased in grading my students	.550										0.50
18. I prepare the proper teaching material	.538	.417									0.49
28. When I decide to do something, I manage to fulfil it, even if it is tiring or difficult	.532										0.49
11. I comprehend students' learning difficulties, especially those of students with many difficulties	.506										0.58
19. I grade students' tests in time	.495										0.52
17. I arrange my work based on the time I have available	.450										0.44
16. I usually apply various ways of teaching based on the lesson's content and conditions		.732									0.60
2. I am well informed about the different models of teaching and I use them to promote my teaching choices		.685									0.60
10. I promote research and new knowledge in my teaching		.577									0.59
51. I use appropriate supporting material and not just		.518			.444						0.61

written texts											
13. I renew systematically the teaching strategies I use and I wonder for their effectiveness		.492									0.52
22. I usually assign to students investigations and organisational exercises			.701								0.63
21. I promote cooperative learning using the team dynamic			.646								0.60
20. I usually collaborate with students	.453		.460								0.53
12. I promote the development of my students' autonomy			.456								0.63
23. I manage to maintain a climate of interaction, in general calm and peaceful	.440		.442								0.52
33. I use effectively my professional experience to engage myself in my colleagues' training				.805							0.72
32. I actively participate in a 'professional community' of colleagues				.748							0.68
31. I exchange teaching material and experience with my colleagues				.648							0.63
50. I offer students opportunities to link school material with cultural activities beyond school					.654						0.59
48. I increase students' learning time beyond class by providing them with useful material, web pages, exercises on prerequisites					.643						0.59
49. I link the different subjects I teach, helping students to acquire the prerequisite knowledge					.552						0.59
29. When grading my students, I use transparent criteria, which I announce in advance						.733					0.73
30. I use evaluation criteria that correspond to the aim of my instruction	.450					.694					0.73
6. I accept my students points of view without criticising them							.792				0.67
5. I accept my students critique and I evaluate my students crisis							.704				0.61
26. I compare myself to my colleagues in an effective way								.774			0.73
25. I keep the proper affective distance from my								.698			0.65

students' problems											
15. It happens sometimes my students not to understand the lesson because I do not manage to explain it clearly									.861		0.78
43. Students' fear of punishment can maintain discipline in the classroom										.850	0.76
Eigenvalue	10.80	2.57	1.64	1.46	1.26	1.22	1.17	1.13	1.04	1.01	
Percentage of variance	18.20	6.78	5.87	5.77	4.79	4.26	4.21	3.83	3.02	3.01	
Cumulative percentage of variance	18.20	24.98	30.84	36.61	41.41	45.67	49.87	53.7	56.72	59.73	

For students' questionnaire, an extraction of four factors was made with eigenvalues over 1.00. Table 4 presents the rotated factor matrix which was derived by using the varimax rotation procedure. Moreover, 46.8 % of the total variance is attributable to the four factors. Cronbach's Alpha coefficients ranged from .59 to .88 for the first three factors. The remaining factor consisted only of two questions and therefore it was not considered in the structure.

Comparing the statements included in each of the four factors with their corresponding statements in the teachers' questionnaire, the following can be observed:
Factor 1 of the students' questionnaire (α = 0.88) includes all the corresponding statements of Factors 2 (teachers' pedagogical awareness), 3 (supporting learning), 4 (collaboration with colleagues) and 5 (extra-content activities) of the teachers' questionnaire (i.e. statement 28a included in the first factor of the students' questionnaire corresponds to statements 31, 32, 33 which are all included in factor 4 of the teachers' questionnaire, statements 23, 24, 25 of factor 1 of the students' questionnaire corresponds to statements 48, 49, 50 which are all included in factor 5 of the teachers' questionnaire).

Factor 2 of the students' questionnaire (α = 0. 85) includes the majority of the corresponding items of Factor 1 (teaching/learning environment) of the teachers' questionnaire.

Table 4. **Factor Loadings of the Four Factors in the Students' Questionnaire derived From Varimax Rotation Procedure**

Items	Factors				
	1	2	3	4	h^2
24a. They link school activities with cultural activities beyond school	.717				0.53
19a. They try to put themselves in students' shoes	.651				0.50
25a. They adapt the lesson's content to each class' and students' needs	.625				0.48
15a. They offer students the opportunity to improve themselves beyond class	.623				0.49
16a. They motivate students to study	.596				0.52
20a. They encourage interaction and cooperation within the class	.586				0.50
23a. They link the various subjects they teach	.575				0.44
17a. They make students feel comfortable, by creating a climate of calmness and understanding	.554				0.47
27a. They use the proper teaching material and not just the written text	.542				0.43
26a. They apply different teaching methods	.538				0.38
10a. They help students to process their own method of learning	.519				0.43
21a. They are willing to be in touch with students' families	.514				0.31
28a. It is obvious that teachers in my	.48				0.39

school collaborate for issues of instruction	6				
13a. They announce the evaluation criteria before every examination		.661			0.51
8a. They provide clear explanations of the lesson		.652			0.57
22a. They know well the subject-matter they are teaching		.626			0.50
Items	**Factors**				
	1	**2**	**3**	**4**	**h^2**
5a. They respect the responsibilities they undertake		.583			0.46
12a. They use diagnostic evaluation capable to help them in preparing the lesson		.526			0.45
3a. They allow students to express their opinion, they do not impose their opinion		.511			0.43
9a. They maintain the discipline		.509			0.40
14a. They provide students with feedback concerning their evaluation	.405	.501			0.46
18a.They use proper vocabulary according to students' level		.497			0.41
11a.They evaluate students in an objective way		.482			0.41
2a. They do not discriminate students			.814		0.67
1a. They maintain a proper attitude towards their students			.671		0.51
4a.They recognise their mistakes			.539		0.44
6a. They are calm during teaching				.766	0.62
7a. They demonstrate consequence between the values they express and the way they behave				.596	0.41
Eigenvalue	9.368	1.578	1.090	1.071	
Percentage of variance	19.037	15.343	7.175	5.257	
Cumulative percentage of variance	19.037	34.380	41.555	46.812	

Independent samples t-test, indicated no significant difference among women (N=312) and men (N=112), teachers of Gymnasium (N=229) and teachers of Lyceum (170) in total mean score in teachers' responses. However, independent samples t-test in the students' questionnaire revealed significant differences among girls (N=564) and boys (N=380) and students of Gymnasium (N = 376) and students of Lyceum (N = 573) in total mean scores in their answers (Table 5). Specifically, girls tend to have higher total mean scores in their answers. Also, Gymnasium students tend to evaluate their teachers higher that Lyceum students.

Table 5. **T-Test for independent samples: Comparison of mean scores of boys and girls, Gymnasium and Lyceum level for students**

	Total Mean	Total	Mean	t	d.f	p

	Boys	Mean Girls	Difference			
Gender	2.8564	2.9964	-0.14000	-3.153	733.972	0.002
	Total Mean Gymnasium Students	**Total Mean Lyceum Students**	**Mean Difference**	**t**	**d.f**	**p**
Level (Gymnasium-Lyceum)	3.0345	2.8785	0.15596	3.599	947	0.000

5. Discussion

This research indicated differences between teachers' and students' perceptions about what happens in the classroom. This is obvious from the different range of the mean score of teachers' and students' responses. It is obvious that teachers attribute to themselves a very high evaluation of their teaching competences, while students' reality indicates place for teachers' improvement.

Of course, standard deviation of the statements in the students' questionnaire shows that students have a lot of differences in their answers. This is probably related to the fact that there is significant difference between students of Gymnasium and Lyceum mean scores. Also, agreeing with the relevant bibliography, it is confirmed that girls tend to rate their teachers higher on average than boys (Young, 2007). Of course, we should take into consideration that the number of the groups compared each time (boys – girls, students of Gymnasium – students of Lyceum) is not equivalent. This could be a limitation of our research.

Factor analysis revealed that teachers can differentiate their abilities to some extent as the factors indicate. The same applies for students; they can differentiate their teachers' characteristics but in fewer factors (four factors). Further analyses of Structural Equation Modelling and Multilevel Analysis are needed to compare the perceived and the experienced curriculum.

6. Conclusion

Concluding, it seems that both teachers and students agree that teachers have good subject-matter knowledge, respect the responsibilities they undertake and explain the lesson in a clear manner for all students. However, factors that are considered crucial for active citizenship, such as the relationship and interaction between students and teachers, linking school activities with activities beyond school - extracurricular activities and having students' views listened to and valued (Kerr et al, 2004) are indicated with the lowest mean scores. Students see mainly their teachers' content competence, professional preparation, teaching ability, responsibility and sense of duty and find a lack of teachers' competences for social interaction, understanding and communication which are forms of education for active citizenship.

Education for active citizenship at schools requires a holistic, integrated and cross-disciplinary approach that promotes school to community and links the school with the wider community. In spite the fact that the role of teachers for fulfilling the active citizenship is outstanding, students' negative perceptions about teachers' competence to communicate and promote social interaction indicate that teacher education and training should include the promotion of active citizenship as a cross-disciplinary endeavour.

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