

Development of Instruments in Croatian National Assessment

Project MAT07/HR/9/3

DRAFT

PROGRESS REPORT 1

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Cito - Institute for Educational Measurement - The Netherlands
in cooperation with
Nacionalni Centar za Vanjsko Vrednovanje Obrazovanja
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1 Introduction

This progress report 1 relates to activities in the context of a project *Development of Instruments in Croatian National Assessment* in which the Dutch National Institute for Educational Measurement (Cito) is to carry out consultancy services for the Croatian National Centre for External Evaluation of Education (the “Centre”). The project is financed by the Dutch Government through its MATRA project, which is coordinated by the EVD, the agency for international business and cooperation. It is emphasized here that the project relates to the development of surveying instruments, and *not* to external examinations, although the development of the latter instruments may of course profit from the findings in the present project.

The main agreements arrived at during the inception meetings have been the following :

- The national assessment will focus on 2nd grade Gymnasium students.
- The two main subjects to be assessed will be Croatian Language and Maths.
- Specialists in related subject areas (minority languages, foreign languages and science subjects) will be involved in general workshops.
- Modern models of psychometric analysis, such as Item Response Theory (IRT) will be introduced by the side of further training in classical test and item theory.
- Cito will provide the Centre with programmes developed by Cito to carry out analyses as mentioned above, at no extra costs.
- Cito will provide special training on Public Relations: reporting to stakeholders.

José Noijons, Project Director

Erna Gille, Project Leader

1.1 Executive summary

In the reporting period 15 March – 30 June 2008 the following activities have taken place.

After the Inception meeting in January 2008 the activities in the Matra project *Development of Instruments in Croatian National Assessment* have commenced as defined in the Inception Report. The first activities focussed on the organisation of a kick-off conference on National Assessment in Croatia aimed at all stakeholders in this area. The conference (that was held on 15 April 2008) was quite a success and was attended by over 100 experts. These were invited to take part in workshops in the afternoon.

In the period 14 – 21 April various activities have taken place to prepare for a field trial in October 2008 and a Main Study in March 2009 of an educational survey (national assessment) of 2nd grade Gymnasium students in two subjects: Maths and Croatian Language. Both cognitive data (on student performance in these two subjects) and background data of these students and their scholastic context.

Since then there has been a continuous exchange of information in the following areas:

- Test design, sampling plans and data analysis;
- Domain description and item construction for Maths and Croatia Language;
- Questionnaire development for the collection of background data;
- Data management

- Reporting issues.

The project is progressing according to plan. During the next visit to Zagreb by the Cito consultants all materials developed will be reviewed and finalised for the field trial to be held in the course of October 2008. Cito consultants will visit Croatia again in November 2008 to help analyse the data gathered in the field trial.

2 Progress in Reporting Phase 1 (15 March 2008 – 30 June 2008)

In the following sections a brief overview is given of the most relevant activities that were carried out around the second consultancy visit from 13th– 21st April 2008. This visit was prepared for during the inception visit in February 2008.

The time schedule for the April consultancy meeting was as follows.

Monday 14 April:

Preparatory meeting with the Centre staff

Tuesday 15 April, morning

General kick-off meeting to be organised for all stakeholders, including members of the government, ministries, schools:

Tuesday 15 April, afternoon

Short meeting of four expert groups: Psychometricians, Croatian language, Maths, Background Questionnaires. Meeting with data management staff.

Wednesday 16 April

Workshops for expert groups and discussions among data management staff

Thursday 17 April, morning

Workshops for expert groups; delineation of ‘homework’ for the next meeting and discussions among data management staff.

Thursday 17 April, afternoon

Wrap-up with the Centre staff; planning the next meeting in September 2008.

Friday 18 April

Strategy Meetings with the Centre Directorate; reporting arrangements.

Saturday 19 April

Drafting reports

Sunday 20 April

Drafting reports

Monday 21 April

PAC meeting; feedback to the Centre staff

In the course of the months of May and June 2008 intensive email contacts and exchanges of materials have taken place between the Centre coordinator and Cito consultants. These contacts have resulted in the outputs that are discussed below

2.1 Progress

In the following sections an overview is given of the various activities and their results

2.1.1 Result 1

Description of the activity	Planned starting date	Planned completion date	Started on	Completed	In progress	Delayed
Seminar on all aspects of National Assessment (NA) for the Centre staff and all stakeholders	15-03-08	15-04-08	15-03-08	Yes 15-04-08	-	-

The Centre has taken great care to invite all stakeholders. The seminar was given some national publicity through the press. Over 100 participants took part in the seminar and their reactions have been very positive. Most relevant ministry agencies were represented even if the Ministry of Educational and Sciences itself was not. This was due to the fact that the Ministry is very busily engaged in a great many educational reforms with only a limited staff. It was expressed by the Ministry that the agencies were sufficient representation of the Ministry.

The seminar comprised the following presentations:

- Introduction by Goran Sirovatka, director of the Centre;
- Practical Issues by Jasmina Muraja, coordinator project of the Centre;
- Issues in National Assessment by José Noijons, project director Cito;
- Issues in Test Development by Erna Gille, project leader Cito;
- Issues in psychometrics by Frans Kleintjes, psychometrician Cito;
- Issues in Background data by Johanna Kordes, researcher background data Cito.

After the lunch the great majority of participants stayed on to take part in workshops organised by Cito staff.

Outputs

- PowerPoint presentations
- Training materials (workshops)

2.1.2 Result 2

Description of the activity	Planned starting date	Planned completion date	Started on	Completed	In progress	Delayed
Training in developing test designs	15-03-08	30-10-09	15-03-08	No	Yes	-
Training in developing sampling plans	15-03-08	30-10-09	15-03-08	No	Yes	-
Workshops in classical test theory and IRT	15-03-08	17-04-08	17-04-08	Yes 17-04-08	-	-

The purpose of the workshop meetings of the Croatian psychometrics group was to be informed about the basics of developing designs, sampling plans, Classical Test Theory and Item Response Theory. In addition, it was investigated how these could be applied for the National Assessment in year 2 of Gymnasium. For this purpose, the following topics were discussed:

- Development of a design;
- Evaluation of the Centre classical test analysis of pretest data of exams;
- Extension of classical test theory analysis;
- Introduction of TIAPLUS software;

- Need for Item Respond Theory;
- Introduction of Item Response Theory;
- Introduction of One Parameter Logistic Model and computer programme.

In the first part of the session, the Croatian group members gave an overview of the present practice concerning the analysis and reporting of the pretests of the various exams. The analysis was carried out using SPSS. The consultant was impressed by the state of affairs and way of reporting.

The analysis however was restricted to application an inference within the framework of Classical Test Theory. The consultant's impression was Croatian staff was quite familiar with Classical Test Theory. Croatian staff was aware that this theory is not suitable to describe the data gathered in a National Assessment and was therefore keen to be informed about Item Response Theory and its application in National Assessment.

The consultant gave a presentation about the need to develop a design assigning which set of items have to be administered by which students, and introduction of Item Response Theory.

The consultant gave a brief presentation on the graphical possibilities of the software program TIAPLUS using classical test theory. TIAPLUS is developed at Cito.

At the request of the group, the consultant gave a workshop running the software program TIAPLUS using classical test theory. The program was installed on a number of computers and Croatian staff ran their own analysis on a test data set. Staff wanted very much to apply TIAPLUS on data from the pretest of the exams. Data requirements were given by the consultant to the Croatian staff and it was agreed to do the analysis on Thursday morning when the data would be ready.

The item response theory *software*, the One Parameter logistic Model (OPLM) was installed on a number of computers. Hands-on sessions were started and soon all participants were able to run their first OPLM analyses. The consultant explored the output of the test dataset with the participants. In the afternoon, some basic formulas were presented and the relation with the output was clarified. The dataset pertained to full data matrices only. Incomplete designs have not been covered yet.

The development of the test design has now been started. Input from the content matter specialists is needed before a first draft can be made. The staff has been assigned homework, that is, they will try to prepare datasets for analysis with TIAPLUS and OPLM and will try to run the software. The consultant will advise on interpreting the output when ready.

Evaluation

The consultant was impressed by the Centre's know-how in the administration of exams and their way of reporting on the results of the field trials of the exams. The staff seems competent, eager and able to apply IRT on their data for National Assessment. In the time available only a beginning of using software and interpretation of results has been made on simple test sets. Many more sets have to be analysed and discussed to get a good understanding of the calibration process. Only a beginning has been made with the development of a design. Input from the content matter specialists is needed before a first draft can be made.

Outputs

- PowerPoint presentations
- Training materials
- Draft sampling plan
- Draft test design

2.1.3 Result 3

Description of the activity	Planned starting date	Planned completion date	Started on	Completed	In progress	Delayed
Maths item and test construction: assessment objectives, test grid, item writing	15-03-08	30-12-08	15-03-08	No	Yes	-
Croatian language item and test construction: assessment objectives, test grid, item writing	15-03-08	30-12-08	15-03-08	No	Yes	-

Mathematics

After the morning session of the conference *National Assessment in Croatia*, in the afternoon a session was held of Maths specialists together with item constructors for the sciences. During this session the Cito consultant gave a presentation on *Item construction in the National Assessment of Croatia*. After this presentation the Cito consultant gave a very short introduction to Item Response Theory (IRT). The response during the presentation was good. On many details questions were asked. In this way there was an excellent two-way communication. Participants acted really interested. Because some of the members of the Maths group also have to teach, the composition of the group varied from day to day. This did not give rise to major problems because the leader of the group was present all the time and she was able to update newcomers quickly.

The Cito consultant continued his introduction to IRT and he showed what a National Assessment report might look like. This gave the group an idea of what the final goal will be. A start was made with domain descriptions. It was decided that trigonometry will be included in the domains because it is taught in the months of November to January. In the months of January till end of March the topic of Exponents and Logarithms is also taught. It was decided that this topic will not be taken on board because it might be that the National Assessment will take place before the topic is fully covered in class.

School text books for 1st grade and the first half of 2nd grade were studied. The group looked for topics that belong to long learning lines. For this text books from primary schools were needed. Using these text books it was possible to finish the description of all the domains. It was decided to include an extra domain in order to be able to introduce the type of items used in the PISA surveys. The group wanted to see how well Croatian students would be able to apply mathematical skills in real life situations. In two years time the first group that has been taught some basic statistics will enter grade 2. This will provide an excellent opportunity to see how the introduction of this basic statistics in group 7 will improve the real life problem solving skills in 'Pisa' like items, as in these items there is usually quite some statistics involved.

In these first discussions a total of 13 domains was identified. The next step would be to group these domains. It was possible to distinguish 4 different groups. Some domains were felt to be large domains and others small domains. This indicates that in some domains there will be many types of questions while in others there are only a few. We discussed the size of the domains and came to the following overview:

Group	Domain name	Size
Basic Maths	Percentages and ratio	Average
	Mathematical literacy	Average
Algebra	Fractions	Average
	Powers and roots	Small
	Factorisation and brackets	Small
	Complex numbers	Small
Functions and Equations	Linear equations	Large
	Linear functions	Large
	Quadratic equations	Large
	Quadratic functions	Large
	Systems	Small
Geometry	Triangles	Large
	Areas	Small

Some topics were included in one of the domains already created. For example: inequalities was added to linear equations and quadratic equations. Some topics like ‘laws in circles’, ‘symmetry’ and ‘3D geometry distances’ were considered to be too small and they were not placed in an other domain. The reason for this is that the description of the domain would have to be broadened and this would damage the idea of well defined narrow domains.

The group then started to make calculations of the number of students needed in the field trial. For this calculation one needs to know the length of time that is available for students for this survey. Secondly it was needed to find out what number of items a student can do in this time. Thirdly it was necessary to think of how many items we would like to field-trial in each domain. After consulting the psychometricians it was decided that a minimum of 30 items per domain is needed in the Main Study. Because some drop-out is expected, 40 – 55 items need to be constructed per domain, depending on the size of the domain.

Evaluation

The Maths group is extremely motivated to work on the construction of items. They feel that this project might be able to make a difference in the contents of the curriculum. All members do want a change. This explains the positive attitude towards the project. The group has a good idea of the work coming ahead. Internal communication is good so that they keep each other updated.

During the consultancy meeting in April and in the preparations, construction work and the correspondence since then it has been realized that the number of students (ca 3000 or more) needed in the field trial with the original design might be too high. This means that compromises have to be found in which the ideal design that was created originally may have to be adapted.

Outputs

- PowerPoint presentations
- Training materials
- Draft domain selection

- Draft test items

Croatian Language

The purpose of the meetings of the Croatian language development group was to develop a test grid or test matrix for Croatian as national language for the National Assessment in year 2 of Gymnasium on the basis of which test items could be constructed. For this purpose the following topics were discussed:

- the present curriculum in Gymnasium grades 1 and 2;
- the test format used in the trial national assessments;
- the test format used in Matura;
- the difference between National Assessment (NA) and Matura in terms of item and test construction and in terms of testing objective;
- the principles behind the NA test design (simplified course in Item Response Theory);
- the teaching objectives of Croatian as national language at present and with a view to entering the EU;
- the testing objectives of Croatian as national language taking account of the present and future curriculum;
- the domains to be tested in NA;
- Item writing for NA;
- marking schemes;
- NA as an instrument to monitor the quality of the educational system and additionally as an instrument to realize educational innovation.

At the first session of the April consultancy session the Croatian group members gave an overview of the present testing practice, the domains tested, the item, test formats and marking schemes. The marking schemes used appeared to be in line with those required for NA. The Cito consultant gave a presentation on how start with educational objectives and arrive at a test grid or test matrix.

The Cito consultant then gave a presentation on the differences between test development for Matura and test development for National Assessment focusing on test design, IRT and the need for precise domain descriptions and writing items on the basis of this in the case of National Assessment.

The domains to be tested were defined by the group members. It was decided to only test reading and writing, not speaking and listening. It was agreed that the ability in these two skills would correlate highly with the ability in speaking and listening and that the latter two skills would pose too many practical problems and would be too costly.

The Cito consultant presented examples of test grids. The group went on to define the domains to be tested with the help of these example grids. It was decided that domains would include familiar sub domains, but also less familiar sub domains. Item formats were discussed as well.

The group have developed a draft proposal for a test grid, which since has been evaluated by the Cito subject consultant and the Cito psychometrician. The implications of this draft proposal have since been communicated to the Croatian group members and a new proposal has been made for the test design, the test grid and the number of items to be constructed. The design will comprise more traditional domains and items, and some new domains with corresponding items as used for example in the PISA surveys. The group is now constructing a sufficient number of items for the field trial in November. They will have finished this by the end of June.

The group emphasized that they were in favour of including VET schools in the NA. The curriculum of VET schools is very similar to that of Gymnasiums so domains would not be a problem. It was felt that including VET schools would be a great stimulus to them. However, the Director of the Centre has indicated that there would not be sufficient resources for this. Also, there would be problems relating to content: the curricula for Gymnasium and VET schools are different.

Evaluation

The Croatian coordinator has not worked at the Centre very long. However, she has been quick in establishing a fruitful working climate in the group. The construction group coordinator has helped very much in focusing the discussions. The group members were all very professional and very motivated to develop new instruments for the improvement of Croatian education. They all agreed that national language learning and testing should not only be about literature but also about the capacity to produce and understand everyday language. They have achieved a lot in a very short time. At the end of the meetings they still had some difficulty in realising what the different implications were of developing test items for NA instead of developing examination papers. The only threat to the development of items in the near future is the pressure of other work the group members have.

Outputs

- PowerPoint presentations
- Training materials
- Draft domain selection
- Draft test items

2.1.4 Result 4

Description of the activity	Planned starting date	Planned completion date	Started on	Completed	In progress	Delayed
Advice on drafting a long-term assessment plan and on reporting assessment results	15-03-08	30-09-09	15-03-08	No	Yes	-

The above activity is an on-going activity that is closely linked to the assessment plan as worked out for the present project period. It will depend very much on the success of the present project to what extent the planning of NA in the coming years can be copied from the plan developed for the present project. Essentially the short-term planning is as follows.

Phase 1	Identification of purpose, subjects tested, target groups, sampling
Phase 2	Development of test design, preparation of test materials
Phase 3	Field-trial, analysis of data, review of materials, preparations for Main Study
Phase 4	Main Study, analysis of data
Phase 5	Reporting to stakeholders

Depending on the success of the present project, the time plan that was followed and the resources that were needed, decisions can be made on a long-term assessment plan. However, preparations for such a long-term assessment plan have already commenced as is borne out by the present report.

As was expressed above, long-term assessment plans very much depend on available resources both in terms of human expertise and in financial means. The Centre's director thus expressed his interest in receiving expert advice on working out a general strategy for the institutional strengthening of the Centre.

The following areas of interest were distinguished:

- Assistance in the development of the Centre, including
 - development of a mission statement;
 - elaboration of organizational structure;
 - development of a Manual of Policies and Procedures;
- Development of a plan for reporting
Assist the Centre with the development of a plan for preparation and distribution of reports on the results of NA, including requirements for developing professional-level technical reports, approaches to development of reports and other materials for policy makers in the MoE and considerations for public reporting.
- Development of a communication strategy
In collaboration with the Centre develop a communications strategy to be implemented with mass media regarding the activities of the Centre.
- Coordination
Assist with coordination of Matura, sample-based assessment in OECD-PISA and other types of sample-based National Assessment.

It was agreed that during the planned October 2008 meeting these areas would be further addressed and that for the time being priority would be given to developing the instruments for the field trial of the NA.

Outputs

- Draft selection of areas for further study

2.1.5 Result 5

Description of the activity	Planned starting date	Planned completion date	Started on	Completed	In progress	Delayed
Training in the collection of background data; development of background questionnaires	15-03-08	30-12-08	15-03-08	No	Yes	-

The Croatian group of experts for this activity consists of three staff members of the Centre and two staff members of the institute for social research, of whom one is an expert in questionnaire development, but less so in the development of background questionnaires for NA. The other four members of the group do not have any experience in questionnaire construction. The questionnaires for the national exams were constructed outside the centre.

The Cito consultant first presented an introduction to questionnaire construction that built on the presentation at the seminar. Some more people attended, they are responsible for the questionnaires that were used for the national exams.

After this introduction there was a discussion on some examples of questions used for the national exams and the consultant pointed out how such questions can be improved. Unfortunately, the people who analyzed the data of these questionnaires were not present. They might have confirmed that it is difficult to draw conclusions on the results of ambiguous questions.

A start was then made with the construction of a draft questionnaire step-by-step. Where relevant, examples from the PISA background questionnaires were given. The most important message was that one always has to keep the aim of the national assessment in mind when constructing a questionnaire. Questions that do not help you to reach that aim (*nice to know* versus *need to know*) and questions that will not give you any information (all respondents are expected to give the same answer) should not be included. Other issues discussed have been:

- Always think of the respondents, their age, and other characteristics.
- What should the body of the questionnaire look like?
- How to divide the content in blocks with an introduction to each block?
- How long should the background questionnaire be?
- How to adapt duration of the background questionnaire with its purpose?
- How to plan the order of the background questionnaire items?
- The need to pay special attention on the subjectivity of the questions.
- The need to field-trial the background questionnaire in order to make it valid.

The participants were given an assignment to work out for themselves: Imagine that the data from the draft questionnaire have already been analyzed and write a report about the results. In this way the participants carried out a thought-experiment on the necessity of the questions in the questionnaire for national assessment and the conclusions they will be able to draw on the basis of them.

The draft questionnaire was revised on the basis of a discussion on the above assignment.

The Cito consultant has also advised on questionnaires that will be used in May 2008 for the national exams at the end of primary education. These questionnaires were again developed outside the centre, but it is important for the centre that the data gathered with these questionnaires will be useful. The main problem with these questionnaires was that too many questions were asked and that every question would be asked to the students, teachers and parents. Because these three groups of respondents differ in perspective and will interpret the questions differently, differences in answers between these groups will be difficult to interpret. A good way to reduce the number of questions is to choose which question you want to ask to which group of respondents.

A work plan has been developed for the activities in this area:

- Finish the construction of background questionnaires by the end of May.
- Get feedback from Cito on the background questionnaire by the beginning of June.
- Reconstruct the questionnaire considering the comments from the feedback.
- Organize cognitive labs with five 16-year-olds.
- Include the collected ideas in the background questionnaire by the 30 June.
- Get a feedback on the background questionnaire by the first half of July.
- Carry out the field trial in November.

Evaluation

The questionnaire group was very enthusiastic and they were fast learners. The assignment they carried out and the presentation that they gave to the other project members on their work have showed that they remembered the importance of keeping the respondents and the aim of the assessment in mind all the time.

It is important that the people who construct the background questionnaires keep in contact with the test designers for questions about the subjects (Maths and Croatian Language) and with the statisticians about the kinds of analyses needed.

The constructors should beware of the danger of questionnaires becoming too long, Constructors should avoid subjective questioning. People from the centre are very attracted to the idea of asking the same question to different kinds of respondents (students and teachers). This is rarely a good idea, because these respondents will have different perspectives in mind while answering the question.

Outputs

- PowerPoint presentations
- Training materials
- Draft questionnaires

2.1.6 Result 6

Description of the activity	Planned starting date	Planned completion date	Started on	Completed	In progress	Delayed
Exchange of experiences in the logistics of data collection, in issues of data storage, in security issues, in candidate and paper coding, in scanning and other areas.	15-03-08	30-12-08	15-03-08	No	Yes	-

During a number of meetings the Cito consultant has discussed issues related to information management with the director of the Centre and with two members of staff who have been involved in various aspects of information management, such as data collection and data storage. As the Centre has a relatively small number of staff in view of the many tasks it has, the Centre has very sensibly outsourced a number of activities to well-qualified institutions in Croatia. In doing so the Centre has not needed to procure costly equipment that would also need extra staff to service. Examples of such outsourcing have been the use of the data management of the National Library and the analysis of data by the National Statistics Bureau.

It is clear though that the Centre needs to control these activities so as to be sure that the (results of) tests and surveys it produces are valid and reliable. For this a data management plan is now being developed. A central place in this process has been reserved for the item bank that will contain all the data that relate to the testing instruments that the Centre has developed and will develop. It has been felt that the present project has started at a very useful time, now that the first specifications of this items bank have just been drafted. The Cito consultant has been asked to advise on this draft when it has been translated into English.

The Cito consultant has been informed by the Centre's staff on all issues it is facing in carrying out its manifold tasks. The Cito consultant in his turn has broached the following issues relating to data collection.

- Formulation of information needs: what are the aims of (specific) data collection;
- Information sources: what relevant sources can be used;
- Information structure: how to arrive at simple, transparent systems of collection, storage and retrieval;
- Information principles: what are guidelines of good practice;
- Technical structure: designs of how data management is to be processed technically;
- Realization: examples have been presented of successful data management structures.

Evaluation

The Cito consultant has been impressed by the rational way in which the Centre has addressed some serious issues in data management. More concrete feedback can be given when the specifications of the item bank have been translated into English.

Outputs

- PowerPoint presentation

2.1.7 Result 7

Description of the activity	Planned starting date	Planned completion date	Started on	Completed	In progress	Delayed
Exchange of experiences in technical aspects of reporting. Exchanging formats of reports, brochures and other illustrative materials. Exchange of samples of website development.	15-03-08	30-09-09	15-03-08	No	Yes	-

The activities in this area clearly link up with all other activities in the project, as communication and reporting are the very essence of the project. In fact the production of the reports like the present progress report forms part of this process. There has been a continuous exchange of e-mail messages between the Centre's coordinator and the Cito staff member responsible for the coordination of this activity. The draft version of the present report as prepared by Cito has been sent to the Centre from comments both from a content and a communicative point of view.

It was decided to further explore this activity during the October 2008 visit, in close connection with activity/result nr 5, as described above. Various formats of reporting to stakeholders will then be discussed and an evaluation of the present website of the Centre will be made. Also, comparisons with the Cito public website will be made.

Outputs

- Reports
- Exchange of publicity materials

2.2. Resource Allocation

2.2.1 Result 1

Name Consultant	Days spent in NL	Days spent abroad
José Noijons	1	2
Erna Gille	1	2
Johanna Kordes	1	2
Paul van der Molen	1	2
Frans Kleintjes	1	1
Marius Ouburg	1	2
Jacqueline van Hagen	1	2

2.2.2 Result 2

Name Consultant	Days spent in NL	Days spent abroad
Frans Kleintjes	1	4

2.2.3 Result 3

Name Consultant	Days spent in NL	Days spent abroad
Paul van der Molen	1,5	4
Erna Gille	1,5	4

2.2.4 Result 4

Name Consultant	Days spent in NL	Days spent abroad
José Noijons	3,5	4

2.2.5 Result 5

Name Consultant	Days spent in NL	Days spent abroad
Johanna Kordes	1,5	4

2.2.6 Result 6

Name Consultant	Days spent in NL	Days spent abroad
Marius Ouburg	2	4

2.2.7 Result 7

Name Consultant	Days spent in NL	Days spent abroad
Jacqueline van Hagen	2,5	-

3 Implementation Issues

3.1 General Implementation Issues

In general terms, the project has progressed as had been planned during the inception meeting. The main issue may have been that the Centre has a small staff that has to carry out this project by the side of a great many of other regular activities assigned to the Centre.

Another issue has been the nature of NA. Until recently the Centre's staff regarded NA as a type of examination, possibly as a preparation for Matura. It has taken some time for project members to realize that in NA new types of content and tasks can be developed even if these do not form part of the curriculum.

3.2 Specific Issues per Project Result

Especially in the area of the development of tasks for both Maths and Croatian Language and in the development questionnaires there have been issues that needed some further discussion before they could be resolved.

Result 3

In the case of the development of materials for Maths, originally the ambitions of the Maths group have been such that a rather large number of domains would be tested. It was realized that this would need very large numbers of items and large numbers of students in the field trial. As the Centre has a small staff it was found to be unrealistic to opt for the large numbers. It was therefore decided to size down these numbers, without a threat to the validity of the study.

In the case of the development of items for the Croatian Language, there have been extensive exchanges of opinions to find the right mix between tasks on content that students are now being taught and newer content that would link up with what is being taught in many parts of the EU and is being tested in such international surveys as PIRLS and PISA.

Result 5

The group responsible for the development of questionnaires needed to be given some more study and training materials to help them in the development for questionnaires. Until the project started little expertise had been applied in the development of questionnaires. Cito is confident that with this help of these extra background materials the development of the questionnaires will be carried out successfully.

3.3 Change Requests

No request for changes as to the aims of the project and the planned timelines has been made.

4 Plans for the Next Reporting Period

3.1 Detailed work plan

In the following sections we will break down the general outline of the second and third visit (interventions 3A and 3B) into activities to be conducted. The number between brackets [] refer to the overall project results:

1. Capacity of the NCEEE is strengthened with regard to methods, strategic and implementation aspects of National Assessments
2. Capacity of the expert groups is strengthened, to enable them to develop adequate test materials for National Assessments.
3. A future strategy is developed for the implementation of National Assessments, including recommendations for improvement. Methods of standard setting are described.

Intervention 3A (September 2008)

3.1.1 Result 1

Activity
Workshops are given in:
<ul style="list-style-type: none">• classical test theory and IRT• analyses of assessment data• data management
Feedback is given on sampling plans and background questionnaires [1, 2]

3.1.2 Result 2

Activity
Reviewing and finalising the pre-test (field trial) instruments [2]

3.1.3 Result 3

Activity
Feedback on draft long term assessment plan and on reporting plans [3]

Intervention 3B (October 2008)

3.1.4 Result 4

Activity
Further hands-on training in IRT and OPLM analysis [1, 2]

3.1.5 Result 5

Activity
Data analysis and data interpretation NA field trial [1, 2]

3.1.6 Result 6

Activity
Reporting to PAC meeting

3.1.7 Result 7

Activity
Monitoring project progress [1, 2, 3]

3.2 Human Resources Allocation

Intervention 3A (September 2008)

3.2.1 Result 1

Activity	Name Consultant	Number of days
Workshops are given in: <ul style="list-style-type: none"> • classical test theory and IRT • analyses of assessment data • data management Feedback is given on sampling plans and background questionnaires	José Noijons	3
	Frans Kleintjes	6

3.2.2 Result 2

Activity	Name Consultant	Number of days
Reviewing and finalising the pre-test (field trial) instruments	Frans Kleintjes	6
	Erna Gille	8
	Paul van der Molen	9

3.2.3 Result 3

Activity	Name Consultant	Number of days
Feedback on draft long term assessment plan and on reporting plans	José Noijons Jacqueline van Hagen	5 5

3.2.4 Result 4

Activity	Name Consultant	Number of days
Further hands-on training in IRT and OPLM analysis	Frans Kleintjes	5

Intervention 3B (October 2008)

3.2.5 Result 5

Activity	Name Consultant	Number of days
Data analysis and data interpretation NA field trial	Frans Kleintjes José Noijons	4 4

3.2.6 Result 6

Activity	Name Consultant	Number of days
Reporting to PAC meeting	José Noijons	1

3.2.7 Result 7

Activity	Name Consultant	Number of days
Monitoring project progress	José Noijons	3
	Jacqueline van Hagen	2

Annex

A1 Logical Framework

No changes have been made since the inception period. For the sake of clarity the unchanged logical framework has been included in this report nevertheless.

LOGFRAME PLANNING MATRIX FOR PROJECT: MAT07/HR/9/3 Development of Instruments in Croatian National Assessment			
Project duration: 01-01-2008 to 30-09-2009		March 2008	Total budget: EUR 266.429,00
Overall Objective	Objectively Verifiable Indicators	Means of Verification	Assumptions and risks
To contribute to the ascension of Croatia to the European Union, by reaching better insight in the progress and improvement of the Croatian education system as a whole, against benchmarks established by the national curriculum and against other (European) countries.	The Croatian National Centre for External Evaluation of Education (the Centre) reporting on recommendations on how to improve the Croatian education in the specific areas that have been tested and with scenarios how to assess other areas in education. Policy makers having commented on project results. Attention in the media for the project. Cooperation with other regional assessment centres, notably those in EU states, such as Slovenia and Hungary.	Documents in which the the Centre reports on National Assessment (NA) having been carried out successfully. Reports on surveys being published.	It is assumed that the the Centre has sufficient capacity and funds to carry out the Field Trial and the Main Study . There seems to be little risk involved in this as the present Croatian Government is eager to have NA carried out. The the Centre has shown to be capable of doing this.
Project Purpose	Objectively Verifiable Indicators	Means of Verification	Assumptions and risks
To strengthen the (the Centre), to enable it to implement the external assessment system in Croatia.	the Centre having developed a master plan to carry out new National Assessment surveys and to periodically repeat surveys.	Scenarios detailing National Assessment activities. Checklists detailing all steps in the NA process. Quality assurance procedures outlined.	See above

Project Results	Objectively Verifiable Indicators	Means of Verification	Assumptions and risks
1. Capacity building of the Centre staff	The capacity of the the Centre is strengthened with regard to methods, strategic and implementation aspects of National Assessments. This is shown through their active role in the educational process.	Through reports the the Centre has shown that it is capable of carrying out large scale NA surveys making use of state-of-the-art techniques of analysis.	See above
2. Capacity of the expert groups	Capacity of the expert groups is strengthened, to enable them to develop adequate test materials for National Assessments. This is shown through their active participation in working groups, their production of testing materials, the carrying out of surveys and the reporting on results.	The the Centre has developed data bases with items that through trialling have been shown to be able test objectively and validly. the Centre has published reports on NA and has organised meetings and conferences to report on NA results.	See above
3. A future strategy for the implementation of exams (national assessment)	A future strategy is developed for the implementation of National Assessments, including recommendations for improvement of present NA surveys and periodic repetition of surveys. The cooperation with other (EU) assessment centres in the region is outlined and possibly implemented.	A document has been published in which a future strategy is developed for the implementation of National Assessments. Meetings with other (EU) assessment centres in the region have been attended and/or organised.	See above

Activities	Description of activities <i>Numbers between brackets [] refer to project results</i>	Input (human resources + total man days)	Means of Verification <i>Please note that in each project report the means of verification will be specified in more detail, as has been done for intervention 2A/B in section 3.1</i>	Assumptions and risks
Intervention 1 Activity 0	Inception meeting & reporting [1, 2, 3]	José Noijons – 8 days Erna Gille – 8 days Jacqueline van Hagen – 2	Inception Report	None
Intervention 2A Activity 1.1, 2.1, 3.1	Seminar on all aspects of National Assessments (NA) for the Centre staff and all stakeholders [1, 2, 3]	José Noijons – 2 days Erna Gille – 2 days Johanna Kordes - 2 days Paul van der Molen – 2 days Frans Kleintjes – 1 day Bas Hemker – 1 day Marius Ouburg – 2 days Jacqueline van Hagen – 1 days	See section 3.1	It is assumed that policy makers, politicians and the national press will attend. There is a small risk that the Government representative will not be able to attend at the last minute.
Intervention 2B Activity 1.2 , 2.2, 3.2	1 Training in developing test designs, workshops in classical test theory and IRT, training in developing sampling plans and in collection of background data; [1, 2] 2 Croatian language item and test construction; [2] (assessment objectives, test grid, item writing) ;maths item and test construction (assessment objectives, test grid, item writing). [2] 3 Advice on drafting a long-term assessment plan and on reporting assessment results [3]	José Noijons – 10 days Erna Gille – 6 days Johanna Kordes – 7 days Paul van der Molen – 7 days Frans Kleintjes – 8 days Bas Hemker – 2 days Marius Ouburg – 7 days Jacqueline van Hagen – 4 days	See section 3.1	It is assumed that all the Centre staff will be available for training. There is a risk that some intended participants will have other business to attend to.
Intervention 3A	1 Workshops in classical test	José Noijons – 8 days	Reports on workshops,	It is assumed that relevant the

Activities	Description of activities <i>Numbers between brackets [] refer to project results</i>	Input (human resources + total man days)	Means of Verification <i>Please note that in each project report the means of verification will be specified in more detail, as has been done for intervention 2A/B in section 3.1</i>	Assumptions and risks
Activity 1.3, 2.3, 3.3	theory and IRT, and in analyses of assessment data, feedback on sampling plans and background questionnaires and workshop on data management. [1, 2] 2 Reviewing and finalising the pre-test (field trial) instruments [2] 3 Feedback on draft long term assessment plan and on reporting plans [3]	Erna Gille – 8 days Paul van der Molen – 9 days Frans Kleintjes – 3 days Bas Hemker – 9 days Jacqueline van Hagen – 5 days	presentations. Measuring instruments developed (materials are confidential). First draft of long term assessment plan.	Centre staff will be available for training. There is a risk that some intended participants will have other business to attend to.
Intervention 3B Activity 1.3, 2.3, 3.3	1 Further hands-on training in IRT and OPLM analysis [1, 2] 2 Data analysis and data interpretation NA field trial [1, 2] 3 Reporting to PAC meeting 4 Monitoring project progress [1, 2, 3]	José Noijons – 8 days Frans Kleintjes – 9 days Jacqueline van Hagen – 2 days	Training materials handed out. Two computer programs for item analysis made available to the Centre. Report prepared for PAC. Monitoring report.	It is assumed that relevant the Centre staff will be available for training. There is a risk that some intended participants will have other business to attend to. It is assumed that the the Centre has sufficient capacity and funds to carry out the Field Trial. There seems to be little risk involved in this as the present Croatian Government is eager to have NA carried out. The the Centre has shown to be capable of doing this.
Intervention 4	1 Feedback on data	José Noijons – 8 days	Training materials handed out.	It is assumed that the the

Activities	Description of activities <i>Numbers between brackets [] refer to project results</i>	Input (human resources + total man days)	Means of Verification <i>Please note that in each project report the means of verification will be specified in more detail, as has been done for intervention 2A/B in section 3.1</i>	Assumptions and risks
Activity 1.4, 2.4, 3.4	processing, data cleaning and on the analyses of the NA field trial results, and advice on the NA main study design [1, 2] 2. Workshop on interpreting assessment data and evaluating test items [2] 3 Feedback on draft long term assessment plan and on reporting plans [3]	Erna Gille – 8 days Paul van der Molen – 8 days Bas Hemker – 8 days Jacqueline van Hagen – 5 days	Item analysis produced by and made available to the Centre.	Centre has sufficient capacity and funds to carry out the Field Trial. There seems to be little risk involved in this.
Intervention 5A Activity 1.5, 2.5, 3.5	1 Feedback on the analyses of the Main Study results and on the background questionnaire indices and advice on report writing [1, 2] 2 Feedback on test and item analyses and on standards and advice on report writing [2] 3 Feedback on draft long term assessment plan and on reporting plans and advice on report writing [3]	José Noijons – 8 days Erna Gille – 8 days Johanna Kordes – 8 days Paul van der Molen – 8 days Bas Hemker – 8 days Jacqueline van Hagen – 5 days	First survey results available: performance data of students and background data collected.	It is assumed that the the Centre has sufficient capacity and funds to carry out the Main Study. There seems to be little risk involved in this.
Intervention 5B Activity 1.5, 2.5, 3.5	1 Reporting to PAC meeting 2 Monitoring project progress [1, 2, 3]	José Noijons – 8 days Frans Kleintjes – 8 days Jacqueline van Hagen – 2 days	Report prepared for PAC. Monitoring report.	See above
Intervention 6A Activity 1.6, 2.6, 3.6	Advice on report writing and presentation of the project results in a seminar for all stakeholders [1, 2, 3]. Final conference [1,3]	José Noijons – 11 days Erna Gille – 8 days Jacqueline van Hagen – 5 days	Report on results of NA. Report on seminar with results of NA	See above

Activities	Description of activities <i>Numbers between brackets [] refer to project results</i>	Input (human resources + total man days)	Means of Verification <i>Please note that in each project report the means of verification will be specified in more detail, as has been done for intervention 2A/B in section 3.1</i>	Assumptions and risks
Intervention 6B Activity 1.6, 2.6, 3.6	1 Reporting to PAC meeting 2 Outlining further and new activities [1, 2, 3]	José Noijons – 6 days	Report prepared for PAC. Monitoring report.	See above

A2 Budget Realization

A3 Updated Biannual Invoicing Scheme

