Impact of External Examinations on High School Curricula: Perceptions of Teachers and Students and Document Analysis

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ABSTRACT

The International General Certificate of Secondary Education (IGCSE) Exam, the Exam for Transition to Higher Education (YGS) and the Exam for Placement for Undergraduate Studies (LYS) are external exams providing direct admission to higher education abroad: and they are significant for 17-18 year-old Turkish Cypriot students. The discontentment in the newspapers of North Cyprus about the low achievement results for the YGS and the LYS and the teachers' and students' complaints about the inconsistency in the alignment of YGS and LYS content with school curricula have compelled a need for a study.

This qualitative study analyzed how teachers and students in public high school and colleges in North Cyprus perceived the impact of the IGCSE's, YGS's and LYS's on 11th- and 12th-grade science, mathematics, and language curricula, and also implemented document analysis on the General Certificate of Education (GCE) O Level Turkish, IGCSE English as a Secondary Language, 2010-2012 YGS and LYS1-3, and LYS5 documents to explore the content consistency among them. Using a stratified purposive sampling method, 86 teachers and 120 students were interviewed from natural sciences, mathematics, and language programs in public high schools and colleges in North Cyprus in the 2011-2012 academic year. Data were collected with a semi-structured interview technique, and a content analysis technique was used in data analysis.

Content analysis was performed on the teachers' and students' responses. Results revealed that all public college teachers and students perceived consistency between the content of college curricula and the IGSCE, 'A' and 'AS' level exams, and

almost all public high school teachers and students perceived inconsistency between YGS content and the content of 11th and 12th-grade curricula. Furthermore, a few public high school teachers and students thought that the content of 12th-grade curricula was inconsistent with LYS content. Moreover, English language teachers in public colleges and high schools thought that the contents of both the IGCSE English as a second language examination and the LYS5 English language tests were inconsistent with the content of English language curricula in both schools. Additionally, perceptions of teachers and students in public high schools and colleges revealed that these external examinations had wash-back effect on teaching and learning. The results also revealed that the form and content of teacher-made tests in public colleges were similar to IGSCE, 'A' and 'AS' level examinations, whereas in public high schools they were partially different from the YGS and the LYS. Document analysis of 2010, 2011, 2012 YGS, LYS1, LYS2, LYS3, LYS5 and mathematics, natural sciences (physics, biology, and chemistry), Turkish language and discourse, Turkish Literature, and English language textbooks were conducted. Results revealed extensive inconsistencies between YGS tests and the contents of 11th- and 12th-grades curricula that correlated with the perceptions of the public high school teachers and students. Inconsistencies were also detected between the LYS tests and the contents of 11th- and 12th-grades curricula. This finding conflicted with the perceptions of the majority of high school teachers and students. Additionally, it was found that the 2010, 2011 and 2012 LYS5 English language tests were 33%-36% inconsistent with both grades. Moreover, 33%-67% inconsistency was found between the writing section of the college language textbooks and the writing contents of GCE Turkish Ordinary level and Edexcel London Examination

for IGCSE English as Second Language tests of 2010, 2011 and 2012. These findings were not in correlation with the perceptions of public high school and college English language teachers.

As a result, it was found that participant teachers and students perceived high rate of inconsistencies between the contents of the external examinations and the curricula in use. Therefore, students put pressure on teachers to do test-oriented teaching, and teachers themselves felt obliged to help students to increase their achievements in these examinations. Due to this a very prevalent wash-back and adverse effect of external examinations were seen on teachers' content selection and narrowing, on curriculum implementations, and on the tests that they made. Moreover, document analysis results also correlated with the perception of teachers and students about the inconsistencies between the contents of these very external examinations and the 11th and 12th Grade curricula. Therefore, modularization of YGS and LYS, and content alignment of these examinations to high school curricula were recommended. Furthermore, it was highly recommended to administer YGS at the end of Grade 10.

Keywords: external examinations, curriculum, curriculum evaluation, document analysis, wash-back effect.

ÖZ

Yurt dışında yüksek öğrenim görmek isteyen tüm 17-18 yaşındaki Kıbrıslı Türk öğrencileri için Ortaöğretim Uluslararası Genel Sertifika (IGCSE) sınavı, Yükseköğretime Geçiş Sınavı (YGS) ve Lisans Yerleştirme Sınavı (LYS) oldukça önemlidir. Her yıl Kuzey Kıbrıs basınında Kıbrıslı Türk öğrencilerin YGS ve LYS sonuçları yayınlanmaktadır. Bu basın yayınlarında, Kıbrıslı Türk öğrencilerin YGS ve LYS sınavlarındaki başarıları Türkiye'de eğitim gőren Türkiyeli öğrencilerin başarıları ile karşılaştırılıp, Kıbrıslı Türk öğrencilerin başarılarının Türkiyeli öğrencilerin başarılarına kıyasla daha düşük olduğu ileri sürülmektedir. Bu duruma sebep olarak da Kuzey Kıbrıs'ta uygulanmakta olan eğitim sistemi gősterilmektedir. Diğer yandan Kuzey Kıbrıs'taki liselerde gőrev alan öğretmenler ve öğrenim gőren öğrencilerin gőrüşlerine gőre basında yer alan ve genel olarak toplum tarafından da oldukça düşük olarak algılanan sınav sonuçları aslında YGS ve LYS içerikleri ile liselerde uygulanan programların içerikleri arasındaki tutarsızlıktan kaynaklanmaktadır. Buna karşılık Kuzey Kıbrıs'taki devlet kolejlerinde görev alan öğretmenler ve öğrenim gören öğrenciler tarafından kolejlerin 9., 10., 11., ve 12. sınıflarında uygulanan öğretim programların içeriği ile bu sınıflara yönelik Pearson Edexcel tarafından verilen Ortaöğretim Uluslararası Genel Sertifika sınavlarının içerikleri arasında bire bir örtüşme olduğu ileri sürülmektedir. Ancak şimdiye kadar Kuzey Kıbrıs'ta, gerek lise öğretmen ve öğrencilerinin gerekse kolej öğretmen ve öğrencilerinin bu görüşlerini destekleyici herhangi bir bilimsel araştırma yapılmadığı tesbit edilmiş ve böyle bir çalışmanın gerekliliği ortaya çıkmıştır.

Bu araştırma nitel bir çalışmadır. Çalışmada; IGCSE sınavı, YGS ve LYS gibi dış sınavların; Kuzey Kıbrıs'taki devlet liseleri ve kolejlerinin 11. ve 12. sınıflarında uygulanan matematik, fizik, kimya, biyoloji, dil ve anlatım, ve İngilizce programlarının içeriğine, öğretim ve öğrenim gibi uygulamalarına ve öğretmenlerin hazırladıkları sınavlara etkisini öğretmen ve öğrenci görüşleri açısından değerlendirmek ve ortaya koymak amaçlanmıştır.

Araştırmada, problem ve genel amaç ile tutarlı olan nitel araştırma yöntemleri kullanılmıştır. 2011-2012 akademik yılında, sistematik ve amaçlı örneklem yöntemleri kullanılarak; Kuzey Kıbrıs'taki devlet lise ve kolejlerinde fen, Türkçe-matematik, ve yabancı dil programlarında öğrenim gören 120 öğrenci ve 86 öğretmen ile bire bir görüşme yapılmıştır. Veriler yarı-yapılandırılmış görüşme tekniği ile toplanmış ve veri analizinde içerik çözümlemesi tekniği kullanılmıştır.

Öğretmen ve öğrenci cevaplarında içerik çözümlemesi tekniği uygulanmış ve sonucunda şu bulgulara ulaşılmıştır: Devlet liselerindeki öğretmen ve öğrenci görüşlerine göre YGS devlet liselerinin 11. ve 12. sınıflarında uygulanan matematik, fizik, kimya, biyoloji ve dil ve anlatım içerikleriyle büyük oranda tutarsızlık göstermektedir. Bunun yanı sıra bazı öğretmen ve öğrenci görüşlerine göre ise, LYS içerikleri de devlet liselerinin 11. ve 12. sınıflarında uygulanan matematik, fizik, kimya, ve biyoloji içerikleriyle tutarsızlık göstermektedir. Ancak öğretmen ve öğrenciler bu tutarsızlığın ne oranda olduğu konusunda fikir belirtmemişlerdir. Devlet lise öğretmen ve öğrenci görüşlerinin aksine, devlet kolejlerindeki öğretmen ve öğrenciler IGCSE sınavlarının içerikleri ile devlet kolejlerinde uygulanan matematik, fizik, kimya, ve biyoloji içeriklerinin tamamen tutarlı olduğunu ileri sürmüşlerdir. Ancak, devlet lise ve kolejlerindeki öğretmen ve öğrenciler hem

IGSCE İngilizce (ikinci dil) sınav içeriğinin hem de LYS5 İngilizce sınav içeriğinin devlet lise ve kolej dil müfredatlarının içerikleri ile tutarsız olduğunu ileri sürmüşlerdir. Bundan dolayı, devlet lise ve kolejlerinde program uygulamalarının sınav-odaklı öğretim ve öğrenime dönüştüğü bulgusuna varılmıştır. Ayrıca, kolejlerde öğretmenlerin hazırladıkları sınavların biçim ve içerik açısından IGCSE sınav biçim ve içeriği ile bire bir benzeştiği, ancak devlet liselerinde öğretmenlerin hazırladıkları sınavların biçim ve içerik açısından YGS ve LYS biçim ve içeriği ile kısmi benzerlikler gösterdiği bulgularına da ulaşılmıştır. Bu bulgular; 2010, 2011, 2012 yıllarında uygulanan YGS, LYS, IGSCE İngilizce (ikinci dil) sınav içerik analizlerinin bu yıllarda devlet liselerinde okutulan fizik, kimya, biyoloji, matematik, geometri, Türkçe dil ve anlatım, Türk edebiyatı, İngilizce kitaplarının ve kolejlerinde okutulan İngilizce kitaplarının içerik analizlerinin karşılaştırmaları sonucunda da desteklenmiştir.

Çalışmaya katılan devlet liselerindeki öğretmen ve öğrenciler YGS ve LYS gibi dış sınavların içerikleri ile devlet lislerinde uygulanmakta olan matematik, fizik, kimya ve dil içerikleri arasında büyük oranda tutarsızlık olduğunu vurgulamaktadırlar. Bu tutarsızlıktan dolayı öğretmenler, özellikle 12. sınıflarda uygulanan matematik, fizik, kimya, biyoloji ve İngilizce derslerinin içeriklerinde düzenlemeler yapmakta ve yaptıkları düzenlemelere; konuların sırasını değiştirmek, bir veya birkaç konuyu çıkarmak ya da kitaplarda yer alan konulara ekleme yapmak örneklerini vermektedirler. Öğretmenler; hem öğrencilerin uyguladığı baskı hem de yetiştirdikleri öğrencilerin sınavlarda başarılı olmalarını istemelerinden dolayı ders içeriğinde seçme, artırma veya daraltma yoluna gittiklerini belitmekte ayrıca, kendi hazırladıkları sınavları da bu sınavların içerik ve soru biçimlerine benzetmeye

çalıştıklarını ve sınav-odaklı eğitim verdiklerini dile getirmektedirler. Bu durum; dış sınavların program içeriğini, uygulamalarını, öğretmen ölçme ve değerlendirmelerini olumsuz yönde etkilediğini ortaya koymaktadır. Sonuç olarak, özellikle YGS'nın 10. sınıf sonunda verilmesi, ayrıca hem YGS hem de LYS konularının lise müfredatıyla bire bir örtüşmesini sağlamak amacıyla sınavların konu yelpazesinin daha geniş tutulması önerilmektedir.

Anahtar Kelimeler: dış sınavlar, eğitim programları, program değerlendirme, içerik analizi, sınav-odaklı eğitim.

To my family

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LIST OF ABBREVIATIONS

ACT: American College Testing

AQA: Assessment & Qualification Allienace

CBEE: Curriculum-based External Examinations

CBEEES: Curriculum-based External Exit Examinations

CCEA: Council for the Curriculum, Examinations & Assessment

CIE: Cambridge International Examinations

CTC: Cyprus Turkish Community

Edexcel: Education Excellence

EOG: End of Grade

EPPD: Department of Educational Planning and Program Development

GCE: General Certificate of Education

GCE ‘A’ Level: General Certificate of Education Advanced Level

GCE ‘AS’ Level: General Certificate of Education Advanced Subsidiary Level

ICT: Information and Communication Technologies

IEA: International Association for the Evaluation of Educational Achievement

IELTS: International English Language Testing System

IGCSE: General Certificate of Secondary Education

LAEP: The Learning and Emotional Assessment Program

LYS: Exams for Placement for Undergraduate Studies

LYS1: Mathematics and Geometry test

LYS2: Natural Sciences Test

LYS3: Turkish Language and Literature, and Geography 1 Test

LYS4: History, Geography 2, and Philosophy group Test

LYS5: Foreign Languages Test

MNE: Ministry of National Education

NAA: National Assessment Agency

NC: National Curriculum

OCR: Oxford, Cambridge and RSA (Royal Society Arts)

OFQUAL: Office of Qualifications and Examinations Regulation.

ÖSS: Student Selection Examination

ÖSYM: Center for Student Selection and Placement

ÖYS: Student Placement Examination

QCA: Qualifications and Curriculum Authority

RSA: Royal Society Arts

SAT: Scholastic Assessment Test

SBS: Level Indicator Examination

SEC model: Survey of Enacted Curriculum Model

TES: Turkish Educational System

TIMSS: Trends in International Mathematics and Science Study

UCAS: Universities and Colleges Admissions Service

UK: United Kingdom

USA: United States of America

WJEC: Welsh Joint Education Comittee

YGS: Exam for Transition to Higher Education

YÖK: Higher Education Council

YÖS: Examination for Foreign Students

Chapter 1

INTRODUCTION

"What is assessed becomes what is valued, which becomes what is taught."
(McEwen, 1995, p.42)

From a pragmatic point of view education means the "reconstruction or reorganization of experience which adds to the meaning of experience, and which increases ability to direct the course of subsequent experience" (Dewey, 1916, pp. 82-83, cited in In-Suk, 2000, p. 161). When we think about what an education is in a broad sense, it may be defined as any kind of experience or action affecting the thought (Adler, 1951), personality (Miller, Kohn, and Schooler, 1986), or physical aptitude (Shephard, 1997) of a person through which values (Hicks, 1996), knowledge (Ryle, 1945) and skills (Juwah, 2003) that are part of a society are taught to the following generations (Bengston, 1975). If this is what education is, then it is tremendously significant in every sense for the development of societies and their members. Furthermore, it is essential to provide education to every member of a society (Dewey, 1903), and this is the responsibility of the parents, schools, and government (Friedman, 1955).

In fact, the educational system and schools of a country, and any stakeholder involved in education, training, and teaching issues should assume an important role in the personal development of individuals in that society (Miller et al., 1986), the protection of cultural values (Hicks, 1996), and teaching individuals the basic skills (Juwah, 2003) necessary for life-long learning (Faure, 1972; Gibbons and Philips,

1982). The way to educate the members of a society depends on how that society is understood by the people who are responsible for planning, implementation, and development of the national curriculum that will be followed by all individuals "regardless of sex, ethnic origin and geographical location . . . [and who will be able to have] . . . access to broadly the same good and relevant . . . programs of study which include the key content, skills and processes which they need to learn" and which they can internalize by linking them to their own experiences (Kelly, 1990, p. 2). Therefore, they can practically apply and value what they learn in their future lives and profession.

What is meant by the concept of curriculum changes from person to person. That is why there are various definitions of it in the literature. For instance, Good (1973) defined it as "a systematic group of courses or sequences of subjects required for graduation or certification in a field of study, for example, social studies curriculum, physical education curriculum" (p. 157). Bobbitt (1918) and Caswell and Campbell (1935) perceived it as something that children experience in order to develop the abilities necessary for adult life; of course Caswell and Campbell (1935) also added the notion of teacher guidance as a necessary element to their definition (p. 66). Taba (1962) defined it as "a plan for learning," and so did Saylor, Alexander, and Lewis (1981). They also viewed it as a plan that provides "learning opportunities for individuals to be educated" (Saylor et al., 1981, p. 8). Doll (1996) defined curriculum as "the formal and informal content and process" that provide learners the opportunity to "gain knowledge and understanding" besides helping them to "develop skills [and] alter attitudes, appreciation, and values" in a school (p. 15). Oliver (1977), on the other hand, equated curriculum with the "educational program"

and focused on four fundamental elements: "(1) the program of studies, (2) the program of experiences, (3) the program of services, and (4) the hidden curriculum" (p. 8). Gagné (1967) included within the definition of curriculum the definitions of "subject matter," the statement of "ends," the "sequencing of content," and the "pre-assessment of entry skills" demanded of students (p. 21).

In this research, the definition of curriculum will be parallel to Oliva's (2005) and Kelly's (1990) as stated above. Oliva described the curriculum as a written "plan or program" of a school that has various scopes under which learners encounter different experiences. He also said that the curriculum "may be a unit, a course, a sequence of courses, the school's entire program of studies—and may take place outside of class or school when directed by the personnel of the school" (p. 7). Therefore, curriculum is a relevant plan or program that has various scopes, key content, skills, and processes for all kinds of experiences encountered by all learners. To provide such a plan or a program the Ministry of National Education calls specialists to develop it for the nation in North Cyprus. That is why the curriculum considered in this research will be addressed as the national curriculum (NC). Curriculum planners use different sources to gather data for the development of the NC. There are various models of curriculum development such as the Tyler model and the Taba model, Saylor, Alexander, and Lewis model and so on. None of these models can be exactly appropriate for the educational context of a particular country; hence, tailor-made curricula are required for different educational contexts.

At the planning stage of any curriculum, mainly three sources are explored (Tyler, 1949). These three sources state that the data should be collected for the identification of the general objectives as follows:

1. Students: The curriculum planners should collect and analyze data related to students' educational, physical, social, psychological, occupational, and recreational needs, and interests by using research techniques like observations, interviews, questionnaires and tests (Tyler, 1949, pp. 12-13).
2. Society: The next step in formulating general objectives for the curriculum planners is a deeper analysis of the various aspects of communities' or societies' contemporary life such as religion, civic roles, family, vocation, health, consumption, and recreation (Tyler, 1949, pp. 19-20).
3. Subject matter: The curriculum planners turn to subject matter, the disciplines, as a third source (Tyler, 1949, p. 21).

After collecting the necessary data from the aforementioned sources, in order to clarify the educational aims of the nation as a whole, the curriculum designers need to define the general curriculum goals, which are meant to give general direction for education throughout the country. Moreover, they need to specify curriculum objectives that are specific, programmed targets with criteria of achievement or mastery; thus to make them measurable (Oliva, 2005, p. 148). Whatever curriculum means or whatever sources are used to collect data to set its goals and objectives, it is a written, detailed document emphasizing and regulating the functions of schools and how it will be implemented by teachers. According to Eisner (2001) and Posner (2004), schools provide three curricula for their students: the official curriculum (explicit or intended as defined by Porter, 2006); the operational curriculum (observed, or enacted as defined by Porter, 2006), and the null curriculum. The official curriculum is written and approved by the authorities which include all the courses, activities, objectives, guides, and planning that are obvious to teachers,

learners and the public. The operational curriculum is the enacted one that is implemented by teachers. The null curriculum is the one that has two dimensions: "the intellectual processes that schools emphasize and neglect . . . [and] . . . the content or subject area that are present and absent in school curricula" (Posner, 2004, p. 98). Besides these three types of curricula, there is also a hidden curriculum, which is defined as how learners acquire what is being taught and how they experience the norms and principles during their education (Giroux, 2001).

Nonetheless, the curriculum planners need to investigate the efficacy of the curriculum objectives that they have identified. Therefore, they need to implement and evaluate the designed curriculum in schools. According to Oliva (2005), there are three ways to evaluate the designed curriculum: One method of evaluation is pre-formative. It takes place during the planning of the curriculum. The second one is the formative, which is the evaluation of the effectiveness of the curriculum during the period of implementation. The third method is the summative, which is the evaluation that takes place at the end of implementation. The second one is a kind of diagnostic analysis that helps to diagnose the problems related to the implementation of the curriculum and helps educators to take remedial actions accordingly. The last one facilitates the detection of the degree of effectiveness of the curriculum (Oliva, 2005, p. 387).

For the evaluation of the student attainment of intended learning outcomes, two types of measurement approaches may be used: norm referenced and criterion referenced. The former assessment compares a student's test performance to the performance of other students taking the same test. On the other hand, the criterion references assessment compares the test performance of students according to a

criterion that is pre-specified in the course objectives (Oliva, 2005, p.388). According to Oliva (2005),

> While norm referenced testing is used mainly when there are a limited number of places to be filled from a pool of applicants in excess of the number of places and when only a limited number of awards are to be offered among a group of candidates or applicants, the criterion referenced testing is used to find out whether students achieve mastery of specified objectives or not (p. 388).

In North Cyprus, both norm referenced and criterion referenced testing are used to determine the progress of students. This is certified with a school report or a diploma, which is a kind of educational certification. For Ziderman (1984),

> . . . educational certification is an essential tool serving modern society, acting variously as an indicator of scholastic achievement at successive stages of the educational system, as a device for gaining entry into favored jobs and careers, and as a condition for upward mobility within the educational system itself (p. 477).

This indicates that to get such an educational certification, students should be measured and certified to provide the information that reflects the educational attainment of its holder. For such a level of certification, there are two systems used to grade students, namely external examinations and internal assessment. The latter is the assessment carried out by the course instructors, and the certification of this assessment is the school report and/or diploma granted to students. Internal assessments can serve two different purposes. The first (formative assessment) is to help students to find out what they still have to achieve for the rest of the course. The second (summative assessment) is to gather information to inform others via a school report or another type of certification about the progress a student has made so far. School report is used in North Cyprus.

In external examinations, an external examination board assesses students. This board is either appointed by the Ministry of National Education or it works under the

auspices of different university examination bodies: Assessment and Qualification Allienace (AQA), Oxford, Cambridge and RSA (Royal Society Arts)-OCR, Council for the Curriculum Examinations and Assessment (CCEA), Edexcel, and Welsh Joint Education Comittee (WJEC) for "General Certificate of Education" (GCE) examinations, "International General Certificate of Secondary Education" (IGCSE) examinations and "Center for Student Selection and Placement" (ÖSYM) for "Examination for Transition to Higher Education" (YGS) and "Examination for Placement for Undergraduate Studies" (LYS). Edexcel IGCSE examinations are preferred in North Cyprus public colleges and YGS and LYS are preferred in public high schools as external examinations.

Apart from evaluation of students' achievements, there is also program evaluation. Stufflebeam (2001) stated that there are lots of program evaluation approaches available in the 20th century. For him these are necessary "for professionalizing program evaluation and for its scientific advancement and operation" (p. 9). According to him, program evaluation can overlap with other practices of evaluation, particularly with student, teacher, material, and institutional evaluations but may be distinguished from them as well (p. 10). As stated by Stufflebeam (2001), evaluation is an inquiry "designed and conducted to assist some audience to assess an object's merit and worth" (p. 11). In this regard, he has four categories in the classification of approaches to program evaluation; namely the "pseudoevaluations," the "questions/methods-oriented approaches," the "improvement/accountability-oriented approaches," and the "social agenda/advocacy approaches" (Stufflebeam, 2001, p. 11). The first group focuses on "describing and assessing the state of the art of evaluation . . . and often are motivated by political

objectives" (Stufflebeam, 2001, p. 13). The second group addresses "specific questions" that are derived from a "program's behavioral/operational objectives" and method-oriented ones that use a specific method and "emphasize technical quality" (Stufflebeam, 2001, pp. 16-17). Improvement/accountability-oriented approaches evaluate a program's quality, significance, plan, and operation with full-range questions and criteria (Stufflebeam, 2001, p. 42). The last group includes the ones that try to make a difference in society and are "oriented to employing perspectives of stakeholders as well as of experts in characterizing, investigating and judging programs" (Stufflebeam, 2001, p. 62). Program evaluations that focus on standardized tests fall into the second group, which is defined as "objective testing programs" in which students' achievements are tested and the results are seen to reflect the quality of schools, educators, or the education system (Stufflebeam, 2001, p. 20). Another approach Stufflebeam (1983) developed for educational evaluation was called CIPP (Context, Input, Process, and Product). Process part of this approach dealt with problems related to teaching and learning.

In North Cyprus, at the end of primary school, students are selected to the middle school sections of public colleges through standardized tests administered by the Department of Primary Education that is affiliated to the Ministry of National Education. These standardized tests are administered every year in June and are seen as the reflection of the quality of primary schools, their teachers, and the primary education system of North Cyprus. Similarly, 12th Grade students take external examinations (YGS, LYS or IGSCEs) to get enrolled to higher education institutions. These external tests are also standardized tests and are perceived as the reflection of the quality of high schools, their teachers, and the high school education system in

North Cyprus. In fact, most of the cram schools in North Cyprus use the results of these examinations to promote the quality of the private education they provide to students.

On the other hand, Stufflebeam (2001) claimed that the "contents of such tests do not match the program's objectives" (p. 22). In North Cyprus, as a result of informal consultation with the parents, teachers and high school students, it was deduced that there is an inconsistency between the contents of university entrance examinations administered by the Institution of Higher Education in Turkey and the high school curricula implemented by teachers. This is one of the reasons why there are a lot of cram schools providing private education toward university entrance examinations in North Cyprus. These cram schools have aligned their private education toward these tests.

Alignment is defined as the "degree to which the components of an education system—such as standards, curricula, assessments, and instruction—work together to achieve desired goals," which is new to the field of "educational assessment" (Case, Jorgensen, and Zucker, 2004). Porter (2002, 2004) addressed the alignment among standards, assessment, and curriculum. There are also methods used for investigating alignment and four of them are as follows: 1) Traditional methodologies checking the alignment between the set standards and assessment instrument by mostly comparing quality, content, depth and comprehensiveness of the instrument with the set standards. 2) Sequential development methods where standards are developed and used to determine the structure and content of tests by the test developers. 3) Expert review models involve expert opinions as experts know the content specified according to set standards and focus on item analysis for the content match. 4) The

document analysis method is used to analyze standards, measurement instruments, and textbook contents and structures (Case et al., 2004). Webb's (1997a) alignment model focuses on "content, articulation across grades and ages, equity and fairness, pedagogical implications, and system applicability" (Case et al., 2004, p. 6). Porter and Smithson's model (Survey of Enacted Curriculum Model [SEC]) focuses on content and cognitive demand of standards and assessment instruments (Porter, 2002, 2004). On the other hand, the "achieve model", which has been developed by Achieve Inc. in 1996, is applied to compare a nation's standards with other countries' standards in order to improve or make reforms to change their education system (Case et al., 2004). According to Case et al. (2004) this model focuses on "content centrality," "performance centrality," "challenge," "balance," and "range" (p. 7).

> Content centrality compares the content of each test item to the corresponding standard. Performance centrality compares the difficulty (cognitive demand) of each item to the difficulty required by the corresponding standard. Challenge examines whether a set of items considered together expresses the degree of proficiency required by the standards. Balance and range provide a quantitative and qualitative evaluation of the emphasis placed on the topics in the assessment compared to the emphasis placed on same topics in the standards (Case et al., 2004, p.7).

The study in this dissertation employed the qualitative methodology to check content match, expert review and document analysis to determine the consistency between the contents of the high school curricula and external examinations.

1.1 Context of the Study

The context of this study includes education system of North Cyprus, but particularly the public high schools and colleges[1] in this system, the Examination for Transition to Higher Education (YGS), the Examination for Placement for

[1] In these schools, English is the medium of instruction.

Undergraduate Studies (LYS), and the International General Certificate of Secondary Education (GCSE), which will form the background of the study. This section also involves studies in the literature abroad and in Turkey about the impact of the external examinations[2].

1.1.1 The Educational System in North Cyprus

The "Department of Educational Planning and Program Development" (Department of EPPD, 2005) published a document[3] about the Turkish Educational System (TES) in North Cyprus in September 2005. In this report, Department of EPPD mentioned that the TES has been reconstructed with the contributions of teachers' unions, academicians, teachers, pupils, parents, and the media. The need for the reconstruction enabled:

1. The Cyprus Turkish Community (CTC) to take up its position among other communities in the information age,
2. The CTC to develop socially, culturally, and economically
3. Equality of opportunity for education
4. Life-long learning
5. Education that is open to changes
6. Pupil-centered education. (Department of EPPD, 2005, p. 4).

It is also mentioned in the report that some human qualities of the 21st century are targeted by the CTC, and some significant ones are

- Having advanced thinking, perception and problem solving skills
- Being able to use information creatively
- Knowing and expressing themselves freely
- Designing and creating. (Department of EPPD, 2005, p. 4).

[2] Vocabularies like examination, exam, and test were used interchangeably throughout the dissertation to refer to paper based formal and informal assessments.

[3] Hereafter this document will be referred as Department of EPPD.

In the new educational system, the vision and mission are reflected as a system whose aim is to provide individuals with appropriate environments to improve themselves in all respects and to raise generations who

- are open to new ideas;
- have assimilated scientific thought and study;
- are able to use information technology;
- are continuously able to improve themselves;
- are able to express their ideas freely;
- inquire, investigate, [and] know how to access information;
- are virtuous and creative;
- bear the human qualities of the 21st century (Department of EPPD, 2005, p. 5).

Some of the new educational objectives of the Turkish educational system are as follows:

- To educate the individual about the information age so that the individual will have advanced thinking, perception, and problem-solving skills and have personal responsibility.
- To adopt and apply pupil-centered and constructive education.
- To include active guidance service and measurement-assessment based on performance; and to place emphasis on the educational system based on productivity.
- To harmonize with Turkey and the European Union to extend the length of education to 12 years with the implementation of the 9th grade into the new education system.
- To form a structure based on a variety of programs instead of a variety of schools.
- To identify the needs through internal and external supervision and to deliver continuously in-service training facilities to enhance the knowledge and the skills of the teachers and administrators in accordance with the new education system.
- To collaborate with administrators and teachers to create better learning environments.
- To develop the educational system on a continuous basis, depending on the educational principles of generality, equality, availability, and integrality. (Department of EPPD, 2005, p. 6).

It is reported that CTES has three "main periods" namely "Basic Education," "Secondary Education," and "Higher Education" (Department of EPPD, 2005, p. 8). "Basic education" includes the levels starting from the "play class" to Grade 12 and

has three periods: (a) play-class for ages 4-5, and pre-school for ages 5-6, (b) primary school for ages 6-11 including grade levels 1 to 5, and (c) basic secondary school for ages 12-15 including grade levels 10 to 12, which lasts for 3-4 years depending on the program (Department of EPPD, 2005, p. 8). Secondary education covers the duration between ages 15 and 18. Students have six choices: "Fine Arts High School, college, Anatolian High School, Multi-program Modern High Schools, Modern Vocational Technical High Schools, and Apprenticeship Education" (Department of EPPD, 2005, p. 8). Students can follow any path that they want to attain. Higher education is for the ones who want to pursue their education for a bachelor's degree or further, with master and doctoral degree, and starts at the age of 18 and onwards as shown in Figure 1 below.

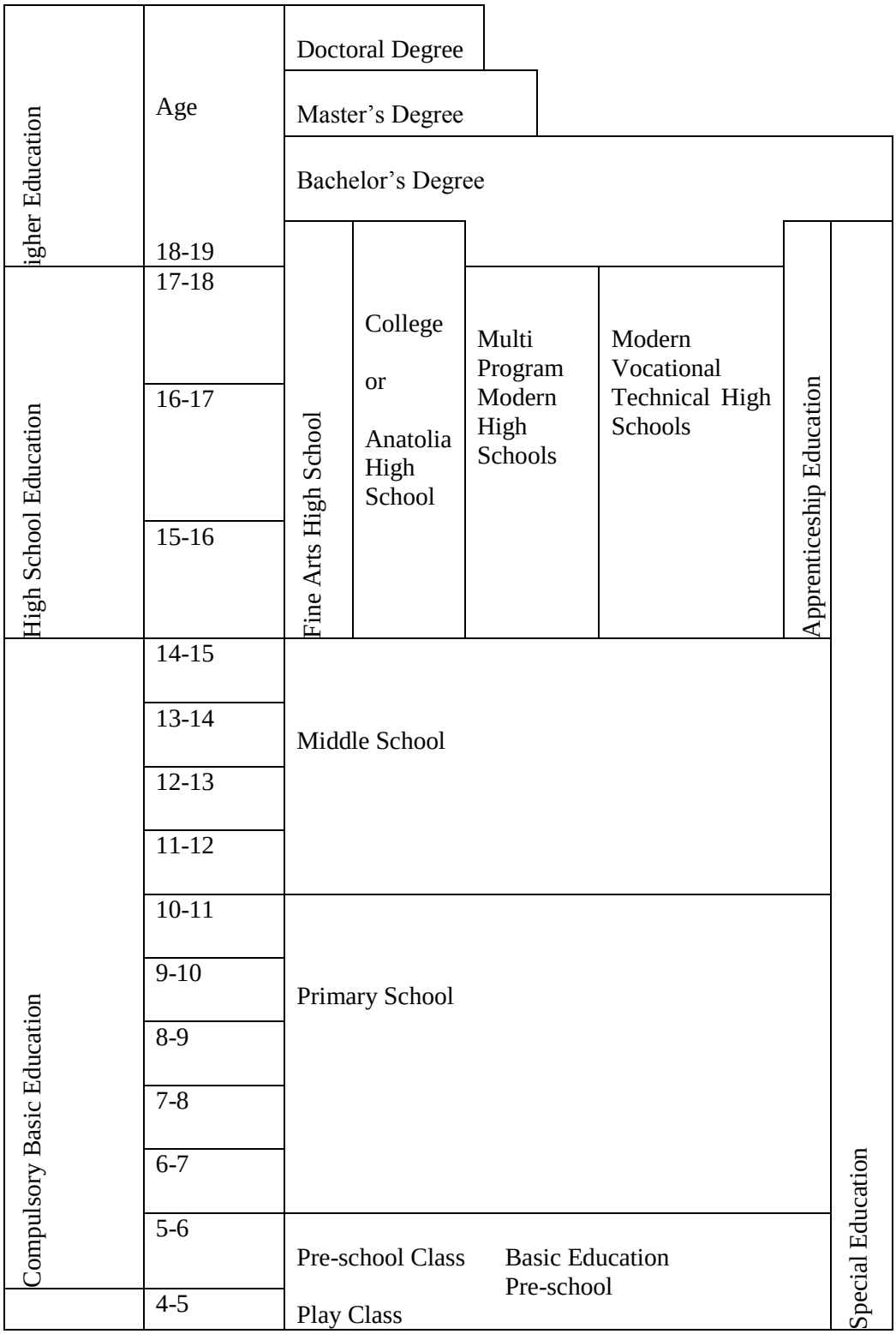

Figure 1. General structure of the Cyprus Turkish educational system

(modified from Department of EPPD, 2005, p. 12; Yaratan and Kasapoğlu, 2012)

Basic Education mainly aims “to equip children with necessary skills, attitudes and behaviors in order to raise them as useful citizens for the society, prepare them for life and for their further education, by developing their interests, inclinations and abilities” (Department of EPPD, 2005, p. 11). Pre-school and Play classes are included in compulsory education in order to expand educational facilities. For these students the educational environment will “contribute to the physical, mental, social and emotional developments of children, which are appropriate to the principle of learning through play, which enables active participation” (Department of EPPD, 2005, p. 13). In the primary school period, materials, plays, and activities are included to meet the needs of “the physical and mental development of the child” (Department of EPPD, 2005, p.13). At the end of this period children are awarded “completion certificates” and are promoted to secondary school. No examination is required. Only those who want to attend college are asked to sit for College Entrance Exams. Secondary school (part of the basic education) is for students who are between 12 and 15 years old. Students are assigned to the “Multi-program Modern High School” consistent with their “interests, inclinations, success and skills at the end of Secondary School Period” (Department of EPPD, 2005, p. 14).

It is claimed that “efforts are continuously made to promote the pupil's skills such as self-control, searching, inquiry, communication, creativity and self-knowledge through the understanding of pupil-centered education and lifelong learning” (Department of EPPD, 2005, p. 15). Due this understanding, a common program is offered to these students in order to provide support and orientation. Students are taught through appropriate objectives and contents that correspond to "the European Language Portfolio" and "the European Language Passport" so that they

can improve their foreign-language skills. From the 6th grade, students choose either German or French as a second language in addition to English so that they can communicate with people of different cultures. In secondary school education the curricula and the book content are common. The language of instruction is Turkish in the 6th grade. Students who reach a satisfactory level at the end of 6th grade can take mathematics, science, history and geography in English in the upper grade levels. Students can choose "optional subjects" in line with their interests, inclinations, and needs. Optional subjects aim to support and orient students toward high school programs. Students who want to take GCE/IGCSE programs choose a content-based subject titled "Academic English" as an optional subject in addition to the compulsory English subject from the 6th grade onward (Department of EPPD, 2005, p. 15). It is claimed in the report that "with the expansion of Multi-program Vocational High Schools and Modern High Schools (Turkish-Mathematics, Science, Social Studies, Foreign Language, GCE/IGCES), students will be able to select a program in their own school much more easily" (Department of EPPD, 2005, p. 16).

1.1.2 System for Admission to Higher Education

In this section, first the historical development of the matriculation exams, then their basic features determined by ÖSYM, then the tests and calculation of the weighted composite scores, and finally the IGCSE will be the focus.

1.1.2.1 Historical Development in the System for Admission to Higher Education

Since 1974 nearly all higher education institutions have considered the test results done by the ÖSYM when accepting students (ÖSYM, 2006). Before the 1950s students were given graduation examinations by the individual schools, or they sat

for the “matriculation examination” administered by the Ministry of National Education (MNE), because there were not many applicants to higher education programs (ÖSYM, 2006). When the capacities of the universities became insufficient to accept all the applicants, then the universities decided to use matriculation examination results in order to select the applicants. After the 1950s, a significant increase was seen in the number of applicants; therefore, the existing admission procedures became inadequate. Thus, some universities decided to have their own selection tests and started to implement them. They used essay-type questions in the test that were difficult to assess objectively. Later, objective tests were introduced, but they were not adequate (ÖSYM, 2006).

In 1963, the “Inter-university Board” established “the Inter-university Entrance Examination Committee” (ÖSYM, 2006). It was the committee’s task to investigate the feasibility of expanding Ankara University’s selection system to cover all the universities in Turkey. In 1964-65 universities started a centralized system. Ankara University prepared and administered the entrance examinations in the first two years of the centralized system. Between 1966 and 1973 Istanbul University organized it, and in 1974 Hacettepe University coordinated the examinations. The system was not fully centralized as the application to the universities was individually done by students. In 1974 Hacettepe University devised a central placement system and put it into practice after the central selection examination. During that time, an enormous increase was seen in the quantity of students completing high school and applying to university. Besides the difficulty that it was the responsibility of one institution to prepare and administer the university entrance examinations, the enormous increase in the number of applicants compelled the need for the establishment of a center that

would enable stability and consistency in test preparation and administration. Thus, in 1981 the "Interuniversity Student Selection and Placement Center" joined to "the Higher Education Council" (YÖK) and was called "the Student Selection and Placement Center" (ÖSYM, 2006).

1.1.2.2 System for Admission to Higher Education from 1974 to 1980

The entrance examinations organized by ÖSYM had the following characteristics: "A four-test sequence" which covered general ability in "mathematics,", "Turkish language and literature," "natural sciences," "social sciences," and "foreign languages" was used (ÖSYM, 2006). There was just one session in the test. The test was in all examination centers simultaneously on the same date. In the application forms, the applicants ranked a maximum of 18 universities as their preferences. This number increased to 30 in 1975 and then decreased to 20 in 1976. "The test scores were transformed to standard scores" (ÖSYM, 2006). These standard scores were used to calculate "four types of composite scores: 1) natural sciences, 2) social sciences, 3) natural and social sciences, 4) foreign languages," and when placing students in the programs, their "composite scores" and "preferences" were considered together with the number of places available in each university (ÖSYM, 2006).

1.1.2.3 System for Admission to Higher Education from 1981 to 1998

A two-stage examination was introduced in 1981, and the candidates' high school grade point averages were included with the composite scores (ÖSYM, 2006). Also, a separate examination for foreign students (the "Examination for Foreign Students" [YÖS] was introduced. The 1981-1998 system had similar selection and placement procedures to the previous system but had two stages: "the Student Selection

Examination" (ÖSS) and "the Student Placement Examination" (ÖYS). There was about two months between the administrations of these stages. The "application procedure, organization of the examination, first stage of the examination (ÖSS), ranking preferences for the programs, and the placement system" were similar to the previous systems (ÖSYM, 2006).

ÖYS was administered in June. A five-test sequence was used in ÖYS: "mathematics," "natural sciences," "social sciences," "Turkish language and literature," and "foreign language" tests (ÖSYM, 2006). Students had the chance to choose three of them. However, the Turkish language and literature test was compulsory (ÖSYM, 2006).

YÖK announced that there had been a high correlation between the results of the first and second stages; therefore in 1998 ÖSYM administered only one stage. Starting from 1999 only the results of the first stage would be used to select and place students into higher education programs (ÖSYM, 2006).

1.1.2.4 System for Admission to Higher Education from 1999 to 2012

From 1998 to 2010, there had been only one stage in the university entrance examination system, which shared many characteristics with the previous ones: e.g., the application process, format of the test, "ranking preferences" of students, and "placement system" (ÖSYM, 2006). The weighted composite scores were calculated by adding the points received from the ÖSS and Secondary Education Achievement in order to determine students' admission to higher education programs.

In 2006 a one-stage examination was still in use, but some of the questions were asked in a manner similar to those on the ÖSS. Some others were asked in accordance with the whole high school curriculum. In 2010, a two-stage exam

system was introduced once more. This time the first stage was called the Examination for Transition to Higher Education (YGS), and the second-stage was called the Examination for Placement for Undergraduate Studies (LYS). In the first stage there were Turkish Language, Social Sciences, Mathematics and Sciences sections and 160 questions (40 questions in each section). The examination's duration was 160 minutes. The second stage consisted of five tests: LYS1 (mathematics and geometry), LYS2 (sciences), LYS3 (Turkish language and literature, and geography 1), LYS4 (history, geography 2, and philosophy group), and LYS5 (foreign languages). Still the test procedures from application to the placement were organized in the same way (ÖSYM, 2006).

1.1.2.5 The Fundamental Elements of ÖSYS

In Turkey, students are selected and placed at universities through ÖSS. ÖSYM is accountable for the administration of ÖSS. ÖSYM is connected to the Higher Education Council (YÖK).

As the applicants to universities surpassed the capacities of the universities, two main objectives were set by the ÖSYM: "To assure a balance between the demand for higher education and the places available in the higher education institutions; 2. To select and place students with the highest probability of success in all available higher education programs, considering their preferences, and performance on ÖSS" (ÖSYM, 2006).

The fundamental elements and standards of the examination are as follows: only universities can provide "higher education;" students should take ÖSS in order to attend the universities. The rules and regulations are outlined in "the Higher Education Law"; and "ÖSYS Guides." Holders of a high school diploma or

equivalent are qualified to apply for the examinations; performance of students on the tests and their high school achievements were considered in the calculation of the scores. School quotas, score ranks, students' preference lists, and university requirements were considered in selection and placements of students, and test administration was the responsibility of the center (ÖSYM, 2006).

In ÖSYM there is a unit called the "Test Development and Research Unit" whose responsibility was to develop items, construct test, analyze items, and conduct research about the administered tests (ÖSYM, 2006). The unit has academic groups from the following fields: mathematics, the natural sciences (chemistry, biology, and physics), the social sciences (history, geography, sociology, psychology, and philosophy), Turkish language and literature, and foreign languages (English, German, and French), and some other sections. In each group, there are measurement specialists, subject-area specialists, item writers, and psychometric consultants (ÖSYM, 2006).

In 2006 ÖSYM changed the structure and the content of the test. ÖSS was composed of the following tests: "Turkish," "Mathematics-1," "Mathematics-2," "Social Science-1," "Social Science-2," "Science-1," "Science-2," "Literature/Social Science," and "Foreign Language" (ÖSYM, 2006). The contents of "Turkish," "Social Science-1," "Math-1," "Science-1" and "Foreign Language" were similar to that of the previous ones given before 2006. The contents of these tests agreed with the contents of Grades 6, 7, 8, and 9. The contents of the second ones were based on the contents of Grades 10, 11, and 12 curricula. All the tests were given in one booklet to the candidates, who were asked to respond only to the items related to their field. However, some sections were compulsory (e.g., "Turkish," "Social

Science-1," "Math-1," and "Science-1" tests). The others should be selected accordingly (ÖSYM, 2006).

In all the tests, the quantities of right and wrong responses of the candidates were counted separately. One-fourth of the wrong responses were subtracted from the right responses to obtain the "raw scores". Then T scores were calculated using these raw scores to get the "composite scores" for each candidate. These were used to select and place students into four- or more-year undergraduate or two-year vocational higher education programs (ÖSYM, 2006).

1.1.3 General Certificate of Secondary Education

In England, Northern Ireland, and Whales, normally students 15-18 years old take various General Certificate(s) of Secondary Education (GCSE), but anyone can take them if they want to get a qualification in any subject that interests them. In 1986 two systems (the "General Certificate of Education O Level" and the "Certificate of Secondary Education") were merged into one system to assess post-16 learners[4]. GCSEs have tests on over 50 subjects. Applicants can take a wide range of subjects to keep their options open. It was reported by OFQUAL that they award "more than 6.5 million" GCSEs per annum (OFQUAL[5], 2010; Directgov, n.d; CIE[6], 2008). Students have to study some subjects such as science, mathematics, English,

[4] Learners and students were used interchangeably throughout the dissertation to refer to individuals who enrolled a formal program of instruction.

[5] OFQUAL is an abbreviation for Office of Qualifications and Examinations Regulation. Hereafter it will be referred as OFQUAL.

[6] CIE is an abbreviation for Cambridge International Examinations. Hereafter it will be referrred as CIE.

Information and Communication Technology (ICT), religious education, physical education, and citizenship together with other qualifications (e.g., vocational subjects) until the age of 16 as part of a diploma (OFQUAL, 2010).

It is noted that in 2007, there had been revisions to the GCSEs to maintain standards and to ensure that they agreed with changes made by the government in regards to the content and learning objectives of 14-19 curricula (OFQUAL, 2010).

Normally it takes 2 years to complete a GCSE course during which students are given a coursework (e.g., artwork, projects, experiments, fieldwork, or investigations) in some subjects. This also counts toward the final grade and the sit examinations (OFQUAL, 2010; Directgov, n.d).

Many GCSE courses are currently split into different units. This provides the opportunity to students to take tests throughout the course rather than taking lots of tests at the end of their course of academic studies. If students do not do well as they expected on a test they sat for, then they can re-sit the exam in order to improve their grades. When they do so, their best mark is counted toward their final GCSE grade. Yet, re-sitting an exam is not an easy decision as it requires extra work and time for students (OFQUAL, 2010; Directgov, n.d; CIE, 2008).

It is informed by OFQUAL (2010) that students can achieve "pass grades from A* to G" when they take the GCSE. The minimum grade to pass is "G". If students cannot get this minimum grade, then a "U" grade is awarded, which means "unclassified" (OFQUAL, 2010; Directgov, n.d.).

There are slight differences in the organization of the subjects. For example for subjects like art and design, music, and history the organization of the test paper is similar, but for subjects like foreign languages, science, or mathematics, there are

two tiers given as an option to students: “higher tier” and “foundation tier”. There is a different range of grades in each tier: The ones taking the higher tier will be able to get “A*, A, B, C, or D;” “C, D, E, F or G” are given in the foundation tier (OFQUAL, 2010; Directgov, n.d.; CIE, 2008).

It is informed by OFQUAL (2010) that the exams are structured in the way mentioned above to ensure that equal opportunity was provided to everyone with different abilities and also that variety in the difficulty level of questions does not put off anyone. Students choose tiers with the help and guidance of their teachers (OFQUAL, 2010).

It is stated that five exam boards provide GCSEs in England: AQA, OCR, CCEA, Edexcel, and WJEC.[7] These exam boards are accountable for setting out the topics for the courses, writing the exam questions, checking students’ coursework and controlled assessments, and marking all exam papers (OFQUAL, 2010).

Schools decide whose syllabus they will follow in each course they offer. This means different exam boards can be chosen for different subjects in one school. However, students are informed which particular syllabus will be followed (OFQUAL, 2010; CIE, 2008).

Three regulatory authorities (OFQUAL in UK, the “Council for the Curriculum, Examinations and Assessments” in Ireland, and the “Department for Children, Education, Lifelong Learning and Skills” in Wales) administer what exam boards do.

[7] AQA: Assessment & Qualification Allienace; OCR: Oxford, Cambridge & RSA (Royal Society Arts); CCEA: Council for the Curriculum, Examinations & Assessment; Edexcel: Education Excellence; WJEC: Welsh Joint Education Comittee.

Their responsibility is to monitor standards and to ensure that the difficulty level is at the standards (OFQUAL, 2010; Directgov, n.d.; CIE, 2008).

It is stated by OFQUAL (2010) that in England, Wales and Northern Ireland, 500,000 young people take GCE Advanced ('A') and Advanced Subsidiary ('AS') Level examinations per annum. The "regulators of external qualifications" changed the way the GCE 'A' levels is completed. These changes were introduced in September 2008. The reason for the changes was defined as follows: "Though the 'AS/A2' structure has proved to be successful, the regulators found that the large number of examinations placed a burden on students. Also, in some subjects, assessment focused too much on factual knowledge and understanding, and too little on thinking and problem-solving skills. The revised 'A' levels were designed to be more challenging and stimulating to students" (OFQUAL, 2010).

There was a reduction in the number of the units to be covered (e.g., from 6 to 4) in most subjects, except music and the sciences. They remained as six. This was done to reduce the burden of assessment. The changes to the assessments were as follows: inclusion of a wide variety of question types to evaluate various skills, inclusion of open-ended questions that provide students the chance to show the depth and breadth of their understanding and knowledge, and inclusion of "synoptic assessment" through which students will be able to show their ability to link different areas (OFQUAL, 2010). In order to reward the most exceptional candidates (the ones who achieved 90% or more on the "uniform mark scale"), an "A* grade" was included in the grading of GCE 'A' level (OFQUAL, 2010; Directgov, n.d.; CIE, 2008).

Students' placement in the higher education programs is done through Universities and Colleges Admissions Service (UCAS).

1.1.3.1 International General Certificate of Secondary Education

International General Certificate of Secondary Education **(**IGCSE) is available in college education system of North Cyprus. IGCSE has been created for international use and is available for various subjects. The contents of various IGCSE courses are "tailored to a global student body of rich diversity," which is recognized by UCAS, by universities in England, and by universities overseas as "equivalent grade-for-grade, with the UK [United Kingdom] GCSE qualifications" and is for 14-16 year-old students (CIE, 2008). These also, like the GCSEs, lead directly to "A/AS Levels, or employment, and are available within national education systems in many countries" (CIE, 2008).

1.1.3.2 International Ordinary (O) Level of GCE

Students aged 14-16 mostly take International Ordinary (O) Levels, as these are designed for "a multi-cultural, multilingual student group" and are similar to IGCSEs. In order to meet particular local needs, some O-level syllabuses have been developed (e.g., Turkish O level). They are alike IGCSEs and lead directly to "A/AS GCE levels or employment, and are available within national education systems" in several countries (CIE, 2008), and in North Cyprus.

The "Qualifications and Curriculum Authority" (QCA) regulates the education in schools and colleges. The National Assessment Agency (NAA) is responsible for "the delivery of national curriculum tests" and of qualifications used in schools and colleges. Its Regulation and Standards Division implemented the regulatory duties of

QCA until 2007. In 2007 the OFQUAL was set up, and since then this office has been regulating the examinations and qualifications in the UK (Boyle, 2008).

1.2 Problem Statement

External examinations, whether providing qualifications or direct admission to higher education, have a significant impact on the educational path of students aged 17-18. Therefore, the General Certificate of Secondary Education (GCSE) is important for those students who attend public or private colleges and want to continue their education abroad, and the Student Selection and Placement Examination (ÖSYS) is vital for those students who want to continue their education in Turkey. It is indicated in the documents related to GCSEs that students should follow the syllabus that is provided by the QCA in England before they sit for a particular GCSE (OFQUAL, 2010). That is to say the exam content is accepted to be parallel to the curriculum. Especially the research which exists in the literature about GCSEs proves the parallelism between contents of curricula and the GCSEs. On the other hand, ÖSYM organizes ÖSYS as an external body that does not provide any syllabus to schools to follow. The Ministry of National Education of Turkey provides the necessary curricula to schools both in Turkey and in North Cyprus. Therefore, there are many complaints among teachers and students that the items in ÖSYS do not match the subjects that have to be covered in the curriculum (Kelecioğlu, 2002). It was also found by Kelecioğlu (2002) that poor attendance and low achievement results among 17-18 year-old students are related to the disconnection between the contents of ÖSS questions and the high school 11th and 12th grades' curricula. Especially, the research by Kelecioğlu (2002) and Baykul (1990) proved that there is no parallelism between the content of the ÖSYS questions and the curricula of 12th

grade. However, these two studies only concerned the perceptions of students who participated in the study. Therefore, it can be claimed that there is no study that examines the perceptions of both teachers and students about the impact of these exams on different aspects of the curricula. Also, after a thorough review of related literature, no study was found that examines in detail the degree of relationship between the high school 10th, 11th, and 12th grades and ÖSYS and GCSEs. Hence in this study, this problem will be investigated.

1.3 Purpose of the Study and Research Questions

This study mainly aimed to determine how teachers and students perceive the curriculum, curriculum development, significance of external examinations, and effects of the IGCSEs, YGS, and LYS on sciences, mathematics, and language curricula of the 11th and 12th grades with respect to what curriculum means, curriculum establishment and development, curriculum content, implementation, and teacher-made assessments, and the content that external examinations cover. Furthermore, based on the results of teacher and student perceptions of the effect of external examinations on the content of school curricula, the next objective of the research was to implement content analysis for the documents perceived as curriculum (i.e., the textbooks and the contents of the external examinations mentioned above, which were delivered in 2010, 2011, and 2012) in order to find how consistent their contents were. For this purpose the following research questions were addressed:

1. How do teachers and students perceive curriculum and curriculum development?

2. How do teachers and students perceive the consistency[8] between external examinations and the content of 11th- and 12th-grade curricula?

3. How do teachers and students perceive the effect of external examinations on curriculum implementation in the 11th and 12th grades?

4. How do teachers and students perceive the effect of external examinations on teacher-made assessment procedures in 11th and 12th grades?

5. How is the consistency between the content areas of the 11th and 12th grades curricula and the external examinations?

1.4 Significance of the Study

Lots of studies have been conducted on the evaluation of curriculum; perceptions of students, teachers, academicians, parents, and the general public about the curriculum and the external examinations; impact of the external examinations on the achievements, attitudes, learning approaches of students; impact of the external examinations on teachers' perceptions and teaching methods. This study combined different evaluation procedures to explore the proposed purpose and contains constructivist evaluation and the improvement-oriented approach (as it particularly enables awareness rising by informing the stake holders) (Stufflebeam, 2001, p. 71). Document analysis was used to analyze the test and textbooks in terms of content centrality, balance, and range. In this regard, it is believed that the study will benefit all the stake holders and contribute to the field of curriculum.

[8] Consistency was used to mean to 'be in agreement' or 'a condition of close association'; therefore, the word '*consistency*' referred to the agreement and close association between the contents of textbooks and external examination. Yet, the word 'consistency' should not recall 100% agreement or 100% association.

1.5 Scope of the Study

This study was limited to the 11th- and 12th-grade curricula of public high school and the 11th- and 12th-grade curricula of public colleges in North Cyprus; the Examination for Admission to Higher Education (YGS), and the Examination for Placement for Undergraduate Studies (LYS) LYS1, LYS2, LYS3, and LYS5 administered in 2010, 2011, and 2012; and the corresponding IGCSEs.

The Basic Education of the Turkish Education System in North Cyprus is not a concern of this study. Other external exams such as the college placement examination for 5th grade, the Level Indicator Examination (SBS)[9], the entrance examinations organized by the local universities for admission to higher education institutions in North Cyprus were not included to this study. Moreover, the evaluation or content analyses of the whole secondary education curricula were beyond the scope of this study.

[9] Level Indicator Examinations, which are called SBS (Seviye Belirleme Sınavı) in Turkish, have been administered to 4th and 5th grades of basic education to control the application of the Basic Education curriculum in all schools in North Cyprus.

Chapter 2

LITERATURE REVIEW

2.1. Overview

There are numerous studies carried out abroad and in Turkey about the impact of external examinations with various focal points. In this section, selected and reviewed literature related to the impact of external examinations on various aspects of curriculum is presented. The section has four subheadings: review of studies conducted abroad concerning the effects of the standardized tests, review of studies conducted in Turkey in relation to the effects of university entrance examinations, review of studies conducted in Turkey about the perceptions of teachers about the textbooks used after the curriculum reform of 2005, and review of studies conducted about alignment.

2.2 Review of Studies Conducted Abroad about the Effects of the Standardized Tests

This section covers the review of studies conducted abroad concerning the effects of the standardized test.

2.2.1 Review of Studies Conducted in the USA, Canada, Japan, and Sri Lanka about the Effects of the Standardized Tests

American College Testing (ACT) that is college readiness assessment is a standardized test. It assesses high school achievement and directs to college

admission in the United States of America (USA). It is administered by ACT incorporation (ACT, 2013). The ACT consists of five tests: Mathematics, English, Science, Reading, and Writing. The Scholastic Assessment Test (SAT) is also a standardized test used for college admission in the USA. It is designed and administered by Educational Testing Service (The College Board, 2013). The three major sections on SAT are writing, critical reading, and mathematics.

In the state of North Carolina, an intensive testing program has been implemented since 1996-7 academic year. Students from Grades 3 to 8 are required to take minimum one standardized test for every year, and these exams are called "End of Grade" (EOG) exams (Mesler, 2008). According to Mesler, schools are ranked according learners' test scores. She added that while schools that do well are provided incentives, schools with constantly low scores are forced to either complete restructuring, or to provide free tutoring, or transportation to other schools by the state or national government. Mesler (2008) examined the impact of high-stakes testing on North Carolina public schools organization and management.

Research studies related to the impact of high-stakes tests in the USA can be categorized as

- Effect on student retention and learning (Amrein and Berliner, 2002a, 2003; Axinn, Duncan, and Thornton, 1997; Christle, Jolivette, and Nelson 2007; Cimbricz, 2002; Goldschmidt and Wang, 1999; Hoffman and Nottis, 2008; Jacob, 2001; Marchant, 2004; Marchant and Paulson, 2005; Paris and Urdan, 2000; Rumberger, 2001; Rumberger and Larson 1998).
- Effects on teachers (Abrams, Pedulla, and Madaus, 2003; Barksdale-Ladd and Thomas, 2000; Cimbricz, 2002; Herman, Abedi, and Golan, 1994; Kohn,

2004; Marchant, 2004; Moon, Brighton and Callahan, 2003; Paris and Urdan, 2000)

- Effects on Curriculum (Amrein and Berliner, 2002b; Cimbricz, 2002; De Luca, 1994; Klein, Hamilton, McCaffrey, and Stetcher, 2000; Linn, 2000; Linn, Graue, and Sanders, 1990; Marchant, 2004; McNeil, 2000; McNeil and Valenzuela, 2001; Nichols and Berliner, 2005; Nichols and Berliner, 2007; Watanabe, 2007)
- Washback-effect of tests (Alderson and Wall, 1993; Biggs, 1995; Cheng, 1998; Hayes and Read, 2004; Madaus, 1988; Madaus and Kalleghan, 1992; McEwen, 1995; Nolan, Haladyna, and Haas, 1992; Saville and Hawkey, 2004; Shepard, 1990; Smith, 1991; Stecher et al., 2000; Stecher et al., 2004; Watanabe, 1996)
- on the achievements of students (Bishop, 1995, 1998)
- on teacher professionalism (Runte, 1998)

Rumberger (2001), and Axinn et al. (1997) found that students who retained because they could not score above the cut-off point in the high-stakes were more inclined to leave school (see also Rumberger and Larson 1998; Goldschmidt and Wang, 1999; and Christle et al., 2007).

In his research about the impact of high school graduation exams, Jacob (2001) use data provided by the National Educational Longitudinal Survey and High School and beyond. He used graduation tests scores of students from various schools in 15 states. He found that 25% of students who received poor test scores on the high-stakes had more tendencies toward leaving high school compared to those who did not take these tests (p.114). Yet, he analyzed only one cohort of student (Grade 12) which was one of the limitations of his study, and he compared various states. He

suggested to include different cohort of students and looked within states in order to compare learners' achievement scores obtained before the state implemented graduation test policy to the achievement scores after the state implemented graduation test policy.

Marchant (2004) in his paper discussed how students' learning was affected by the high-stakes tests and said that no feedback was provided to students on their incorrect responses; therefore, the results only demonstrated the knowledge and skill not the learning. He further discussed that with the results obtained from these tests students could pass the succeeding grade or retained. The results also determined students' graduation from high school, or admittance to a college. He said that all these consequences had major impact on students' lives. Similarly to Jacob's (2001) study, Marchant (2004) also mentioned that the rates of drop out were higher among students who obtained poor test scores and were retained from progressing to the next grade (see also McNeil et al., 2008).

Marchant and Paulson (2005) examined "the effect of high school graduation exams on states' graduation rates, states' aggregated SAT scores, and on individual students' SAT scores" and added "several demographic factors known to impact students' test results and graduation rates" (p. 2). They used the "state aggregated data (n = 51) on enrollment by grade level and graduation numbers" provided by The National Center for Education Statistics. They used data from 1999 (freshmen) to 2002 (seniors). They divided the amount of graduating seniors in 2002 to the amount of enrolled freshman students in 1999 for all states in order to compute graduation rates. They also used data on race, family income, and participation in special education from the same source, and used the College Board's 2001 SAT database to

obtain records of all test-takers. They found that graduation examination might have an adverse effect not only on graduation rates but also on SAT scores and might be a detriment to higher education.

Amrein and Berliner (2002a) focused on 16 states with exit exams. They studied drop-out and graduation rates of students. Their findings showed a rise in drop-out but a decline in the graduation rates. Moreover, Amrein and Berliner (2003) studied the high-stake test results of 18 states in order to explore if these tests had positive effect on student learning. They found that policies of high-stakes testing impaired student learning as they did not help them to improve their achievement. According to them, when learning was configured toward succeeding on tests, then students would be discouraged from studying subjects of their interest which in turn would decrease their motivation to learn. They also found that these tests caused students to feel more stress, frustration, and annoyance (for instance, Paris and Urdan, 2000 and Cimbricz, 2002).

Hoffman and Nottis (2008) studied the perceptions of 215 Grade 8 students of high-stakes tests. Their study revealed that students though that the tests were useless and worthless (p. 218). Use of small sample was the limitation of this study.

Marchant (2004) found that teachers thought that the grades of the high-stakes were useless. Moreover, teachers claimed that these test results misjudged by the parents and the community (p. 4). Therefore, teachers changed their teaching strategies to increase learners' test scores (see also Paris and Urdan, 2000, and Cimbricz, 2002). Moreover, teachers increased time spend on test practice and brought more test-oriented materials to classes. As stated by Marchant (2004), "teachers tend to narrow the scope of their curriculum to that which is tested, and

they tend to abandon more innovative teaching strategies, such as cooperative learning and creative projects, in favor of more traditional lecture and recitation" (p. 4). Similarly, Cimbricz (2002) also found that teachers were inclined to ignore the topics not asked in the tests among teachers and to avoid the use of innovative instructional methods. They narrow the curriculum to align them to high-stakes content.

Barksdale-Ladd and Thomas (2000) tried to find out teachers' perceptions about the tests and what instructional decisions they made toward these tests. They interviewed 59 teachers and 20 parents in two large states. They found that the high-stakes increased the pressure on teachers that cause them to feel stressed and frustrated. According to teachers, their perceptions of child development clashed with the state standards, particularly with the notion that the learning rate changed from child to child (p. 388). Moreover, they found that teachers worried about their job securities. They found that "teachers frequently had fears of having salary cuts, losing a job, or being forced out of teaching as a result of low test scores" (p. 391). They found the following teaching practices and activities ended or were used very rarely by teachers:

> (a) silent reading; (b) buddy reading and shared reading; (c) book talks; (d) collaborative writing and writing process; (e) science experiments; (f) picnics; (g) field trips; (h) classroom cooking; (i) classroom drama, choral reading, and skits; (j) thematic, integrated instructional units; (k) creative activities (particularly creative, imaginative writing experiences); (l) games (math and reading); (m) manipulative mathematics experiences; and (n) breaks and recess. (p. 391)

Kohn (2004) discussed the positive effects of high-stakes testing on learning and teaching. According to him high-stakes testing raised awareness among teachers about what is essential to teach and also guided students to learn the important topics.

He also claimed that it was essential to hold teachers responsible from the poor test scores, so that they would try to teach well and to drive poor-scored students to study harder. Observation and reflections were used in the study, and they said that the lack of empirical evidence was the limitation of their study.

Herman et al., (1994) examined 48 schools in the USA to find the high-stakes tests' influence on these schools. Their results showed that teachers expose a small part of curriculum to test takers. This small part did not include subjects or skills that were not tested, such as art and thinking skills. Similar to Herman et al., (1994), Moon et al., (2003) analyzed how classroom practices were affected by high-stakes. They found that teachers used 98% of class time for teaching toward state-mandated tests due to the pressure within the school system toward improved tests scores. In their study teachers reported that they gave a lot of worksheets, past exam-paper and question type review and practice, test-strategies to their students, and also declined the use of all these significantly after the examinations.

Urdan and Paris (1994) studied how teachers perceived the high-stakes tests effects. 300 Michigan teachers participated into their study. They found that majority of teachers perceived that these tests had negative effects on classroom practices. Teachers said they spent more time of class-time on preparing students, shifted to test-oriented teaching. Teachers also believed that parents though and believed that the test-scores were the indicators of the quality of the school.

Abrams et al., (2003) conducted their search with teachers whom were selected from various high and low risks schools. They studied teachers' attitudes toward the tests. They found that teachers in high and low risks schools sacrificed the content that were not on the tests and oriented their teaching toward the tests. They did not

do field trips, and projects that would boost students' creativity; instead they focused on tests preparation to enhance the scores.

Similar to Marchant (2004) and Cimbricz (2002), much research has detected that "high-stakes tests can narrow the curriculum" (Watanabe, 2007; see also Amrein and Berliner, 2002b; Klein et al., 2000; Linn, 2000; Linn et al., 1990; McNeil, 2000; McNeil and Valenzuela, 2001; Nichols and Berliner, 2005, 2007); namely, the curriculum of a particular subject was contracted only to the topics/subjects that were tested.

Collins, Reiss, and Stobart' (2010) study focused on the experiences and opinions of science coordinators, primary head-teachers, and year 6 teachers. They tried to find the effects of the tests in the UK. They combined qualitative and quantitative methods to explore the phenomenon in the UK. They found that "test preparation is perceived by teachers to narrow the curriculum, and for science in particular, as the inclusion of only those aspects of science likely to be included in paper and pencil tests is said to have reduced many aspects of investigatory science in Y6" (p. 273).

According to McEwen (1995) "what is assessed becomes what is valued, which becomes what is taught" (p.42). Much research concerning the impacts of high-stakes tests revealed narrowing of the curriculum, adverse effects on classroom instruction, and mostly undesirable effects on students learning. Besides these, there were studies focused on the wash-back effect of various types of tests. Washback or backwash (Alderson and Wall, 1993; Biggs, 1995) refers to the drive that orients teaching and learning toward tests/examinations. Popham (1987) defined it as "measurement-driven instruction," which was explained as the attempt to "match" the test content and format and curriculum content and format or the textbook

content and format to each other. This was referred as “curriculum alignment” by Shepard (1990). The literature review of the studies related to washback effect (Anderson et al., 1990; Cheng, 1998) were analyzed as

1. Wash-back studies revealing how teaching and learning were negatively affected by traditional, large scale, multiple-choice tests (Madaus, 1988; Madaus and Kalleghan, 1992; Nolan et al., 1992; Shepard, 1990; Smith, 1991; Wall, 2000; Watanabe, 1996)

2. Studies exposed how teaching and learning were changed due to washback (Cheng, 1998; Wall, 1999; Stecher et al., 2000).

For instance, Noble and Smith (1994) studied the washback effects of tests on instruction and learning. They detected that teachers were negatively affected and test-oriented teaching boosted the scores but did not promote general understanding (p.6). Moreover, Smith (1991) listed the negative effects of backwash as a) limitation in instruction time b) narrowing on curriculum, and c) reduction in the capacities of teachers (p. 8). Furthermore, Anderson et al., (1990) investigated the effects of re-introduced final examination at Grade 12 in British Columbia and found that the content of the curriculum was narrowed to the ones tested in the exams by teachers, which students tend to use memorization method rather than critical thinking skills. Likewise, Calder (1997) found that when teaching and learning shifted toward the content tested, then both became limited and confined to testable topics and content. Similarly, Stecher and Barron (1999) when studied the effects of Kentucky education reform found that there had been significant variation in the curriculum coverage from one grade to another and in different subject matters. For instance, they found that there had been more reading, writing and science instruction in Grade 4 and 7

because these were tested end of these grades, and there had been more social studies, mathematics, and arts/humanities instruction in Grade 5 and 8 as they were tested in them. They also found that teachers focused on short writing passages at the expense of other types and genres because there were short written passages on the test.

Stecher et al., (2004) studied the effect of the Washington educational reforms on schools and on instruction. They found that teachers of fourth-grade spent 63% of the instructional time to subjects tested and spent less time on the untested subjects such as arts, social studies, and health and fitness, although these untested subjects were among the state standards. This reflected the impact of the tests on the allocation of instructional time. They also found that in most schools curricula of the subject matters were aligned to the high-stakes tests, which reflected the tests' impact on "curriculum surrogate," which was the textbook (Shepard, 1990).

Generally studies examining the washback effect focused on language tests. Two studies focused on International English Language Testing System (IELTS) were Saville and Hawkey (2004) and Hayes and Read (2004). The former study focused on the washback effect on teaching materials and the latter on students. In the former study, it was found that materials and textbooks reflecting the format and the skills being tested were mostly preferred by teachers and learners. In the latter study, it was found that instruction was mainly teacher-oriented, materials were test-oriented and students were receiving instructions about effective test strategies. They found positive impact on the overall scores as students pre- and post-test results revealed a difference of 0.5-1.5 increase.

Watanabe (1996) examined how the use of the grammar-translation method was affected by the university entrance examination in Japan. His results revealed a minor connection between the method under investigation and the test content. Yet, he found that teacher factors, such as individual opinions and academic background, played a great role in the method used by a teacher. Therefore, as indicated by Wall and Alderson (1993) tests might affect what to be taught but not how to be taught.

Another study about the backwash effect of external exams was conducted by Wall (2000) as a case study in Sri Lanka. Her focus was the Sri Lankan O-level Evaluation Project, and her aim was to evaluate whether a new national examination in English had created a positive impact in the classroom or not. Her project was based on extensive observational data and distinguished between the impact on content in teaching of the new examination and the impact on methodology. She also investigated the effect of the examination on teacher-designed assessments and on teachers' attitudes. Wall (2000) highlighted the importance of running detailed prior studies in advance of any major examination reform program in order to determine how much change the institutions and individuals would tolerate. Wall's study demonstrated that these exams had a wash-back effect on classroom teaching. In the wider context of wash-back effect studies, Wall (2000) concluded that change in examinations might be a necessary condition for a change in the curriculum, but argued that her study shows that in itself it is not a sufficient one.

Bishop (1995) examined the effect of "curriculum-based external examinations" (CBEE) on student learning and "school priorities" (p. 1). A stratified random sampling method was used to select samples. Data were collected from various states in the United States and provinces in Canada. He compared states and provinces

using CBEE with the ones lacking them. In terms of school priorities, Bishop (1995) found that schools using CBEE hired specialist teachers who were better trained, had better science facilities, and scheduled more class time for science and mathematics. Their students outperformed students whose schools lacked CBEE. He suggested that comparative data on tasks, time, student engagement, homework, and peer pressure against learning should be collected and analyzed as a further study; the impact of variations in the external examination systems' structure should also be examined. This research was a sample of how external examinations affect the priorities of students, teachers, parents, and schools. Due to external examinations, higher priority could be placed on students' achievements. Yet, there might be other priorities, as well as an effect of external examinations, such as giving priority to the content, on the skills that have a higher probability of being on the test.

Another study carried out by Bishop (1998) was about the effect of the "curriculum-based external exit examinations"(CBEEESs) on the achievements of students. Comparing nations and provinces with and without such systems, Bishop examined three different data sets: (a) in the 40-nation "3rd International Math and Science Study", the mathematics and science achievements of 7th and 8th graders; (b) in the 1991 "International Association for the Evaluation of Educational Achievement's Reading Literacy Study" the literacy in reading of students aged 14; (c) and on the "International Assessment of Educational Progress", the mathematics, science, and geography scores of 13-year-old for 16 nations and nine Canadian provinces. Samples were selected randomly. Bishop (1998) indicated that much of the impact of CBEEESs on the achievement of students originated from the changes they stimulated in teacher pedagogy and school priorities. He compared student

achievement in 22 TIMSS[10] nations' national school systems using CBEEES for math and science subjects for seven nations lacking CBEEES and found that the countries using CBEEES in mathematics and science had higher TIMSS scores. Bishop (1998) also analyzed the International Association for the Evaluation of Educational Achievement (IEA) reading literacy scores of 14 year-olds in 1990-91; he used the age standardized reading scores to prevent the problems related to different ages of entry to school and policies related to grade retention. Bishop (1998) in his study "defined and measured three different types of reading literacy: narrative, expository, and document" (p. 11). The findings showed that diploma exams had positive effects on reading achievements. The Learning and Emotional Assessment Program (LAEP) was the third data set Bishop (1998) used to test CBEEES effects, four nations' (Switzerland, Romagna, Scotland, USA, and England) schools were sampled, and 30-34 samples were randomly selected among 13-year-olds from each school. He assigned half of these students to the science assessment and the other half to the mathematics assessment. It was found that for mathematics the effect of CBEEESs was highly significant, but for science it was smaller and non-significant. Canada was one of the countries in the LAEP that assesses geography. Bishop (1998) analyzed data collected from the provinces in Canada and found that the effect of CBEEESs on student achievement for geography was highly significant.

Both studies carried out by Bishop (1995, 1998) reflected the positive effects of external examinations on curriculum. The former (1995) showed that priorities were placed on teacher training, betterment of science facilities, mathematics and science

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courses, and the time allocated to these courses. Yet, while more priority was given to these courses, the rest of the courses could be overlooked, which might be a negative effect. The latter (1998) showed a positive effect on student achievements.

Another study that focused on the impact of the centralized examinations belongs to Runté (1998). It was a case study carried out in Alberta. He analyzed the impact of external examinations on teacher professionalism. Observation and interview techniques were used to collect data. He conducted 43 semi-structured interviews with Student Evaluation Branch personnel. In Alberta, external tests are mandated for Grade 12 students in English, social studies, mathematics, and the various sciences; for Grades 6 and 9 in social studies, language arts, mathematics, and science; and for Grade 3 in mathematics and language arts. The other grades and subjects are not involved in this system. Runté (1998) indicated that "the diploma examinations account for only 50% of students final grade; the other 50% is based on the teacher-assigned mark" (p. 169). The conclusion of the research was that the external exams seriously erode teachers' assessment skills and control over their work process. According to him, these exams had broken teachers' control over assessment of their own product and over the definition of adequate knowledge and student success (i.e., goal setting). He suggested that teachers be granted some measure of technical discretion (i.e., control over means) in implementing state-determined goals (p. 180). This quantitative study was an example of how teaching was affected by the external examinations.

2.2.2 Review of Studies Conducted in the UK about the Standardized Tests

Research studies related to GCE 'A' level, GCE, and GCSE examination systems consider perceptions of all stake holders about the relevance of the information tested

on the examinations; the qualifications of the examiners, confidence toward the implementation and regulation of the examinations, awareness and attitudes of the general public and teachers about the examination systems, the accuracy and quality of assessment systems; and teacher confidence about the accuracy of the results (QCA, 2007, pp. 2-3).

Goldstein and Thomas's (1996) research focused on performance. They mentioned that in England and Wales, newspapers publish league tables in which they report examination results for each school. Therefore, they focused on the external examination results to find out if these really were the indicators of school and college performance. The research was conducted during 1992 and 1993 in England and Wales. Samples were randomly selected A-level candidates. A total of 21654 students from 325 institutions participated. Data were A-level, AS- level, and GCSE results. A survey method was used to obtain data on the number of GCSE examinations taken, the gender of students, the gender composition of the institutions, and the age of students. GCSE results were used as covariates. The result was that due to variety in students' profiles within and among institutions, the use of examination results as indicators to compare student performances on an institutional basis was imprecise and impossible when using the raw, unadjusted, or adjusted results. They suggested that the study could be spread over long periods and qualitative research should be added to follow the changes in the institutions over that time. This research was a sample study on one of the effects of external examinations (i.e., student achievement on these examinations was perceived as an indicator of quality of education offered in institutions). However, not only variety in the profiles, but also other factors could be affecting the performance of students.

Another series of studies conducted about the impact of external examinations was authorized by the QCA in the UK about the GCSEs and GCE 'A' level. After the 2007 examinations session, QAC commissioned Ipsos MORI to perform a six-wave exploration to evaluate how all stake holders perceived the 'A'-level and GCSE examination systems. The waves were quantitative surveys of perceptions toward A-levels and GCSEs. The last wave included "accuracy/quality of marking; preparation for employment and further/higher education," enquires about result services, and "preferred channels for the receipt of exam results" (QCA, 2007, pp. 1-2).

The aim of these six-waves was to obtain more insight into how all the stake-holders perceived the GCE 'A' level examination system and GCSEs in terms of "the relevance of the information received on the examinations," "the qualifications,", "confidence in the exam system," "teachers' awareness of ratings," " awareness and attitudes to the examination system," "the fairness of the exam system," "effectiveness of QAC at regulating the examination system," "how well current 14-19 qualifications prepare students for employment and further education," "preferred channels for the receipt of exam results," "the accuracy and quality of the marking," and "the confidence about the accuracy of the results" (QCA, 2007, pp. 2-3)

Ipsos MORI's "general public omnibus" and survey via telephone were used to collect data in all six waves. Wave 1 was conducted from February 20 to March 14, 2003, and 500 teachers, 1714 members of the general public, 92 students, and 293 parents took part in the survey. Wave 2 was conducted from October 23 to November 14, and 250 teachers, 1766 members of the general public, 119 students, and 315 parents took part in the survey. Wave 3 was conducted between September 13 and October 12, 2004, and 250 teachers, 1720 members of the general public, 80

students, and 303 parents took part in the survey. Wave 4 was conducted between November 3 and 25, 2005, and 504 teachers, 1974 members of the general public, 137 students and 346 parents participated the survey. Wave 5 was done between November 6 and 24, 2006, and 506 teachers, 1964 members of the general public, 138 students, and 324 parents took part in the survey. Wave 6 was carried out between November 12 and 30, 2007, and 500 teachers, 1765 members of the general public, 136 students and 292 parents participated the survey (QCA, 2007, pp. 3-5). To ensure the research methodology was replicated, they used the same schools and colleges in Waves 1 and 2 but used different schools as samples in others. However, the teacher population--taking part in the research was consistent across all six waves (QCA, 2007, pp. 6-7). The results were based on the sample used; therefore they are subject to "sampling tolerances". As stated by QCA (2007), they found that GCE

> 'A' level is an important qualification to obtain; 'A' level students are seen to be hard working; teachers agree that most students taking 'A' levels get the grades their performance deserves, so as students, but parents less likely to agree; teachers are confident in the accuracy and quality of the grading and marking of the exam papers, so as the parents; teachers' confidence in the 'A' level system continues to increase, so as students'; the media coverage of the announcements of 'A' level results is seen to be helpful by teachers, but not by students (they found it upsetting); the current qualifications for 14-16 year olds are seen to prepare students for progression into further or higher education more than into employment; collecting results from schools is the most preferred option by teachers and students about the preferred channels for receiving results (QCA, 2007, pp. 9-11).

In the findings above, both positive and negative effects of these examinations could be seen.

2.3 Review of Studies Conducted in Turkey about the Impact of External Examinations

The examination for higher education admission is getting attention not only from academicians, media, students, and parents but also from the general public; thus concisely it is the concern of the majority of Turkish society (Ekici, 2005). That is why there is a lot of research carried out about ÖSYS. In the literature on ÖSYS, there are the following:

- focusing on the factors affecting students' achievements (Arslan and Öztürk, 2001; Baştürk and Doğan, 2010a, 2010b; Bozkır, Sezer, and Gök, 2009; Köse 1990a; Şirin, 2000; Morgil, Yılmaz, and Geban, 2001; Morgil et al., 2000; Temelli, Kurt, and Köse, 2010)
- analyzing the relation between the type of high school and admission to universities (Berberoğlu and Kalender, 2005; Köse, 1990b; Titrek, 2003)
- focusing on the relation between the items in the examination and the achievements of students (Atav et al., 2000, cited in Ekici, 2005; Çepni and Kaya, 2002, cited in Ekici, 2005; Çoban and Hançer, 2006; Doymuş et al., 2000; Özden 2007; Yılmaz et al., 2000)
- focusing on the examination anxiety and anxiety scale (Alyaprak, 2006; Can, Dereboy, and Eskin, 2012; Dereli, 2003; Özan and Yüksel, 2003; Sazak and Ece, 2004)
- comparing the first and second--stage ÖSYS results (Kelecioğlu, 2003a),
- focusing on the perceptions of students on the examination and impact of the examination on their learning (Kelecioğlu, 2003b)
- focusing on the attitudes of students toward ÖSS (Ekici, 2005)

Arslan and Öztürk (2001) studied the factors affecting 431 students' achievements in Kayseri who could not pass the university entrance examinations in their first attempt. These students attended cram schools[11] and took the examinations again the following year. They found that this helped them to improve their marks only 8.9% or 10.94%, but could not help them to register any university. Therefore, he found that cram schools improved students' achievements but were not an affecting factor in university admission. Morgil et al., (2001) examined the performance of students, who attended cram schools, on university entrance examinations. Their sampling was 314 students from seven regions in Turkey. They also found that education provided by cram schools had a considerable impact on students' achievements in university entrance examinations, but this effect varied from region to region.

On the other hand, Kırbaç (2004) studied the relation between students' performance on university entrance examination physics test and cram schools instruction in physics and found a significant dissimilarity in students' marks on the university entrance examinations. Therefore, he claimed that in physics education, cram schools played significant role in university admission. According to Baştürk and Doğan (2010a) one of the reasons why majority of high schools students attended cram schools was that they were not in full compliance with the education provided at high schools. They investigated opinions of 28 mathematics teachers' about mathematics instruction provided by the cram schools in İstanbul. The results revealed that teachers were disturbed from the commercialization of education by the cram schools, their embracement of students' success on university entrance

[11] Private institutions whose aim is to prepare students for university entrance examinations by means of accelerated courses. They are called *dershane* in Turkish.

examinations as these schools consider themselves as a mere source of students' success, and the lecturing method used in cram schools because teachers believed that this method of teaching triggered rote learning. Morgil et al., (2000) carried their study with 150 students from three cram schools in İstanbul, İzmir and Trabzon in 1998-99 academic year. They examined the difference between students' trail examination achievements administered by the cram schools and 1999 ÖSS-D achievements administered by the Confederation of Cram Schools (CCS). They found a linear relation between the results of the trial examinations and ÖSS-D results. Therefore, they concluded that students could get benefit from the cram schools' education. Similarly, Morgil et al., (2001) conducted their research about the effect of cram schools on the achievement of students in the ÖSS. They indicated that these institutions often provided pilot exams to students with the aim of remediating the deficient knowledge of students. Thus, they aimed to determine the impact of these institutions on students' achievement on ÖSS. They collected data from 314 randomly selected subjects attending seven different cram schools in seven regions in Turkey and carried out statistical analysis. They compared students' achievement results on the ÖSS and the pilot tests administered by cram schools. The result was that achievement increased following cram school education and that there was a significant relationship between pilot exams and ÖSS. They also observed dissimilar outcomes in the seven regions participating in the research. This was an example similar to Bishop's (1998) that indicated a positive effect on student achievements. Yet, actually there might be other factors involved that were overlooked.

Bozkır et al., (2009) examined the factors affecting students' success on the university entrance examination. They used data mining method and found that age, interest, amount of home-works, school type, laboratory work in science lessons, and technical opportunities offered in schools were factors affecting students' achievement on the university entrance examination. Temelli et al., (2010) studied the positive and negative effects of biology instruction provided by cram schools in Erzurum. They carried their study with 230 randomly selected students and found that students felt that education provided to them in public high schools was not sufficient for a success on university entrance examination; therefore, they felt that cram school education was essential for their success. This correlated with the findings of Baştürk and Doğan (2010a).

Baştürk and Doğan (2010b) examined 46 first year undergraduate students' views on cram schools' mathematics instruction to find how effective the cram schools were in preparing students for the university entrance examinations. They used a questionnaire consisting of open-ended questions. Their results revealed that students found the instruction effective because of the test-oriented method used in the cram schools.

Titrek (2003) studied school type as a factor affecting students' performance on the university entrance examination. He examined the success rates of students attending to Anatolian high schools, science schools, Anatolian teachers' schools, private high school, vocational schools, and military schools. He found that the rate of university admission was really low among students attending to vocational schools compared to the others. Therefore, he argued that school type was a significant factor determining the university admission. Similarly, Köse (1999a) also

found that school type was the indicator of students' achievements and of university admission.

Köse (1990b) also studied socio-economic and literacy of the families as the determining factor of the success at the university entrance examinations and found that these factors significantly affecting students' performance in the university entrance examinations.

Berberoğlu and Kalender (2005) studied students' success on the university entrance examination according to years and schools types. They did PISA analysis and found students success rates were really low and did not improved in years. They also found that school type was significant indicator of students' success.

Yılmaz et al., (2000) studied the achievement rates of students on chemistry tests of 1997-1998 ÖSS and ÖYS. They carried the study with a total of 214 randomly selected students among which 183 were students studying chemistry at a university and 31 were the last year students of a high school attending a cram school at the same time. They asked students to respond totally 62 chemistry questions and gave the same duration asked in both ÖSS and ÖYS. They did regression analysis to see the difference and found that while students studying at a Chemistry department answered all the questions, students attending the cram school only answered only ÖSS chemistry questions as these were from the contents of first and second year high school chemistry content. The reason was that at the time of the research these students only covered the content of the first and second year chemistry contents of high school at the cram school and as ÖYS chemistry questions were from the last year chemistry content, they could not respond them because they had not studied that content in the cram school. They also found that the last year students'

achievement in the ÖSS was higher than the achievement of students studying chemistry at the university. Yet nothing was suggested about a further research in this regard. They compared ÖSS and ÖYS achievements of students studying at a university. They found no significant difference between the two and suggested that there was no need to carry a two-staged test. They though that one-stage would be enough and instead the second stage, students' general secondary education achievement scores could be used.

Çoban and Hançer (2006) evaluated physics course content from various aspects in respect to ÖSS physics questions and high school physics curricula. They did content analysis on the level, aims and learning objectives of the physics course. Moreover, they determined the allocation of ÖSS questions in 1999-2003 to the subjects and the years. They found several problems on ÖSS and high schools physics curricula's "Content Validity." They found that most of the questions (43%) were from second year physics course content and a little amount (16%) were from the last year physics course content. They though that such a little ratio would decrease the interest of students toward the course in the last year of the high school.

Özden (2007) compared content and level of chemistry questions of 2006 ÖSS and ÖYS. He determined the concepts, principles and skills essential for every single question in the tests. His samples were from the Faculty of Education in Adıyaman University. He randomly selected 193 samples among students of mathematics and elementary school teacher training programs. He aimed to determine the difficulty level of the questions. He found content and level consistency between the test and the chemistry curriculum. Moreover, he found that questions in the test were equally distributed to curriculum topics, though for some topics there were no question at all.

Dereli (2003) examined anxiety level of 188 Grade 11 students of Yalova Şehit Osman Altınkuyu Anadolu high school in Yalova in 2001-2002 academic year. These students would take university entrance examination in the following year. She found that 47% of students had a high anxiety level. She then analyzed reasons for such a high anxiety level of students. Among the reasons she stated that students had high anxiety due to low achievement results in the trial examinations, low school achievements, lack of concentration and time-management during examinations, and high expectations of students' parents.

Özan and Yüksel (2003) tried to determine how exam anxiety affects students' learning efficiency. They randomly selected 150 last year students from different high schools in Elazığ. Their findings revealed that anxiety level decreased with a regular and planned study. They also found that parents' education level and number of siblings were also determining factors of a low anxiety level among students who would take university entrance examinations.

Sazak and Ece (2004) studied the anxiety level of 20 last year students studying music in the Anatolian Fine Arts high schools in Bolu in 2002-2003 academic year. They found that students had high anxiety due to university entrance examinations, but female students had higher anxiety levels compared to male students' anxiety levels.

Alyaprak (2006) studied factors causing high anxiety level in 110 students who would take university entrance examination (ÖSS) and attend cram schools in İzmir during 2005-2006 academic year. She found that students who failed ÖSS in their first attempt and would take it for the second time had higher anxiety level compared to students who would take it for the first time. She also found that female students

had higher anxiety level compared to male students, which correlated with Sazak and Ece's (2004) findings. Moreover, she found a significant negative correlation between students' school achievements, socio-economic levels and anxiety levels. Furthermore, she found that students with high school achievements and high socio-economic level had low anxiety level.

In the studies by Dereli (2003); Özan and Yüksel (2003); Sazak and Ece (2004) and Alyaprak (2006), it was suggested that to decrease the anxiety level of students who would take ÖSS, more psychological counseling were needed. Therefore, they advised to Ministry of National Education to increase in the number of psychological counselors at high schools.

Can et al., (2012) tried systematic desensitization technique to decrease the anxiety level of 50 students either graduated from or at the last year of high school in Aydın. These students applied to Adnan Menderes University hospital psychiatry clinique. They divided the samples into two therapy-groups and did nine therapies with them. They found that systematic desensitization technique was effective in decreasing the anxiety level and it was more effective on females compared to males.

Sesli (2007) did a comparative analysis of the teacher-made questions in biology lessons in Trabzon and the biology questions on the 1997-2006 biology tests of university entrance examinations by taking cognitive levels of Bloom's Taxonomy into account. She found that the questions prepared by the biology teachers of vocational schools were at "knowledge level," in public high schools at "comprehension level," in Anatolian high schools and science schools at "application level." Her analysis of the university entrance biology questions revealed that they were at "application level." She used Chi-square test to find cognitive consistency

between the teacher-made biology tests and the university entrance biology tests and found that there was inconsistency between the university entrance biology tests and teacher made-tests of vocational schools and public high schools, but a little consistency between these very tests and the teacher-made tests of Anatolian high schools and science schools. Yet, the results revealed that both the teacher-made and university entrance examination biology questions were at Bloom's lower order thinking skills. Therefore, she suggested that higher order thinking skills (analyzing and evaluating) should also be tested to lessen rote learning, which was encouraged by the questions in the lower levels.

In the case study by Hevedanlı and Ekici (2011) that was carried in Diyarbakır, they analyzed 1306 high school students' attitudes toward university entrance examination. They used the attitude scale developed by Ekici (2005). The results revealed that students had a medium attitude toward the university entrance examination; male students' attitude showed a significant difference; there was a significant dissimilarity in the attitudes of first year and last year students toward the examination, that there was a significant dissimilarity in the attitudes of students whose achievements were high, medium, and low in the high school. They also indicated that their results correlated with the results of the studies carried by Ekici (2005) and by Ekici and Çevik (2008) in Ankara. They also claimed that students who had high achievement in high school had a high attitude toward the university entrance examination and claimed that there was a correlation between school achievement and attitude toward these examinations. However, on the other hand, they found that the last year students had a low attitude toward entrance examination and suggested that the reasons should be studied.

The one about the impact of the ÖSS on the attitudes of students was carried by Ekici (2005). The research group (258 students) was randomly selected from three cram schools in Ankara. Ekici (2005) used an attitude scale in collecting data. It was a purely quantitative study. Ekici (2005) found that students had positive attitudes toward ÖSS; there was no significant difference in the attitudes of different genders, in the attitudes of those students who took ÖSS before and those who did not, and in the attitudes of students attending different schools or different classes, and there was no relation between students' choice of subject and his/her achievement in the test. Ekici (2005) only found a significant difference in attitudes toward ÖSS between students who attended cram schools and those who did not before the ÖSS examination. This was an example that depicted an effect on attitudes.

Kelecioğlu (2002) conducted her research about the perceptions of high school students about ÖSS and its effects on their learning. She used a 15-item questionnaire and collected data from 710 randomly selected 10th-grade students and from 1215 11th-grade students: total 1934 subjects. She looked at the difference between the judgments of students at different grades. She found that 10th-grade students thought that their lessons were related to the questions asked on the ÖSS. Students believed that studying for the ÖSS had an adverse effect on the time they allocated to studying their lessons and their attendance to lessons at school. It was found that a majority of 11th-grade students thought that studying for the ÖSS reduced their school learning. She also found that a majority of students in both grades preferred studying alone; some others preferred the help of a private training course. She also found that students in both grades had a negative view of having

two stages in ÖSS as at the time of this research there were two stages in the ÖSS. This was an example of the effect of external examinations on student learning.

As seen from the literature review, most of the relevant studies were quantitative and tried to find the impact of external examinations on different aspects of the curriculum mainly on learning, teaching, and assessments. Apart from implementation and assessments, the effect on curriculum content is also important to consider.

2.4 Review of Studies Conducted in Turkey about the Perceptions of Teachers about the Textbooks Used after 2005 Curriculum Reform

As an instrument of instruction, textbook is an essential tool for the storage and transfer of knowledge according to Köseoğlu et al. (2003). Kulm, Roseman, and Tristman (1999) stated that a textbook plays a great role in helping the curriculum implementation by facilitating teaching and learning processes and in the accomplishment of the curriculum objectives. According to Sohail (n.d) when other instructional materials were scarce or unavailable, then textbooks became vital in education. According to Taner and Taner (1975) a textbook is a useful guide for teachers. Therefore, their perceptions about the textbooks are important. In this section studies focusing on the perceptions of teachers in Turkey about the physics, chemistry and the biology textbooks are provided.

Sőnmez et al., (2005), Kavaz (2006), Güzel, Oral, Yıldırım (2009), Güzel and Adıbelli (2011) explored the perceptions of physics teachers about physics textbooks provided to them by the MNE after the curriculum reform in 2005, and Şimşek (2010) analyzed the perceptions of teachers about the contents of the physics books from educational, visual, and language point of view. Sőnmez et al., (2005) found

that as said by the physics teachers the textbooks did not contain activities to emit individual differences of students and visuals of the textbook did not stimulate interest in students. Kavaz (2006) investigated not only the perceptions of teachers and students using the textbook, but also the perceptions of the textbook writers and the textbook determiners and found that the textbook writers and the textbook determiners thought that the physics textbooks in use had ideal educational, visual and language characteristics, whereas teachers and students thought the opposite. Güzel et al., (2009) found that according to the physics teachers the physics textbooks had accurate information but did not appeal to all students, and visuals could not be associated enough with the daily life. On the other hand, Güzel and Adıbelli (2011) found that physics teachers perceived alignment in the content of the 9th-gade physics textbook with the curricula and had positive thoughts toward the level and visuals used in the textbook. Similarly, research conducted about biology textbooks by Őzbaş and Soran (2012) correlated with the findings of Güzel and Adıbelli (2011). In terms of the visuals, content and language the biology textbooks for 9th-grade was found adequate by the biology teachers (Őzbaş and Soran, 2012). On the other hand, Alyunoğlu and Atav (2005) explored the expectations of the biology teachers and found that the biology teachers believed that the biology textbooks contents, visuals and language should be revised.

In regards to chemistry textbooks, Aydın (2010) studied evaluation of the chemistry textbooks for 9th-grade by the chemistry teachers. He found that chemistry teachers perceived that as an instructional instrument the textbook had deficiencies and obstacles. The textbook was aligned with the 9th-garde chemistry curriculum,

but not with the level of students. Teachers also perceived excessive details in the units.

2.5 Review of Studies Conducted about Alignment

There were only a few studies focusing on the alignment that developed "approaches to alignment research" (Martone and Sireci, 2009, p. 1356). As stated by Näsström (2008) "most reported alignment studies have analyzed alignment between standards and assessment" such as studies by Bhola, Impara, and Buckendahl (2003, cited in Näsström, 2008, p. 28) and Herman, Webb, and Zuniga (2007, cited in Näsström, 2008, p. 28); some others have also studied "alignment between standards and teaching as well as between teaching and assessment" such as Porter (2002) (Näsström, 2008, p. 28). Mostly alignment reaserch was carried to develop models. There are also methods used for investigating alignment and four of them are as follows: 1) Traditional methodologies checking the alignment between the set standards and assessment instrument by mostly comparing quality, content, depth and comprehensiveness of the instrument with the set standards. 2) Sequential development methods where standards are developed and used to determine the structure and content of tests by the test developers. 3) Expert review models involve expert opinions as experts know the content specified according to set standards and focus on item analysis for the content match. 4) The document analysis method is used to analyze standards, measurement instruments, and textbook contents and structures (Case et al., 2004). Webb's (1997a) alignment model focuses on "content, articulation across grades and ages, equity and fairness, pedagogical implications, and system applicability" (Case et al, 2004, p. 6). Porter and Smithson's model (2001), which was called Survey of Enacted Curriculum Model, focused on content

and cognitive demand of standards, and assessment instruments (Porter, 2002, 2004). On the other hand, the "Achieve Model", whose components were outlined by Rothman et. al., (2002) for Achieve Inc., is applied to compare a nation's standards with other countries' standards in order to improve or make reforms to change their education system (Case et al., 2004). According to Case et al. (2004) this model focuses on "content centrality," "performance centrality," "challenge," "balance," and "range" (p. 7).

> Content centrality compares the content of each test item to the corresponding standard. Performance centrality compares the difficulty (cognitive demand) of each item to the difficulty required by the corresponding standard. Challenge examines whether a set of items considered together expresses the degree of proficiency required by the standards. Balance and range provide a quantitative and qualitative evaluation of the emphasis placed on the topics in the assessment compared to the emphasis placed on same topics in the standards (Case et al., 2004, p.7).

Expert review or Webb Model (1997b) and the Achieve model's content criterion referred to standards, yet it referred to topics and subtopics in other models such as Porter and Smithson (2001) and in Mullis et al. (2001). Other criterion used was called "cognitive complexity", which referred to "depth of knowledge consistency" in Webb Model (2007), to "coginitive demand" in Porter and Smithson's (2001). Other models that focused on content and cognitive complexity mostly used Bloom's revised taxonomy, which was revised by Anderson and Krathwohl (2001), Porter's taxonomy (Porter and Smithson, 2001), DeBlock's taxonomy (de Landsheere, 1990), DeCorte's taxonomy (de Landsheere, 1990), and Guilford's taxonomy (1967). Mostly the studies in this particular field reviewed the methods or approaches suggested and a very few used them to investigate the alignment between the instruction, assessment, and standards.

Unfortunately, literature in Turkey had only a few study related to alignment research, which belonged to Őzmen (2005) and Sesli (2007). Both Őzmen's (2005) and Sesli's (2007) alignment research focused on the alignment between teaching and assessment. While Őzmen (2005) analyzed university entrance chemistry questions of 1990-2005 in terms of content and cognitive complexity in relation to Bloom's taxonomy, Sesli (2007) did a comparative analysis of the teacher-made questions in biology lessons in Trabzon and the biology questions on the 1997-2006 biology tests of university entrance examinations by taking only cognitive levels of Bloom's revised taxonomy into account. In his study, Őzmen (2005) did content analysis himself and asked experts to do cognitive complexity analysis. On the other hand Sesli (2007) did the analysis herself. Őzmen (2005) found that questions were relavant to the chemistry content and were 72% in the lower lever of Bloom's taxonomy (knowledge, comprehension, and application) and 28% in the higher level of Bloom's taxonomy (analysis, synthesis, and evaluation). Whereas Sesli's analysis revealed that questions prepared by the biology teachers of vocational schools were at knowledge level, in public high schools at comprehension level, in Anatolian high schools and science schools at application level. Moreover, her analysis of the university entrance biology questions revealed that they were at application level, which indicated that they were all at lower level of Bloom's taxonomy.

Similar to studies in Turkey, studies in abroad were also limited to two or three that actually conducted alignment reaserch between instruction, assessment, and standards. The two studies found relevant were by Nà sstrò m and Henriksson (2008), and by Kurz et al., (2010). Nà sstrò m and Henriksson (2008) in their study compared the taxonomies used to analyse cognitive complexity in the standards and

assessments and found that Bloom's and Porter's taxonomies were more useful than the other taxonomies. They used Hauenstein's (1998, cited in Nà sstrò m and Henriksson, 2008, p. 676) five rules for taxonomies for comparison, which were 1) applicability 2) total inclusiveness 3) mutual exclusiveness, 4) consistency of order, and 5) representativeness of categories and subcategories of terms used.

Kurz et al., (2010) analysed the contents of planned and enacted mathematics curriculum of Grade 8 and the curriculum's alignment to state standards in general and special education. They also anlysed students' acheievements relation to alignment. They found a low alignment between the standards and tests, and only in special education they found a significant correlation between alignment and students' achievements.

Chapter 3

METHOD

3. 1 Overview

This study mainly aimed to determine how teachers and students perceive the curriculum, curriculum development, significance of external examinations, and effects of the IGCSEs, YGS, and LYS on natural sciences, mathematics, and language curricula of the 11th and 12th grades with respect to what curriculum means, curriculum establishment and development, curriculum content, implementation, and teacher-made assessments, and the content that external examinations cover. Furthermore, based on the results of teacher and student perceptions of the effect of external examinations on the content of school curricula, the next objective of the research was to implement content analysis for the documents perceived as curriculum (i.e., the textbooks and the contents of the external examinations mentioned above, which were delivered in 2010, 2011, and 2012) in order to find how consistent their contents were.

As a follow-up, in this chapter, the research method and its rationale, population, samples, and sampling procedures; overview of the research design; method of data collection and research instruments; data analysis and synthesis; reliability and validity; ethical issues; and limitations of research design were explained.

3. 2 Research Method and its Rationale

According to experts in this field, qualitative research is fundamentally constructivist, because of the attempts of researchers who try to construct a holistic understanding of how people perceive, experience, understand, and interpret a particular phenomenon at a specific time and in a specific context (Bogdan and Biklen, 1998; Mason, 1996; Maxwell, 2005; Schram, 2003; Schwandt, 2000). Furthermore, qualitative research puts more emphasis on detection and description of perceptions and experiences, along with its objectives like extracting concepts from perceptions and interpreting the meaning of experiences from the provided information (Denzin and Lincoln, 2000). However, in contrast, with the use of the quantitative method the researchers usually aim to test hypotheses and establish facts through specifying and distinguishing relations between variables. Therefore, the use of purely quantitative methods in this study does not allow the researcher to address the research purposes mentioned above or, moreover, to obtain the essential data for this study. Yet, on the other hand, a qualitative perspective helps the researcher to interact with the participants, develop contextual understanding, implement an interpretive stance, and sustain flexibility in research design. Thus, the qualitative method fits this study well. This study also employed Stufflebeam's (1983) CIPP model of program evaluation, particularly its Process approach to identify problems related to the effects of external examinations to curriculum implementations.

3.3 Population, Samples and Sampling Procedures

The population of this study was all teachers and students from the science, mathematics, and language branches of 11th and 12th grades in the multi-programmed public high schools and colleges in North Cprus. Private schools, Fine

Arts High School, Anatolian High School, and modern vocational technical high schools were not included in the population. The samples were selected using mixed sampling methods namely stratified, purposive and random sampling methods. A stratified, purposive sampling method was used in order to select the same proportion from each school and locate individuals from various schools (Fraenkel and Wallen, 2006; Kuzel, 1992; Miles and Huberman, 1994; Morse, 1994). This method of sampling is typical in studies that try to bring forth the greatest amount of information about the phenomenon under study. It illustrates subgroups and facilitates comparisons among them (Miles and Huberman, 1994; Patton, 2002). Furthermore, a snowball sampling strategy, which "identifies cases of interest from people who know people who know what cases are information-rich" (Miles and Huberman, 1994, p. 28), was employed. The participants and the headmasters suggested other people they knew to be helpful. The criteria used to select the participants were as follows:

- Participating teachers were required to teach 11th and 12th grades and were familiar with the contents of IGCSEs, YGS, and LYS.
- Participating students were from 11th and 12th grades and were familiar with IGCSEs, YGS, and LYS contents.

The lists of schools and teachers were obtained from the Department of Secondary Education (DSE). Then, the headmasters or deputies of the schools were contacted by telephone to obtain the numbers and names of teachers teaching science, mathematics, or language courses at the 11th- or 12th-grade level and the number of students in those levels. In addition to these people, counselors and students were also consulted when selecting other students as participants for the

study according to snowball sampling strategy. There were a total of 351 teachers offering Literature and discourse, mathematics, physics, chemistry, biology, and English courses in the public high schools and colleges teaching at 11th and 12th Grade levels, and there were 1,549 students in the public high schools and 295 in the public colleges studying at 11th and 12th Grade levels. Total of 100 samples among teachers were considered to be adequate for the research purpose, and therefore, about 35% of teachers from each branch and 7% of students from each grade level were selected by using stratified purposive sampling procedures as shown below (see also Appendices A and B).

Table 1 Stratification of samples among teachers

Course	Total number of teachers	Stratified number of teachers	Returned numbers
Turkish literature & discourse	96	27	20
Mathematics	75	21	21
Physics	32	9	9
Chemistry	32	9	9
Biology	30	9	9
English language	86	25	18
Total	351	100	86

Table 2 Stratification of samples among students

Grade	Total number of students	Stratified number of students	Returned numbers
11-th grades at high school	833	58	50
12-th grades at high school	716	50	50
11-th grades at college	162	11	11
12-th grades at college	126	9	9
Total	1837	128	120

After numbers were calculated from each school, the selection of teachers from each school was done as follows: First, names of the public high schools and colleges were written on small balls using permanent marker. When doing this, numbers of the balls representing the schools were determined by considering the numbers of teachers offering that particular course at that particular level. For instance, there were 7 Turkish Language and discourse teachers working at Bekirpasa Lisesi who were teaching both 11th and 12th grade levels and 6 at Erenkoy (see Appendix A). Therefore, Bekirpasa was written on 7 separate balls, and Erenkoy on 6 separate balls. The same procedure was followed for the rest of the schools and a total of 96 balls were prepared representing all schools for Turkish language and discourse teachers. Then these balls were put in a bag, and the bag was shaken thoroughly. The same procedure was followed for other courses mentioned in the table above to determine the schools that teachers would be sampled for that particular course. Thus, 75 balls were prepared for mathematics, 32 for chemistry, 32 for physics, 30 for biology, and 86 for English language in separate bags. Then, 27 balls were pulled for Turkish literature teachers, 21 for mathematics, 25 for English language teachers, 9 for physics, 9 for chemistry and 9 for biology teachers. If more than one teacher of

the same subject was drawn from the same school, then the criteria set by the researcher and snowball sampling strategy were used to interview those teachers.

As students' numbers were high, 7% of 11th and 12th Grade students were calculated individually to determine number of students that would be sampled from each school. For instance, if total number of 11th Grade students was 29, then (29 x 0,07 = 2) two students were sampled from that school. These two students were determined by using both the criteria set by the researcher and by using snowball sampling strategy during interviews.

The study was carried out from October to May during the 2011-- 2012 academic year at 16 schools in five districts: four schools in the Gazi Mağusa district (Gazi Mağusa Türk Maarif Koleji, Namık Kemal Lisesi, Polatpaşa Lisesi, and Cumhuriyet Lisesi), three schools in the Güzelyurt district (Güzelyurt Türk Maarif Koleji, Güzelyurt Kurtuluş Lisesi, and Lefke Gazi Lisesi), two schools in the İskele district (Bekirpaşa Lisesi, and Erenköy Lisesi), four schools in the Lefkoşa district (Türk Maarif Koleji, Lefkoşa Türk Lisesi, 20 Temmuz Fen Lisesi, and Değirmenlik Lisesi), and three schools in the Girne district (19 Mayıs Türk Maarif Koleji, Anafartalar Lisesi, and Lapta Yavuzlar Lisesi) . Four of these schools were public colleges and twelve of them were public high schools. From these schools 100 teachers were selected for the sample, but only 86 teachers could be interviewed, resulting in a return rate of 86%. 68 teachers were from public high schools, and 18 were from public colleges. For the sample 128 students were selected, but only 120 students took part in the interviews, yielding a return rate of 94%.

3.4 Overview of Research Design

The following steps, which are thoroughly discussed in the subsequent sections, were used in the implementation of this research.

1. Review of the selected literature was implemented prior to actual data collection; so as to investigate the contributions of other researchers. Then a proposal was written and presented in order to acquire approval to proceed with the research.

2. After receiving approval, interview questions and consent forms were prepared (see Appendix C for interview questions and Appendix D for consent forms). Interview questions were further refined by the supervisor. Then with the interview questions and consent forms, a written request was given to the Department of Secondary Education in order to get permission for a pilot research study in the public high schools and colleges. When permission was obtained, the interview questions were piloted with 20 teachers and 20 students from three different schools in two different regions (İskele Bekirpaşa Lisesi, Mağusa Namık Kemal Lisesi, and Mağusa Türk Maarif Koleji). The responses of the interviewees were transcribed and analyzed, and then the questions were modified to ensure consistency in responses for their reliability (Sanders, 1994, p. 153). Moreover, three field experts were consulted about the content validity of the questions (Sanders, 1994, p. 145). The coding scheme also was finalized through the analysis of these interviews.

3. Another written request was given to the Department of Secondary Education in order to get permission for actual data collection in public high schools and colleges to interview teachers and students. Approval was received (see Appendix E and Appendix F).

4. Schools were called to get appointments for the interviews. Each school was contacted one week or 3-4 days ahead to make appointments as stated on the permissions received from the Department of Secondary Education. Student interviews were carried out in presence of counselors. Interviews were conducted in a room specifically allocated by the headmasters or deputies. Mostly these rooms were a meeting room, a small library, a deputy room, counseling office, an empty classroom, or a laboratory. During the interviews the researcher and participants were alone or accompanied only by counselors.

5. During the study, a report about the progress of the research was presented at the end of each semester to the dissertation monitoring committee.

6. The results of the interviews necessitated a document analysis of the external examinations (YGS, LYS1, LYS2, LYS3, LYS5, GCE Turkish Ordinary Level, and IGSCE English as a Second Language). The document analyses of all these tests and textbooks were implemented, and the results were also presented to the dissertation monitoring committee.

3.5 Data Collection Method and Research Instruments

A more thorough insightfulness of the proposed objectives of the study necessitated the use of multiple methods. Denzin and Lincoln (2000) and Creswell (1998) advised that using multiple perspectives not only would add breadth, depth, and consistency to the study but also would stipulate corroborative evidence for the obtained data. Hence, interviews and document analysis were used as two distinctive qualitative methods. Interviews served to explore various perceptions of the phenomenon and subsequent document analysis served to investigate the content consistency and content balance in relation to the targeted grade levels.

Data were collected with the semi-structured interview technique (Stewart and Cash 1985). In this research, the interview technique was preferred as the main data collection method due to its potency, enabling the researcher to elicit more detailed information about perceptions. As confirmed by Creswell (1994) and Denzin and Lincoln (2000), individual in-depth interviews are a "vital instrument" (Kvale, 1996; Seidman, 1998) that helps to capture how a person perceives an event or experience. According to Patton (1990), the use of this technique starts "with the assumption that the perspective of the others is meaningful, knowable, and able to be made explicit" (p. 278). So, as indicated by Kvale (1996), interviews are an endeavor to grasp, unfold, and uncover the interviewee's viewpoint of the events and experiences. Thus, the use of this data collection method in this study not only enabled interaction with people but also provided valuable occasions to capture their perceptions in their own words and to legitimately generate data.

The data were collected from various schools and from large samples. Teachers and students from different schools perceived similar effects of the external examination on content, implementation, and teacher-made assessments, so their perceptions mostly coalesced. Yet, contrary information was also added to the analyses. Triangulation is mostly concerned with reducing the likelihood of misinterpretation, and for that reason various procedures were employed to provide corroboration and supportive evidence (Denzin and Lincoln, 2000). Triangulation in this study was achieved through the use of multiple perceptions to clarify meaning and to provide corroboration and supportive evidence needed.

Despite its strengths, this data collection method also has various limitations. To begin with, as expressed by Schwandt (2000), not all people are similarly

cooperative, expressive, and sensitive. Second, interviewing skills are very important. Third, as a data collection method, it is not neutral due to the interaction between the participant and the interviewer, particularly when they are acquainted with each other (Rubin and Rubin, 2005).

Six open-ended, semi-structured questions for teachers and seven open-ended, semi-structured questions for students were prepared with the guidance of the supervisor and used in the collection of information about how the participants perceived the effect of external examinations on curricula. The interviews were conducted from October to May during the 2011-- 2012 academic year. Before the interviews commenced, the interviewees were asked to go through the consent form and sign it (see Appendix D). A voice recorder was used to record the face-to-face interviews in their entirety, at a time appropriate to the participants. The use of a voice recorder eliminated the possibility of misunderstanding or loss of data. Interviews were carried out in the respondents' mother tongue (Turkish). Immediately after the interview, the recordings were transcribed verbatim and translated. The translations were proofread and edited by bilingual speakers. Data for the document analysis regarding content centrality, balance, and range were collected via check lists.

3.6 Data Analysis and Synthesis

In a qualitative study, large amounts of data should be dealt with, and significant patterns should be identified in order to construct the framework of the study. Therefore, as suggested by Merriam (1998), there should not be a long period between data collection and analysis; rather they should be carried out almost

simultaneously, as this will help to eliminate repeated and unfocused data. This study followed this suggested process in data collection and analysis.

In this study, a content analysis technique was used to analyze the data collected (Miles and Huberman, 1994; Marshall and Rossman, 2006). Analysis of the data content was based on the concepts driven by the semi-structured, open-ended questions. These concepts formed the codes in the analysis (Miles and Huberman, 1994, p. 56).

In the process of coding the transcripts, the first priory codes were derived from the semi-structured, open-ended questions (Miles and Huberman, 1994: 56). Then on transcripts of the piloting responses these descriptors were identified and were assigned alphanumerical codes in accordance with the conceptual framework of the study (see Appendix G). After that, the trancripts were swept through again to derive some more inductive codes from what participants said. These were also compared to identify the differences. In order to focus on the conceptual framework of the study, some other emerging themes from the interviews, which were not asked to the interviewees but mentioned by them, were not taken into consideration. Then another coder, who was familiar with the research and knew its aim and the aim of the coding, was asked to create codes for the interview questions and one of the full-length transcriptions. Then the latter coding was compared to the previous one done by the researcher. A few discrepancies raised in this first coding, from which 78% of inter-coder reliability was obtained, were discussed for inter-coder agreement. Then the codes were modified to ensure consistency in the reliability between the coders for the subsequent analysis (Sanders, 1994, p. 153). Following that, another full-length transcription was selected for a second round-coding. According to

Krippendorff (2004), for inter-coder reliability two or more coders are required to work separately on the same unit of a text and select the same code for it (p. 217; see also Popping, 2010, p. 1069). Moreover, for inter-coder agreement these coders are required to discuss and reconcile the coding differences that emerged (Garrison et al., 2006; Morrissey, 1974, p. 214-15), and try to achieve a range of 90% reliability. The formula of inter-coder reliability was given as

> Reliability = 100 x (number of agreements) / (number of agreements + number of disagreements)

by Miles and Huberman (1994, p. 64). In the second round coding a 100% inter-coder reliability was obtained. Then these common codes serving the purpose of the study were selected, then they were applied to the analysis of the rest of the transcipts. Afterwards, the emerging concepts and themes from the transcripts were written to categorize the coded data by considering similarities, differences, frequencies and causation (Hatch, 2002, p.155). These coded interviews were shared with the supervisor and discussed to obtain confirmation. As a final step, frequency charts were prepared to show similarities or differences among participants. In addition, the frequency and percentage of repeated comments by teachers and students were calculated and expressed as frequencies and percentages in the data analysis.

During the coding process, the fragmentation of data into segments, and the synthesis of these segments provided an opportunity for the reconstruction of a holistic and integrated justification of the phenomenon. Moreover, it helped the formulation of several conclusions and the development of various research-related suggestions.

In the document analysis for content, central topics were derived from content pages, units, and exercises in the textbooks using descriptive coding (Miles and Huberman, 1994; Saldaňa, 2003; Wolcott, 1994). As suggested by Miles and Huberman (1994, p. 105) these were written as checklists (see Appendix H). Examination questions were coded in accordance with the textbook topics (see Appendix I). While examining the questions, only the main topic(s) of the question was/were taken into account, and the subtopic(s) in the question that could be used while answering the questions were eliminated in order to obtain inter-coder reliability and agreement. One field expert for each field, who worked at a cram school, was first asked to write the topics of one set of YGS and one set of LYS questions, and later was ask to use the checklist prepared for each test. The topics derived by the field experts were compared to the ones prepared by the researcher to identify differences. The discrepancies were discussed and another field expert from the cram school was consulted to obtain confirmation. The checklists were modified after the discussion and tested again using the same procedure on a different set. This continued until 100% inter-coder agreement was obtained. Finally, the checklists were used to analyze the rest of the tests.

3.7 Validity and Reliability

Trustworthiness in qualitative research involves all of the efforts put forward to address the issues of validity and reliability. As said by Guba and Lincoln (1994), the trustworthiness of qualitative research should be evaluated in a different way compared to quantitative research. From a constructivist perspective, they proposed "credibility (paralleling internal validity), transferability (paralleling external

validity), dependability (paralleling reliability), and confirmability (paralleling objectivity)" (p. 114).

During the design phase, the interview questions were pre-piloted with 7 teachers and 7 students from two different schools in two different regions (Bekirpaşa Lisesi, and Mağusa Türk Maarif Koleji). The responses of the interviewees were transcribed and analyzed, and then the questions were modified with the guidance of the supervisor to ensure consistency in their responses for reliability (Sanders, 1994, p. 153). Moreover, three field experts were consulted about the content validity of the questions (Sanders, 1994, p. 145). To determine the accuracy of findings, the researcher sent the transcribed interviews and the conclusions drawn to some participants to achieve "member checks" and to eliminate researcher bias. Inter-rater reliability was achieved through the involvement of another colleague, who also coded several interviews in order to check the consistency between the raters. This also helped to reduce the potential bias of a single researcher. The same procedure was followed in the document analysis with the involvement of six field experts as explained in the previous section.

3.8 Ethical Issues

Experts in this field claimed that one of the most important ethical issues is the protection of participants (Marshall and Rossman, 2006; Merriam, 1998; Schram, 2003), which is the responsibility of the researcher and it depends on how the information is preserved. While quoting responses from the interviews, the researcher did not use the names of the interviewees and institutions; instead code names, such as T1, T2, and T3 for teachers; S1, S2, and S3 for students; C for public colleges; and P for public high schools, were used in order to retain confidentiality

for the participants and organizations. Hence, these identities were not displayed in the study. For secure storage of the recordings, necessary precautions were taken, and only the researcher had access to the materials.

2.9 Limitations of the Research Design

This study was limited to interviews and document analysis and did not aim to explore whether or not the skills being taught and learned in the classroom and were tested in the external examinations. Therefore, observation of classes was beyond the scope of this study. Moreover, when teachers' and students' perceptions were compared, it was found that they justified each other in regards to curriculum implementation. As the concern was not to explore the skills being taught, item analysis of the examination questions was also considered beyond the scope of the study.

Document analysis was limited to the years 2010--2012, as the educational system was reconstructed to be learner-centered and ÖSYM renamed the university entrance examinations in 2010 as YGS and LYS. The change of textbooks also began in 2010, and it was completed in 2012 in order to reflect learner-centered ideas. Due to the consistency in perceptions of teachers and students about content of the textbooks used in public colleges and in IGCSE, GCE 'A' and 'AS' levels, the document analyses were limited only to GCE Turkish Ordinary Level and IGCSE English as a Second Language as both language teachers and students perceived inconsistency in the content.

As expressed by Schwandt (2000), not all people are similarly cooperative, expressive, and sensitive. Although there were five schools in Lefkoşa district, one school did not want to take part in the research, and in one school in the same

district, no permission was given to interview students. Some teachers and students after reading the consent form did not want to cooperate; and a few others participated but were not very expressive (they provided very short responses).

Chapter 4

FINDINGS

In this chapter, first findings related to the perceptions of teachers and students about the impact of the external examinations on high school curricula, and then the findings related to the document analyses are presented.

4.1 Findings Related to the Perceptions of Teachers and Students about the Impact of External Examinations on High School Curricula

In this part, the analyses of interview data are presented in accordance with Miles and Huberman's (1994) "category based data display approach." Interview data were analyzed to explore perception of public school and college teachers and students in North Cyprus. Following research questions were set for this purpose:

1. How do teachers and students perceive curriculum and curriculum development?
2. How do teachers and students perceive the importance of the external exams?
3. How do teachers and students perceive the consistency between external examinations and the content of 11th- and 12th-grade curricula?

4. How do teachers and students perceive the effect of external examinations on curriculum implementation in 11th and 12th grades?
5. How do teachers and students perceive the effect of external examinations on teacher-made assessment procedures in 11th and 12th grades?
6. What are the opinions of teachers and students about the question types used in external examinations?

Twelve public high schools and four public colleges were visited. 68 teachers and 81 students from public high schools, and 18 teachers and 39 students from public colleges participated to the interviews. Among the teacher-participants, there were 50 females and 36 males (the frequency was 58 % females and 42% males); among student-participants there were 52 females and 29 males from public high schools and 24 females and 15 males from public colleges (the frequency was 63% females and 37% males). Total 86 teachers of mathematics, physics, chemistry, biology, Turkish language and literature and English language and 120 students of 11th- and 12th-grade participated.

4.1.1 Perceptions about what Curriculum and Curriculum Development are

This section provides first how public high school and college teachers and students of 11th- and 12-th grade in North Cyprus perceived the curriculum, and then how they perceived curriculum development.

4.1.1.1 Perceptions of Public High School and College Teachers about what Curriculum is

In order to answer question one, content analysis of the responses of 86 teachers related to what curriculum means to them was implemented. The findings are as

follows: three participants perceived the curriculum as a plan or a program resembling to a map or a road map, or like a journey at which the distance and destination were obvious. The following interview excerpts are examples of such thoughts.

TP67: “The curriculum is an annual program for me, the lessons we will give in high school curriculum, and the lessons will be in order, in a discipline, to form a roadmap for students.”

TP45: “The curriculum is a plan or program for me. So the teacher will handle the subjects in a particular order in a year, in a certain order, certain part of it and will implement. It can be thought of as a road map.”

TP15: “Curriculum is a map for me, it's a journey. There are certain distances and destinations in that journey, It has certain objects. It shows us when and where we are.”

Similar to TP67 and TP45, three other teachers perceived the curriculum as a program. Yet they described it as a syllabus that was divided into months and weeks, and that showed the content to be taught. The interview excerpts below are the samples of such views.

TP59: “Program. Through which we teach the children specific issues within a certain period, and also certain information depending on these issues.”

TP60: “The curriculum is a plan, a program that guides us. It is an annual syllabus, subjects that we divided into weeks and months. It is a syllabus that we have to do and finish.”

On the other hand, one teacher perceived it as an anxiety. According to this teacher this anxiety stemmed from the stress caused by the fact that time was short to

cover all the topics in the books in due time. The teacher referred to academic year and class hours by the word ‘time’. TP13 said

> “Curriculum is an anxiety. It stems from the stress we feel as we have to complete all the content within a certain time. However, instead of having such an anxiety, if we only worry about exam preparation that would be much better for us and for students.”

Another teacher, in contrast, perceived the curriculum as a “target” or “objectives” with which they helped the child develop appropriate behaviors or with which they transferred the moral and national values of our society. Yet, toward the end of explanation, the teacher defined it as books or content of the books. TP27 said

> “What does curriculum mean to us? The curriculum is the target, the purpose, goals, objectives we want to give a child. We want a child to gain the appropriate behaviors we want them to gain. In our lessons, of course, that is the instruction side of it; of course it has a training side, too. There again, this time we impart the needs of society, culture, moral values, national values, goals in this regard. This is the general curriculum framework. This is what I think. However, our courses, curriculum, the books we use, their appropriateness, etc. are all determined by Department of Secondary Education affiliated to the Ministry of National Education. We then apply those books as curriculum. We teach the information in them.”

Similar to TP27, further 78 teachers also perceived the curriculum as textbooks and the content in them. They mostly perceived it as the topics to be covered in an academic year. As TP66 said, they had different books, different content for different

grades, and these topics were the curricula. Examples of the interview excerpts of such are as follows:

TP64: “The curriculum, let's say, is the set of contents that the teacher is responsible for providing to the student in a year. The curriculum is (pause), now, the fact that there is nothing sent by the Ministry of National Education. So actually our curriculum is our books; the books we use.”

TP66: “The curriculum is the topics we should cover in a year. During that year, according to the level, the grade of students, specific topics must be taught. So these topics, of course, books are followed as a curriculum that is approved by the Ministry of National Education. Of course, our Ministry of National Education recommends books published in Turkey, which were approved by their Ministry of National Education. And we use them. The same curriculum is implemented in North Cyprus, because, you know, at the end of the year students take YGS, LYS examination administered by ÖSYM. So we implement their school curriculum, their books. The books are the curriculum.”

TC72: “The Ministry of National Education ... Ministry sets the curriculum. We offer courses in line with the curriculum sent by the Ministry.”

Interviewer: “Well, does this mean, the curricula for GCE’s are sent by the Department of Secondary Education?”

TC72: “Yes, both are coming from the Ministry of national Education, plus the book. The book content is obvious. So our book is our curriculum.”

As can be seen from the findings above, only eight of 86 teachers perceived the curriculum as something else rather than a textbook or the topics, or the content of

the text-books. The rest, 78 teachers, perceived it as the topics, the content of the text-books, or the textbooks themselves. Thus, while 9% perceived the curriculum as a map, or a program, or an anxiety, or a target or objectives, for the rest (91%), it was the textbook. These eight teachers were from various branches.

4.1.1.2 Perceptions of Public High School and College Students about what Curriculum is

In order to answer question one, content analysis of the responses of 120 students about how they perceived the curriculum was implemented. The findings are as follows: five (4%) participants expressed no opinion, whereas a further four (3%) said that it recalled examinations, particularly university entrance examinations. The interview excerpts below are the examples of such thoughts.

SP24: "I have no idea."

SP80: "Curriculum means for me (a long pause). I have no idea."

SP1: "Curriculum. What does it mean? It's an exam, bla bla. The curriculum has changed this year, very much. To be honest, it is difficult for us."

SP2: "The curriculum actually is very good for us. You know, if we look at YGS, it includes grade 9th and 10th topics only."

SC115: "It's an exam that never distresses students, giving everyone . . . giving everyone an equal chance and an opportunity for a re-sit if we cannot achieve a good grade. IGCSE is a test that requires hard and regular study, a test that you have no time to waste."

On the other hand, one (0.1%) students perceived curriculum as the practice of education, whereas five others (4%) students perceived it as a practice or a system organized by the MNE, and also put limitations to students. SP4 did not provide a

further explanation to the word limitation. The interview excerpts below reflect these thoughts.

SP7: “A practice of education provided by the Ministry of National Education.”

SP5: “It is the education system decided by the Ministry of National Education.”

SP4: “The curriculum is, organized by the Ministry of National Education, the topics and courses. It is a system that limits students. This comes to my mind.”

Interviewer: Could you, please, explain what you mean by limitation?

SP4: It’s a limitation, you know. (a long pause) I don’t know how to explain it further.

Furthermore, a further five (4%) students perceived the curriculum as a (school) program provided by the MNE and which showed the lessons and examinations to be taken, and what students should do in that academic year, whereas one (0.1%) of them perceived it as lessons and the way a school is administered. The interview excerpts below are the samples of the perceptions mentioned.

SP26: “Curriculum is the program of lessons determined by the Ministry of National Education.”

SP28: “It is a program given by the Ministry of National Education. It shows what we must do in a year.”

SP67: “It recalls me a regular program showing the lessons that we must do and the examinations we must take.”

SC107: “Curriculum is a school program. We study lessons and take exams in accordance with it.”

SP47: “Curriculum is the lessons and it is how a school is administered.”

In contrast to 91% of teachers who perceived the curriculum as textbooks, only six (5%) students directly said that they perceived it as textbooks. According to them these books are provided by the MNE of Turkey. For SC104 the curriculum was not only books but also exams related to those books. According to SP57, the information in the books were not enough, not efficient to prepare them for the university entrance examinations. The following interview excerpts reflect such thoughts.

SP57: "I think it is completely diverted, because we follow the same topics given in Turkey. They have nothing to do with North Cyprus. Books from Turkey are not efficient for us. There isn't enough information in them. We cannot study only from those books. Our education is our books. Our curriculum is our books."

Interviewer: Inefficient for what?

SP57: "For exams. They cannot prepare us for the university entrance exams."

SC104: "Curriculum is our books and the exams related to those books."

SC95: "Curriculum is the books given to us by the Ministry of National Education."

SC100: "It is the books. That's what it means to me."

Similar to three teachers who perceived the curriculum as road maps, for two (2%) students it was a "road map" supplied by the MNE. According to these two students, the map gave directions to the teachers. Besides these two students, a further two perceived it as a "future" as it was used to prepare them for the future. Following interview excerpts reflect these perceptions.

SP65: "It is a road map provided by the Ministry of National Education. It directs the teachers about what to teach, I guess."

SP71: “It is a road map that should be followed by teachers day by day with determination.”

SP58: “Future. It means future.”

SP63: “It recalls me a better future.”

On the other hand, for three (3%) students the curriculum was rules, regulations, and progress. According to them, these rules and regulation were necessary for a consistent education, for a steady educational environment and for the continuity of education. The interview excerpts below reflect these perceptions.

SP72: “It means progress according to the rules. Going out or not going out according to the rules. It is a regular education, a regular environment for study.”

SP73: “It means rules and regulations. If there are no rules and regulation then education will not continue. In my opinion, rules are better for our education.”

SP74: “Progress according to the rules.”

While 27% of students perceived the curriculum in the way described above, the rest (73%) perceived the curriculum as the lessons, the subject matters and the topics of the lessons they studied at school. According to them these lessons, subjects, and topics are determined by the MNE. SP18 also complained about the density and intensity of Grade 11 lessons. SP18 found the lessons hard. The interview excerpts below are samples of such thoughts.

SP12: “It is the topics we should learn in a year.”

ST13: “It is the subjects and the topics we will study year by year.”

SP75: “It is the subjects or topics determined by the Ministry of National Education to us. It is the topics in the books.”

SC109: “Curriculum refers to the topics included in the area we selected.”

SP17: “Curriculum is the lessons I take at schools. I take them to be successful.”

SP25: “It is the lessons that we will take and determined by the Ministry of National Education.”

SP18: “Curriculum means lessons I take. We have a very intensive and dense program in 11th grade. It is sometimes too difficult. Literature lesson is okay, but mathematics is difficult for me.”

4.1.1.3 Perceptions of Public High School and College Teachers about Curriculum Development

Content analysis of the responses of 86 teachers related to curriculum provision and development was implemented. The findings are as follow: three teachers mentioned directly that curriculum was not provided to them. As 91% of teachers perceived curriculum as textbooks, a few of them (5%) complained about the lack of textbooks, or about the change in the content or about the frequent book changes made the Ministry of National Education (MNE). TP65 complained about the quantity of the contact hours for English lessons and said that the book didn’t have enough units for a sixteen-hour a week course. Therefore, the teachers had to provide supplementary materials, and it was a demanding and exhausting part of their job. For TP6, the MNE or the Department of Secondary Education (DSE) should collaborate with the teachers particularly for book selection. For this teacher, the books that were used long ago were better in content compared to the currently used ones. The reason of this, according to TP6, was that the terminology was not directly

provided, instead students were expected to infer the terminology from the provided definitions. TP6 said that in the old books all the terms and their definitions were provided directly. Following interview excerpts reflect these perceptions.

TP65: "But as I said, for Grade 12, we had nothing, no curriculum. We faced many difficulties this year. There are lots of contact hours. It is 16 hours a week. So, we have to find materials to fill in those 16 hours. We really got exhausted. Because we really had nothing."

TP6: "My complaint is about books. They change the books without informing the teachers. They should ask our opinion about the suitability to the level, its content, etc. Compared to the new books, I found the ones we used 7-8 years ago much better. They were really. The level was suitable, the content was in order, and information was directly given. The terminology and the definitions were directly given. Now, they expect students to guess the terms by studying the definitions."

TP3: "To tell the truth, no curriculum was issued. We just receive books."

TP52: "No curriculum was supplied. I prepare my own curriculum."

All the public high school and college teachers said only the lists of textbooks for different grades were given to them by the DSE. They said that the DSE asked them to prepare allocated weekly and monthly time schedules for each Grade showing in detail the order of the topics, or the units in the books that would be covered in an academic year. Moreover, similar to TP3, most of them said that they were obliged to inform and explain the reasons to the inspectors and the DSE if they could not follow the allocated time schedules or could not complete the topics/units. These perceptions are reflected in the following interview excerpts.

TP45: “Does not exist. The books and the topics are obvious. We are only told to follow such and such topics, up to a certain one, for certain Grades. That’s all.”

TP3: “For example, the fact that, what we receive is the book. Generally, the book was given. We are told to cover this unit till the end of the year, that unit till the end of x-period, etc. Ha, if we cannot cover, they ask us "why not?" So, this is it. We have the book, and nothing else. It was given to us at the beginning of the year. We divide the units by the months, the weeks, and then try to deliver that curriculum. Oh, and we should inform the Department of Secondary Education about our reasons if we cannot cover all, and leave some topics uncovered. This is it.”

Although majority of the teachers perceived the curriculum as the textbook, only nine public high schools teachers (13%) directly said that the books were provided by Turkey. They said these books were prepared and published by Ministry of National Education in there. One teacher said all the books were from Turkey, only books for the literature and history of Turks in Cyprus since Ottoman time were prepared and published in North Cyprus. The interview excerpts below are examples of such opinions.

TP67: “Our mathematics curriculum is from Turkey. So, in Turkey, it is prepared by the Ministry of National Education, then, they sent it to us, so we receive it directly from them.”

TP20: “Curricula are from Turkey. They are making it. There is nothing, no specific study for secondary schools in North Cyprus. We use Turkey's books, and follow their curriculum in here.”

As the book lists were provided by the DSE which was affiliated to Ministry of National Education (MNE), four teachers of public high school (6%) thought that the curricula/textbooks were provided and developed by these two organizations, or by committees in them. The rest 75% of the public high school teachers directly mentioned that they used books as curriculum and followed the book contents. The following interview excerpts reflect these ideas.

TP52: "Of course, Ministry of National Education."

TP2: "Department of Secondary Education. There are specialists in that office. They, together, decide about the books and select the books. We cover the topics by adhering those books they suggested."

TP1: "Physics curriculum committees (pause) developing in the Department of Secondary Education or in Ministry of National Education."

Although most of the time teachers said that the curriculum was the textbooks and they were either supplied by the MNE of Turkey, or in North Cyprus, or by DSE as lists, five teachers (6%) said that in addition to what they were provided, they also developed their own curricula by following the topics from various books in accordance with the criteria sent to them by the DSE. What TP49 and TP43 said about this issue is as follows:

TP49: "We prepare the curriculum with friends, close friends. Of course we follow the criteria and the books sent us by the secondary education office. We determine what to teach according to them."

TP43: "Actually, curriculum is entirely shaped by the teachers."

All college teachers said that the lists of the books are sent by the DSE to them, but they follow textbooks for Edexcel and Cambridge IGCSE or GCE 'A' and 'AS'

levels and also follow the curricula prepared by them. They said that they access to these curricula from internet. For English language, they follow MacMillan's "Ready for IELTS" textbook. The following three interview excerpts reflect these ideas.

TC78: "Ministry of National Education. Edexcel GCE in England, of course. In general, we use Edexcel, but also Cambridge in some branches. For example, we use Cambridge IGSCE for ICT course, but use Edexcel in mathematics, physics, biology, and chemistry."

TC84: "Edexcel thing. Directly Edexcel examination and their maths curriculum, and books. We use Edexcel."

TC85: "Macmillan book for IELTS. We use that book. Ready for IELTS."

4.1.1.4 Perceptions of Public High School and College Students about Curriculum Development

Content analysis of the responses of 120 students was implemented to explore their perceptions about curriculum provision and development. The findings are as follows: one (1%) public high school student thought that no-one provided or developed the curriculum, whereas three (4%) others expressed no opinion. The following interview excerpts are examples of such thoughts.

SP4: "I think no one."

SP27: "I have no idea."

SP60: "I don't know."

SP74: "I don't know."

Similar to 13% of teachers, four (5%) public high school students thought that the curriculum was provided and developed by the MNE of Turkey. SP70 provided the reason of their thought. According to SP70, the university entrance examinations (the

YGS and LYS) were prepared by ÖSYM which was in Turkey and all their books were from Turkey. Therefore, for him, curriculum provider and the developer were people in Turkey. Besides these four students, a further two also believed that it was provided and developed by the MNE that work together with ÖSYM. The following interview excerpts are the samples of these ideas.

SP2: "Ministry of National Education in Turkey."

SP3: "Probably, Ministry of National Education in Turkey, I guess."

SP69: "Directed by Turkey, so I think it is implemented by Turkey."

SP70: "We will go to university in Turkey and take YGS and LYS prepared by ÖSYM. So, I think it is determined by Turkey. We use their curriculum and books."

SP29: "I think Ministry of National Education and ÖSYM."

SP31: "Definitely Ministry of National Education and ÖSYM that works with it."

SC74: "First, Ministry of National Education, then ÖSYM because of university entrance exams."

Similar to those five students who believed that the curriculum was provided and developed by the MNE, three students (4%) provided more information by saying that people, or teachers working for the MNE, or the lecturers from universities were involved in this. SP20 added that the teachers' union was also involved in the development of the curriculum. Only two of them (3%) claimed that students were also involved in curriculum development. One student thought that the head master developed the curriculum, and another one (1%) believed that it was the prime-minister who developed the curriculum and provided it to the MNE. These ideas are reflected in the following interview excerpts.

SP5: “I think it’s the Ministry of National Education.”

SP26: “I think the teachers working at the Ministry of National Education.”

SP32: “People working at the Ministry of National Education. People who are experts, authorized, and experienced.”

SP30: “Of course, ministry of education. Besides that also senior instructors and lecturers from universities plan and develop our curricula.”

SP18: “People, probably lecturers from universities, or the ministry as an institution.”

SP20: “Together with Ministry of National Education, the teachers’ union.”

SP17: “I think we, students with the support of the teachers.”

SP45: “If people develop, I guess, they are students. If it is an institution, then it is Ministry of National Education.”

SP42: “It can be our head master, and the Ministry of National Education.”

SP44: “Our prime-minister and then give to the Ministry of National Education.”

All college students said that the Ministry of National Education provided the books, but the books were from England and the curricula were developed by Edexcel. They also added that their Turkish Literature and history books were from Turkey and they were prepared and sent to North Cyprus by the MNE in there. These ideas can be found in the following excerpts.

SC105: “Our exams are by Edexcel, our books are from Ministry of National Education. That is why we have Turkish literature, discourse and history courses. These are from Turkey”

SC107: “Edexcel.”

SC118: “Edexcel developed the curricula. Our books are from England, but the Ministry of National Education decided these books.”

SC84: “It is the Ministry of National Education that decided what books we should follow.”

4.1.2 Perceptions about the Importance of the External Examinations

In this section the findings from the content analysis about the importance of the external examinations for teachers and students will be provided.

4.1.2.1 Perception of Teachers about the Importance of the External Examinations

To answer question two, content analysis was implemented to the responses of the public high school and college teachers; first to explore how they perceived the importance of the external examinations, and then to study their opinion about the importance of the external examinations for students. The findings are as follows: Except 4%, the rest indicate that they are important for them. Yet the importance change among teachers. For instance, 12% of teachers stated that the degree of the importance attached to these exams by students determined the degree of the importance attached to them by teachers. According to teachers, if the examinations were very important for students, then they forced teachers to value these exams reasonably. Otherwise, as the participants said, teachers did not value these exams. Similar to TP8’s opinion, almost about 50% of teachers also mentioned that these examinations determined the future career of students; therefore, they were important for teachers. TP17 said that it was important for teachers because they wanted their students to be successful in those examinations and to be accepted to the universities. Teachers also mentioned that these examinations were important for them because

they helped teachers improve their knowledge about new topics. For instance, TP17 said that the change in the curriculum and the new topics in the YGS and LYS examinations impelled teachers to look at new sources of information and to improve their knowledge about the new issues. The interview excerpts below are the samples of such views.

TP7: "If it is important for them, accordingly, they motivate us. They are not very important for students any more. A few years ago, it was different, now their importance is different. Students do not trust the exam system at all. So this year, particularly, the 12th grade students are very reluctant. We tried a lot, to bring sample questions, tell them what topic there will be and how it will be tested. But, they were very reluctant. Here is the fact, students think to admit the universities in here, and therefore YGS's importance is gradually decreasing. YGS de not matter. There are one or two students who give importance, but statistically majority does not care."

TP8: "Now, let's say, for us, it is important due to some reasons. This exam definitely determines the future of students. The main reason of receiving education is to get better occupations. In a way to guarantee a future job that one loves to do. So in a sense, YGS exams make those children to realize the importance of university education. That is why it is very, very important in that respect. Of course, I think it is very important for the future of children."

TP12: "To improve our students [knowledge]. I think it is important to help students to enroll to a university. It is better for our students to pass those exams and enroll to a good university."

TP17: “When there are exams ahead, as the curriculum changed, especially recently, we have to follow the topics. We have to look at various resources to prepare students to those exams. So, frankly, there are topics in the new books and in the exam that I really do not know, such as alchemy, alchemy in our lives. This is one topic in YGS. I do not know. To recall the topics we’ve already known and to learn the ones we do not, these exams are good.”

On the other hand, three teachers (4%) said that these examinations are not important for them. They were against the idea of assessing students’ knowledge in one examination administered only on one day. However, they admitted that huge number of students applied to YGS every year, and there should be elimination, as there were not enough places in the universities for all those students. For instance, TP9 clearly explained this.

> As a teacher, I don’t approve YGS exam, too. Because it does not exactly test the knowledge, I think, frankly. Knowledge cannot be tested in one day, just with one exam. But somehow it should be tested, it is a requirement. Nowadays a lot of students want to go to universities. Making a distinction among them, who deserves who do not, and then we need a test. I think that is why YGS is mandatory. Today, I think YGS does not matter much for our students. They don’t care too much, because they prefer admitting to local universities on local. So they do not care about YGS. I realized that only a few students do really care about this exam. Others don’t care.

Teachers’ views about the importance of the examinations for students were divided into two: one group (44%) was for the idea that these examinations were

really important for students, whereas for others (56%) they were not very important at all. The second group was the majority. The ones who thought that the examinations were important for students provided the following reasons: university education could provide good career choices to students, so for students the university entrance examinations are crucial. Some of them also said that if those examinations would not be very important for students, students would not take medical reports to stay at home and to study, or to attend cram schools (*dershane*) and to pay a lot of money. Yet all agreed that the importance of the examinations for students solely related to the desire to get a good job or career in future. Some also added that if students aimed to studying university in abroad, then they gave a lot of importance to these examinations (the YGS, LYS, and IGCSE examinations). One of the teacher said that these examinations were the only thing that could motivate students and that was the reason why they were important for both teachers and students. The interview excerpts below are samples of such views.

TP10: "It's very important. Since the beginning of year, it is very important for students and it's a huge burden on them. For example, students are taking medical reports to stay at home and study for it. They also attend private institutions to take private lessons as much as they can, and pay a lot of money. It is a great stress for students."

Interviewer: "Why do they care about these exams that much?"

TP10: "It is the university entrance exam, their only goal is to enter a university. This is what they want."

TP8: "This exam definitely determines the future of students. The main reason of receiving education is to get better occupations. In a way to guarantee a future

job that one loves to do. So in a sense, YGS exams make those children to realize the importance of university education. That is why it is very, very important in that respect. Of course, I think it is very very important for the future of children."

TC71: "There's nothing else left in education to motivate these students. I believe in this. The examinations are the only things that will provide them their future profession; the only thing that will give them what they want. The only thing that can motivate them at school. So we use YGS / LYS examinations and IGCSE examinations to motivate students. It is the only motivation component in teachers' hands. Students attached to these exams, and we, too. I do admit that this is not a correct behaviour, but we use it in this way."

Teachers who were for the idea that the YGS and LYS were not important for students anymore thought that the reasons for this was the local universities in Northern Cyprus. Some said that students prefered these local universities as they wanted to stay with their families; some others said that this was due to financial reasons (university education in abroad is expensive compared to the prices in Northern Cyprus); some others said that admittion to local universities was easier compared to the admittion to universities in abroad (either in Turkey or in England), besides in here students could easily enter to the departments of their choices, despite the matriculation examinations implemented by the local universities. Therefore, for these students studying abroad was not charming. The interview excerpts below are the samples of such opinions.

TP25: “Now for some it is important, but more important for those who think to study abroad, but the universities in the country are more charming for students. There are only a few students aiming the universities abroad.”

TP18: “I think it does not matter now, for students. In our time, it was very important for us. When we say the university exam, the water stops flowing. We always study, study very hard. Now students think in a different way. For them, it could be YGS or it could be something else. They don’t care. It is easier for te students to enter the universities in here, because their exams are easier compared to YGS or others. It is possible to admit there even you have a low mark. Students are aware of it. This is terrible. That is why students are not too enthusiastic for taking YGS or LYS.”

TC76: “The exams were very important before the establishment of universities in North Cyprus, but after their establishment in our schools, although they look as if they matter, they don’t matter at all. So they appear to be important but in fact they are not. Let me give you an example. For instance, our students in Grade 12, 95% or 90% of them attend cram schools, take private lessons; they seem to give a real importance to these examinations. But it is a fashion. For me, and statistically this is the reality, only 3%, or 2% of them get acceptance and go to universities in Turkey or in England.”

TC78: “Now, you know, students must sit for these exams if they want to enter a university. But as you know, they had a great chance to go to universities in England, but recently they increased the tuition prices, so I think there will be a huge decrease in the number of students preferring to go to England, actually they were not much. It was five or six, it may be one or two, due to

that reason. So I mean, these guys want to take the exam, but unfortunately in our country, it is much easier to enter a university. Almost all the applicants are entering the departments they have chosen, even with their IGCSEs. It is easy. All students of Grade 12 are entering either IGCSE or YGS/LYS, but only a few want to go to England or to Turkey. For majority, their choice is the universities in North Cyprus, this is because not only the easiness in their acceptance, but the easiness in graduating from them."

4.1.2.2 Perception of students about the importance of the external examinations

To answer question two, content analysis was implemented to the responses of the public high school and college students; first to explore how they perceived the importance of the external examinations, and then to study their opinion about the importance of the external examinations for teachers. Findings are as follows: seven students (6%) said these external examinations were not important for them because they wanted to pursue their higher education in North Cyprus. SP59 said that these exams were crucial for those who wanted to study abroad. The interview excerpts below are the samples of such views.

SC82: "It doesn't matter much to me. I want to take EMU entrance exam."

SP39: "Not important for me at al. My target is one of the universities in here."

SP59: "YGS or LYS is not important for me. They are important for those who want to enter a university in Turkey. I will try one in here. They are all good."

Ninety-four percent of students stated that these exams were very crucial for their future, as these exams determined their prospective careers, determined the level of their knowledge, and they were necessary to get acceptance from the universities. The interview excerpts below are the examples of such opinions.

SP19: “The university entrance exam determines the level of people, determines what you will do or study, it approves your success, your profession. It is important.”

SC84: “They are important for me because I need 5 GCSE in order to get acceptance from a university and I need to get minumum C. Without these exams you cannot get into a university. These exams are also important for our teachers, because they can se how well they teach and have helped students to revise and how well they help them to be ready for these exams.”

SP41: “Important for me. Because this is a test determining our the future. Where we will study, a test that determines what we will study.. That's why I need to be ready for them well. That is why they are important.”

SP11: “It is very important to me because if I passed them, I think I can find o good job, so think I will enter a department so that I can find a job in future. That is why they are important to me.”

SP77: “Of great importance to me. If I pass, then I can enter the department and the university of my dreams.”

Three different views emerged, when students were asked about their opinion on the importance of university entrance examinations for teachers. These are as follow: according to seven (6%) students the university entrance examinations were not important at all for teachers. Their reasons varied. They either perceived negligence in teachers toward student needs, or plutolatry (worship of wealth) in teachers (they only cared about their salary or money they would get from private lessons), or only an attemp to complete the curriculum. SP69 said that the reason of teachers’ negligence was the local universities in North Cyprus, they enrolled all the

applicants, even the ones with low achievement. The interview excerpts below are the examples of such views.

SP3: “It doesn’t matter for them.”

SP17: “For teachers, it is not important.”

Interviewer: “Could you please explain? How did you come to such a conclusion?”

SP17: “How shall I explain? They don’t care much about us. They don’t show any interest.”

SP57: “I think, for the majority they are not important.”

Interviewer: “Why? Can you elaborate on this a little?”

SP57: “Because teachers in Cyprus care only about salary. They don’t care about students.”

SP59: “Mostly teachers just come to class and do the lesson. They try to complete the curriculum given to them by the Ministry of National Education curriculum, try to finish the book. So, they don’t have any extra purposes, or any other persuit. They just obey the curriculum of the Ministry of National Education, that's it.”

SP69: “I think it is not important for teachers in Cyprus. I think so. Eventually, the universities are accepting all Cypriot citizens, even with a very low score. Therefore, teachers do not care.”

Twelve students (10%) said that the importance given to these examinations vary among teachers. For them some teachers cared about students, supported them with materials or with motivation, but some others cared only about the implementation of the curriculum (try to complete the book). The interview excerpts below reflect such views.

S12: It changes from teacher to teacher. For some it is important because it is important for us.

SP8: “Important for some, insignificant for others. Not the same for everyone.”

Interviewer: “Could you please explain?”

SP8: “For instance, some teachers bring materials and prepare us for these exams. The others, just follow the book. They avoid our needs.”

For the rest of students (84%), the examinations were also important, and they cared about these exams as much as students did. According to some the success of students in these exams was an indicator of teachers’ success, therefore teachers were interested in these exams. Some others said that their teachers also thought about future careers of students. Some others thought that while preparing students for these examinations, teachers also improved their own knowledge. The interview excerpts below are the samples of such opinions.

SP41: “It is important for our school teachers; bacuse in a way, our success is their success. They have prepared us, so our success, in a way, is of theirs.”

SP44: “Teachers are improving their knowledge, when they help us to study for these exams.”

SC113: “Definitely important for them, too. Without our teachers we cannot do well in those exams.”

4.1.3 Perceptions about the Consistency in the Contents of Curricula and the External Examinations

In this section perceptions of teachers and students about the consistency (agreement or the correspondence) between the contents of the 11th- and 12th-grade curricula and the external examinations were explored.

4.1.3.1 Perceptions of Teachers about the Consistency in the Contents of Curricula and the External Examinations

In order to answer question three, content analysis of the responses of teachers and students related to the consistency of the exams' content with the content of the curriculum used in 11th- and 12th- grade was implemented.

In public colleges, all science and mathematics teachers stated that the content of the IGCSE and 'A' Level examinations is consistent with the content of the science and mathematics books they use in classes. The interview excerpts below are the samples of such views.

TC76: "IGCSE and 'A' levels are completely consistent with the biology curricula we teach."

TC83: "Coincides, coincides (pause) exactly (pause) I mean exactly corresponds."

TC80: "Now the rate of overlap is very high. But, students need to develop it alone [via self studying]. They should solve plenty of questions at home. If we solve 20-20 questions in class, they need to solve a 500 more at home in order to be successful. But the content largely coincides."

All mathematics, biology and chemistry teachers (100%), and 96% of physics teachers in public high schools claimed that the YGS content is fully consistent with the content of 9-th and 10-th grade mathematics, biology, physics and chemistry books, partially consistent with the content of 11-th grade books in these subjects, but totally inconsistent with the content of 12-th grade books of these four subjects. Furthermore, these teachers perceived that the LYS content is fully consistent with the content of 12^{th} grade books in the same subjects. The interview excerpts below are the examples of such ideas.

TP43: “The YGS is consistent, consistent, exactly. I mean exactly corresponds to grade 9, 10 and 11 and LYS to 12.”

TP21: “The YGS completely overlaps with the curriculum; there is no problem with the curriculum. I am talking about the biology course, of course. The curriculum is completely consistent with the exams.”

Yet, 4% of physics teachers claimed that the YGS content is consistent only with the content of 9-th grade physics book, and is inconsistent with the content of 11-th and 12-th grade physics books. TP23 said

“The YGS overlaps with the topics of 9-th grade, but not with the topics of 11-th and 12-th.”

About 98% of English language teachers perceived inconsistency between the LYS English Language exam content and the content of language books used in public high schools. On the other hand, 2% of English teachers expressed no opinion. The interview excerpts below are the samples of such views.

TP19: “First of all, our books are completely different from the exams. Namely, they do not coincide with the LYS. Our books are from England, so they do not match the exam in Turkey. They are totally different.”

TP32: “To tell you the truth, I have no idea about the content of the LYS language exam.”

Some teachers stated that there are vocabulary, grammar, reading comprehension and translation questions on the LYS, but the books used in public high schools are similar in form and content with the IGCSE or ‘A’ Level language exams. Therefore, the content of English Language books and the content of the LYS English Language exam are inconsistent. TP26 said

"They are totally different. We have listening, speaking sections in the book, we do them sometimes, but in the LYS there is none. No listening, speaking exam in LYS."

Similarly, all the English Language teachers at public colleges said that English Language books used in public colleges are for the International English Language Testing System (IELTS) and the content of the books is inconsistent with the content on the IGCSE and 'A' Level English language exams. Therefore, students take the IELTS exam instead of the IGCSE or 'A' Level language exams. For example, TC63 said

"It does not. We use the book 'Ready for IELTS' and it prepares them for the IELTS exam. The book is chosen by the Ministry of National Education. We recommend that students take the IELTS exam, not the IGCSE or 'A' Level language exams."

In the study, all of teachers responded to the question "In your opinion, how effective is external examination in determining the curriculum content of 11th- and 12th-grade?" The findings are as follows: four teachers expressed no opinion, and one teacher said this was confusing. The interview excerpts below are the samples of such views.

TC85: "I think I can't provide any response to this question. I don't have cognizant or knowledge about the content of the examinations. Can we pass on the next question?"

TC77: "I do not believe that they are very effective in determining the curriculum subjects, this is due to the fact that ÖSYM prepares the YGS and LYS questions but the curriculum is from the MNE. Perhaps we can say the

contrary. The curriculum determines the content of these exams, as in GCEs. But, an outside organization prepares the questions; perhaps test writers look at the content of the curriculum. Yet when I think about the questions in YGS and LYS, there are some questions that are off topic, and then I suspect that they look at the contents of the books."

TP36: "I don't know. I don't want to respond this."

While two college teachers (11%) expressed no opinion and one (6%) was confused, the rest (84%) was for the idea that the content of the curriculum determined the content of the IGCSE or GCE 'A' and 'AS' levels. The interview excerpts below are the examples of such opinions.

TC84: "The course content is effective on the content of the exams, because they are parallel to the course content."

TC86: "I think the course content determines the content of the exams. Not the other way around."

All participant teachers from public high schools agreed that YGS and LYS are very effective in determining the content of the curricula followed at schools because students put pressure on teachers when they tremendously value these exams. According to participants, most of the parents associate the teacher's success to students' success at YGS or LYS. Therefore, either teachers get the statistical information about the content included in YGS or LYS to include them in their curriculum plans, or they directly focus only on the contents of these exams. The interview excerpts below are the samples of such views.

TP16: "To me, effective. I think directly YGS and LYS exams, for example the topics that are likely to be asked, and the ones that are unlikely to be asked,

eliminate the topics accordingly. I took out the ones that won't be asked and put in some that are likely to be asked in these exams. I can eliminate by myself. So I can say that they determine."

TP3: "As I said earlier, the questions are basically and mostly about paragraphs, disorders in expression, word meaning, structure questions etc. But in the books all these topics are scrambled, either too simple or they think to give these closer to exam time. They think that students can remember them easily if they learn them later, but these are not included to 12th-grade curricula. It is similar in the books. It starts at 9th grade. Starts with pre-Islam period, then goes to Tanzimat, then the new period after Republic. They ask all these in the exams. But students learn them at 9th and 10th grades. So they forget. We revise all these, we have to. Students demand. Parents demand. Their success is our success. We have to do. Thus they determine, don't they."

TP55: "100% effective in determining. We are in the position of preparing students for the higher education, therefore we depend on them, depend 100% on them, we cannot step out. If you do, why you should do? Students will tell you that they do not need to learn things that are not involved, because students are conditioned to these exams."

TC70: "Time to time we bring topics that are not in the books, but are in the exams. So, I think they determine."

4.1.3.2 Perceptions of Students about the Consistency in the Contents of Curricula and the External Examinations

Similarly, regarding the IGCSE, science and mathematics content, all college science students stated that the content of their science books is consistent with the content of the science exams they have taken. For instance, SC78 said

> "What we are tested on is completely the same as what we learn at school. Of course there are slight differences, but they are not a big deal."

All students (100%) studying in the Science Program stated that the YGS and LYS content is consistent with the content of the science and mathematics books they have studied since the 9th-grade. Yet, about 86% of students studying in the Turkish-Mathematics Program said that the content of the LYS exam is totally consistent with the content of science and mathematics books of 11th and 12th grades. Nearly 4% of these students expressed no opinion, and 16% of them said that the content of the LYS exam and the content of their books are partially consistent. The interview excerpts below are the samples of such views.

SP10: "The topics are the same, but in terms of information given under those topics, they are not identical. For example, in the books the explanations are not detailed, but on the LYS the questions are asking the details."

SP32: "We are in the last year. It does not for the YGS, but for the LYS. The topics we have seen recently are a little more for the LYS. I think the YGS is for 9th and 10th grades. Meanwhile, there is a timeout in between the 9th grade and YGS exam causing us to forget what we've learned. I think the topics we study now are for LYS exam."

All Foreign Language Program students (100%) in public high schools said that the content of their language books is inconsistent with the content of the LYS English Language exam. Moreover, according to them, the content of the YGS and the LYS is inconsistent with the content and topics of all the textbooks they use. Therefore, their teachers have compiled supplementary materials in order to prepare them for these exams. They said that their books are preparing them for the IGCSE examinations, but they are not studying for these exams. Their aim is to take the YGS and LYS instead of the IGCSE exams. They also said that they are attending private educational institutions to get private lessons for YGS. The interview excerpts below reflect such views.

SP12: "If we, as a foreign language class, sat for the exam now, we would all fail. Certainly we need to attend private educational institutions, otherwise we will not be successful … teachers give us supplementary materials … our books are for the IGCSE exams not for the YGS or LYS."

SP15: "All our topics and books are totally different from the contents of the YGS and LYS."

Students' responses to the question whether external examinations determined the curriculum content or not was as follows: only ten students (12%, mostly 11th-grade in public high schools) said they had no idea. Six students (7%) said that the content of the lessons determine the contents of the examinations, as all question topics were among the topics of the questions. All college students thought that the contents of the IGCSE and GCE 'A' and 'AS' levels are from the books they studied, therefore the curriculum determined the contents of the examinations. Yet, 81% of the public high school students perceived that the YGS and LYS contents determined what

topics they had to study in classes. The interview excerpts below are the samples of such views.

SP11: “I don’t know.”

SP24: “Question topics are among the topics of the books, so I think the curriculum determines their contents.”

SP8: “Content of our lessons determines their contents.”

SC99: “They cannot determine, our lessons include all GCE topics.”

SP4: “Very effective in determining, we only cover those topics that are likely to come in these exams.”

4.1.4 Effects of External Examinations on Curriculum Implementation

In this section information about how teachers and students perceived the effect of external examinations on curriculum implementations was provided.

4.1.4.1 Perceptions of Teachers about the Effects of External Examinations on Curriculum Implementations

In order to answer research question four, the content analysis was implemented for the responses of the participants about the content selection and the way teaching and learning were affected by the external exams.

About 92% of science and mathematics teachers claimed that the content selection in the lessons was done in accordance with the contents of the YGS and LYS. About 8% of science and mathematics teachers said that they were following the order of the topics given in the books. Similarly, all science and mathematics teachers in public colleges said that they followed the order of the topics in the books, as the books prepared students for the IGCSE exams. The interview excerpts below are the samples of such ideas.

TP16: “I consider the YGS and LYS exams directly, for example the topics that are likely to be asked, and the ones that are unlikely to be asked, I eliminate the topics accordingly … I took out the topics that won’t be asked and teach the ones that are likely to be asked in these exams. So I can say that exams determine what we will teach.”

TC55: “[IGCSE exams are] 100% effective in determining what we teach. We are preparing students for higher education, therefore we depend on them [books], depend 100% on them, we cannot ignore them. If you ignore the exams, then students will warn you that they do not need to learn things that will not be asked in the exams.”

Another finding about science lessons was that the laboratory activities of these lessons were abolished. About 94% of science teachers and 93% of students from Science Programs in public high schools and all science teachers (100%) and all science students in public colleges (100%) stated that the laboratory activities of science lessons were not done due to time constraints and adverse conditions of laboratories. Teachers stated that the weekly course hours were not enough to cover all the topics in the books. Therefore, instead of removing some of the topics, teachers decided to remove laboratory activities from weekly schedules. Other reason for the removal of laboratory activities stated by teachers was the lack of laboratory materials and instruments and the bad conditions of laboratories in public high schools and colleges. Only about 6% of science teachers claimed that they do laboratory activities in public high schools, but they do not do them more than twice in an academic year. As regards to the IGCSE, the laboratory activities were not

done because students took only the theory section instead of the practice section of these exams. TP55 said,

> "When you consider physics for example, we don't do the lab practice. There should be the lab work, but we give the theory. We do 5 hours of theory in class. There is not enough time to cover all the topics."

Almost all teachers, except only three, said that they first they taught the content, and then gave test questions to students and solved them in class. Yet, three public high school teachers said they just taught the content of the book, solve the unit questions, but did not bring extra questions to class especially from these examinations. According to teachers, the only negative effect on teaching was in the accomplishment of the topics to be covered. They said that they eliminated the topics that were unlikely to be asked. The interview excerpts below are the samples of such ideas.

TP42: "I just do the lesson, teach the topic, and let them do the questions of the unit. I don't bring LYS or YGS questions to class."

TP10: "I just do the things in the book. Nothing extra."

TP78: "These examinations had positive effect on my teaching. They give us a focus. We practice a lot of tests in class."

TP6: "They direct us. So we focus more on the required skills and the topics."

TP16: "I asked students to buy an extra book, which has 1000 questions. We solve them either in class after the lecture, or I assign them as homework."

TC74: "Our teaching methods are actually toward more to YGS and LYS, solving test, improving speed and timing-skills of students, focusing more on testing-skills. In GCE's questions are not multiple choice type, they are mostly open-

ended. The unit questions are the same. So we don't use extra material for them. But for YGS and LYS we have to."

TC75: "We look at the exam questions. For example, questions as such were asked this year, so we adjust our teaching and questions accordingly. We also adjust our curriculum accordingly. We make our curriculum parallel to YGS and LYS. For example, at school all teachers teaching the same course, we come together and discuss what is likely to be asked and what is unlikely to be asked. Then we remove the units and topics that are unlikely to be asked. We skip them. But we don't do this for GCEs."

About 97% of teachers of all subjects in public high schools stated that students' learning is affected negatively because these exams and multiple questions lead students to rote learning. About 3% of teachers expressed no opinion. All teachers in public colleges perceived positive effects of exams on students' learning. The interview excerpts below are the examples of such ideas.

TP53: "You try to teach students something, but they don't care. They always think about these exams. They memorize everything. It's rote learning."

TP56: "I don't know. I am not interested in."

TC72: "Studying for IGCSE exams affects students' learning positively, because they don't memorize."

4.1.4.2 Perceptions of Students about the Effects of External Examinations on Curriculum Implementations

About 80% of students in public high schools claimed that the content selection in the lessons had been done in accordance with the contents of the YGS and LYS. The interview excerpts below are the samples of such ideas.

SC17: “Completely effective, I think, because all the courses and topics we study are for these exams.”

SP18: “Yes, these exams determine the topics because in the YGS and LYS they ask these topics; teachers cover only those ones in the classes.”

Another finding about science lessons was that the laboratory activities of these lessons were abolished. About 93% of students from Science Programs in public high schools and all science students in public colleges (100%) stated that the laboratory activities of science lessons were removed from weekly time schedules due to time constraints and adverse conditions of laboratories. Similarly, students also thought that the weekly course hours were insufficient for covering all the topics in the books. Other reasons for the removal of laboratory activities stated by students were the lack of laboratory materials and instruments and the bad conditions of laboratories in public high schools and colleges. Only about 7% of science students claimed that they do laboratory activities in public high schools, but they do not do them more than twice in an academic year. As regards to the IGCSE, the laboratory activities were not done because students took only the theory section instead of the practice section of these exams. The interview excerpts below are the samples of such opinions.

SC67: “We don’t do lab practice, but we do the lessons in lab. We just learn the theory. We take the theory section in the IGCSE.”

SP6: “We did biology lab last week. It was interesting. I wish there were more, but we just do one or two labs in a whole year. It should be more, but our lab is in bad condition and there aren’t enough materials to use, plus instruments are broken.”

All public high school and college students think that majority of their teachers were positively affected from these external examinations. According to them, if the examinations were crucial for teachers, then they taught the units and the topics toward the exam; moreover, they gave past paper questions, and solve them in class. The interview excerpts reflect such ideas.

SP26: "The teachers cover the units, and then together we solve questions."

SP30: "They only focus on the topics of the exams, and give tests."

SC104: "We study the units, then we look at the questions in the past papers."

About 7% of students in the 11th grade did not express an opinion. Yet, on the other hand, about 93% of students stated that their learning was affected positively. According to them, because of these exams, they started to study and attended the courses offered by the private educational institutions regularly, and solved problems and tests systematically. They said that they had improved their study methods, stopped memorizing, started to do more practice and review, and tried to learn the subjects. The interview excerpts below are the examples of such ideas.

S14: "I don't know."

S32: "I don't know."

SC3: "It affected me positively. I was studying just to pass the exams, but now I try to learn. I study more than ever."

SP4: "Because I must remember all those 9^{th} and 10^{th} grade topics, I reviewed them as well. It improved my knowledge and exam skills. I also go to private educational institutions, solve thousands of questions. I have to be successful. No other way."

4.1.5 Effects of External Examinations on Teacher-made Tests

In this section the findings about teachers' and students' perceptions on how the external examinations affect teacher-made tests were revealed.

4.1.5.1 Perceptions of Teachers about the Effect of External Examination on Teacher-made Tests

In order to answer the research question about how teachers perceived the effects of external exams on teacher-made tests, content analysis was implemented for their responses. About 96% of teachers in public high schools and 100% of teachers in public colleges said that they used past YGS, LYS and IGCSE exam questions as supplementary materials, and also in their exams. This was because they wanted to familiarize their students with the question types and the content of these exams. The interview excerpts below reflect such ideas.

TP28: "Of course, we show students samples of past exams to raise awareness, telling them 'look this is the information we gave and this is the question they asked', to motivate them more, to show them the aim of learning on the one hand and to make learning more relevant in terms of preparing them for these exams and I think, in this regard, this is effective."

TC30: "After each topic, if I give them 20 questions, 5 or 6 of them are from past exams. In my tests I use questions that are similar to IGCSE exam questions and content, so that they get used to these questions."

TP15: "Equally, yes, but of course not the same questions. At the same level, I find equally appropriate questions. The exams are important for them, they need to be ready, so I think it is right to use, but of course not the same questions. Similar questions with minor changes, of course."

All teachers in public colleges said that the form and content of teacher-made tests were similar to the form and content of the IGCSE exams. In public high schools, teachers said the form and content of teacher-made tests were partially similar to the content and form of the YGS and LYS. The interview excerpts below are the samples of such thoughts.

TC46: "Our exams are similar in content and form to the IGCSE exams. Why should we ask something different?"

TP21: "... measurement and evaluation are different. The exams we do include 50% classical type, open-ended questions and 50% multiple choices in grade 12. For other grades we cannot ask multiple choices. Our books also do not include multiple choice questions. So, there is no similarity. These students are unfamiliar with multiple choice exams. Therefore, they attend private lessons in private educational institutions."

4.1.5.2 Perceptions of Students about the Effect of External Examination on Teacher-made Tests

Content analysis to the responses of students about how they perceived the effects of external exams on teacher-made tests revealed that in public colleges the examinations were quite similar in format and types to the ones in IGSCE or GCE 'A' and 'AS' level. Yet, 11th-grade students in public high schools complained about the difference in format and style, which was totally different from the external examinations. They said that teachers used open-ended type of questions in the school examinations. Therefore, they could not familiarize themselves with the multiple choice examination type used in the YGS and LYS. On the other hand, 12th-grade students said that in the first semester, teachers were using both open-

ended question types and multiple choices, but in the second half of the academic year they started to use mostly multiple choice types of questions. They thought that this type of implementation was more beneficial to students as they got familiar with particularly multiple choices and the techniques for their solutions. All college and high school students said that most of their teachers used past examination papers as supplementary materials in classes, but according to them the use of past examination papers as supplementary materials was not very frequent, they said they preferred more frequent use of them. The interview excerpts below are the samples of such ideas.

SP63: "Mostly young teachers who are interested in these exams use them in the classes as supplementary materials. They want us to e familiar with the question types."

SP65: "They use them. This helps us to see the question types and we learn the techniques."

SP67: "The questions teachers asked are totally different from the ones in the tests. They ask open ended. In the exam they are all multiple choice."

SC110: "I think they should use them in class particularly. This will help us see the question types."

SC91: "The questions are similar to the ones in the tests and in the books."

SP92: If they use the similar question types in exams then we will get used to them. I want them to use multiple choice questions not open-ended ones."

4.1.5.3 Teachers' Opinions about the Question Types in the External Examinations

Content analysis was implemented to the responses of the teacher to explore their opinion about the question types used in external examinations. The findings are as follows: All college teachers were for the opinion that the IGCSE examination system and question types were better than the ones on the YGS and LYS. TC84 said,

> "In IGCSE there already use classic, open ended questions, not multiple choices. Students can provide more information. The test directs the student step by step to the conclusion. It is really a good system. It is the traditional method. If the student does not know the answer, s/he cannot respond, but in multiple choices s/he will choose one. So, open ended questions are better. Also students are provided re-sits. I heard on the news that one student had a heart attack due to stress on YGS exam. Students take YGS in their last grade. But for IGCSE it took 2 years to prepare students. 'A' level examinations are even better. In 'A' level, there are modules. For example, in math module, there are 4-tiers. There are mechanics, there are statistics modules and after each module students take its exam. If students could not get a satisfactory grade, s/he can take re-sit, as many times as s/he wants. This increases the chance for students to be accepted in better schools. That's why I think IGCSE has a better style compared to the YGS and LYS."

Most of public high school teachers (70%) were for the use of multiple choice type of examination, whereas some (30%) were against it. The interview excerpts below are the samples of such ideas.

TP66: "Multiple choice tests are better to use if thousands of students are taking the exam. I think this is more objective in assessment. In open-ended tests, the assessment of the papers may change from teacher to teacher. Plus some knowledge should be tested by using multiple choice types of questions. You cannot test them using open-ended ones."

TP14: "They have no chance of making a classic exam in the current system. Reading of 1 million, 1 million 300 thousand, 1.5 million papers is not possible."

TP19: "There should not be only one type. There are various question types, such a True/False, sentence completion, matching, classification, cloze test, etc. It is not a good idea to use only one type of question. But, in YGS and LYS they use only multiple choices. If the student does not know the answer, s/he can choose one, and it can be the correct one."

TP70: "It is a wrong system. It gives only one chance to students. In one day in one sit they expect students to show his/her knowledge. It should be similar to GCEs, should have many tiers. They have to consider all the tiers."

4.1.5.4 Students' Opinions about the Question Types in the External Examinations

All college students said that they liked the examination system and the question types. Similar to teachers, there were two points of views among public high school students. Most of them (80%) thought that the YGS and LYS system was good, and

the multiple question types were acceptable. They said that was practical, they could remember the answer by looking at the choices. The other group (20%) said it could be better for them if the questions were open-ended types. They did not like the idea that one fourth of their correct answers were deleted due to the wrong answer they had chosen. The interview excerpts below are the samples of such ideas.

SC86: "A good system. Good question types. They give us re-sit opportunity. They are good."

SC89: "Multiple-choice tests are bad. Because of wrongs my rights were gone. Just giving this exam at the end of 12th-grade is also wrong. A single tier, one type of questions is no good."

SP70: "I think it's a fair system. The YGS and LYS, of course. If you know, you can do. If you don't you can remember from the answers."

SP51: "Instead the test, there could be a spoken exam, or they can consider our school grades. We take exams at school. They can look at our success in them. I think they should not give this test. It puts to much pressure on us, we get stressed."

SP53: "Multiple choice tests are at our disadvantage. In open ended questions if you cannot get a full mark, at least you can get some marks for your response, but in multiple choices it is either correct or wrong. If it is wrong you get zero, and four wrong answers cause the removal of one correct answer. This is not fair."

4.2 Findings Related to Document Analyses

In this part, the analyses of contents are presented in accordance with Miles and Huberman's (1994) category based data display approach. Based on the results of

teachers' and students' perceptions of the effect of external examinations on the content of school curricula, content analyses on the examinations and textbooks were implemented. For this purpose, six YGS and twelve LYS tests, three GCE O level Turkish, and three IGCSE English as a Secondary Language tests administered in 2010, 2011 and 2012, and 64 books used in Grades 9, 10, 11 and 12 in public high schools and colleges since 2010 were purposively selected and their contents were analyzed using content analysis technique. In 2010 and 2011, textbooks published in the year 2008 and 2010 were used for 9th-grade level; the ones published in 2009 and 2010 were used for 10th-grade level; for 11th-grade level, textbooks published in either in 2008, or in 2010, or in 2011 were used; and for 12th-grade level the textbooks published in 2008 were used. In 2012, textbooks published in 2012 were used for all grade levels. The topical contents of these books were compared and no difference was found. Therefore the topics driven from the textbooks for the content analyses were the same for all these textbooks published between 2008 and 2012. The MNE of Turkey was authorized the publication of these books, and on some of them authors' names were written, but on some others only "committee" (*komisyon* in Turkish, which is a group of experts who worked together to produce a book) was written instead authors' names. Therefore, '*Komisyon*' was used to refer to these textbooks in the 'References' section of this dissertation.

The Following research question was set for the analyses of the tests and textbooks:

1. How consistent are the contents of the 11th and 12th grades and the external examinations?

4.2.1 Consistency between the Contents of 2010, 2011, and 2012 YGS Mathematics Tests and High School Curricula Content

Document analyses on the content of 2010, 2011, and 2012 YGS mathematics tests and mathematics textbooks for Grades 9, 10, 11, and 12 published in 2008, 2010 and 2012 were implemented.

4.2.1.1 Content Analysis of the Mathematics Textbooks for Grades 9, 10, 11, and 12

There were 19 same topical categories in the 9th-grade mathematics textbooks published in 2010 and 2012 (Komisyon, 2010e, 2012d). They were as follows: logic, sets, problems related to sets, correlation, functions, process, integer, divisibility rule, greatest common divisor (GSD), least common multiple (LCM), whole numbers, modular arithmetic, rational numbers, real numbers, absolute value, exponential numbers, expressions, exponential equations, radicals, and ratio.

There were 12 same topical categories in the 10th-grade mathematics textbooks published in 2010 and 2012 (Komisyon, 2010f, 2012e). These were polynomials, factorization, greatest common divisor (GSD), least common multiple (LCM), rational expressions, equations, inequalities, functions, trigonometry, angles, circles, and parameters (sine, cosine).

There were 16 same topical categories in the 11th-grade mathematics textbooks published in 2008, 2011 and 2012 (Komisyon, 2008c; Şişman et al., 2011, 2012). These were complex numbers, complex plane, functions, equations, inequalities, factors, permutations, combinations, binomials, probability, statistics, induction, sequences, logarithm, matrices, and determinants.

There were 14 same topical categories in the 12th-grade mathematics textbooks published in 2008 and 2012 (Bağrıaçık et al., 2008, 2012), and they were functions, function types, limit in functions, limit in sequences, continuity in functions, derivation, derivation in functions, extremum and derivation, curve and derivation, asymptote, graphics of functions, integral, area, and volume.

4.2.1.2 Content Analysis of the Questions on the 2010, 2011, and 2012 YGS Mathematics Tests

There were 40 questions on the 2010, 2011, and 2012 YGS mathematics tests. Five of these questions were geometry questions on the 2010 and 2011 YGS mathematics tests, and 6 of them were geometry questions on the 2012 YGS mathematics test. On the 2010 YGS mathematics test, the distribution of 35 questions according to topical categories and grades are shown in Table 3.

Table 3 Distribution of Mathematics Questions on the 2010 YGS Mathematics Test

Topical categories	Number of questions	Grade
Rational Numbers	3	9
Square Roots	2	-
Factorization	2	10
Exponential Numbers	3	-
Equations	2	9,10,11
Ranges & Series	1	-
Inequalities	1	10,11
Divisibility rules	1	9
Functions	1	9,10,11,12
Logic	1	9
Modular Arithmetic	2	9
GSD-LCM	1	9,10
Process	1	9
Sets	1	9
Probability	1	11
Basic Topics	3	-
Number-fraction problems	3	-
Percentage-interest problems	2	-
Reading tables & graphics	4	-

As seen from the above table, there were 19 topical categories on the 2010 YGS mathematics test. Six of these topics were among 9th grade, one of them was among 10th grade, and one of them was among 11th-grade mathematics textbooks. Three of these topics were common topics for Grades 9, 10, and 11, and one of them was a common concept to all high school mathematics textbooks. Yet, seven of these topics were among the middle school mathematics textbook topics. The consistency between the content of the 2010 YGS mathematics test and the content of the Grades 9, 10, 11, and 12 mathematics textbooks was 37%, 14%, 11%, and 1% respectively. The content of the 2010 YGS mathematics test was 37% inconsistent with the Grades 9, 10, 11, and 12 mathematics textbooks. Considering the proportions, 29% of 35 questions were asked from 9th-grade, 12% from 10th-grade, 7% from 11th-grade, and 1% from 12th-grade textbooks. Yet, 56% of 35 questions were asked from middle school grades textbooks.

For the 2011 YGS mathematics test, the distribution of the 35 questions according to main topics and grades are shown in Table 4.

Table 4 Distribution of Mathematics Questions on the 2011 YGS Mathematics Test

Topical categories	**Number of questions**	**Grade**
Rational Numbers	2	9
Square Roots	2	-
Factorization	3	10
Exponential Numbers	2	-
Ranges & Series	1	-
Modular Arithmetic	1	9
Absolute Value	1	9
Divisibility rules	1	9
Functions	2	9, 10, 11, 12
Logic	1	9
Sets	1	9
GSD-LCM	1	9, 10
Ratio	1	9
Probability	1	11
Basic Topics	6	-
Pool Problems	1	-
Number-fraction problems	3	-
Percentage-interest problems	3	-
Reading tables & graphics	1	-

Similar to the YGS 2010 mathematics test, there were 19 topical categories on the 2011 YGS mathematics test as can be seen in the table above. Eight of these topics were among 9th grade, one of them was among 10th grade, and one of them was among 11th-grade mathematics textbooks. Two of these topics were common topics; one of them was a common concept of Grades 9 and 10, and the other one was a common concept of all high school mathematics textbooks. Yet, eight of these topics were among middle school mathematics textbook topics. The consistency of the contents of the 2011 YGS mathematics test and the mathematics textbooks for Grades 9, 10, 11, and 12 was 41%, 9%, 7%, and 1%, respectively. The content of the 2011 YGS mathematics test was 42% inconsistent with the contents of 9th, 10th, 11th, and 12th-grades' mathematics textbooks. Considering the proportions, 27% of 35 questions were asked from 9th-grade, 12% from 10th-grade, 4% from 11th-grade,

and 1% from 12th-grade textbooks. Yet, 56% of 35 questions were asked from middle school grades textbooks.

On the 2012 YGS mathematics test the distribution of the 34 questions under the main topics is shown in Table 5.

Table 5 Distribution of Mathematics Questions on the 2012 YGS Mathematics Test

Topical categories	**Number of questions**	**Grades**
Rational Numbers	2	9
Square Roots	2	-
Operations	2	-
Exponential Numbers	3	-
Absolute value	1	9
Divisibility rules	1	9
Functions	2	9,10,11,12
Sets	1	9
GSD-LCM	1	9,10
Ratio	4	9
Probability	2	11
Basic Topics	5	-
Speed & motion problems	1	-
Age Problems	1	-
Number-fraction problems	2	-
Percentage-interest problems	3	-
Reading tables & graphics	1	-

As shown in the table above, there were 17 topical categories on the 2012 YGS Mathematics test. Five of these topics were among 9th grade, one of them was among 11th grade, and two of them were common topics of mathematics textbooks of different grades. Nine of these topics were among the middle school mathematics textbook topics. The content of the 2012 YGS Mathematics test was 34% consistent with 9th-grade, 3% consistent with 10th-grade, 8% consistent with 11th-grade and 2% consistent with 12th-grade mathematics textbooks contents. Yet, the content of the 2012 YGS mathematics test was 53% inconsistent with the content of all high school mathematics textbooks. Considering the proportions, 30% of 34 questions

were asked from 9th-grade, 3% from 10th-grade, 7.5% from 11th-grade, and 1.5% from 12th-grade textbooks. Yet, 59% of 35 questions were asked from middle school grades textbooks.

4.2.1.3 Content Analysis of the Geometry Textbooks for Grades 9, 10, 11, and 12

There were 19 same topical categories in the 9th-grade geometry textbooks published in 2010 and 2012 (Çelen, Deviren and Gümüşel, 2012; Komisyon, 2010c). They were as follows: geometric topics, planes, coordinates, vectors, trigonometric ratio, parallel lines, polygon, triangles, prisms, pyramids, cube, cylinders, cones, spheres, area, perimeter, surface area, volume, and angles.

There were 13 same topical categories in the 10th-grade geometry textbooks published in 2010 and 2012 (Komisyon, 2010d, 2012c), namely Euclidean postulates, geometric evidences, points, lines, planes, vectors, coordinates, parametric equations, polygons, triangles, area, theorems, and fractals.

There were 19 same topical categories in the 11th-grade geometry textbooks published in 2008, 2010, and 2012 (İnci et al., 2008, 2010, 2012). These were quadrangles, trapezoids, parallelograms, rectangles, squares, deltoids, polygons, circles, parameters, cones, parabolas, ellipses, and hyperboles.

There were 11 same topical categories in the 12th grade geometry textbooks published in 2008 and 2012 (Komisyon, 2008b, 2012e) and they were as follows: vectors in space; lines, planes, and patterns in space; solid matter; prisms; rectangles; pyramids; cylinders; cones; spheres; area; and volume.

4.2.1.4 Content Analysis of the Geometry Questions on the 2010, 2011, and 2012 YGS Mathematics Tests

On the 2010 YGS mathematics test, the topical categories and the distribution of the five geometry questions under these categories are shown in Table 6.

Table 6 Distribution of Geometry Questions on the 2010 YGS Mathematics Test

Topical categories	**Number of questions**	**Grades**
Triangles (angle)	1	9
Rectangles	1	11
Trapezoids	1	11
Circles	2	9,11

Table 6 shows that there were four topical categories for the geometry questions on the 2010 YGS mathematics test. Three of these topics were among the topics of 11th grade geometry textbooks, and one of them was among the topics of 9th grade geometry textbooks. Therefore, the consistency of the 2010 YGS mathematics test content was 25% with 9th-grade and 75% with 11th-grade geometry textbooks. However, the 2010 YGS mathematics test content was totally inconsistent with the 10th and 12th-grade geometry course-book content. Considering the proportions, 40% of 5 questions were asked from 9th-grade, and 60% from 11th-grade textbooks. There was no question from 10th- and 12th-grade textbooks.

For the 2011 YGS mathematics test, the topical categories and the distribution of five geometry questions under these categories are shown in Table 7.

Table 7 Distribution of Geometry Questions on the 2011 YGS Mathematics Test

Topical categories	**Number of questions**	**Grades**
Angles	1	9
Triangles	1	9,10
Quadrangles	1	11
Circles	2	11

It can be seen that similar to the 2010 YGS mathematics test, there were four topical categories for the geometry questions on the 2011 YGS Mathematics test. Two of them were among the topics of the 11th-grade geometry textbook, one of them was among the topics of the 9th-grade geometry textbook, and one of them was a common concept of the Grades 9 and 10 geometry textbooks. So, the consistency between the content of the 2011 YGS mathematics test and the content of the 9th-, 10th- and 11th-grade geometry textbooks was 37.5%, 12.5%, and 50%, respectively. The content of the 2011 YGS mathematics test was totally inconsistent with the content of 12th-grade geometry textbook. Considering the proportions, 40% of 5 questions were asked from 9th-grade, 20% from 10th-grade, and 40% from 11th-grade textbooks. There was no question from 12th-grade textbook.

On the 2012 YGS mathematics test, the topical categories and the distribution of the six geometry questions under these categories are shown in Table 8.

Table 8 Distribution of Geometry Questions on the 2012 YGS Mathematics Test

Topical categories	**Number of questions**	**Grades**
Area	1	9,10,12
Triangles	1	9,10
Quadrangles	1	11
Circles	1	11
Polygons	1	10,11
Solid matter	1	12

As seen from the Table 8, there were six topical categories for the geometry questions of the 2012 YGS mathematics test. Two topics were among the topics of the 11th-grade geometry textbook, one of them was among the topics of the 12th-grade geometry textbook, one of them was a common concept of both the 9th- and 10th-grade geometry textbooks, one them was a common concept of both the 10th- and 11th-grade geometry textbooks, and one of them was a common concept of the Grades 9, 10, and 12 geometry textbooks. Thus, the consistency between the content of the 2012 YGS mathematics test and the content of the Grades 9, 10, 11, and 12 geometry textbooks was 14%, 22%, 42%, and 22%, respectively. Considering the proportions, 14% of 6 questions were asked from 9th-grade, 22.5% from 10th-grade, 41% from 11th-grade, and 22.5% from 12th-grade textbooks.

4.2.1.5 Content Analyses of the Questions on the 2010, 2011, and 2012 LYS1 Mathematics Tests

There were 80 questions on the 2010, 2011 and 2012 LYS1 mathematics tests, which were made up of 50 mathematics, and 30 geometry and analytic geometry questions.

On the 2010 LYS1 mathematics test there were 17 topical categories as shown in Table 9.

Table 9 Distribution of Mathematics Questions on the 2010 LYS 1 Mathematics Test

Topical categories	**Number of questions**	**Grades**
Factorization	1	10
GSD-LCM	1	9,10
Inequalities	2	10
Complex numbers	4	11
Probability	1	11
Functions	6	9
Modular arithmetic	2	9
Absolute value	1	9
Polynomials	2	10
Equations	2	10
Sequences	2	9
Logarithms	5	11
Trigonometry	4	10
Determinant-matrices	3	11
Limits	2	12
Derivations	6	12
Integrals	6	12

As shown in the table above, four of these topical categories were among the content of 9th grade, another four were among the content of 10th grade, another four were among the content of 11th grade and three of them were among the content of 12th- grade mathematics textbooks. One of them is a common concept of Grades 9 and 10 mathematics textbooks. Therefore, the 2010 LYS 1 mathematics test content was 26%, 32%, 24%, and 18% consistent with the contents of Grades 9, 10, 11, and 12 mathematics textbooks, respectively. Considering the proportions, 23% of 50 questions were asked from 9th-grade, 23% from 10th-grade, 26% from 11th-grade, and 28% from 12th-grade textbooks.

On the 2011 LYS1 mathematics test there were 23 topical categories. These are shown in Table 10.

Table 10 Distribution of Mathematics Questions on the 2011 LYS 1 Mathematics Test

Topical categories	**Number of questions**	**Grades**
GSD-LCM	1	9,10
Rational numbers	1	9
Divisibility	2	9
Radicals	1	9
Equations	2	10
Sets	1	9
Factorization	5	10
Binominals	1	11
Probability	1	11
Functions	3	9
Basic operations	1	9
Modular arithmetic	1	9
Process	1	9
Limits	2	12
Polynomials	3	10
Inequalities	2	10
Sequences	2	9
Trigonometry	4	10
Complex numbers	4	11
Logarithms	1	11
Determinant-matrix	2	11
Derivation	4	12
Integral	5	12

Nine of 23 topics were among the topics of 9th grade, five of them were among the topics of 10th grade, another five were among the topics of 11th grade, and three of them were among the topics of 12th-grade mathematics textbooks. One concept is among the topics of both the 9th- and 10th-grade mathematics textbooks. Therefore, the consistency between the contents of the 2011 LYS1 mathematics test and the Grades 9, 10, 11 and 12 was 41%, 24%, 22%, and 13%, correspondingly. Considering the proportions, 27% of 50 questions were asked from 9th-grade, 33% from 10th-grade, 18% from 11th-grade, and 22% from 12th-grade textbooks.

On the 2012 LYS1 mathematics test there were 22 topical categories. The distribution of the questions in this test according to these 22 topics and grades are shown in Table 11.

Table 11 Distribution of Mathematics Questions on the 2012 LYS 1 Mathematics Test

Topical categories	**Number of questions**	**Grades**
Base numbers	1	9
Exponential numbers	2	9
Divisibility	3	9
Radicals	2	9
Equations	1	10
Sets	1	9
Factorization	4	10
Binominals	1	11
Probability	2	11
Functions	3	9
Basic operations	1	9
Modular arithmetic	1	9
Processes	1	9
Limits	3	12
Polynomials	2	10
Sequences	2	9
Trigonometry	4	10
Complex numbers	2	11
Logarithms	2	11
Determinant-matrix	3	11
Derivations	5	12
Integrals	4	12

Ten of these topics were among the topics of 9th grade, four of them were among the topics of 10th grade, five of them were among the topics of 11th grade, and three of them were among the topics of 12th-grade mathematics textbooks. Thus, the content of the 2012 LYS1 mathematics test was 45% consistent with the content of 9th grade, 18% with 10th grade, 23% with 11th grade and 14% with 12th-grade mathematics textbooks. Considering the proportions, 27% of 50 questions were

asked from 9th-grade, 12% from 10th-grade, 4% from 11th-grade, and 1% from 12th-grade textbooks.

4.2.1.6 Content Analysis of the Geometry Questions on the 2010, 2011, and 2012 LYS1 Mathematics Tests

The distribution of 30 geometry and analytic geometry questions in the 2010 LYS1 mathematics test according to topical categories and grades is shown in Table 12.

Table 12 Distribution of Geometry and Analytic Geometry Questions on the 2010 LYS 1 Mathematics Test

Topical categories	Number of questions	Grades
Solid matter	3	12
Polygons	1	11
Rectangles	1	11
Triangles	7	9,10
Geometric topics	1	9
Squares	2	11
Parallelogram	2	11
Vectors	2	12
Trapezoids	1	11
Analytic geometry	6	11
Circles	4	11

There were 11 topical categories among the geometry and analytic geometry questions of the 2010 LYS1 mathematics test. One of them was among 9th grade, seven of them were among 11th grade, two of them were among 12th grade and one of them was a common concept of both 9th- and 10th-grade geometry textbooks. So, the consistency between the content of the geometry and analytic geometry questions of the 2010 LYS1 mathematics test and the contents of Grades 9, 10, 11, and 12 geometry textbooks was 13.5%, 4.5%, 64%, and 18%, correspondingly. Considering

the proportions, 15% of 30 geometry questions were asked from 9th-grade, 12% from 10th-grade, 56% from 11th-grade, and 17% from 12th-grade textbooks.

The distribution of 30 geometry and analytic geometry questions in the 2011 LYS1 mathematics test according to topical categories and grades is shown in Table 13.

Table 13 Distribution of Geometry and Analytic Geometry Questions on the 20110 LYS 1 Mathematics Test

Topical categories	**Number of questions**	**Grades**
Solid matter	3	12
Polygons	1	11
Triangles	10	9,10
Geometric topics	1	9
Squares	2	11
Cones	2	9,11,12
Vectors	1	12
Trapezoids	1	11
Analytic geometry	3	11
Circles	6	11

There were 10 topical categories among the geometry and analytic geometry questions of the 2011 LYS1 mathematics test. One of them was among 9th grade, five of them were among 11th grade, two of them were among 12th grade and one of them was a common concept of both the 9th- and 10th-grade, and another one was the common concept of Grades 9, 11, and 12 geometry textbooks. So, the consistency between the content of the geometry and analytic geometry questions of the 2011 LYS1 mathematics test and the contents of Grades 9, 10, 11, and 12 geometry textbooks was 18%, 6%, 53%, and 23%, respectively. Considering the proportions, 22% of 30 geometry questions were asked from 9th-grade, 17% from 10th-grade, 45% from 11th-grade, and 16% from 12th-grade textbooks.

The distribution of 30 geometry and analytic geometry questions on the 2012 LYS1 mathematics test according to topical categories and grades is shown in Table 14.

Table 14 Distribution of Geometry and Analytic Geometry Questions on the 20110 LYS 1 Mathematics Test

Topical categories	**Number of questions**	**Grades**
Solid matter	4	12
Polygons	1	11
Triangles	5	9,10
Geometric topics	1	9
Squares	1	11
Vectors	3	11
Analytic geometry	8	11
Circles	7	11

There were eight topical categories among the geometry and analytic geometry questions of the 2012 LYS1 Mathematics test. One of them was among 9th grade, five of them were among 11th grade, one of them was among 12th grade and one of them was a common concept of both 9th and 10th grades geometry textbooks. So, the consistency between the content of the geometry and analytic geometry questions of the 2012 LYS1 mathematics test and the contents of Grades 9, 10, 11, and 12 geometry textbooks was 19%, 6%, 62.5%, and 12.5%, correspondingly. Considering the proportions, 12% of 30 geometry questions were asked from 9th-grade, 8% from 10th-grade, 67% from 11th-grade, and 13% from 12th-grade textbooks.

4.2.2 Consistency between the Contents of the 2010, 2011, and 2012 YGS and LYS2 Science Tests and High School Curricula Content

Document analysis on the contents of the 2010, 2011, and 2012 YGS and LYS2 science tests and physics textbooks for Grades 9, 10, 11, and 12 was implemented.

4.2.2.1 Content Analysis of the Physics Textbooks for Grades 9, 10, 11, and 12

There were 35 same topical categories, which were grouped under six main topics[12] in the 9th grade physics textbooks published in 2008 and 2012 (Kalyoncu et al., 2012b; Tütüncü et al., 2008). They were as follows: **nature of physics** (sub-disciplines of physics, scales measurement, measuring error, scalar–vectorial–physical magnitude, and balance in liquids), **states of matter** (volume, mass, density, buoyancy of liquids, physical and chemical change, temperature, and energy), **force and motion** (motion along a straight line, balance, radius vector, resultant force and motion, distance–time, velocity–time, friction, Newton's laws of motion), **energy** (work–energy–power, generating electricity/motion, energy sources, and heating), **electricity and magnetism** (current–charge–power, potential energy, electrical circuits, current, resistance, wiring types, and magnetic force), **seismic waves** (general properties of waves, wave movement, mechanic waves, vibration, and Richter scale).

There were 33 same topical categories grouped under five main topics in the 10th grade physics textbooks published in 2009 and 2012 (Kalyoncu et al., 2009, 2012a,). These were **states of matter** (volume, area, adhesion and cohesion, and refraction–color), **force and motion** (effects of forces, lift-down force, forces and breaking, forces and terminal velocity, and amplitude), **electricity** (simple machines, charges, electromotive force, electrification, ampere, internal resistance, and wiring types), **modern physics** (radius vector, velocity in space, relativity, Pythagorean theorem), **water waves** (periodic waves, pressure wave, shear wave, oscillation, amplitude,

[12] In this section, all main topics of the physics books for Grades 9--12 were written in bold.

wave length, expansion, propagation velocity, resonance, reflection, refraction, distance, and phase).

There were 42 same topical categories grouped under six main topics in the 11th grade physics textbooks published in 2010 and 2012 (Kurnaz et al., 2010, 2012), namely **states of matter** (dynamometer, compression, elongation, dilation, and escalation), **force and motion** (compression, translational speed, dynamic energy, rotational and linear speed, lifting force reels, circular motion, reaction tensile force, center of mass, and distance), **magnetism** (current, conductors, magnetic flux field area, tension, amperes, deviation, reverse force, and torque), **modern physics** (photo-electricity, quantum theory, kinetic energy, binding energy, line spectra, light waves, and momentum), **sonic waves** (audio frequency, electromagnetic waves, longitudinal waves, frequency, amplitude, transverse waves, and progressive waves), **celestial and quasi-stellar bodies** (classification of stars, measuring distance in space, gravity force, luminous intensity, and measuring age of planets).

The number of topical categories in the 12th-grade physics textbooks published in 2008 and in 2012 is 40, which were grouped under five main topics (Karaaslan et al., 2008, 2012). These were **states of matter** (mechanical energy, conduction, convection, heat exchange rate, and energy transfer by heating), **force and motion** (oscillation, vibration, and dynamometer), **electric and electronics** (active and reactive energy, induction, number of loops, loss of energy, resonance, pendulum, diode, resistance, and loss of energy), **light and sonic waves** (optics, lenses, mirrors, reflection, angle, deviation, refraction, image distance, diopry, wave length and velocity, and frequency), **modern physics** (X-ray, diode, amorphous structure,

magnetic area, conductivity, radius, disintegration, fission, fusion, atoms, protons, photon, quarks, and particles).

4.2.2.2 Content Analyses of the Physics Questions on the 2010, 2011, and 2012 YGS Science Tests

On the 2010, 2011 and 2012 YGS tests there were 40 science questions in each of these exams. The ratio of the distribution of these questions was 14 physics, 13 Chemistry and 13 biology questions. On the 2010 YGS science test, the questions were grouped under 14 topical categories. The distribution of 14 physics questions according to main topical categories and grades is shown in Table 15.

Table 15 Distribution of the Physics Questions on the 2010 YGS Science Test

Topical categories	Number of questions	Grades
Measurement scales	1	9
Balance	1	9
Forces and terminal velocity	1	10
Newton's laws of motion	1	9
Potential Energy	1	9
Buoyancy of liquids	1	9
Density	1	9
Pressure	1	11
Dilation	1	11
Physical Change	1	9
Refraction	1	12
Reflection/-mirrors	1	12
Circuits	1	9
Charge	1	10,11

The consistency of these 14 topical categories with the topical categories in the textbooks for Grades 9, 10, 11, and 12 was as follows. The content of the 2010 YGS physics test was 57% consistent with 9th grade, 11% consistent with 10th grade, 18% consistent with 11th grade, and 14% consistent with 12th-grade physics textbooks. Considering the proportions, 56% of 14 physics questions were asked from 9th-

grade, 12% from 10th-grade, 18% from 11th-grade, and 14% from 12th-grade textbooks.

The physics questions on the 2011 YGS science test were categorized under 13 topics. Their distribution according to topical categories and grades is shown in Table 16.

Table 16 Distribution of the Physics Questions on the 2011 YGS Science Test

Topical categories	**Number of questions**	**Grades**
Balance	1	9
Center of Mass	1	11
Forces and Terminal Velocity	1	10
Kinetic and Potential Energy	1	9,11
Circular Motion	1	11
Buoyance of Liquids	1	9
Density	1	9
Heat Exchange Rate	2	12
Lenses	1	12
Refraction	1	12
Electrification	1	10
Circuits	1	9
Number of Loops	1	12

The consistency between the contents of the 2011 YGS physics test and the textbooks for Grades 9, 10, 11, and 12 was 35%, 15%, 19%, and 31%, respectively. Considering the proportions, 33% of 14 physics questions were asked from 9th-grade, 14% from 10th-grade, 18% from 11th-grade, and 35% from 12th-grade textbooks.

On the 2012 YGS science test, 14 physics questions were grouped under 12 topical categories as shown in Table 17.

Table 17 Distribution of the Physics questions in 2012 YGS Science Test

Topical categories	Number of questions	Grades
Balance	2	9
Newton's laws of motion	1	9
Potential energy	1	9
Lifting force-reels	2	11
Pressure	1	11
Buoyance of liquids	1	9
Dilation	1	11
Refraction	1	12
Mirrors	1	12
Resistance	1	9
Electrical circuits	1	9
Magnetic flux	1	11

The consistency between the content of the 2012 YGS science test and the textbooks for Grades 9, 11, and 12 was 50%, 33%, and 17%, respectively. The 2012 YGS science test was totally inconsistent with 10th-grade physics textbook. Considering the proportions, 50% of 14 physics questions were asked from 9th-grade, 35% from 11th-grade, and 15% from 12th-grade textbooks. Yet, there was no question from 10th-grade textbook.

4.2.2.3 Content Analyses of the Physics Questions on the 2010, 2011, and 2012 LYS2 Science Tests

LYS 2 is a science test, and there were 90 questions on this test. The duration given to respond to the questions was 135 minutes. The distribution of the 90 questions was as follows: 30 physics, 30 chemistry and 30 biology questions. There were 45 minutes for each section.

There were 30 physics questions on the 2010 LYS2 science test. These were grouped under 23 concept categories. The distribution of these questions according to the topical categories and grades is shown in Table 18.

Table 18 Distribution of the Physics Questions on the 2010 LYS 2 Science Test

Topical categories	**Number of questions**	**Grades**
Density	1	9
Dynamometer	3	11
Heat exchange rate	1	12
Refraction	1	12
Lenses	1	12
Center of mass	2	11
Kinetic energy	2	11
Distance—time	1	9
Friction	1	9
Lifting force-reels	1	11
Power	1	9
Rotational speed	1	11
Momentum	1	11
Forces and terminal velocity	1	10
Electrification	1	10
Potential energy	1	9
Diode	1	12
Circuits	2	12
Water waves	3	10
Light waves	1	11,12
Photo-electricity	1	11
Magnetic field	1	11
Atoms	1	12

The consistency of the 2010 LYS2 science test content with the content of Grades 9, 10, 11, and 12 Physics textbooks was 22%, 13%, 37%, and 28%, respectively. Considering the proportions, 17% of 30 questions were asked from 9th-grade, 17% from 10th-grade, 41% from 11th-grade, and 25% from 12th-grade textbooks.

The 30 physics questions on the 2011 LYS2 science test were grouped under 22 topical categories. The distribution of these questions according to the topical categories and grades is shown in Table 19.

Table 19 Distribution of the Physics Questions on the 2011 LYS 2 Science Test

Topical categories	**Number of questions**	**Grades**
Dynamometer	2	11
Potential energy	2	10
Momentum	2	11
State of matter	1	9
Refraction	1	12
Mirrors	1	12
Center of mass	1	11
Balance	1	9
Velocity-time	1	9
Vector	1	9
Forces and terminal velocity	3	10
Friction	1	9
Measurement	1	9
Resultant force and motion	1	9
Pendulum	1	12
Charge	1	10,11
Conductors	1	11
Current	1	9,11
Power	1	9
Water waves	3	9,11
Light waves	1	11,12
Atom/-photon/-proton	3	12

The consistency between the content of the 2011 LYS2 science test was 41% with 9th grade, 11% with 10th grade, 27% with 11th grade, and 21% with 12th grade physics textbooks contents. Considering the proportions, 33% of 30 questions were asked from 9th-grade, 18% from 10th-grade, 27% from 11th-grade, and 22% from 12th-grade textbooks.

Physics questions on the 2012 LYS2 science test were grouped under 20 topical categories. The distribution of these questions according to the topical categories and grades is shown in Table 20.

Table 20 Distribution of the Physics Questions on the 2012 LYS 2 Science Test

Topical categories	Number of questions	Grades
Light waves	2	11,12
Potential energy	2	10
Momentum	2	11
Tension	1	11
Refraction	1	12
Motion along a straight line	2	9
Work-energy-power	3	9
Balance	1	9
Velocity-time	1	9
Gravity force	1	11
Forces and terminal velocity	2	10
Pendulum	1	12
Charge	1	10,11
Current	1	9,11
Water waves	2	9,11
Kinetic energy	1	11
Photo-electric	1	11
Electromagnetic waves	1	11
Atom/-photon/-impulse	2	12
Distance	2	11

The content of the 2012 LYS2 Science test was 25%, 12.5%, 45%, and 17.5% consistent with the contents of Grades 9, 10, 11, and 12 physics textbooks, respectively. Considering the proportions, 28% of 30 questions were asked from 9th-grade, 15% from 10th-grade, 40% from 11th-grade, and 17% from 12th-grade textbooks.

4.2.2.4 Content Analysis of the Chemistry Textbooks for Grades 9, 10, 11, and 12

The content analysis was implemented for the chemistry textbooks for Grades 9, 10, 11, and 12. The findings are shown below.

There were 18 same topical categories in the chemistry textbooks for 9th-grade published in 2008 and 2012 (Dursun et al., 2008, 2012), and they were history of

chemistry, law of chemistry, conservation of mass, ratios/-fix-factor/-volume ratio, chemical bonds, ionic/-covalent/-organic compounds, chemical changes, chemical reactions, types of chemical reactions, polymerization, hydrolysis reactions, chemical mixtures, classification of chemical mixtures, solutions and solubility, decomposition of mixtures, chemistry in life (detergents, lime, glass, porcelain, ceramic, paint, and alloys), chemistry in biologic systems, and environmental chemistry.

There were 22 same topical categories found in the chemistry textbooks for 10th grade published in 2009 and 2012 (Dursun et al., 2009, 2012). They were as follows: atomic structure, atoms and electricity, atom models, quantum mechanics, the quantum model of atoms, relative atomic mass, moles, the periodic table, periodic features, features of elements, types of chemicals, chemical bonds, states of matter and calculations, gases, liquids, amorphous and crystalline solids, solvents and solutions, enthalpy of dissolution, concentration of solutions, colligative property of solutions, heterogeneous mixtures, and colloids.

There were 26 same topical categories in the chemistry textbooks for 11th grade published in 2010 and 2012 (Dursun et al., 2010, Kızıldağ et al., 2012). They were systems and types of energy, enthalpy, energies in bonds, entropy, laws of thermodynamics, chemical reactions, reactions and catalyzers, equations in chemical reactions, balance in homogenous and heterogeneous reactions, chemical balance, yield in reactions, balance in solutions, balance in acid/base solutions, reaction of neutralization, solubility and residues in solutions, formation and decomposition of complexes, titration, electrochemistry, standard potential of electrodes, redox

reaction, electrochemical cells, nucleus, fission, fusion, radioactivity, and radioactive elements.

Twenty-eight same topical categories were identified in the chemistry textbooks for 12th grade published in 2008 and 2012 (Ertürk and Karahan, 2008, 2012). They were chemistry of elements, alloys, hydrogen, alkaline and alkaline-earth metals, elements (in various groups), chalcogens, halogens, organic chemistry, organic compounds, hybridization, molecular geometry, exhibiting isomerism in organic compounds, organic redox reaction and calculations, substitution reactions, addition reactions, elimination reactions, condensation reactions, alkanes, alkyl halide, alkenes, alkynes, alcohol, ethers, carbonyl compounds, carboxylic acids and their derivatives, amines, and common benzene derivatives.

4.2.2.5 Content Analyses of the Chemistry Questions on the 2010, 2011, and 2012 YGS Science Tests

On each of the 2010, 2011, and 2012 YGS science tests there were a total of 40 science questions. The ratio of the chemistry questions was 13. There were six topical categories for the chemistry questions of 2010 and 2011, and there were nine topical categories on the 2012 YGS science test. The distribution of the 13 chemistry questions on the 2010 and 2011 YGS science tests according to the main topical categories and grades is shown in Table 21.

Table 21 Distributions of the Chemistry Questions on the 2010 and 2011 YGS Science Tests

Topical categories	**Number of questions on the 2010 and 2011**	**Grades**
States of matter	3	10
Atomic structure	2	10
Periodic table and chemical bonds	4	10
Moles	2	10
Compounds	1	9,12
Solubility	1	9,11

Among six topics shown in the table above was a common concept of 9th and 12th grades chemistry textbooks. Another one was a common concept of 9th and 11th grades chemistry textbooks topics, and four of them were among the topics of 10th-grade chemistry textbooks. Thus, the contents of the chemistry questions of the 2010 and 2011 YGS sciences tests were 17% consistent with the content of 9th grade, 67% consistent with the content of 10th grade, 8% consistent with the content of 11th grade, and 8% consistent with the content of 12th-grade chemistry textbooks. Considering the proportions, 8% of 13 chemistry questions were asked from 9th-grade, 84% from 10th-grade, 4% from 11th-grade, and 4% from 12th-grade textbooks.

The distribution of the 13 chemistry questions on the 2012 YGS sciences test according to the main topical categories and grades is shown in Table 22.

Table 22 Distribution of the Chemistry Questions on the 2012 YGS Science Tests

Topical categories	Number of questions	Grades
States of matter	2	10
Decomposition	1	9
Atomic structure	2	10
Periodic table and chemical bonds	1	10
Compounds	3	9,12
Chemical changes	1	9
Chemistry in life	1	9
Law of chemistry	1	9
Solubility	1	9,11

As seen from the table above, among the nine topics four of them were among the topics of the 9th grade chemistry textbook, three of them were among the topics of 10th grade chemistry textbook topics, one of them was a common concept of 9^{th} and 11^{th} grades, and another one was a common concept of the 9th- and 12th-grade chemistry textbooks. Therefore, the consistency between the content of the chemistry questions of the 2012 YGS science test and the chemistry textbooks for Grades 9, 10, 11, and 12 was 56%, 33%, 5.5%, and 5.5%, respectively. Considering the proportions, 47% of 13 chemistry questions were asked from 9th-grade, 38% from 10th-grade, 4% from 11th-grade, and 11% from 12th-grade textbooks.

4.2.2.6 Content Analysis of the Chemistry Questions on the 2010, 2011, and 2012 LYS2 Science Tests

On the 2010 LYS2 science test, there were 30 questions, and these were grouped under 12 topical categories. The distribution according to topical categories and grades is shown in Table 23.

Table 23 Distribution of the Chemistry Questions on the 2010 LYS2 Science Tests

Topical categories	**Number of questions**	**Grades**
Gases	2	10
Equations in chemical reactions	2	11
Enthalpy	3	11
Radioactivity	1	11
Periodic table and chemical bonds	1	10
Balance in acid/-base solutions	4	11
Chemical reactions	2	11
Chemical balance	2	11
Electrochemistry	1	11
Organic chemistry	11	12
Solubility	1	9,11

As seen in the table above, one topic was a common concept of the 9th- and 11th-grade chemistry textbooks. Two of the topics were among the topics of the Grade 10 chemistry textbook; seven of them were among the topics of the Grade 11 chemistry textbook, and one concept was among the topics of the 12th-grade chemistry textbook. As a result, on the content of chemistry questions on the 2010 LYS2 science test was 5%, 18%, 68%, and 9% consistent with the contents of Grades 9, 10, 11, and 12 chemistry textbooks, respectively. Considering the proportions, 2% of 30 chemistry questions were asked from 9th-grade, 10% from 10th-grade, 51% from 11th- grade, and 37% from 12th-grade textbooks.

Chemistry questions on the 2011 LYS2 sciences test were categorized under 10 topics. Their distribution according to topical categories and grades is shown in Table 24.

Table 24 Distribution of the Chemistry Questions on the 2011 LYS2 Science Tests

Topical categories	**Number of questions**	**Grades**
Gases	3	10
States of matter and calculations	2	10
Chemical reactions	3	11
Radioactivity	1	11
Chemical balance	2	11
Balance in acid/-base solutions	3	11
Electrochemistry	2	11
Solubility	1	9,11
Periodic table and chemical bonds	2	10
Organic chemistry	11	12

It can be seen from the table above that one concept was a common concept of the 9th- and 11th-grades chemistry textbook. The rest was distributed as three among the 10th grade, four among the 11th grade and one among the 12th-grade chemistry textbook topics. Hence, the content consistency of the chemistry questions with the content of Grades 9, 10, 11, and 12 chemistry textbooks was 5%, 30%, 55%, and 10%, correspondingly. Considering the proportions, 2% of 30 chemistry questions were asked from 9th-grade, 17% from 10th-grade, 44% from 11th-grade, and 37% from 12th-grade textbooks.

On the 2012 LYS2 sciences test, the chemistry questions were grouped under 14 topics. Table 25 shows their distribution according to topical categories and grades.

Table 25 Distribution of the Chemistry Questions on the 2012 LYS2 Science Tests

Topical categories	Number of questions	Grades
Gases	1	10
States of matter and calculations	2	10
Chemical reactions	2	11
Radioactivity	1	11
Chemical balance	2	11
Balance in acid/-base solutions	2	11
Atomic structure	3	10
Law of chemistry	1	9
Solutions	1	11
Solubility	1	9,11
Periodic table and chemical bonds	2	10
Elements	1	12
Nucleus	1	12
Organic chemistry	10	12

As seen in the table above, one of the topics was among the topics of the Grade 9 chemistry textbook. One was a common concept of Grades 9 and 11 chemistry textbooks. The distribution of the rest was as four topics among 10th grade, five topics among 11th grade and three topics among 12th-grade chemistry textbook topics. Thus, the consistency between the content of the chemistry questions on the 2012 LYS2 science test and the chemistry textbooks for Grades 9, 10, 11, and 12 was 11%, 29%, 39%, and 21%, respectively. Considering the proportions, 5% of 30 chemistry questions were asked from 9th-grade, 27% from 10th-grade, 28% from 11th-grade, and 40% from 12th-grade textbooks.

4.2.2.7 Content Analysis of the Biology Textbooks for Grades 9, 10, 11, and 12

The topics in the high school biology textbooks were analyzed, and they were categorized as topics. Twenty-one same topical categories were found in the biology textbooks for 9th grade published in 2008 and 2012 (Akkaya et al., 2012; Sever et al., 2008). They were basic components of living beings, general characteristics of

living beings, organic compounds in living beings (water, acids/bases, minerals/salts, carbohydrates, lipids, enzymes, vitamins, nucleic acids/proteins, and adenosine triphosphate), cells, cell membranes, cell walls, cytoplasm, the nucleus, classification of living beings, species, bacteria, plants, fungi, animals, biological diversity, environmental issues, types of pollution, erosion, threats to the natural habitat of living beings, forest fires, and ecological footprints.

The analysis of the 10th grade biology textbooks published in 2009 and 2012 revealed 18 same topical categories (Akkaya et al., 2009, 2012). They were respiration, fermentation, photosynthesis, photophosphorylation, chemosynthesis, cell cycle, segmentation in cells, mitosis, agamospermy, meiosis, procreation and growth, parthenogenesis, conjugation, ecosystems, factors effecting ecosystems, energy flow in ecosystems, material cycles, and food chains/webs/pyramids.

Eighteen topical categories were deduced from the biology textbooks of the 11th grade published in 2010 and 2012 (Sağdıç et al., 2010; Sucu, Bayar, and Küpeli, 2012). These were physiology of plants, transportation of water and minerals, transportation of organic matter, plant nutrition, growth and movement in plants, plant reproduction, germination, genetics, modern genetics, DNA and replication, genetic heritage and evolution, biotechnology and genetic engineering, community ecology, symbiosis in communities, ecological succession, population ecology, population dynamics, and biomes.

There were 17 same topical categories collected from the biology textbooks of Grade 12 published in 2008 and 2012 (Sağdıç, Bulut, and Korkmaz, 2008, 2012). These were animal biology and human beings, internal systems (digestion, respiration, the circulatory system, the immune system, and the excretory system),

the skeletal system, tissues, joints, the neural system, sense organs, the endocrine system, procreation in animals, the human reproductive system, human behavior, animal behavior, early story of life on the planet, evolution, sustainability, rehabilitation, and protection.

4.2.2.8 Content Analysis of the Biology Questions on the 2010, 2011 and 2012 YGS Science Tests

On the 2010, 2011 and 2012 YGS tests there were a total of 40 science questions on each of these exams. The ratio of the biology questions was 13.

Analysis of biology questions on the 2010 and 2011 YGS science test revealed 10 topical categories. These and their distribution according to the topical categories and grades are shown in Table 26.

Table 26 Distribution of the Biology Questions on the 2010 and 2011 YGS Science Tests

Topical categories	**Number of questions On the 2010 & 2011**	**Grades**
Basic components of living-beings	2	9
Cell	1	9
Law of ecology	1	10
Physiology of plants	2	10
Circulatory system	1	12
Respiratory system	1	12
Transition in matters	1	9
Procreation in plants	1	11
Genetic heritage and evolution	2	11
Cell division	1	10

The table above shows that three topics were among the content of 9th grade, and similarly three others were among the content of the 10th-grade biology textbooks. The rest were distributed as two among the content of 11th grade, and the other two were among the contents of the 12th-grade biology textbooks. Therefore, the contents of the 2010 and 2011 science test biology questions were 30% consistent

with the content of the 9th-grade biology textbook, and likewise 30% consistent with the content of the 10th-grade biology textbook. Analogous consistency was found between the contents of the 2010 and 2011 science test biology questions and the Grades 11 and 12 biology textbooks (20% with each separately). Considering the proportions, 31% of 13 biology questions were asked from 9th-grade, 31% from 10th-grade, 23% from 11th-grade, and 15% from 12th-grade textbooks.

Nine topical categories were found in the content of the 2012 YGS science test biology questions. The distribution of the biology questions according to the topical categories and grades is shown in Table 27.

Table 27 Distribution of the Biology Questions on the 2012 YGS Science Test

Topical categories	**Number of questions**	**Grades**
Basic components of living beings	1	9
Cell	1	9
Organic compounds in living beings	2	9
Physiology of plants	2	10
General characteristics of living beings	2	9
Metabolism	1	9, 12
Respiratory system	1	12
Ecology	1	10
Genetic heritage and evolution	2	11

The table above depicts that one concept was a common concept of the 9th- and 12th-grade biology textbook. The ratios of the other eight were as follows: four were among the topics of 9th grade, two were among the topics of Grade 10, one was among the topics of Grade 11, and one was among the topics of Grade 12 biology textbooks. So, the content of the 2012 YGS science test biology questions was 50%, 22%, 11%, and 17% consistent with the contents of Grades 9, 10,11, and 12, correspondingly. Considering the proportions, 50% of 13 biology questions were

asked from 9th-grade, 23% from 10th-grade, 15% from 11th-grade, and 12% from 12th-grade textbooks.

4.2.2.9 Content Analysis of the Biology Questions on the 2010, 2011, and 2012 LYS2 Science Tests

On the 2010, 2011, and 2012 LYS2 science test, there were 30 biology questions. The content analysis of these tests revealed 11 topical categories in 2010, 10 topical categories in 2011, and 9 topical categories on the 2012 LYS2 science test. The distribution of the 2010 LYS2 science test biology questions according to topical categories and grades is shown in Table 28.

Table 28 Distribution of the Biology Questions on the 2010 LYS2 Science Test

Topical categories	Number of Questions	Grades
Basic components of living beings	1	9
Cells	1	9
Organic compounds in living beings	2	9
General characteristics of living beings	2	9
Photosynthesis	1	10
Procreation and growth	1	10
Biotechnology	1	11
Physiology of plants	4	11
Internal and external systems	12	12
Genetic heritage and evolution	4	11
Cell division	1	10

As seen from the table, four topics were among the topics of the 9th grade biology textbook, three of them were among 10th grade, another three were among the topics of 11th grade and one concept was among the topics of the 12th-grade biology textbook. Thus, the consistency between the contents of the 2010 LYS2 science test biology questions and the Grades 9, 10, 11, and 12 were 36.4%, 27.3%, 27.3%, and 9%, respectively. Considering the proportions, 20% of 30 biology questions were

asked from 9th-grade, 10% from 10th-grade, 30% from 11th-grade, and 40% from 12th-grade textbooks.

On the 2011 LYS2 science test, the biology questions were grouped under 10 topical categories, whose distribution according to these categories and grades is provided in Table 29.

Table 29 Distribution of the Biology Questions on the 2011 LYS2 Science Test

Topical categories	**Number of questions**	**Grades**
Basic components of living beings	1	9
Cells	1	9
Organic compounds in living beings	3	9
General characteristics of living beings	3	9
Photosynthesis	1	10
Procreation and growth	3	10
Physiology of plants	4	11
Internal and external systems	10	12
Genetic heritage and evolution	2	11
Evolution	2	11

The table above depicts that four of these topics were among the topics of the Grade 9 biology textbook; two of them were among the topics of the Grade 10 biology textbook. For the rest, the ratio was three among 11th- and one among 12th-grade biology textbook topics. So, the content of the 2011 LYS2 science test biology questions was 40%, 20%, 30%, and 10% consistent with the contents of the Grades 9, 10, 11, and 12 biology textbooks, correspondingly. Considering the proportions, 27% of 30 biology questions were asked from 9th-grade, 13% from 10th-grade, 27% from 11th-grade, and 33% from 12th-grade textbooks.

Content analysis of the 2012 LYS2 science test biology questions revealed nine topical categories. These and the distribution according to grades are shown in Table 30.

Table 30 Distribution of the Biology Questions on the 2012 LYS2 Science Test

Topical categories	Number of questions	Grades
Basic components of living beings	1	9
Cells	1	9
Ecology	4	9
Cell divisions	1	10
Photosynthesis	2	10
Animal behavior	1	11
Physiology of plants	6	11
Internal and external systems	10	12
Evolution	4	11

It can be seen from the above table that three of these topics were among the content of 9th grade, two were among the content of 10th grade, three were among the content of 11th grade, and one of them was among the content of 12th-grade biology textbooks. Therefore, it was found that the content of this test was 33.33%, 22.22%, 33.33%, and 11.11% consistent with the content of Grades 9, 10, 11, and 12 biology textbooks, respectively. Considering the proportions, 20% of 30 biology questions were asked from 9th-grade, 10% from 10th-grade, 37% from 11th-grade, and 33% from 12th-grade textbooks.

4.2.3 Consistency between the Contents of 2010, 2011, and 2012 YGS and LYS3 Turkish Language and Literature Tests and High School Curricula Content

Content analysis on the contents of the 2010, 2011, and 2012 YGS and LYS3 Turkish language and literature tests, Turkish literature, and language and discourse textbooks for Grades 9, 10, 11, and 12 were implemented.

4.2.3.1 Content Analysis of the Language and Discourse Textbooks for Grades 9, 10, 11, and 12

Content Analysis of the language and discourse textbooks for Grades 9, 10, 11, and 12 revealed the following results:

There were 16 same topical categories in the Grade 9 language and discourse textbooks published in 2010 and 2012 (Komisyon, 2010a, 2012a). They were communication, language/communication, language/culture, classification of languages, historical development of the Turkish language, phonetics, pronunciation, lexis, meaning and notions of words, word groups, sentence types, sentence structure, syntax, meaning in sentences, syntactic ambiguity, and paragraphs (paragraph structure, controlling idea in paragraph, and supporting ideas).

Nineteen same topical categories obtained from the Grade 10 language and discourse textbooks published in 2010 and 2012 (Arkın et al., 2012; Komisyon, 2010b). They were presentation, debate, panel, discourse, characteristics of discourse, classification of discourse, anecdote, descriptive, lyric, epic, imposing, informative, explanatory, fantastic, futuristic, supportive, dialogue, rhetoric, and grammar (nouns, verbs, verbal, adjectives, pronouns, adverbs, particle, pronouns, conjunctions, and exclamations).

There were 15 same topical categories in the Grade 11 language and discourse textbooks published in 2008, 2011 and 2012 (Ergül et al., 2012; Komisyon, 2008a, 2011a), and they were classification of texts, text types, letters, reminiscence, biography, picaresque, causerie, news, episodes, prose, articles, criticism, reportage, interviews, and orations.

Topical categories found in the Grade 12 language and discourse textbooks published in 2008 and 2012 were the same. There were 13 topical categories (Alptekin et al., 2008, 2012), which were distinctive features of literary texts, fables, tales, stories, novels, theater plays, poems, conferences, panel discussions, symposia, forums, debates, and scientific writing.

4.2.3.2 Content Analysis of the Language and Discourse Questions on the 2010, 2011, and 2012 YGS Turkish Tests

There were 40 questions on the 2010, 2011 and 2012 YGS Turkish tests. Content analysis of the questions of the 2010 and 2011 YGS Turkish tests topically revealed eight categories. These and their distribution according to grades are shown in Table 31.

Table 31 Distributions of the Language and Discourse Questions on the 2010 and 2011 YGS Turkish Tests

Topical categories	**Number of questions on the 2010 & 2011**	**Grades**
Meanings and notions of words	4	9
Meanings in sentences	6	9
Paragraph	20	9
Syntactic ambiguity	1	10
Rhetoric	1	10
Punctuation	2	-
Phonetics	1	9
Grammar	5	10

Four topics of the 2010 and 2011 YGS Turkish tests were among the topics of the 9th grade language and discourse textbooks, and three of them were among the topics of the 10th grade language and discourse textbooks. One of the topics was not within the contents of the high school grades. Thus, the contents of the 2010 and 2011 YGS Turkish tests were 50% consistent with the content of 9th grade and 37.5% with 10th grade language and discourse textbooks. Moreover, the content of

these tests were 12.5 % inconsistent with the contents of the 9th- and 10th-grade language and discourse textbooks. Yet, the content of these tests were totally inconsistent with the contents of the 11th- and 12th-grade language and discourse textbooks. Considering the proportions, 77.5% of 40 language and discourse questions were asked from 9th-grade, 17.5% from 10th-grade, and 5% from middle school textbooks. There were no questions from 11th- and 12th-grade textbooks.

Similarly, the content analysis of the 2012 YGS Turkish test revealed eight topical categories. These and their distribution according to grade are presented in Table 32.

Table 32 Distribution of the Language and Discourse questions on the 2012 YGS Turkish Test

Topical categories	**Number of questions**	**Grades**
Meanings and notions of words	2	9
Meanings in sentences	7	9
Paragraph	23	9
Sentence structure	1	10
Idioms and proverbs	1	-
Punctuation	1	-
Phonetics	1	9
Grammar	4	10

Four topics of the 2010 and 2011 YGS Turkish tests were among the topics of the 9th-grade language and discourse textbook, and two of them were among the topics of the 10th-grade language and discourse textbooks. Two of the topics were not within the contents of the high school grades. Thus, the content of the 2012 YGS Turkish test was 50% consistent with the content of 9th grade and 25% with the 10th-grade language and discourse textbooks. Moreover, the content of this test was 25% inconsistent with the contents of the 9th- and 10th-grade language and discourse textbooks. Yet, similar to the findings above, the test content was totally inconsistent with the content of the 11th- and 12th-grade language and discourse text.

Considering the proportions, 82.5% of 40 language and discourse questions were asked from 9th-grade, 12.5% from 10th-grade, and 5% from middle school textbooks. There were no questions from 11th- and 12th-grade textbooks.

4.2.3.3 Content Analysis of the Turkish Literature Textbooks for Grades 9, 10, 11, and 12

The number of topics in the high school Turkish literature textbooks were as follows: eight same topics in Turkish Literature textbook for 9th grade published in 2010 and 2012 (Komisyon, 2010g, 2012h) were literature, fine arts, science literature, prose, literary texts, review (poetry, literary texts, performing arts, and informative texts), literary analysis (structure, meaning, theme, tone, rhythm, meter, connotation, denotation, figurative language, imagery, symbolism, plot, characters, point of view, and setting), and prosodic features in poems (meter, verse, rhyme, alliteration, and syllabic metrical systems).

There were six same topics in Turkish literature textbooks for 10th grade published in 2010 and 2012 (Kurt et al., 2012; Komisyon, 2010h). These were history literature, periods literature/criteria, Turkish pre-Islamic literature (legends/epics, requiems, ballads, sagas, epitaphs, and inscriptions), post-Islamic literature (hymns, Bektaşi poems, *ghazal*, epistles, Dede Korkut tales, and the Masnavi), Divan–Ottoman literature (Divan poems, dervish poetry, religious poems, fables, and anecdotes), minstrel literature (16th-century plays, folk tales, picaresques, and biography).

Six same topics of the Turkish literature textbooks for 11th grade published in 2008, 2011 and 2012 (Özlük et al., 2012; Komisyon, 2008e, 2011b) were literary movements, Tanzimat literature (poems, novels, tales, stories, theater plays, and

informative texts), Servet-i Fünun literature and Fecr-i ati poetry, literature of Cedide (itineraries, criticism, diaries, articles, poetry, and prose), and national literature (articles, anecdotes, conversations, prose, criticism, histories, diaries, poems, literary texts, stories, and novels).

In the Turkish literature textbooks for 12th grade published in 2008 and 2012 (Demir et al., 2008 and 2012), there were five topics: republic literature, prose in republic literature (prose, articles, itineraries, diaries, and anecdotes), poetry in republic literature (pure poems, free verse, socialism, nationalism, odd, avant-garde, post-avant-garde, post-1980s, and folk poems), literary texts of republic literature (stories, novels, socialists, nationalists, reflective inner world, modernism, and theater plays), and characteristics of republic literature.

4.2.3.4 Content Analysis of the Language, Discourse and Literature Questions on the 2010, 2011, and 2012 LYS3 Turkish Language and Literature Tests

On the LYS3 Turkish literature test, there were 56 questions. Twenty-eight of the questions were from the content of language and discourse and the other half was from the content of Turkish literature.

Content analysis of the 2010 LYS3 Turkish language and literature test revealed nine language and discourse and nine Turkish literature topical categories. These and the distribution according to grade are shown in Table 33.

Table 33 Distribution of the Language, Discourse and Literature Questions on the 2010 LYS3 Turkish Discourse and Literature Test

Topical categories	**Number of questions**	**Grades**
Meanings in sentences	2	9
Sentence types	3	9
Paragraph	10	9
Phonetics	2	9
Grammar	3	10
Punctuation	2	-
Rhetoric	2	10
Prose-article	2	11
Prosodic features in poems	2	9
Literary analysis/-meaning	2	9
Minstrel literature	1	10
Theatre play	2	12
Divan-Ottoman literature	3	10
Tanzimat literature	5	11
Servet-i Fünun literature & Fecr-i ati	4	11
National literature	3	11
Prose in republic literature	5	12
Poetry in republic literature	3	12

On the 2010 LYS3 Turkish language and literature test, the distribution of the language and discourse topics was as follows: five among 9th grade, two among 10th grade, and one among the 11th-grade language and discourse textbook topics. One of the topics was not within the content of all high school grades. Moreover, one Turkish literature topic was among the topics of 9th grade, two were among 10th grade, three were among 11th grade, and another three were among the topics of the 12th-grade Turkish literature textbooks. Thus, in terms of language and discourse questions, the content of the 2010 LYS3 Turkish language and literature test was 56%, 22%, and 11% consistent with the content of Grades 9, 10, and 11 language and discourse textbooks and totally inconsistent with the 12th-grade language and discourse textbook. The test content was not inconsistent with the content of all grades. Yet, the consistency between the test content and the content of Grades 9, 10,

11, and 12 was 11.1%, 22.3%, 33.3%, and 33.3%, respectively. Considering the proportions, 68% of 28 language and discourse questions were asked from 9th-grade, 18% from 10th-grade, 7% from 11th-grade and 7% from middle school textbooks. There were no questions from 12th-grade textbooks among language and discourse section of the test. Considering the proportions of Turkish literature questions, 7% of 28 literature questions were asked from 9th-grade, 14% from 10th-grade, 43% from 11th-grade, and 36% from 12th-grade textbooks.

After the content analysis of the 2011 LYS3 Turkish language and literature test, topical categories were found among language and discourse questions and were found among Turkish literature questions. Their distribution according to grade is presented in Table 34.

Table 34 Distribution of the Language, Discourse and Literature Questions on the 2011 LYS3 Turkish Diccourse and Literature Test

Topical categories	**Number of questions**	**Grades**
Meanings and notions of words	2	9
Meanings in sentences	3	9
Paragraph	11	9
Phonetics	1	9
Grammar	2	10
Punctuation	1	-
Rhetoric	1	10
Prose-article	3	11
Poetry	4	11
Post-Islamic literature	1	10
Minstrel literature	2	10
Literary movements	2	11
Divan-Ottoman literature	4	10
Tanzimat literature	5	11
Servet-i Fünun literature and Fecr-i ati	2	11
National literature	4	11
Prose in republic literature	5	12
Poetry in republic literature	3	12

Similar to the test delivered in the 2010 and 2011 LYS3 language and literature test contained nine language and discourse and nine Turkish literature topics. These are distributed as four 9th-grade, two 10th-grade and two 11th-grade topics. One of the topics was not among the topics of all of the high school grades. None were among the 12th-grade language and discourse topics. The Turkish language question topics were allocated as three 10th-grade, four 11th-grade, and two 12th-grade topics. None of them were among the 9th-grade Turkish literature topics. Therefore, the content of this test was 12% inconsistent with the content of Grades 9, 10, and 11 and was, respectively, 44%, 22%, and 22% consistent with their content. On the other hand, this test was totally inconsistent with the content of the 12th-grade language and discourse textbook. On the other hand, as regards to the Turkish literature questions, the inconsistency was found between the content of this test and the 9th-grade Turkish literature textbook; whereas, the same test content was 33.3%, 44.4%, and 22.2% consistent with the content of Grades 10, 11, and 12, correspondingly. Considering the proportions, 61% of 28 language and discourse questions were asked from 9th-grade, 10% from 10th-grade, 25% from 11th-grade and 4% from middle school textbooks. There were no questions from 12th-grade textbooks among language and discourse section of the test. Considering the proportions of Turkish literature questions, 25% of 28 literature questions were asked from 10th-grade, 46% from 11th-grade, 29% from 12th-grade, and there were no questions from 9th-grade textbooks.

On the 2012 LYS3 Turkish literature test, nine language and discourse and nine Turkish literature topics were obtained. Their allocation by high school grade is shown in Table 35.

Table 35 Distribution of the Language, Discourse and Literature Questions on the 2012 LYS3 Turkish Discourse and Literature Test

Topical categories	**Number of questions**	**Grades**
Meanings and notions of words	1	9
Meanings in sentences	4	9
Paragraph	12	9
Syntactic ambiguity	1	10
Rhetoric	1	10
Phonetics	1	9
Grammar	4	10
Prose-article	3	11
Poetry	1	11
Pre-Islamic literature	2	10
Post-Islamic literature	1	10
Minstrel literature	2	10
Divan-Ottoman literature	3	10
Tanzimat literature	2	11
Servet-i Fünun literature & Fecr-i ati	2	11
National literature	2	11
Prose in republic literature	7	12
Poetry in republic literature	7	12

Four of 2012 LYS3 language and discourse topics were among 9th grade, three were among 10th grade, and two were among the 11th-grade language and discourse textbook topics. Regarding Turkish literature question topics, four were among 10th grade, three were among 11the grade, and two were among the 12th-grade Turkish literature textbook topics. So, this test language and discourse content was totally inconsistent with the content of the 12th-grade language and discourse textbook, and also the literature question content was totally inconsistent with the content of the 9th-grade Turkish literature textbook. In regards to consistencies, the test language and discourse content was 44.4%, 33.3%, and 22.2% consistent with the content of the Grades 9, 10, and 12 language and discourse textbooks; also its literature content was 44.4%, 33.3%, and 22.2% consistent with the content of Grades 10, 11, and 12 Turkish literature textbooks. Considering the proportions, 64% of 28 language and

discourse questions were asked from 9th-grade, 22% from 10th-grade, 14% from 11th-grade. There were no questions from 12th-grade textbooks among language and discourse section of the test. Considering the proportions of Turkish literature questions, 29% of 28 literature questions were asked from 10th-grade, 21% from 11th-grade, 50% from 12th-grade, and there were no questions from 9th-grade textbooks.

4.2.4 Consistency between the Contents of the 2010, 2011, and 2012 LYS5 English Language Test and High School Curricula Content

Content analysis on the content of the 2010, 2011, and 2012 LYS5 English language tests and English language textbooks for the grades 9, 10, 11, and 12 were implemented.

4.2.4.1 Content Analysis of the English Language Textbooks for Grades 9, 10, 11 and 12

The Solutions Pre-Intermediate (Falla and Davies, 2007) and Solutions Intermediate (Falla and Davies, 2008) textbooks have been used in the public high schools since 2010. The former is used in Grades 9 and 10, and the latter is used in Grades 11 and 12. These textbooks are skill-based textbooks. Predominantly they focus on reading, writing, listening and speaking skills. In order to find parallelism between the topics in LYS5 English language test and these textbooks, the topics under those skills were analyzed thematically. In this respect, 12 similar topics were found in the Solutions Pre-Intermediate and Solutions Intermediate textbooks. These are vocabulary, grammar, dialogue completion, lexis, sentence completion, comprehension-multiple choice, comprehension-question/answer, matching headings

with paragraphs, paraphrasing, comprehension (true/false/not known), sequencing (putting in correct order), and cloze test.

4.2.4.2 Content Analysis of the English Language Questions on the 2010, 2011, and 2012 LYS5 English Language Tests

On the 2010, 2011, and 2012 LYS5 English language tests, there were 80 questions in each. Content analyses were implemented for their content, and 11 topical categories were found on the 2010 and 2012, and 12 on the 2011 LYS5 tests. These are shown in Table 36 below according to their relation to the grades.

Table 36 Distributions of the English Language Questions on the 2010, 2011, and 2012 LYS5 English Language Tests

Topical categories	Number of questions on the 2010	Number of questions on the 2011	Number of questions on the 2012	Grades
Vocabulary	5	9	5	9,10,11,12
Grammar	10	10	10	9,10,11,12
Cloze test	5	4	5	9,10,11,12
Sentence completion	8	8	8	9,10,11,12
Translation	12	8	12	-
Question/-answer	-	3	-	9,10,11,12
Situational response	5	4	5	-
Dialogue	5	4	5	9,10,11,12
Comprehension Questions	15	18	15	9,10,11,12
Paraphrasing	5	4	5	9,10,11,12
Paragraph completion	5	4	5	-
Finding irrelevant sentences	5	4	5	-

Seven of the 2010 and 2012 LYS5 test question topics and eight of the 2011 LYS5 question topics were among the topics of the textbooks for all grades. Therefore, the 2010 and 2011 LYS5 test contents were 64% consistent, and the 2012 LYS5 test content was 67% consistent with the contents of the English language textbooks used in all grades. The inconsistencies in the contents were 36% between the 2010 and 2012 LYS5 tests and the textbooks, and 33% between the 2011 LYS5

test and the textbooks. Considering the proportions, all grades share the same proportion in each test, namely 20% of 80 language and discourse questions were asked in 2010, 19% in 2011 and 17% in 2012 from all grades textbooks.

To sum up, the answer to research question 6 how the consistency between the content areas of the 11th- and 12th-grade curricula and the contents of the 2010, 2011, and 2012 YGS, LYS1, LYS2 and LYS5 is illustrated briefly in Table 37 below.

Table 37 Ratio of inconsistency between the contents of YGS and LYS and 11th-and 12th-grade textbooks and ratio of questions on these tests from 11th-and 12th-grade textbooks

Tests in 2010-2011- 2012	**Textbooks**	**percent of inconsistency between the contents respectively**	**percent of questions from textbooks respectively**
YGS math	Grade 12 math	99-99-98	1-1-1.5
YGS math	Grade 11 math	89-93-92	7-4-7.5
YGS geometry	Grade 12 geometry	100-100-78	0-0-23
YGS geometry	Grade 11 geometry	25-50-58	60-41-60
YGS physics	Grade 12 physics	86-69-83	14-35-15
YGS physics	Grade 11 physics	82-81-67	18-18-35
YGS chemistry	Grade 12 chemistry	92-92-94	4-4-11
YGS chemistry	Grade 11 chemistry	92-92-94	4-4-4
YGS biology	Grade 12 biology	80-80-83	15-15-12
YGS biology	Grade 11 biology	80-80-89	23-23-15
YGS lang.& disc.	Grade 12 lang.& disc.	100-100-100	0-0-0
YGS lang.& disc.	Grade 11 lang.& disc.	100-100-100	0-0-0
LYS1 math	Grade 12 math	82-87-86	28-22-24
LYS1 math	Grade 11 math	76-78-77	26-18-20
LYS1 geometry	Grade 12 geometry	82-77-88	17-16-13
LYS1 geometry	Grade 11 geometry	36-47-37	56-45-67
LYS2 physics	Grade 12 physics	72-79-82	25-22-17
LYS2 physics	Grade 11 physics	63-73-55	41-27-40
LYS2 chemistry	Grade 12 chemistry	91-90-79	37-37-40
LYS2 chemistry	Grade 11 chemistry	32-45-61	51-44-28
LYS2 biology	Grade 12 biology	91-90-89	40-33-33
LYS2 biology	Grade 11 biology	73-70-67	30-27-37
LYS3 lang.& disc.	Grade 12 lang.& disc.	100-100-100	0-0-0
LYS3 lang.& disc.	Grade 11 lang.& disc.	89-78-78	25-25-14
LYS3 T. literature	Grade 12 T. literature	67-78-78	36-29-50
LYS3 T. literature	Grade 11 T. literature	67-56-67	43-46-21
LYS5 English	Grade 12 English	36-33-36	20-19-17
LYS5 English	Grade 11 English	36-33-36	20-19-17

4.2.5 Consistency between the Contents of 2010, 2011 and 2012 Edexcel London Examinations GCE Turkish Ordinary Level and College Curricula Content

Content analysis on the contents of the 2010, 2011, and 2012 London Examinations GCE Turkish Ordinary Level tests and English language textbooks for Grades 11 and 12 were implemented.

4.2.5.1 Content Analysis of the College English Language Textbook

There were 10 reading topics in the college English language textbook. They were as follows: choosing suitable paragraphs for headings, identification of information (true/false/not given), identification of the writer's view (yes/no/not given), multiple choice, short answer, sentence completion, notes/ summary/ flow-chart/ table completion, labeling a diagram, classification, and matching. In the writing section, there were nine topics, such as summarizing/organizing/comparing data, describing processes, describing objects, describing how things work, arguing for/against, comparing/contrasting, providing causes/effects, discussing views (explanatory), problem solution, and discussing advantages/disadvantages. The listening section contained seven topics; they were multiple choice, short answer, sentence completion, labeling a diagram/plan/map, notes/form/flow chart/summary completion, classification, and matching. In the speaking section there were three topics, such as speaking about general topics (informative), speaking about specific topics (descriptive), and discussing specific topics.

4.2.5.2 Content Analysis of Edexcel London Examinations of GCE Turkish Ordinary Level

There were six topics on the 2010, 2011, and 2012 Edexcel GCE Turkish Ordinary Level test, namely translation of paragraphs, translation of sentences, explanatory essays, problem–solution essays, descriptive essays, informal letter writing (descriptive), and formal letter writing (inquiry). All these were writing-based topics. Among these, only three of them were among the content of English language textbooks (e.g. explanatory essays, problem–solution essays, and descriptive essays). Therefore, in terms of the writing section, the consistency of the

contents of the GCE Turkish Ordinary Level test and the college English language textbooks for Grades 11 and 12 was 33%, whereas they were 67% inconsistent in their contents.

4.2.5.3 Content Analysis of 2010, 2011 and 2012 Edexcel London Examinations for IGSCE English as a Second Language

Edexcel IGCSE reading sections for the 2010, 2011 and 2012 tests revealed the following results:

- Four topics in the reading section: matching, identification of information (true/false/not given), sentence completion, and multiple choice.
- Three topics in the writing section: article writing (descriptive), e-mail writing (informal/descriptive), and summarizing.
- Three topics in the listening section: notes completion, multiple-choice, and sentence completion.
- Three topics in the speaking section: speaking about general topics (informative), speaking about specific topics (descriptive), and discussing specific topics.

As seen, the contents of the test corresponded totally to the contents of the textbooks, except in the writing section. Only two writing topics (e-mail writing and summarizing) were not among the contents of the textbooks. Therefore, there was total consistency between the contents of the reading, listening, and speaking sections of the tests and the textbooks. Only, the writing section content of the tests was 33% consistent and 67% inconsistent with the content of the textbooks.

Chapter 5

DISCUSSION, CONCLUSIONS, AND IMPLICATIONS

5.1 Overview

In this chapter, discussion of the findings, conclusions and implications of the study related first to perceptions of the college and high school teachers, and then to perceptions of the college and high school students about what curriculum and curriculum development are, the importance of the external examinations, the consistency between the external examinations and the content of 11th-and 12th-curricula, the impact of external examinations on curriculum implementation, and teacher-made tests are presented. Following that discussion, discussion of the findings, conclusions and implications related to the document analyses of the examinations and the textbooks are provided. The chapter ends with implications for further research.

5.2 Discussion of the Findings Related to the Perceptions of the College and High School Teachers about Curriculum, Curriculum Development, and Impact of External Examinations

In this section, discussion of findings related to perceptions of the college and high school teachers about curriculum, curriculum development, and impact of external examinations are presented and compared.

5.2.1 Discussion of Findings Related to Perceptions of High School and College Teachers Related to Curriculum

Both public high school and college teachers asked how they perceived the curriculum. Their responses revealed that they had similar perceptions about the curriculum. That is to say, both public college and high school teachers perceived the curriculum as textbooks (91%). This was similar to what Ornstein (1994) stated that "textbooks have come to drive the curriculum" (p. 70). Teachers' remarks also designated that dependence on textbooks increased due to various reasons among which getting students ready for external examinations took the first place. Moreover, as it was found that only textbooks were provided to teachers as instructional materials, not a detailed curriculum in which they could find the learning objectives and the skills to be developed or improved besides the suggested methodologies to be used and topics to be covered. Therefore, their dependence on textbooks was compelled. That was why teachers oriented their instruction toward subject-centered curricula. The other reasons why they inclined toward such curricula might be due to the fact that, as Ornstein (1982) expressed, 1) "subjects are a logical way to organize and interpret learning," 2) "organization [of subjects] makes it easier for people to remember information for future use," 3) "teachers . . . are trained as subject-matter specialists," and 4) "textbooks and other teaching materials are usually organized by subject" in the subject-centered curriculum (p. 404). Furthermore, participants' perceptions of what curriculum was closer to Gagné's (1967) definition of curriculum which included the "subject matter," and the "sequencing of content," (p. 21), rather than the notion of learner-centeredness which, according to Ornstein (1982), "emphasizes students' needs and interests" (p.

406). Yet, students' needs and interest should not be interpreted solely as the success on examinations or improvement of test-taking strategies, or it should be, as stated by Young (1995; in Burke, 1995) "about access and choice" but rather

> . . . it must be about new pedagogies, new relationships between teachers and learners and the development of new learning strategies. In other words, a learner-centered approach, even if it begins by separating outcomes from processes, has to be completed by a focus on support for learners by teachers. This may, of course, involve a number of activities such as guidance and diagnostic assessment [,] which have not in the past been work of teachers (p. 175).

This of course put more responsibility on the shoulders of teachers as they often need to diagnose the skills that should be improved and arranged their instruction accordingly.

Regarding their perceptions of curriculum provision and development, majority of high school teachers (74%) thought that they were provided and developed by the MNE in North Cyprus and only 13% was aware of the fact that the curricula could be downloaded from webpage of the MNE of Turkey. In fact, all teachers indicated that it was the MNE of Turkey that had the textbooks written by expert committees, printed and distrubuted. On the contrary, all college teachers were aware of the fact that it was the MNE in North Cyprus that decided about which UK exam authority would be conducted and whose curricula and textbooks would be used in the public colleges in North Cyprus. They all said that the MNE provided a list of suggested textbooks for each subject and Edexcel was chosen as an authority to provide syllabi and examinations. This could explain the reason why college teachers' perception of curriculum correlated with high school teachers' perceptions, since they all perceived the curriculum as a textbook.

The findings of the study revealed that although all public high school teachers were aware of the fact that the textbooks used in high schools in North Cyprus were from Turkey, just only 13% of them directly expressed this but most others also mentioned it during the interviews. Moreover, documentation of the textbooks in the bibliography also correlated with teachers' statements. This signified that only textbooks were provided and there was neither a detailed curriculum nor a process of curriculum development.

Similarly, college textbooks, as indicated by all the college teachers were from either Macmillan (English textbooks) or from Pearson Edexcel. Both college and high school teachers indicated that only suggested lists of textbooks were sent to schools by the Department of the Secondary Education. Besides that they said no detailed curricula were sent to them by this Department. They had only IGCSE, GCE 'A' and 'AS' level syllabi. Yet, these syllabi lacked the nine elements of curriculum which are "objectives, content, learning activities, evaluation procedures, teaching strategies, learning materials, grouping, time, and space" suggested by Klein (1985, p. 1163) and Yaratan (2003, p. 42). It had only three elements, namely implicit objectives, content, and evaluation procedures (Pearson Edexcel, 2010). However, the MNE should provide teachers detailed curricula that have nine elements of curriculum as suggested by Klein (1985).

5.2.2 Discussion of Findings Related to Perceptions of High School and College Teachers Related to the Impact of External Examinations on High School Curricula

In terms of the importance of examinations, it was found that both high school and college teachers thought these examinations were very important for them

(96%). They had similar perceptions with minor differences. The common reason they provided was that students' achievement in university entrance examinations (YGS, LYS, IGCSE, GCE 'A' or 'AS' level) was perceived by the society as an indicator of quality of teachers and schools. This finding correlated with the study of Goldstein and Thomas (1996) that aimed to detect whether or not external examination results were the indicators of school and college performance whereas this study stressed the impact of external examinations on curricula instead of just lookin at the external examinations as the indicator of the quality of performance. They found that there were other factors affecting the students' achievements, but similar to the finding of this study, they concluded that high performance of students on the exams was thought to be based on the quality of the school and the teachers by the society.

Most of participant high school and college teachers thought that university entrance examinations were not important for students (56%). This view was in contradiction with their perception about the society's perception of these exams as indicators of quality of teachers and schools. The common reason both college and high school teachers provided was the existence of local universities in North Cyprus. Yet, these perceptions of teachers were contradicted by the students as they all said that these examinations were very important for them and they attended cram schools to do more drill and practice in test-taking strategies and to perform well on these examinations. This was parallel to what Baştürk and Doğan (2010a) found. They found that students preferred to attend cram schools as they were not in full compliance with the education provided at high schools. Similar reason was expressed by students who participated to this study.

When teachers' perceptions were analyzed regarding the consistency between the contents of enacted curricula[13] and examination contents, there was a partial dissimilarity between the perceptions of college teachers and high school teachers. According to all college natural sciences and mathematics teachers, there was an absolute match between the contents of the IGCSE, 'A' and 'AS' level examinations and the textbooks used in public colleges. Similarly, majority of high school natural sciences and mathematics teachers thought that contents of LYS2 tests and 11th- and 12th-grade natural sciences and mathematics textbooks entirely matched, yet a few of them thought the opposite that they did not match entirely. Besides this view, all high school natural sciences and mathematics teachers expressed that they perceived inconsistencies in contents of YGS tests of natural sciences and mathematics tests with the contents of the 11th- and 12th-grade curricula, but yet they were not sure about the extent of these inconsistencies.

In terms of both high school and college English language curricula contents of 11th- and 12th-grade and contents of the LYS5 and Edexcel IGCSE English as a second language examination, both college teachers (100%) and high schools teachers (98%) expressed that they perceived total inconsistency between the contents of the textbooks and contents of the examinations.

In education *alignment* refers to "how well all policy elements in a system work together to guide instruction and, ultimately, student learning" (Webb, 1997b, as cited in Rothman, Slattery, and Vranek, 2002). The use of the word *alignment* in this

[13] Enacted curriculum is operational curriculum as defined by Porter (2006) and is the one implemented by teachers. This study revealed that textbooks were perceived as curriculum and were implemented by teachers. Therefore, enacted curricula here referred to textbooks.

dissertation was in its dictionary meaning, namely referring to 'being in agreement' or 'a condition of close association'; therefore, the word '*consistency*' is used to mean the agreement and association in contents.

As stated by Hamilton (2011), when teachers are aware of the tested and untested contents, their tendency to re-allocate resources and time for the tested content increases. Yet, on the other hand, they also tend to re-allocate resources and time away from untested content. According to Hamilton (2011) "this reallocation occurs across subjects, across topics within subjects, and even across students when performance of some students counts more than of others for accountability purposes" (p. 48). Due to the pressure from students, there might be disproportionate emphasis on test-taking skills that can cause a reduction of the time that should be spent on teaching the content or the skills that are among the learning objectives of the course. This might be the result of the tests being not well-aligned with what has been taught or was planned to be taught with which this study correlated.

According to Hamilton (2011), non-alignment of tests to the curriculum content might influence instruction in the following ways:

- "Score inflation": As instruction is modified to better prepare students for these external exams, scores tended to increase rapidly. The greater the emphasis, the higher the scores are. The results printed in the newspapers might be the outcome of this emphasis (p. 48).
- Skill deterioration: Instead of helping students to master the skills specified in the curriculum, only drilling in "test-taking strategies" might be emphasized. While these strategies are improving, the skills that should be mastered are either not developed at all or the existing ones will deteriorate (p. 48).

- “Curriculum narrowing” due to disproportionate emphasis on content: As some contents are emphasized more in the test, there will be more reliance on these contents by teachers rather than on the content given in the curriculum (p. 49).

This study did not aim to detect whether or not there was score inflation, but the results of YGS and LYS printed in the newspapers in North Cyprus stated the contrary and were interpreted as disappointing. Therefore, it could be interpreted as the non-alignment of YGS content to 12th-grade textbooks that resulted in score deflation. Yet, the results of the IGCSE and GCE ‘A’ and ‘AS’ levels belonged to private colleges in the North Cyprus were published in the newspapers of North Cyprus. Their results signified score inflation. This might be due to consistency between the contents of the Edexcel tests to Edexcel curricula and the curricula proposed by the MNE. However, on the other hand, no results of the IGCSE, GCE ‘A’ and ‘AS’ levels of public colleges were published up till now.

Skill deterioration was detected from the expressions of both college and high school teachers and students during their interviews, as the need and use of dril and practice in test-taking strategies were highlighted very often. Since the improvement in test-taking strategies was perceived by them as success in the university entrance examinations.

Considering curriculum narrowing following effects were detected: Except 6% of high school teachers, the rest of high school and college natural sciences teachers said that they were not doing laboratory activities. Moreover, all high school teachers agreed that YGS and LYS content determined the content of the enacted curricula, whereas 84% of college teachers agreed that the curricula content determined the

content of the examinations (10% were non-committal, 6% were confused). This finding indicated that textbook contents were selected in accordance with the contents of the YGS and LYS by high school teachers (92%) which created random ordering of subjects, whereas the order of subjects in textbooks was followed by college teachers. This again indicated that instructional decisions by teachers were made toward the university entrance examinations, which was curriculum narrowing and was similar to Hamilton's (2011) claim. More reliance on tested content was detected from the utterances of teachers and students, which could be interpreted as a disproportionate emphasis on content tested (Hamilton, 2011). Moreover, some activities like laboratory activities of natural science courses, discussions of literature courses, listening and discussion sections of English language courses were eliminated from instructional time, which led to curriculum narrowing. However, on the other hand, due to perceived non-alignment of YGS content to 11th and particularly to 12th-grade textbooks, there was also curriculum expansion. That is to say, teachers said that they included revisions of certain topics from 9th- and 10-th grades to instructional time.

In their study, Mamlok-Naaman and Barnea (2012) cited a number of studies emphasizing the benefits of laboratory activities in science education, namely, "facilitating the attainment of cognitive, affective, and practical goals" (p. 49. However, both college and majority of the high school teachers of natural sciences abolished laboratory activities of physics, chemistry and biology lessons. It seemed that teachers changed their teaching strategies to increase learners' test scores, which were also detected by Cimbricz (2002), Marchant (2004), Paris and Urdan (2000) in their studies. They also found that teachers increased time spent on test practice and

brought more test-oriented materials to classes, which is in harmony with the finding of this study. Participant teachers and students of this study expressed frequent use of past examination papers in classes as practice at the end of each unit. According to Marchant (2004), this narrowing down drew teachers to abandon "more innovative teaching strategies, such as cooperative learning and creative projects, in favor of more traditional lecture and recitation" (p. 4). Regarding the removal of listening and discussion sections of language and literature courses, it could be interpreted as the removal of receptive and expressive skills that would help students in communication. The MNE in North Cyprus, however, stated the importance of these skills and put them as general objectives of language and literature courses in the official curriculum (Eisner, 2001) or as suggested by Porter (2006) in the explicit or intended curriculum (of course if the document provided by the Department EPPD (2005) was accepted as official curriculum).

Besides narrowing or expansion of curriculum, another finding was that both college and high school teachers stated that they were using past exam papers as supplementary materials and they tried to use the format of the external examinations in the tests they prepared. Such practices might be interpreted as what Hamilton (2011) said, emphasizing "test-taking strategies" (p. 48). This finding correlated with studies by Barksdale-Ladd and Thomas (2000), Herman et al., (1994), and Moon et al., (2003) who detected the use of lots of worksheets, past exam papers, question type review and practice during instruction. Barksdale-Ladd and Thomas (2000) aimed to determine the instructional decisions and use teachers made toward high-stake tests; Herman et al., (1994) tried to find the effects of high-stake tests on schools; and Moon et al., (2003) aimed to analyze how classroom practices were

affected by high-stake tests. This study showed direct correlation with the findings of these studies and indirect correlation with their aims.

Regarding the effects of external examinations on students' learning, college and high school teachers thought different: 97% of high school teachers thought that students' learning was affected negatively (3% was non-committal), whereas all college teachers thought that they had positive effects on students' learning. High school teachers thought that students oriented their learning toward test-taking. This led them to memorization and not to real learning. That was the reason why they thought that students' learning was affected negatively. On the other hand, college teachers thought that the success on the IGCSE examinations motivated students learning, thus they thought that students' learning was affected positively. In the reviewed literature, both effects were detected by Bishop (1995, 1998), and Kohn (2004). Cimbricz (2002), and Paris and Urdan (2000) found negative effects of high-stakes tests on students as these tests caused them to feel more stress, frustration, and annoyance. Their aim was to study how effective high-stakes tests were on drop-out and graduation rates of students and this study differed from Bishop's (1995, 1998), and Kohn's (2004) aims and findings.

5.3 Discussion of the Findings Related to the Perceptions of College and High School Students about Curriculum, and Impact of the External Examinations

In this section, discussion of findings related to perceptions of the college and high school students about curriculum, curriculum development, and impact of external examinations are presented and compared.

5.3.1 Discussion of Findings Related to Perceptions of High School and College Students Related to Curriculum

Similar to high school and college teachers' opinions, 73% of both college and high school students perceived curriculum as textbooks. This correlated to Ornstein's (1982, 1994) notion of subject-centered curriculum and completely contradicted to the notion of learner-centeredness of official curriculum of the MNE in North Cyprus.

All college students were aware of the fact that their curricula, textbooks and examinations were from Edexcel, but they were not aware that these were selected by MNE. On the other hand, only 5% of the high school students were aware of the fact that the curricula and the textbooks were provided by the MNE of Turkey, majority (90%) of high school students thought that their curricula and textbooks were provided by the MNE in North Cyprus, and 5% did not know.

What students expressed about curriculum development also correlated with the findings related to the perceptions of teachers that only textbooks were provided by the MNE. Majority of students thought that it was the MNE's responsibility to develop the curricula and some thought it was the responsibility of the school and teachers. This signified that students' learning slanted towards only information in the textbooks. Information related to credentials of instructional materials, instructional goals and objectives of operational curriculum (Eisner, 2001), or educational goals and objectives of the official curriculum (Eisner, 2001) were not communicated to them. According to Jackson (2009)

> . . . there are two types of learning goals that are implied in any standard. The first type of goal is a content goal. Content goals emphasize content knowledge. Their main focus is on what students need to know or

> understand. The second type of goal is a process goal. Process goals focus on students' learning or developing a skill (p. 1).

The objective communicated to students was obviously the content goals or in other words the content knowledge and that became the sole focus of the instruction, which correlated to Jackson's (2009) view.

5.3.2 Discussion of Findings Related to Perceptions of High School and College Students Related Impact of External Examinations

Regarding the importance of the external examinations, contrary of what high school teachers thought, high school students stated that YGS and LYS were really crucial for them. Similar to college teachers' perception, college students said that IGCSE and GCE examinations were important for them. Both college and high school students stated that admission to higher education was through these tests and that was why they were important for them. Moreover, 84% of all college and high school students thought that these examinations were also perceived by their teachers as important. Their reason of their perception was correlated to that of teachers' that their success on the tests was perceived by the society as an indicator of the quality of education (Golstein and Thomas, 1996).

In terms of the content consistency, all college students agreed that the contents of the exams and the contents of the curricula matched, except English language tests and textbooks. Their perception correlated with college teachers' perceptions. Contrary to high school natural science teachers' perceptions, all science program students stated that not only LYS but also YGS content matched the enacted curricula. Most (86%) of Turkish-mathematics program students agreed about the content consistency between the content of LYS3 Turkish Literature and discourse tests and LYS2 mathematics tests (10% thought of partial consistency, 4% were non-

committal). Yet, all language program students and the college students, similar to college and high school English language teachers, had the opinion that the contents of the language books and the language tests (LYS5 and Edexcel IGCSE English as a second language test) were inconsistent. This finding correlates with Kelecioğlu's (2002) finding. Kelecioğlu (2002) compared the judgments of the 11th- and 12th-grade students and found that students perceived inconsistency between contents of the tests and courses. In contrast, this study focused on both teachers and students perceptions instead of concentrating on just students' perceptions.

When students felt inconsistency in the contents of the tests and the contents of the courses they took, as they stated in the interviews, they either put pressure on teachers during the lesson to cover only the topics tested in the examinations or they preferred attending to cram schools to focus more on topics tested in examinations and meet the need of "test-taking strategies" (Hamilton, 2011, p. 48) such as drill and practice. Both majority of public high school and college students stated that they attended cram schools in the afternoons to meet their needs and to succeed on external tests because they did not feel fully confident in the education provided at high schools or colleges. This finding was in harmony with the finding of Baştürk and Doğan (2010b).

In terms of content selection, 80% of public high school students had the opinion that the external examinations determined the content of the enacted curricula. Their perceptions correlated with the high school teachers' perceptions. According to students, the contents for the enacted curricula were selected accordingly by their teachers. This finding correlated with the finding of Herman et al., (1994), who examined the effects of high-stake tests on schools, that teachers exposed only tested

part of curriculum to test takers and excluded the part which was not tested. Moreover, similar to teachers, all students indicated that the laboratory activities were not done. This reminded what Collins et al., (2010) said: "test preparation is perceived by teachers to narrow the curriculum, and for science in particular, as the inclusion of only those aspects of science likely to be included in paper and pencil tests is said to have reduced many aspects of investigatory science" (p. 273). This was also valid for natural science courses of college education in North Cyprus. Moreover, high school students said that they did not do listening and discussion sections of English courses because these were not tested on LYS5.

Students' expressions here also signified curriculum narrowing (Hamilton, 2011, p. 48), and correlated with what teachers said. Orientation of the instruction toward the tested content might encourage students to put more pressure on teachers, or it might encourage them to attend cram schools to meet their needs. This might bring out "skill deterioration" which was explained as mastery of test-taking strategies instead of mastering the skills specified in the curriculum by Hamilton (2011, p. 48).

Although public high school teachers had negative perceptions toward the effects of external examinations on learning, 93% of public high school students thought that studying toward examinations affected their learning positively. Students perceived their success on the examinations as improvement in learning. This was in parallel with what Kohn (2004) found that tests guided students to learn important topics and therefore affected learning positively. However, according to Amrein and Berliner (2003) such tests did not help students improve their achievement. Instead, as learning was configured toward succeeding on such tests, students would be discouraged from studying subjects of their interest or topics that would not be

tested. This in turn, would decrease their motivation toward learning these subjects or topics. This might explain the reason why students mostly put pressure on teachers to cover only the topics tested and leave out the ones that are not tested. High school teachers' perceptions about negative effects of university entrance examinations on students' learning might be interpreted in the way that only tested topics were important for students and that they configured their learning toward them.

All college students, parallel to what teachers stated, said that past IGSCE, GCE 'A', and 'AS' level examination papers were used as supplementary materials in lessons and teacher-made tests were similar to these exams in format and question types. They mentioned that similar questions with modifications were found on teacher-made tests. Majority of 12th-grade high school students also indicated that past exam papers of YGS and LYS were used in lessons and they also noticed that some questions on teacher-made tests were similar with a little modification. Twelveth-grade high school students specified that the format of the teacher-made tests were similar to multiple-choice format of the YGS and LYS, but on the contrary, all 11th-grade high school students stated that the teacher-made tests were completely different from the YGS and LYS multiple-choice format as these were in open-ended question format. These findings correlate with what McEwen (1995) said: "what is assessed becomes what is valued, which becomes what is taught" (p.42).

All college students were in concent with the format and the question types of IGCSE, GCE 'A', 'AS' level examinations, whereas only 80% of high school students were in consent with multiple-choice format of YGS and LYS; 20% of high school students disapproved the format of these examinations. There was a similarity

between high school teachers' and students' positive perceptions about the multiple-choice format of the YGS and LYS. This correlated with the study of Wall (2005) who examined the effects O-levels on classroom instruction. She detected wash-back effect on teacher-designed assessments and teachers' attitudes and methodologies. This study differed from Wall's (2005) in selected populations because beside teachers this study involved student as well. This study also revealed that the tests had wash-back effect on students' attitude and learning. Similar findings were expressed by Hayes and Read (2004), and Saville and Hawkey (2004) who also studied wash-back effects. They found that instruction was mainly teacher-oriented, materials were test-oriented, and students were receiving instruction about effective test strategies. On the contrary, Wall and Anderson (1993) said that tests might affect what to be taught but not how to be taught, which was not in parallel with what Wall (2005), Hayes and Read (2004), and Saville and Hawkey (2004) stated.

5.4 Discussion of Findings Related to Document Analyses of Tests and Textbooks

Public high school students take both the YGS and LYS toward the end of Grade 12. The document analyses were applied to contents of 2010, 2011, 2012 YGS, LYS1, LYS2 and LYS5 and textbooks used for 11th- and 12th-grade levels. For the discussion, findings provided on Table 37 (p. 174 of this dissertation) are referred. The discussion of findings is as follows:

Table 38 Ratio of inconsistency between the contents of YGS and LYS and 11th-and 12th-grade textbooks and ratio of questions on these tests

Tests in 2010-2011- 2012	**Textbooks**	**percent of inconsistency between the contents respectively**	**percent of questions from textbooks respectively**
YGS math	Grade 12 math	99-99-98	1-1-1.5
YGS math	Grade 11 math	89-93-92	7-4-7.5
YGS geometry	Grade 12 geometry	100-100-78	0-0-23
YGS geometry	Grade 11 geometry	25-50-58	60-41-60
YGS physics	Grade 12 physics	86-69-83	14-35-15
YGS physics	Grade 11 physics	82-81-67	18-18-35
YGS chemistry	Grade 12 chemistry	92-92-94	4-4-11
YGS chemistry	Grade 11 chemistry	92-92-94	4-4-4
YGS biology	Grade 12 biology	80-80-83	15-15-12
YGS biology	Grade 11 biology	80-80-89	23-23-15
YGS lang.& disc.	Grade 12 lang.& disc.	100-100-100	0-0-0
YGS lang.& disc.	Grade 11 lang.& disc.	100-100-100	0-0-0
LYS1 math	Grade 12 math	82-87-86	28-22-24
LYS1 math	Grade 11 math	76-78-77	26-18-20
LYS1 geometry	Grade 12 geometry	82-77-88	17-16-13
LYS1 geometry	Grade 11 geometry	36-47-37	56-45-67
LYS2 physics	Grade 12 physics	72-79-82	25-22-17
LYS2 physics	Grade 11 physics	63-73-55	41-27-40
LYS2 chemistry	Grade 12 chemistry	91-90-79	37-37-40
LYS2 chemistry	Grade 11 chemistry	32-45-61	51-44-28
LYS2 biology	Grade 12 biology	91-90-89	40-33-33
LYS2 biology	Grade 11 biology	73-70-67	30-27-37
LYS3 lang.& disc.	Grade 12 lang.& disc.	100-100-100	0-0-0
LYS3 lang.& disc.	Grade 11 lang.& disc.	89-78-78	25-25-14
LYS3 T. literature	Grade 12 T. literature	67-78-78	36-29-50
LYS3 T. literature	Grade 11 T. literature	67-56-67	43-46-21
LYS5 English	Grade 12 English	36-33-36	20-19-17
LYS5 English	Grade 11 English	36-33-36	20-19-17

As can be seen from the table above, contents of the YGS administered in the years 2010, 2011 and 2012 mostly inconsistent with the contents of the 11th- and 12th-grade mathematics, natural sciences, Turkish language and discourse textbooks. The ratio of inconsistencies ranged from 67% to 94% for the contents of 11th-grade textbooks, except the YGS geometry contents. The reason for this low inconsistency was that three out of 5-6 questions were asked from Grade 11 geometry textbooks.

When Grade 12 textbook contents and the contents of 2010, 2011 and 2012 YGS were compared, the inconsistencies ranged from 69% to 100%. The nominal inconsistency was that 14 questions were asked in the tests and the distribution of the questions to the levels was not balanced. Some topics were prioritized.

Considering the match between the contents of different LYS and the textbooks used for the 11th- and 12th-grade levels, again inconsistencies were detected. However, when compared to inconsistencies detected between the contents of YGS and the textbooks, these inconsistencies were not as extensive as the inconsistencies between the YGS contents and the contents of the 11th- and 12th-grade level textbooks. The reason was that the number of questions asked on LYS and YGS differed: For instance, there were 80 questions on LYS1 mathematics test, and 40 on the YGS mathematics; 90 questions on LYS2 natural sciences test and 40 YGS natural sciences. Only, in LYS3 Turkish language and literature test there were 28 language and discourse questions, whereas there were 40 questions on the YGS language and discourse test. Hence, the inconsistencies and the distribution of questions to 11th- and 12-th grade levels contradicted each other. In terms of topic matches there were inconsistencies, but in terms of the number of questions asked from certain topics there were high consistency ratios. This was due to the number of questions from one or two topics that were among 11th and 12th grade level textbooks. They varied from 7 to 15 among 30-50 questions. This showed that some topics were prioritized.

Considering the perceptions of high school teachers about the perceived inconsistencies between the contents of the YGS and the textbooks used for 11th-and 12-grade levels, the findings above supported their perceptions. Yet, the high ratio of

the questions cumulated on one or two topics of 11th- or 12th-grade levels on LYS or the prioritizing of some 11th- and 12th-grade textbook topics might convince the teachers that LYS contents were mostly consistent with the contents of textbooks of 11th- and 12th-grade levels. On the contrary, regarding the topics of Grade 11 and 12 textbooks still there were inconsistencies due to topics that did not match with the topics of textbooks of these grades.

When teachers are aware of the tested and untested contents, their tendency to reallocate the resources and time toward the tested content increases (Cimbricz, 2002; Marchant, 2004; Paris and Urdan, 2000). Furthermore, they tend to reallocate the resources and time away from the untested content (Hamilton, 2011). According to Hamilton (2011) "this reallocation occurs across subjects, across topics within subjects, and even across students when performance of some students counts more than of others for accountability purposes" (p. 48). Due to the pressure from students, there might be disproportionate emphasis on test-taking skills that can cause a reduction of the time that should be spent on teaching the content or the skills that are among the learning objectives of the course. This might be the result of the tests being not well-aligned with what has been taught or was planned to be taught as stated by Hamilton (2011).

5.5 Conclusions Related to the Findings

The following conclusions were elicited from the findings:

1. Although the official curriculum by the MNE in North Cyprus stated that the curriculum was reconstructed in 2005 to be learner-centered, it was found that operational curriculum was subject-oriented. Eisner (2001) and Porter (2006) explained the official curriculum as explicit or intended curriculum which reflected

the national mandates and standards to be achieved, and the operational curriculum as the observed or enacted curriculum that teachers implemented in classes. Perceptions of both public high school and college teachers and students revealed that the curriculum was textbook oriented, which was called by Ornstein (1982) subject-centered curriculum, beacuse textbooks drove it. Therefore, it can be interpreted as that there is a conflict between the official and operational curriculum in North Cyprus.

2. It was also found that there is no curriculum development or even curriculum. There is only a list of textbooks (see Appendix L) sent to schools. It was found that teachers were not provided with detailed curricula by the Department of EPPD in North Cyprus. The Department sent schools a list of the textbooks that would be used in that academic year. Moreover, according to Taylor (2001) curriculum development is "all the ways in which a training or teaching organization plans and guides learning" (p.8). In the curriculum development process "revision of curriculum frameworks," "details of curriculum" such as learning objectives," "content and means of assessments," "evaluation of learning," "identification and use of appropriate teaching and learning methods and materials" are included (Taylor, 2001, p. 8). However, it is mostly seen as "the completion of a list of content meant to be taught by teachers" (Taylor, 2001, p. 8). Nevertheless, in this study, it was found that curriculum development was perceived as the list of textbooks and the content of textbooks. Moreover, textbooks were not written and printed in North Cyprus. The ones used in public high schools were sent by the MNE of Turkey, and the ones used in public colleges were suggested by Pearson Edexcel of the UK.

3. Students were not communicated about educational goals and objectives, but rather they were communicated only the textbook content (see also Jackson, 2011). That might be the reason why students' learning was subject-oriented.

4. It was found that importance was given to the university entrance examinations because students' success on these examinations was perceived as the indicator of the quality of education offered by teachers and schools (Goldstein and Thomas, 1996). Moreover, students preferred attending to cram schools as they were not in full confidence with the education (Baştürk and Doğan, 2010b) provided at public schools in North Cyprus.

5. It was found that college teachers and students perceived absolute consistency between the contents of Pearson Edexcel IGCSE, GCE 'A' and 'AS' level examinations and the textbooks suggested by Pearson Edexcel, whereas they perceived absolute inconsistency between the Edexcel IGCSE English as a second language test and the McMillan English language textbook (McCarter, 2010). Yet, in order to manage this inconsistency, English language teachers said that they directed students to IELTS exam as the textbook in use prepared them for that particular examination.

Public high school English language teachers and language program students also perceived absolute inconsistency between the contents of LYS5 English test and English language textbooks. On the other hand, majority of subject teachers except English language teachers of public high schools perceived extensive inconsistency between the contents of the YGS and 11th- and 12th-grade textbooks, but consistency between the contents of LYS and 11th- and 12th-grade textbooks. Yet, a few high school teachers raised their doubts about perceived inconsistency between

the contents of LYS and 11th- and 12th-grade textbooks. Therefore, it was assumed that the contents of tests were not aligned to the contents of the 11th- and 12th-grade curricula/textbooks (Hamilton, 2011).

6. Perceived score deflation by the media in North Cyprus was assumed to be the result of non-alignment of test-contents to textbook-contents.

7. Due to non-alignment public high school students preferred cram schools to cover the non-aligned content and improve their test-taking strategies; and they did not trust the education provided at schools.

8. Skill deterioration (Hamilton, 2011) was detected because more emphasis was placed on test-taking strategies which deteriorated other skills that had already been mastered or skill that should be mastered.

9. Curriculum narrowing (Hamilton, 2011) and expansion were detected. Teachers configured instruction toward external tests and covered only the topics that were tested and excluded activities and topics that were not included in the tests, which resulted in curriculum narrowing. Teachers mostly decided what content to cover, how much time to spend on that content, and what to test (Porter, 2006). As Posner (2004) indicated there was a close correlation between classroom teaching and external tests. Moreover, teachers included topics that were in external tests but not in the proposed curriculum, and hence caused curriculum expansion.

10. Wash-back effect of tests on instruction, assessment and attitudes was detected. This was in harmony with the findings of Hayes and Read (2004), Saville and Hawley (2004), and Wall (2005). Due to the wash-back effect of the tests, teachers might feel great pressure to teach toward tests as admission to higher education was also tied to scores earned by these tests (Posner, 2004). The

connection between testing and learning was addressed by a number of studies in the assessment literature: For instance, Alderson and Wall (1993), Amrein and Berliner (2002b), Barkstale-Ladd and Thomas, (2000), Cimbricz (2002), Herman et al., (1994), Marchant, (2004), and Paris and Urdan (2000). They all found that instructional decisions by teachers were made according to high-stake tests. In that sense, the finding of this research also was parallel with the findings by Alderson and Wall (1993), Amrein and Berliner (2002b), Barkstale-Ladd and Thomas, (2000), Cimbricz (2002), Herman et al., (1994), Marchant, (2004), and Paris and Urdan (2000). Thus, it can be said that, instruction in pubic high schools and colleges is subject- and test-oriented, materials and textbooks are test-oriented, and assessment is also test-oriented as the teacher-made tests are similar in format to YGS, LYS and IGCSE tests. Teachers and students had positive attitude toward the multiple choice format and preferred teacher-made tests to be similar to that format.

11. It was detected that learning was configured toward tested content by the students, which also signified wash-back effect of tests on learning. Moreover, it was found that, as McEwan (1995) put it "what is assessed becomes what is valued, which becomes what is taught" (p. 42), and what is learned.

12. Document analyses results also revealed non-alignment of YGS content to 11th- and 12th-grade curricula. Moreover, inconsistencies were detected between the LYS content and the contents of the 11th- and 12th-grade level textbooks as well. In addition to this, on LYS some questions were accumulated on one or two topics of 11th- and 12th-grade topics and this was assumed to be perceived as consistency by high school teachers and students. However, this indicated that some topics were prioritized on LYS.

To sum up, it was found that teachers and students perceived inconsistencies between the contents of university entrance examinations and the textbooks used in public high schools. Yet, they were not sure about the extent of the inconsistency; therefore, document analyses were carried, and the results of the document analyses revealed extensive inconsistencies and were in harmony with the perceptions of teachers and students. Therefore, due to non-alignment of the tests to 11th- and 12th-grades curricula/textbooks, instruction, learning, materials, assessment were all configured toward these tests. However, all these could not change the perceived score deflation by the media in North Cyprus. Moreover, students' interest to education at cram schools and disinterest to education at public schools were assumed to be related to the detected non-alignment between the contents of the tests and 11th-and 12th-grade operational curricula.

5.6 Implications about Findings and Conclusions

On the document, which could be accepted as official curriculum, provided by the MNE in North Cyprus, it was written that Turkish education system was oriented toward learner-centered education (Department of EPPD, 2005, p. 4). However, it was found that instruction and assessment were configured toward textbooks, and textbooks were perceived as curriculum, which suggested that textbooks drove instruction, assessment, and curriculum. Therefore, there was a contradiction between the official and operational curriculum. Teachers were given in-service training once a year. Teachers were communicated not only the policies and decisions of the MNE in North Cyprus, but also the new textbooks and their implementation. In learner-centered education, as Ornstein (1982) stated, "students' needs and interests" should be emphasized (p. 406). Needs here should refer to skills

that students need to achieve that were stated in the learning objectives of the courses, not content goals or test-taking strategies. As a result, it will be highly recommended that besides having "educational aims" and "educational goals" for each subject matter, a detailed "learning objectives" and detailed guidance for teachers should be provided by the Department of EPPD besides a list of the textbooks. As indicated in the handbook of Department of EPPD (2005), more and intensive in-service training should be provided not only to teachers but also to students and parents in order to raise awareness, and to develop parallel attitudes toward the new student-centered curriculum notion.

The general educational goal of the secondary education could be to prepare learners to higher educational programs. Yet, in in-service training, skills that should be enhanced had better be emphasized in order to control the wash-back effects of university entrance examinations on teaching, learning and assessment at public high schools. It should have been ensured that the improvement of the necessary skills and knowledge required by the higher education programs was the target of teaching and learning at schools. This, of course, requires more curriculum management. However, Department of Secondary Education just rarely sends inspectors to schools to check the progress in content coverage, and to ask teachers to inform them the extent of the coverage at the end of each academic semester. Department of Secondary Education needs to check the accomplishment in students learning and the progress in skill improvement rather than to ensure content accomplishment. Moreover, they should control the reciprocal relationships among all components of the curriculum: learning objectives, subject matters, implementation and assessment (Oliva, 2005).

Instead of importing textbooks from other countries, specialists, curriculum developers, material developers should be appointed for the provision of locally developed curricula and locally written textbooks. The inclusion and exclusion of topics, information, skills should be decided either together with teachers and learners, or should be done with a set of criteria approved by teachers and learners. That is to say, not only in the "macro level" of curriculum organization (organization of courses to programs) but also in the "micro level," the involvement of teachers and students are essential (Posner, 2004, p.128). During in-service training, the emphasis should be on textbooks which are the medium of instruction but not the aim of instruction in order to eliminate the notion of subject-matter curriculum. Of course, as indicated by Posner (2004), teachers experienced the dilemma of the coverage or the mastery of the contents. Here, during the implementation teachers mostly sacrificed mastery of the content to the coverage of the content (p. 192). Moreover, due to the emphasis on the content coverage, and the multiple choice test type in the YGS and LYS, more emphasis was placed on "knowing that" (typically called the subject matter) instead of "knowing how" (typically called the skills) (Ryle, 1949).

On the other hand, it is highly recommended to the ÖSYM, as suggested in TÜBA (2004) report, to collaborate with the MNE of Turkey to sustain more alignment between the examinations and the curricula. Moreover, an accumulation on certain topics in distribution of the exam questions or the prioritizing of certain topics on the YGS and LYS was noticed (see document analysis in Chapter 4). This could urge the tendency in teachers and learners of the inclusion and exclusion to the content of curricula parallel to test content.

The timing of the exams needs to be reconsidered. Giving a 4-year gap between instruction and assessment do not fit into either pragmatist, or constructivist, or student-centered approaches. There should be shorter time between the instruction and assessment to measure learner achievement, which is similar to IGCSE or GCE 'A' and 'AS' levels. Modularization, as defined by Young (1995), was "breaking up of the curriculum into discrete and relatively short learning experiences" (p. 171), "each of which examined separately" (Vidal Roderio and Nádas, n.d.). That is to say, examinations were taken at the end of each unit (as in GCE 'A' and 'AS' levels). Linear examinations were taken at the end of the course (as in GCSE and IGCSE). The duration of the course could be two years and the test was taken at the end of the course (Department for Education, 2013). Considering the consistencies between the contents of the 9th- and 10th-grade textbooks and the YGS, then a linear YGS examination could be more reasonable. Moreover, considering one of the findings of this research which was the confinement of the 12th-grade curricula to test-topics, and considering the ratio of inconsistencies between the contents of LYS and the 11th- and 12th-grade textbooks, then either linear or modular LYS could be more reasonable. This will lessen instructional decisions toward narrowing of the curricula with which the learning was aligned to test contents and with which students lost motivation to study the topics not asked in the tests.

As Rothman et al., (2002) stated they were the "tests that offer a disproportionate number of points for a small band of the content . . . specified in the [curricula], leaving others out entirely or sampling them very lightly" and they "are not well aligned" (p.6). TŰBA (2004) report should be taken into consideration by both the MNE of Turkey and ŐSYM.

Finally, more emphasis should be placed on qualitative research in public high schools in North Cyprus, in order to raise awareness of perceptions of teachers, learners, parents, school administrators, inspectors and so forth; briefly, all stakeholders. This will help to improve curriculum, and its implementation, management, and evaluation.

5.7 Suggestions for Further Research

Further studies are recommended to be conducted to obtain more data that will help gain deeper understanding of the reason(s) for low-achievement of students in university entrance examinations. Due to the aims and limitations of this study, "performance centrality"-- "the degree of the match between the type of cognitive demand presented in each test item and the type of performance described in the curriculum"-- or the "challenge" (if doing well on the tests requires mastery of challenging content) were not applied in document analysis on the content of the YGS and LYS, and the "enacted curriculum" (instruction) was not observed (Porter, 2004). A further research can be conducted to explore the consistency or alignment between the performance centrality and the enacted curriculum. This might shed light on the phenomenon from a different angle. A further research using a similar approach can be conducted to explore views of academicians and the consistency between the depth of knowledge covered in public high schools, assessed in external tests, and depth of knowledge required in higher education. Yet, this could not be a single study, but could be a series of various studies related to different subject matters that could be combined at the end to see a wider picture of the phenomenon.

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APPENDICES

APPENDIX A. Teachers Numbers at Schools, Grade levels, and Branches

REGION	SCHOOL	Number of Teachers teaching at 11th and 12th Grade levels					
		Turkish Literature and Language	Math	Physics	Chemistry	Biology	English Language
İSKELE	Bekirpaşa	7	5	2	1	1	5
	Erenköy	6	6	2	2	1	3
MAĞUSA	G.Mağusa TMK	4	8	4	3	2	7
	Namık Kemal	10	6	2	2	2	7
	Polatpaşa	6	3	1	1	1	6
	Cumhuriyet	2	3	1	2	3	3
LEFKOŞA	B. Ecevit Anadolu						
	L. Türk Lisesi	13	7	2	2	2	9
	TMK	10	11	9	5	6	11
	20 Temmuz Fen	2	2	1	3	2	3
	Değirmenlik	2	2	1	1	1	2
GÜZEL YURT	Güzelyurt TMK	4	3	1	1	1	3
	Kurtuluş	7	5	2	2	2	6
	Lefke Gazi	3	1	1	1	1	2
GİRNE	Anafartalar	8	3	1	2	2	8
	19 Mayıs TMK	5	6	1	2	2	8
	Lapta Yavuzlar	9	4	1	2	1	3
	TOTAL	96	75	32	32	30	86

APPENDIX B. Students Numbers in Schools, Grade Levels and Branches

REGION	SCHOOL	BRANCH and NUMBER of STUDENTS in 11th GRADE											BRANCH and NUMBER of STUDENTS in 12th GRADE										
		11 SCI	11 SCI	11 TURKISH & MATHS	11 TURKISH & MATHS	11 TURKISH & MATHS	11 SOC SCI	11 SOC SCI	11 F. LANG.	11F. LANG.	11F. LANG.	TOTAL	12 SCI	12 SCI	12 TURKISH & MATHS	12 TURKISH & MATHS	12 TURKISH & MATHS	12 SOC SCI	12 SOC SCI	12 F. LANG	12 F.LANG	12 F LANG	TOTAL
İSKELE	Bekirpaşa	12	-	12	-	-	-	-	5	-	-	**29**	12	-	-	-	-	-	-	6	-	-	**18**
	Erenköy	17	-	13	-	-	36	-	-	-	-	**66**	19	-	18	-	-	20	-	-	-	-	**57**
MAĞUSA	**G.Mağusa TMK***	28	28	17	-	-	-	-	14	-	-	**87**	30	22	14	-	-	11	-	-	-	-	**77**
	Namık Kemal	21	23	33	-	-	27	29	10	-	-	**143**	17	19	29	-	-	26	30	15	-	-	**136**
	Polatpaşa	20	-	23	-	-	18	-	7	-	-	**68**	18	-	17	-	-	18	-	-	-	-	**53**
	Cumhuriyet	10	-	6	-	-	10	-	-	-	-	**26**	10	-	3	-	-	5	-	-	-	-	**18**
LEFKOŞA	B. Ecevit Anadolu																						
	L. Türk Lisesi	19	-	23	-	-	30	33	27	-	-	**132**	29	-	16	-	-	22	22	19	15	-	**123**
	TMK*	25	22	14								**61**	18	21	16								**55**
	20 Temmuz Fen	21	20	16	-	-	13	-	21	-	-	**91**	28	-	11	-	-	-	-	19	-	-	**58**
	Değirmenlik	9	-	-	-	-	9	-	-	-	-	**18**	7	-	-	-	-	-	-	-	-	-	**7**
GÜZEL YURT	Güzelyurt TMK	-	-	10	-	-	-	-	-	-	-	**10**	-	-	19	-	-	-	-	-	-	-	**19**
	Kurtuluş	18	21	15	-	-	24	-	-	-	-	**78**	18	14	26	25	-	13	-	20	-	-	**116**
	Lefke Gazi	8	-	7	-	-	17	-	-	-	-	**32**	4	-	8	-	-	7	-	-	-	-	**19**
GİRNE	Anafartalar	11	-	15	-	-	29	-	24	-	-	**79**	19	-	16	-	-	-	-	24	-	-	**59**
	19 Mayıs TMK*	28	-	29	-	-	12	-	-	-	-	**69**	32	-	10	-	-	-	-	6	-	-	**48**
	Lapta Yavuzlar	20	-	15	-	-	26	-	-	-	-	**61**	15	-	5	-	-	13	-	-	-	-	**33**
	TOTAL	**267**	**114**	**248**	**0**	**0**	**251**	**62**	**108**	**0**	**0**	**1050**	**276**	**76**	**208**	**25**	**0**	**135**	**52**	**109**	**15**	**0**	**896**

COLLEGES (bold with asterisks) ARE CONSIDERED ONLY FOR IGCSE AND 'A' lEVELS exams except Güzelyurt TMK (no IGCSE or 'A' Level classes available), not with their other branches. Please see the table on the next page. 1050-(87+61+69)= 833 (11th grades); 896-(77+55+48)=716 (12th grades)= 1549X0.07= 108 (total)

REGIONS	SCHOOLS	BRANCH and NUMBER of STUDENTS in 11th GRADE					**BRANCH and NUMBER of STUDENTS in 12th GRADE**			
		11 GCE SCI	**11 GCE ARTS**	**11 'A' LEVEL**	**11 'A 'LEVEL**	**TOPLAM**	**12 GCE SCI**	**12 GCE ARTS**	**12 'A' LEVEL**	**TOPLAM**
İSKELE	Bekirpaşa	-	-				-	-		
	Erenköy	-	-				-	-		
MAĞUSA	G.Mağusa TMK	31	3			34	16	11		27
	Namık Kemal	-	-				-			
	Polatpaşa	-	-				-	-		
	Cumhuriyet	-	-				-	-		
LEFKOŞA	B. Ecevit Anadolu									
	L. Türk Lisesi	-	-				-	-		
	TMK*	15	16	24	26	81	47	13	20	80
	20 Temmuz Fen	-	-				-	-		
	Değirmenlik	-	-				-	-		
GÜZELYURT	Güzelyurt TMK	-	11	11			15	4		19
	Kurtuluş	-	-				-	-		
	Lefke Gazi	-	-				-	-		
GİRNE	Anafartalar	-	-				-	-		
	19 Mayıs TMK	16	-		16		-	-		
	Lapta Yavuzlar	-	-				-	-		
	TOTAL	**62**	**30**	**35**	**42**	**169**	**78**	**28**	**20**	**126**

169 (11th grades)+ 126 (12th grades)= 295X0.07=20 (total)SAMPLE SELECTION STRATIFIED SAMPLING: 7 % FROM EACH SCHOOL= TOTAL 128 STUDENTS

APPENDIX C. Öğretmen Görüşme Formu (Consent form for Teachers)

Araştırma Sorusu: Yükseköğrenime Geçiş Sınavı'nın (YGS), Lisans Yerleştirme Sınavı'nın (LYS) Çok Programlı Modern Liselerin 11. ve 12. sınıf müfredatlarına, IGCSE'lerin kolej 11. ve 12. sınıf müfredatlarına olan etkileri ile ilgili görüşleriniz nelerdir?

Tarih:…/.... / 2012 Saat ..…../…….

Giriş

Merhaba, adım Hicran Bayraktaroğlu Fırat. Doğu Akdeniz Üniversitesi Eğitim Fakültesi Eğitim Bilimleri Bölümü'nde Yüksek Lisans Doktora öğrencisiyim, aynı zamanda Doğu Akdeniz Üniversitesi Hazırlık ve Yabancı Diller Okulu Modern Diller Biriminde öğretim görevlisi olarak çalışmaktayım. Yükseköğrenime Geçiş Sınavı (YGS) ve Lisans Yerleştirme Sınavı'nın (LYS) Çok Programlı Modern Liselerin müfredatına, IGCSE'lerin kolej 11. ve 12. sınıf müfredatlarına olan etkilerini belirlemede sizin görüşlerinizin önemli olduğunu düşünüyorum. Katkılarınız için şimdiden teşekkür ediyorum.

Görüşmemize geçmeden önce, görüşmemizin gizli olduğunu ve görüşmede konuşulanları yalnızca benim, tez danışmanımın ve tez izleme komitesi üyelerinin bileceğini belirtmek isterim. Bunun yanında araştırma raporunda isimleriniz kesinlikle yer almayacaktır: isim yerine "Öğretmen 1" gibi kod kullanılacaktır.

Görüşmemize başlamadan önce sormak istediğiniz soru ya da belirtmek istediğiniz herhangi bir düşünceniz var mı?

Görüşmeyi izin verirseniz kaydetmek istiyorum. Bunun sizce bir sakıncası var mı?

Görüşmeye devam etmek istiyor musunuz?

Bu görüşmemizin yaklaşık 30 dakika süreceğini tahmin ediyorum. İzin verirseniz sorulara başlamak istiyorum.

1. Hangi dersi öğretmektesiniz ve kaçıncı sınıflara öğretim yapıyorsunuz?
2. Müfredat size ne ifade etmektedir?
3. Dersinizin müfredatının temini ve geliştirilmesi ile ilgili görüşleriniz nelerdir? (kim/kimler yada hangi kurum/kurumlar temin etmekte veya geliştirmektedir?)
4. YGS ve LYS/IGCSE gibi dış sınavların
   a) öğretmenler için önemi hakkındaki düşünceleriniz nelerdir?
   b) öğrenciler için önemi hakkındaki düşünceleriniz nelerdir?
5. a. YGS ve LYS/IGCSE sınavlarının içeriği ile öğrettiğiniz dersin müfredatının içeriğinin örtüşmesi ile ilgili düşünceleriniz nelerdir?

b. YGS ve LYS/IGCSE sınavları öğrettiğiniz dersi nasıl etkilemektedir? (Dersin konularını nasıl etkilemektedir?)
(Fen dersleri ve İngilizce için ek olarak i veya ii sorulacak)
i. Öğrettiğiniz dersin laboratuvar kısmını nasıl etkilemektedir?
ii. Öğrettiğiniz dersin dinleme ve konuşma kısmını nasıl etkilemektedir? (Dil dersleri)

6. a. YGS ve LYS/IGCSE sınavları (YGS ve LYS/IGCSE sınavlarına öğrencileri hazırlamak) genel olarak öğretimi nasıl etkilemektedir?
   b. YGS/LYS sınavları (YGS ve LYS sınavlarına hazırlanmak) öğrenimi nasıl etkilemektedir?
7. a. YGS ve LYS/IGCSE sınavlarının geçmiş yıllarda sorulan sorularının
   i. derslerde kullanımı ile ilgili görüşleriniz nelerdir?
   ii. sınavlarda faydalanılması ile ilgili görüşleriniz nelerdir?
   b. Sizce, YGS ve LYS/IGCSE sınavlarının geçmiş yıllarda sorulan sorularının
   i. derslerde kullanım oranı ile ilgili görüşleriniz nelerdir?
   ii. sınavlarda faydalanım oranı ile ilgili görüşleriniz nelerdir?
   c. YGS ve LYS/IGCSE sınavlarının formatı ile ilgili görüşleriniz nelerdir?

APPENDIX D. Öğrenci Görüşme Formu (Consent form for Students)

Araştırma Sorusu: Yükseköğrenime Geçiş Sınavı'nın (YGS), Lisans Yerleştirme Sınavı'nın (LYS) Çok Programlı Modern Liselerin 11. ve 12. sınıf müfredatlarına, IGCSE'lerin kolej 11. ve 12. sınıf müfredatlarına olan etkileri ile ilgili görüşleriniz nelerdir?

Tarih:…/.... / 2012 Saat …../…..

Giriş

Merhaba, adım Hicran Bayraktaroğlu Fırat. Doğu Akdeniz Üniversitesi Eğitim Fakültesi Eğitim Bilimleri Bölümü'nde Yüksek Lisans Doktora öğrencisiyim, aynı zamanda Doğu Akdeniz Üniversitesi Hazırlık ve Yabancı Diller Okulu Modern Diller Biriminde öğretim görevlisi olarak çalışmaktayım. Yükseköğrenime Geçiş Sınavı'nın (YGS) ve Lisans Yerleştirme Sınavı'nın (LYS) Çok Programlı Modern Liselerin 11. ve 12. sınıf müfredatlarına olan etkilerini belirlemede sizin görüşlerinizin önemli olduğunu düşünüyorum. Katkılarınız için şimdiden teşekkür ediyorum.

Görüşmemize geçmeden önce, görüşmemizin gizli olduğunu ve görüşmede konuşulanları yalnızca benim, tez danışmanımın ve tez izleme komitesi üyelerinin bileceğini belirtmek isterim. Bunun yanında araştırma raporunda isimleriniz kesinlikle yer almayacaktır: isim yerine "Öğrenci 1" gibi kod kullanılacaktır.

Görüşmemize başlamadan önce sormak istediğiniz soru ya da belirtmek istediğiniz herhangi bir düşünceniz var mı?

Görüşmeyi izin verirseniz kaydetmek istiyorum. Bunun sizce bir sakıncası var mı?

Görüşmeye devam etmek istiyor musunuz?

Bu görüşmemizin yaklaşık 15 dakika süreceğini tahmin ediyorum. İzin verirseniz sorulara başlamak istiyorum.

1. Kaçıncı sınıfsınız ve hangi şubeye devam ediyorsunuz?
2. Müfredat size ne ifade etmektedir?
3. Sizce (11. sınıf /12. sınıf) derslerinizin müfredatının temini ve geliştirilmesi ile ilgili gőrüşleriniz nelerdir? (kim/kimler yada hangi kurum/kurumlar temin etmekte ve geliştirmektedir?)
4. YGS ve LYS/IGCSE sınavlarının
   c) őğrenciler için önemi hakkında gőrüşleriniz nelerdir?
   d) Öğretmenler için önemi hakkında gőrüşleriniz nelerdir?
   e) a. Sizce, YGS ve LYS sınavlarının içeriği 11. sınıf/ 12.sınıfta öğrendiğiniz derslerin içeriği ile örtüşmesiyle ilgili gőrüşleriniz nelerdir?

5. b. Sizce, YGS ve LYS sınavları öğrendiğiniz dersleri nasıl etkilemektedir? (konularını nasıl ve ne kadar etkilemektedir? (Fen dersleri ve İngilizce için ek olarak i veya ii sorulacak)
   i. Öğrendiğiniz fen derslerinin laboratuvar kısmını nasıl etkilemektedir?
   ii. Öğrendiğiniz dil dersinin dinleme ve konuşma kısmını nasıl etkilemektedir?(Dil dersleri)
6. a. YGS ve LYS/IGCSE sınavları (YGS ve LYS/IGCSE sınavlarına hazırlamak) genel olarak öğrenimii sizce nasıl etkilemektedir?
   b. YGS/LYS sınavları (YGS ve LYS sınavlarına hazırlanmak) öğretimi sizce nasıl etkilemektedir?
7. a. YGS ve LYS sınavlarının geçmiş yıllarda sorulan sorularının
   i. derslerde kullanımı ile ilgili görüşleriniz nelerdir?
   ii. sınavlarda faydalanılması ile ilgili görüşleriniz nelerdir?
   b. Sizce, YGS ve LYS sınavlarının geçmiş yıllarda sorulan sorularının
   i. derslerde kullanım oranı ile ilgili görüşleriniz nelerdir?
   ii. sınavlarda faydalanım oranı ile ilgili görüşleriniz nelerdir?
   c. YGS ve LYS sınavlarının formatı ilgili görüşleriniz nelerdir?

APPENDIX E. Permission Received from the Department of Secondary Education to Interview Teachers

KUZEY KIBRIS TÜRK CUMHURİYETİ
MİLLİ EĞİTİM GENÇLİK VE SPOR BAKANLIĞI
GENEL ORTAÖĞRETİM DAİRESİ MÜDÜRLÜĞÜ

Sayı: GOÖ.0.00.35-A/11/12-4436 02.11.2011

Sayın Hicran Bayraktaroğlu
Doğu Akdeniz Üniversitesi
Gazimağusa.

İlgi: 21.10.2011 tarihli başvurunuz.

Talim ve Terbiye Dairesi Müdürlüğü'nün TTD.0.00.03-12-11/1261 sayı ve 28.10.2011 tarihli yazısı uyarınca ilgi başvurunuz incelenmiş olup müdürlüğümüze bağlı okullarda görev yapan öğretmenlere yönelik hazırlanan "Dış Sınavların Müfredata Etkisi" konulu görüşme sorularının uygulanması müdürlüğümüzce uygun görülmüştür.

Ancak sözkonusu çalışmaya katılımın gönüllülük esasına dayandığı belirtilerek, görüşme sorularını uygulamadan önce uygulanacağı öğretmenlerin bağlı bulunduğu Genel Ortaöğretim Dairesi Müdürlüğü ile istişarede bulunulup, görüşmelerin hangi okulda ne zaman uygulanacağı birlikte saptanmalıdır.

Çalışma uygulandıktan sonra sonuçlarının Talim ve Terbiye Dairesi Müdürlüğü'ne ulaştırılması gerekmektedir.

Bilgilerinize saygı ile rica ederim.

Mehmet S. Kortay
Müdür

cc EU/PC

Tel (90) (392) 228 3136 – 228 8187
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E-mail meb@mebnet.net

Lefkoşa-KIBRIS

APPENDIX F. Permission Received from Department of Secondary Education to Interview Students

KUZEY KIBRIS TÜRK CUMHURİYETİ
MİLLİ EĞİTİM GENÇLİK VE SPOR BAKANLIĞI
GENEL ORTAÖĞRETİM DAİRESİ MÜDÜRLÜĞÜ

Sayı: GOÖ.0.00.35-A/11/12-4436 02.11.2011

Sayın Hicran Bayraktaroğlu
Doğu Akdeniz Üniversitesi
Gazimağusa.

İlgi: 21.10.2011 tarihli başvurunuz.

Talim ve Terbiye Dairesi Müdürlüğü'nün TTD.0.00.03-12-11/1261 sayı ve 28.10.2011 tarihli yazısı uyarınca ilgi başvurunuz incelenmiş olup müdürlüğümüze bağlı okullarda görev yapan öğretmenlere yönelik hazırlanan "Dış Sınavların Müfredata Etkisi" konulu görüşme sorularının uygulanması müdürlüğümüzce uygun görülmüştür.

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Bilgilerinize saygı ile rica ederim.

Mehmet S. Kortay
Müdür

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E-mail meb@mebnet.net

Lefkoşa-KIBRIS

APPENDIX G. Sample Coding Legend/Schema

1. What Curriculum is
CURMEAN1(map, journey)
CURMEAN2(program, plan, school curriculum)
CURMEAN3(subject matter, topics)
CURMEAN4(anxiety)
CURMEAN5(target, objectives)
CURMEAN6(textbook)
CURMEAN7(practice of education)
CURMEAN8(system)
CURMEAN9(exams)
CURMEAN10(future)
CURMEAN11(rules, regulation, progress)
CURMEANNOT(nothing)

2. Who provides curriculum
CURPRO1(Turkey, MNE of Turkey)
CURPRO2 (MNE in TRNC, Dept.. of Sec. Educ. in NC)
CURPRO3(school, headmaster, teachers)
CURPRO4(internet)
CURPRO5(Edexcel, Cambridge)

3. Who develops curriculum
CURDEV1 (Turkey, MNE of Turkey)
CURDEV2(MNE in TRNC, Dept. of Sec. Educ. in NC)
CURDEV3 (teachers)

4. How significant external examinations are
EXSIG (important, significant, crucial, vital, essential, of great value)
EXINSIG (unimportant, insignificant, irrelevant not worth)

5. How consistent the contents of external examinations are with the enacted curriculum
CONTCONS (consistency/reliability/regularity/dependability/alignment/orientation /coalition/ support/ agreement between contents)
CONTINCONS (inconsistency/ discrepancy/ contradiction/ variation/ irregularity/ conflict/disagreement/challenge between the contents)
CONSCONSDEG (degree of contents consistency)
CONSINCONSDEG (degree of contents inconsistency)

6. How external examinations affect the implemented curriculum
EFONCONT1 (effect on content—deletion/ removal/elimination/ omission/ exclusion/ postponement)
EFONCONT2 (effect on content inclusion/ addition/ insertion/ accumulation/ supplement/ extra)
EFONTEACH1 (positive effect on teaching)

EFONTEACH2 (negative effect on teaching)
EFONLEARN1 (positive effect on learning)
EFONLEARN2 (negative effect on learning)

7. How external examinations affect the teacher-made tests
PASTPAPUSE1(use of past exam papers as class materials)
PASTPAPUSE2 (use of past exam questions in teacher-made tests)
PASTPAPUSE3 (not use of past exam questions in teacher-made tests)
POSEFONEXCONT(positive effect on the content of teacher-made tests)
NEGEFONEXCONT (negative effect on the content of teacher-made tests)
POSEFONEXSTYLE(positive effect on the style of teacher-made tests)
NEGEFONEXSTYLE (negative effect on the style of teacher-made tests)
OPINMULTCHO1 (positive opinion about multiple choice tests)
OPINMULTCHO2 (negative opinion about multiple choice tests)

APPENDIX H. Sample Coded Interview Segment

1. Müfredat daha çok . . . [ders yetiştirme kaygısını] **CURMEAN4** ifade eder bence özellikle 12.sınıfların . . . halbuki [dersin içeriğini yetiştirme açısından konular açısından yetiştirme kaygısının] **CURMEAN4** yerine . . . [üniversite sınavına yönelten soru çözme tarzında] **EFONTECH2**. . . bir ders götürebiliriz öğrencilerinde aslında genel istediği . . . çalışma biçimide budur . . . sınıfta . . .

2. [Genel orta eğitim dairesi tabi belirler bizim ders konularımızı] **CURPRO2. . .** [yıllık plana yayılmasını da zümredaşlar olarak biz oturup belirliyoruz] **CURPRO3** amma . . . müfettişlerinde genel orta öğretimin de görüşü nedir? [Bir kitapta verilmesi gereken müfredat] **CURMEAN1** varsa verebileceğimiz en iyi yere kadar vermemiz gerekiyor bunu . . .

3. [Türkiye'de geliştiriliyor] **CURDEV1**bir şekilde Türkiye şartlarına uygun olarak . . .

4. Bir kere ilk meslek seçimlerini belirleyecekler o açıdan büyük bir heyecan ve kaygıyla girerler onlarda . . . tabi ki birçok öğrencimizde rehberlik servisimiz yardımcı olsa da tam olarak bilinçle de girdiklerine inanmıyorum bu sınava . . . özllikle bu sene bu 10. sınıflarda sistem değişti ve öğrenciler A-B olarak ikiye ayrıldılar Fen ve Sosyal olarak ama Feni seçen öğrenciler gerçekten Feni mi isteyip de seçti onu bilmiyor bence hazır bulunmuşlukları ve bu konudaki bilgileri tam değil öğrencilerin ve çok bilinçli olarak da girmiyorlar ama bir meslek seçimi yapacakları için de çok heyecanlıdırlar ve kaygılıdırlar bu yüzden [önemi büyüktür] **EXSIG**. . .

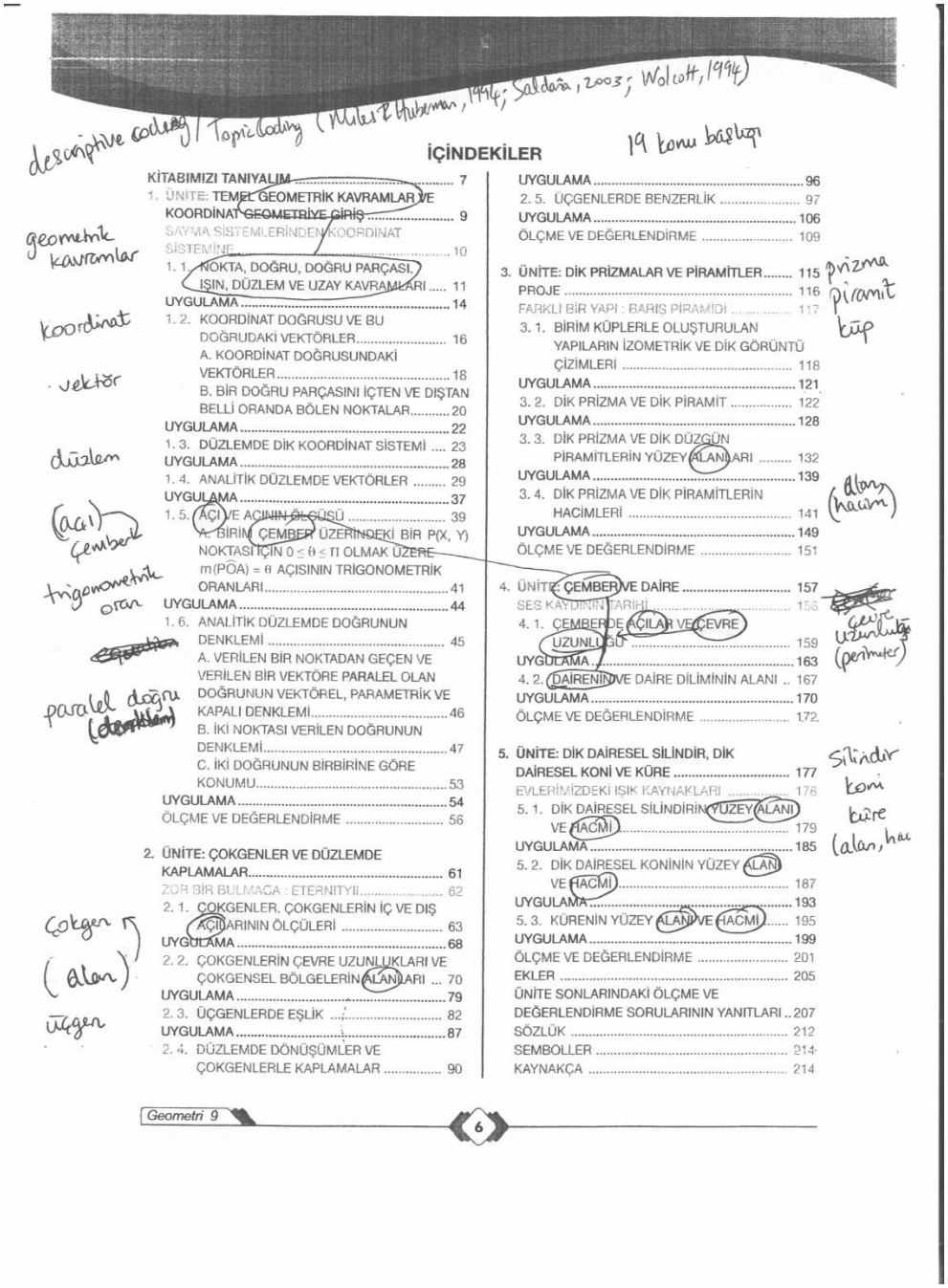
4. tabi ki iyi ve çalışkan bir öğrenciyse sınıfta, gereklerini yaparsa sınıfta o [öğrencinin iyi bir yere gelmesini istiyorsunuz bir öğretmen olarak] . . . [%100 başarı göstermese de %80'lik bir başarı beklersiniz] ve [sınıftaki öğrenmesine paralel bir başarı beklersiniz] . . . tabi ki iyi bir öğrenciyse onu [iyi bir meslek seçimi yapmış hedefine ulaşmış görünce mutlu olursunuz] **EXSIG**.

5 and 6. [edebiyat bakımından incelediğimde . . . çıkabilecek soru düzeyi yüksektir] **CONTCONS**. . . [dil ve anlatımı zayıf buluyorum] **CONTINCONS**. . . dil ve anlatım konuları genel bir sözcük türlerini toparlamadır edebiyat adına ama [YGS 9.sınıfta aslında verilen dil ve anlatım müfredatıyla daha çok uyuşur] **CONTCONS**. . . [LYS'de de çıkıyor] **CONTCONS** ama tabi ki ben bu sene [Fen sınıfına giriyorum . . . onu söylemeyi unuttum size, ve mesela onlar için pek da önemi yoktur dil ve anlatım veya edebiyatın] **EXINSIG** soru düzeyi açısından (duraklama) o açıdan çok etkilemez onları ama bir sosyal sınıfı olsaydı, [sosyal sınıfını etkileyecekti] **EFONLEARN1**. Tabi biz [öğretmenler olarak, müfredatın dışında da **EFONCONT2** öğenci istekleri varsa, hocam işte cümlenin öğeleri çok çıkıyor biz bunları yapamıyoruz, bize işte bunu anlatır mısınız? bir iki dersimizi o yönde çocuklar için feda ederiz] **EFONTEACH2**. Neden etmeyelim? . . . Öğrencinin

görüşleri bakımından işte her hangi bir ders konusu anlatılırken işte hocam bu yönde çıkar ki çocuklar genelde dershane yönüyle hazırlanırlar, [hocam işte konu bu yönde çıkar böyle işlesek böyle yapsak bizim açımızdan daha uygun olur şeklinde] **EFONTEACH2**, [olumlu dersin işleyiş ve yöntemini değiştirmesi bakımından olumlu yönde belirler] **EFONTEACH1 . . .** [Bayağı etkilemektedir yani eeee olumsuz derecede da etkilemektedir öğretmen bakımından] **EFONTEACH2 . . .** bir size söylediğim gibi . . . işte müfredatın içeriği bakımından etkilemektedir **EFONCONT1 . . .** iki sınavlar bakımından etkilemektedir, örneğin çocuklar Nisanda şimdi birinci aşamaya girecek dönecek 9 Nisanda devletin . . . okudukları okulun sınavına girecek, buda **. . .** başarı oranı okul bakımından doğru mu çıkacak] **EFONLEARN2** ? şüpheli . . . [konu bakımından baktığımızda konu bakımından işleri karıştırır çünkü . . . LYS ve . . . baktığımızda YGS gibi değerlendirmem lazım benim konumu işleyişimi] **. . . EFONTEACH2/ EFONCONT1/ EFONCONT2 . . .** Bence daha baktığınızda [öğrenme isteğini daha olumlu yönde kamçılamaktadır] **EFONLEARN1**çünkü çocuğun . . . 12. sınıfa başladığında 11. sınıfta bu kaygı başlar ama 12'ye başladığında direk önünde bu sınavlardır hedef onlar için o yüzden herşeyi [öğrenmeye daha açıktır] **EFONLEARN1**. . .

7. [Daha çok aslında 11 ve 12. sınıflarda kullanıyoruz] **PASTPAPUSE1**işte bir bizim amacımız ne oluyor orda aslında? [Konumuzla orantılı olanları seçiyoruz] **EFONCONT2** ki öğrenmeleri izleme de yapalım aynı zamanda . . . oran olarak **. . .** %50 diyelim, çok çok da fazla değil . . . Bence . . . [okul sınavlarında kullanılmaması gerekir bunların **PASTPAPUSE3**. . . eğer öğretmenin öğretimi paralelse kullanılsın **PASTPAPUSE2** tabi ki ama öğretimi paralel değilse kullanılmasın] **PASTPAPUSE3**. . . [Şimdi çoktan seçmeli olunca tabi ki çocuğun seçme şansı da 5 seçenekli olunca 1/5 tir baktığımızda. Onun karşısına bir seçenek yaratır. Bence güvenilirdir yani çocuk açısından en azından bir seçenek doğar . . . belki yardımcı da olur bir seçeneği yanında görünca] **OPINMULTCHO1**

APPENDIX I. Sample Coding of Textbook Topics



descriptive coding / Topic Coding (Miles & Huberman, 1994; Saldaña, 2003; Wolcott, 1994)

19 konu başlığı

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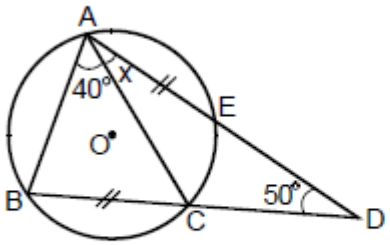
APPENDIX J. Sample Checklist for the Topic Codes on a Test

9. Sınıf Geometri konuları	2010 YGS Geometri soruları	2011 YGS Geometri soruları	2012 YGS Geometri soruları	2010 LYS Geometri soruları	2011 LYS Geometri soruları	2012 LYS Geometri soruları
Geometrik kavramlar (nokta, doğru, doğru parçası, ışın, uzay)						
Koordinat						
Vektör						
Düzlem (analitik)						
Trigonometrik oran						
Parallel doğru (denklem)						
Çember/daire (açı, alan, çevre uzunluğu)						
Çokgen (açı, alan)						
Üçgen (açı, alan)						
Prizma (yüzey alanı)						
Piramit (hacim)						
Silindir (yüzey alanı, hacim)						
Koni (alan, hacim)						
Küre (alan, hacim)						

APPENDIX K. Sample LYS Question and its Coding

2010 LYS1 Geo



O noktası
çemberin merkezi

$|AE| = |BC|$

$m(\widehat{BDA}) = 50^\circ$

$m(\widehat{BAC}) = 40^\circ$

$m(\widehat{CAE}) = x$

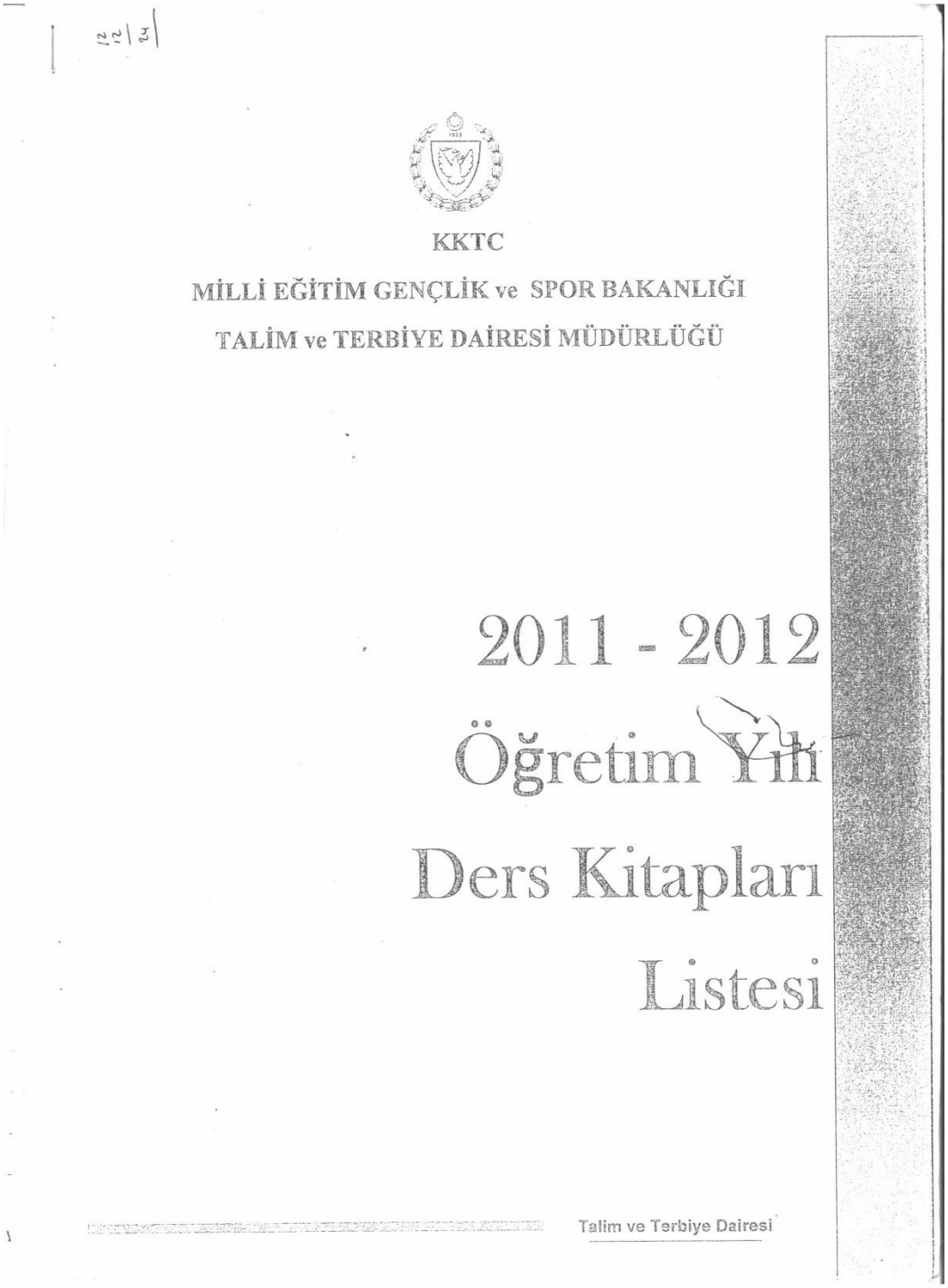
Çember (açı)

Üçgen (açı)

Yukarıdaki verilere göre, x kaç derecedir?

A) 10 B) 15 C) 20 D) 25 E) 30

APPENDIX L. List of Textbooks Sent to Schools by the Department of Secondary Education



KKTC

MİLLİ EĞİTİM GENÇLİK ve SPOR BAKANLIĞI

TALİM ve TERBİYE DAİRESİ MÜDÜRLÜĞÜ

2011 - 2012

Öğretim Yılı

Ders Kitapları

Listesi

Talim ve Terbiye Dairesi

Genel Liseler 10. Sınıfları İçin Ders Kitapları Listesi

Ders	Kitabın Adı	Yazarı	Yayınevi
Matematik	Ortaöğretim Matematik 10	Z. Sağlam, M. Sevim, T. Oğuz, T.Yurtseven, Y.Yıldırım, A.Sağlam, M.Bağrıaçık, M. Şişman, M. Lokçu, Ö. Çolak, Ç.Keskin, Ö.Atak A. N. Elçi	TC Milli Eğt. Yay.
Geometri	Geometri 1	E.Kaplan	Paşa Yay./Ank.
Fizik	Ortaöğretim Fizik 10	C.Kalyoncu, E. Pektaş, A. Değirmenci, A. Tütüncü, M. Altan Kurnaz, Y. Çakmak, G.Bayraktar	TC Milli Eğt. Yay.
Kimya	Ortaöğretim Kimya 10	M. Faruk Dursun, İ. Gülbay, S. Çetin, Ü. Tek, M. Güntut, F. Fatma Özkuç	TC Milli Eğt. Yay.
Biyoloji	Ortaöğretim Biyoloji 10	Dr. S. Ercan Akkaya, F. İlhan, D. Sağdıç, O. Albayrak, E. Öztürk, Ş. Cavak	TC Milli Eğt. Yay.
Geometri	Geometri 1	E.Kaplan	Paşa Yay./Ank.
Dil Anlatım	Dil ve Anlatım 10	M. Arkın, N. Başkaya, L. Ergül, M. Mat, Y. Öksüz, A. Tergip, M. Acar, A.H.Alptekin, M.Bilgen, Dr.Ö.Doğan, H. Özmen	TC Milli Eğt. Yay.
Türk Edebiyatı	Türk Edebiyatı 10	A. Kurt, E. Demir, T. Başer, G. Çiftçi, N.Özlük, M.Sukan, A.Arslan, A. Yüksel,E. Ayyıldız, K. F. Ceyhan, M. Çetin, E. Söğüt, B. Toptaş, B. Zengin	TC Milli Eğt. Yay.
Tarih	Ortaöğretim Tarih 10	İ. Genç, V. Cazgır, Ş. Türedi, M. Çelik, C. Genç	TC Milli Eğt. Yay.
Coğrafya	Ortaöğretim Coğrafya 10	A. Gültepe, S. Kılıçaslan, Dr. N. Yenmez, B. Türoğlu, B. Atıcı, B. Fırat, D. Yıldırım, M. İşler, S. Zeytçioğlu	TC Milli Eğt. Yay.
Psikoloji	Psikoloji	Süriye Yaşar Öztürk	Düzgün Yay./ Ank.
İngilizce	Solutions Pre-Intermediate: Student's Book Pack	Paul A. Davies, Tim Falla	Oxford
	Solutions Pre-Intermediate: Workbook	Paul A. Davies, Tim Falla	Oxford
	Mastering YDS (İngilizce ağırlıklı ders seçecek öğrenciler için)	A.N. Aperen	Alfa Yay.
	The Ironing Man (İngilizce ağırlıklı ders seçecek öğrenciler için)	C. Campbell	CUP
Kıbrıs Türk Edebiyatı	Kıbrıs Türk Edebiyatı 2	O. Kabataş, M. Akyıl, F. Atamert, T. Sabancı, E. Gezer, C.O.Müezzin, N.A. Batkan, N. Parlan	KTEV Yay.
Kıbrıs Tarihi	Kıbrıs Türk Tarihi 10. Sınıf	M. Özyürek, M. Karamanoğlu, F. Özler, H. Selçuk, R. Taş, U. Beratlı,M. G. Gergin	M.E.G.S.B Yay.
Kıbrıs Coğrafyası	Kıbrıs Coğrafyası	S. İlseven, G. Hıdırel, A. Tümer	KTEV Yay.
Din Kültürü ve Ahlak Bilgisi (Seç)	Din Kültürü ve Ahlak Bilgisi 10	Dr.A. Akgül, A. Albayrak, A. Çatal, A. Kara, E. Özbay, Y. Yumak	TC Milli Eğt. Yay.
Sanat Tarihi (Seç)	Sanat Tarihi 1	E Ölmez, S. Uysal, N. Ceylan Yılmaz	TC Milli Eğt. Yay.
Almanca (Seçmeli)	Schritte International 1	Daniela Niebisch, Sylvette Penning-Hiemstra, Frans Specht, Monika Bovermann, Monika Leiman	Hueber
	Schritte International 2	Daniela Niebisch, Sylvette Penning-Hiemstra, Frans Specht, Monika Bovermann, Monika Leiman	Hueber
Fransızca (Seçmeli)	Taxi	Guy Capelle	Hachette