

Final Report Form

Part 1. Data

Project: **EU ISE 226382-CP-1SK-Comenius–C2**

Interim report of: **Nicolaus Copernicus University, Torun, Poland**

Period: **1.10.2005 – 30.09.2008**

Part 2. Qualitative evaluation

2.1. + Overview of project activities and results

Period	Activities
10-12.10.2005 15-16.10.2005 18.10.2005 21-22.10.2005	<ul style="list-style-type: none">▪ Preparation of project documentation (Project Agreement between Co-ordinator and Rector of Nicolaus Copernicus University (NCU) in Torun, the approved budget and <i>The first phase of Work plan</i>).▪ Preparation of the information on the Project for the office for the International Projects of NCU implemented in Polish <i>“Kompendium Europejskich Projektów Współpracy Comenius 2.1”, strona 74, Socrates Compendium 2001-2005 Comenius Action 2.1 – Training of School Educational Staff, page 74.</i>▪ Preparation of the proposal of demand purchases.▪ Renewal of teachers network data base, created in the previous Polish Project on the use of ICT in Science Mini-lab.
7-10.11.2005 12-15.11.2005 18.11.2005 24-25.11.2005 26,28-30.11.2005	<ul style="list-style-type: none">▪ Acknowledgement with the Moodle platform, preparation for taking virtual communication sessions.▪ Taking a part in the instruction meetings and in the first virtual communication meetings with the co-ordinator and other Partners of the Project.▪ Planning and preparation the organization of the first Torun group meeting.▪ The first attempts to design the questionnaire: <i>“Making the use of ICT in science teaching”</i>.▪ Writing the paper on: <i>“Educational Computer Aided Science Laboratory”</i> published in Polish Journal <i>“Science Education”</i> Vol. 15, pp. 40-48.

<p>9,16.12.2005</p> <p>17.12.2005</p> <p>17.12.2005</p> <p>17.12.2005</p> <p>17,19-20.12.2005</p> <p>21.12.2005</p>	<ul style="list-style-type: none"> ▪ Organization of the first Torun group meeting of science teachers (17.12.2005). ▪ Information on the expected products, other results and outcomes within the Project. ▪ Presentation of the best achievements of Torun group teachers and Physics Education Laboratory (PEL) employees (see attached minutes from the meeting of 17.12.2005). ▪ Establishing the working groups of teachers: physics, chemistry and biology and selecting their supervisors. ▪ Finding a good and bad teacher examples of ICT application in science education. ▪ Writing the minutes from the teachers meeting of 17.12.2005 in Polish and translating it into English.
<p>13, 19-20.01.2006</p> <p>21.01.2006</p> <p>21.01.2006</p> <p>21.01.2006</p> <p>21.01.2006</p> <p>24.01.2006</p> <p>25-27.01.2006</p>	<ul style="list-style-type: none"> ▪ Arranging and executing of the second Torun group meeting – workshop (21.01.2006). ▪ Presentation of the selected good examples from school practice and recommendation to send them for the evaluation by the General Polish Committee within the Competition on: <i>“Application of Computer in Science Teaching”</i>. ▪ Presentation of the PEL questionnaire on: <i>“Planning and structure of lessons with the use of multimedia”</i>. ▪ Introduction to modeling of science phenomena and processes based on Modellus 2.5 Package. ▪ The use of Interactive Video method in science education – examples from mechanics and thermodynamics. ▪ Writing the minutes from the teachers meeting of 21.01. 2006 in Polish and translating it into English. ▪ Writing the paper on: <i>“Monitoring of germination and fermentation processes by the use of ICT”, published in Polish Journal “Science Education” Vol. 16, pp. 15-17.</i>
<p>4, 23-24.02.2006</p> <p>25.02.2006</p> <p>25.02.2006</p> <p>25.02.2006</p> <p>27.02.2006</p>	<ul style="list-style-type: none"> ▪ Preparing the organization and execution of the third Torun group meeting (25.02.2006). ▪ Presentation of teacher’ papers accepted by the Committee of the General Polish Competition on: <i>Application of Computer in Science Teaching</i> (15 minutes/teacher) and discussion. ▪ Discussion on recording of the video films documenting science lessons with the use of methods and tools of ICT. ▪ Collection of remarks (proposition of changes) related with the new version of questionnaire on: <i>“Making the use of ICT in science teaching”</i>. ▪ Writing the minutes from the teachers meeting of 25.02.2006 in Polish and translating it into English.
<p>8-10,15-17.03.2006</p> <p>11,18.03.2006</p> <p>6-24.03.2006</p> <p>27-29.03.2006</p>	<ul style="list-style-type: none"> ▪ Recording and preparing the documentation (scenarios) of two science lessons: physics – <i>“Mass and Weight”</i>, biology – <i>“Photosynthesis”</i> by the use of video camera. ▪ Translating the films documentation (scenarios and commentary) into English. ▪ Elaboration of the materials consisting the most valuable examples of application of ICT in science teaching (the first version of textbook on <i>“Examples of the use of ICT in science education”</i>, Ed. PEL, Torun 2006, 127 pages). ▪ Designing of the internal WWW page concerned with Torun Partner activities: <i>“Torun ICT Mini-lab”</i>.

<p>1,3.04.2006</p> <p>7.04.2006</p> <p>5,7,14,21,28.04.2006</p>	<ul style="list-style-type: none"> ▪ Preparing of final English version of the questionnaire for teachers “Making the use of ICT in science teaching”. ▪ Translation of the English version of the above questionnaire into Polish. ▪ Consultations of PEL group members with teachers, which are using ICT in science education.
<p>1-3.05.2006</p> <p>12,18-19.05.2006</p> <p>20.05.2006</p> <p>20.05.2006</p> <p>24.05.2006</p>	<ul style="list-style-type: none"> ▪ Establishing of the dynamic Web Page with the questionnaire investigation results in English and in Polish. ▪ Planning, preparation and organization of the forth Torun group meeting (20.05.2006). ▪ Showing the video film from the one full lesson (45 min) presenting school practice with the use of ICT in the physics lesson on: “Mass and Weight” and discussion. ▪ Presentation of WWW page with the international questionnaire: “Making the use of ICT in science teaching”. ▪ Writing the minutes from the teachers meeting of 20.05. 2006 in Polish and translating it into English.
<p>10.06.2006</p> <p>1,8-9.06.2006</p> <p>10.06.2006</p> <p>10.06.2006</p> <p>10.06.2006</p> <p>10.06.2006</p> <p>12.06.2006</p> <p>13-20.06.2006</p> <p>14-15.06.2006</p>	<ul style="list-style-type: none"> ▪ Purchase of the software licenses for Physics Computer Laboratory. ▪ Organization of the fifth Torun group meeting (10.06.2006). ▪ Further presentation of teacher activity results, which have been sent to the Committee of the General Polish Competition on: <i>Application of Computer in Science Teaching</i>. ▪ Presentation of the second video film showing school biology lesson on: “Respiration and photosynthesis of plants” and discussion. ▪ Short presentation of the international questionnaire results – Polish data. ▪ Advertisement of the General Polish Competition on: “<i>Application of Computer in Science Teaching</i>” results. Teacher questions and discussion. ▪ Writing the minutes from the teachers meeting of 10.06.2006 in Polish and translating it into English. ▪ Preparation the Power Point presentation showing the results of Torun Partner at the International Project Seminar in Bratislava (17-20.06.2006). ▪ Rendering of two exemplary films from ICT aided school lessons for presentation at the above Seminar (attached).
<p>4-5.07.2006</p> <p>12-15, 20-21.07.2006</p> <p>18-25.08.2006</p>	<ul style="list-style-type: none"> ▪ Completing the project documentation related to the Personnel costs. ▪ Planning, designing and preparing WWW page of Project management (logo, main page and further structure) in English. ▪ Literature studies on “<i>ICT application in science teaching</i>”

<p>5-8.09.2006 4-5,12-13.09.2006</p> <p>5-8.09.2006</p> <p>6-7,10.09.2006</p> <p>10.09.2006</p> <p>18.09.2006</p>	<ul style="list-style-type: none"> ▪ Purchase of the planned equipment. ▪ Preparing the abstract of paper <i>"Multimedia applications discussed by network of science teachers"</i> (MPTL 11, Book of Abstracts, p. 6) and Power Point presentation showing the results of Torun Partner at the International Conference MPTL 11 in Szeged (19-23.09.2006) – attached. ▪ Organization of the General workshop for teachers at the 13th Meeting of Polish Association of Science Teachers (PAofST) in Warsaw (9-10.09.2006). ▪ Elaboration of Power Point presentation of Torun group activities within EU ISE Project and display it at the above PAofST Conference on: <i>"How ICT can be used in science education?"</i> (attached). ▪ Extension of the science teacher network working on ICT application in science education for whole Poland (see attached list). ▪ Writing a short description in English of the workshop session, which was taken place at the PAofST in Warsaw (attached).
<p>5-6.10 2006</p> <p>14.10 2006</p> <p>27.10 2006</p> <p>30-31.10 2006</p>	<ul style="list-style-type: none"> ▪ Preparing the schedule of the first meeting of Torun group teachers in the new school year 2006/2007. ▪ Supervising the completion of the Polish questionnaire data by the Postgraduate Studies on Physics and Application of Computers at NCU Torun (collecting 97 answers all together). ▪ Purchase of planned equipment and completing the finance documents. ▪ Writing the Internal Progress Report.
<p>(11 – 12. 11 2006)</p> <p>06-09.11.2006</p> <p>10.11.2006</p> <p>9-10.11.2006</p> <p>10-15.11.2006</p> <p>14.11.2006</p> <p>20-27.11.2006</p> <p>4-23.12 2006</p>	<ul style="list-style-type: none"> ▪ Preparing and organising of the 6th science teachers' network meeting in Torun (10.11.2006), writing the minutes. ▪ Information on <i>The second phase of the Project Work plan</i> and discussion with teachers ▪ Report on the activities at the of Torun Partner at the General workshop for teachers at the 13th Meeting of Polish Association of Science Teachers (PAofST) in Warsaw (9-10.09.2006), and at the International Conference MPTL 11 in Szeged (19-23.09.2006). The ppt presentations on these activities are placed at http://www.fizyka.umk.pl/~pdf/EU_ISE ▪ Presentation of the Polish results of the questionnaire on <i>"Action towards the use of ICT in science education"</i> collected so far, adjusting this questionnaire to the Polish requirements and encouragement of teachers for promotion to make these questionnaire studies also among other colleagues at schools.. ▪ Renewal of teachers network data base for the activities planned in 2006/2007. ▪ Elaboration of the Local Working Plan of <i>the Second phase</i> of the Project. ▪ Collection of data by the use of the dynamic Web Page with the questionnaire investigations in Polish and in English.

2007

01-02.2007	
8.01-3.02.2007	
31.01-03.02.2007	<ul style="list-style-type: none"> ▪ Further collection of data by the use of the dynamic Web Page with the questionnaire investigations ▪ Planning and preparing of the 7th Torun group meeting (03.02.2007). <i>(Remark: at this meeting some more participants were taking part – there were students of the Postgraduate Studies of Physics and Applied Informatics).</i>
03.02.2007	<ul style="list-style-type: none"> ▪ Preparing the teacher plan activities, based on the teacher ideas for 2007
03.02.2007	<ul style="list-style-type: none"> ▪ Promotion of some selected multimedia materials available at the web pages of MPTL Conferences as for example “Electricity and Magnetism” at the page http://titan.physx.u-szeged.hu/~mptl11
03.02.2007	<ul style="list-style-type: none"> ▪ Initiation of the discussion on the Open Source Physics resources for science elaborated by Wolfgang Christian http://www.opensourcephysics.org
03.02.2007	<ul style="list-style-type: none"> ▪ Selecting 3 subject working group of teachers (biology, chemistry and physics) among the members of our network.
03.02.2007	<ul style="list-style-type: none"> ▪ Preparing the purchases plan based on teacher requirements for 2007
5-6.02.2007	<ul style="list-style-type: none"> ▪ Writing minutes from the teachers meeting of 03.02.2007 in Polish and translating into English
19.02.2007	<ul style="list-style-type: none"> ▪ Presenting MBL experiments to about 1200 school students on behalf of 534 Anniversary of the Nicolaus Copernicus birthday.
13-27.02.2007	<ul style="list-style-type: none"> ▪ Consultation sessions with teachers on the ideas concerned with the use of ICT at their school lessons.
03-04.2007	
05.03-08.03.2007	<ul style="list-style-type: none"> ▪ Updating and management of the WWW page of Project http://www.fizyka.umk.pl/~pdf/EU_ISE, Implementing the <i>interesting papers</i> of Torun group at our web page.
08.03.2007	<ul style="list-style-type: none"> ▪ Organization of the 8th science teachers’ network meeting in Torun (30.03.2007).
30.03.2007	<ul style="list-style-type: none"> ▪ Presentation of teacher collaborating group results on different science topics, for example: computer aided investigation of sound velocity in air with the use of resonance method and experiments concerned with the measurement of stretching force acting on suspending pulley and discussion.
30.03.2007	<ul style="list-style-type: none"> ▪ Advertisement of the information on the Postgraduate Course on Physics Teaching as the second subject which consists 400 h of studies, including 90 h of physics education, 15 h of lectures with demonstrations on ICT in Physics education and 30 h of MBL experiments run by the Physics Education Group members.
30.03.2007	<ul style="list-style-type: none"> ▪ Information on the International SOCRATES IP TFPC Seminar, which will be held in Torun on 23.04-12.05.2007 and the related materials on ICT use in science education were placed at: http://www.fizyka.umk.pl/~scimath
03-04.04.2007	<ul style="list-style-type: none"> ▪ Writing the minutes from the teachers’ meeting of 30.03.2007 in Polish and translating into English.
23.04.2007	<ul style="list-style-type: none"> ▪ Presenting lecture with demonstrations on: “The use of ICT in radioactivity teaching” during international Socrates Erasmus seminar for future 52 science teachers.
11-25.04.2007	<ul style="list-style-type: none"> ▪ Discussion on the teacher difficulties with ICT applications at school level using Internet

<p>05-06.2007</p> <p>7-10.05.2007</p> <p>15-29.05.2007</p> <p>4-18.06.2007</p> <p>15-23.06.2007</p> <p>18-19.06.2007</p> <p>19-28.06.2007</p>	<ul style="list-style-type: none"> ▪ Preparing abstract of the GIREP'2007 Conference presentation on: <i>"For what, when and how ICT should be used in physics teaching?"</i> ▪ The use of interactive video method in science education – examples from physics of sport (preparation and session). ▪ Writing the paper on: "How to use digital camera in science education" and publishing in <i>Polish Journal "Science Teaching" Vol. 22, No 1 p. 41 and No 2, p. 45.</i> ▪ Designing and executing of the two new MBL science experiments: <i>Whether "field hopper" respire? and " Whether water will keep us healthy?</i> ▪ Updating the contents of our WWW page. ▪ Designing the modelling application: <i>"Mars - the planet of mystery"</i>.
<p>07-08.2007</p> <p>9-12.07.2007</p> <p>13.07.2007</p> <p>14-15.07.2007</p> <p>16-20.07.2007</p> <p>23-31.07.2007</p> <p>20-25.08.2007</p> <p>27-31.08.2007</p>	<ul style="list-style-type: none"> ▪ Preparing and organising of the Torun Physics Education Laboratory PEL group meeting (13.07.2007). ▪ Information on possibility for science teachers to take a part in special workshop session on 12 September, satellite to the Multimedia Physics Teaching and Learning MPTL 12 Seminar in Wroclaw. ▪ Writing the minutes from the PEL meeting of 13.07.2007 in Polish and translating into English. ▪ Preparing the abstract of the paper on: <i>"Multimedia versus MBL methods and tools in science education"</i> for presentation at MPTL 12 Seminar in Wroclaw. ▪ Designing and elaborating the poster for GIREP'2007 presentation ▪ Planning activities of tutors and teachers during the workshop at the General Polish Association of Science Teaching (PAofST) Meeting in September 2007. ▪ Presenting the poster on: <i>"For what, when and how ICT should be used in physics teaching?"</i> at GIREP Conference on 27-31.08.2007.

<p>09-10.2007</p> <p>08.09.2007</p> <p>08.09.2007</p> <p>08-09.09.2007</p> <p>14.09.2007 15.09.2007</p> <p>21.09.2007</p> <p>25.09-12.10.2007</p> <p>5-15.10.2007</p> <p>5-25.10.2007 10-12.10.2007</p> <p>18-25.10.2007</p> <p>25-28.10.2007</p>	<ul style="list-style-type: none"> ▪ Supervising the session on: <i>“Digital photography for science teaching”</i>. ▪ Promoting the sessions on: <i>“The use of the interactive whiteboards in teaching of chemistry, biology and geography”</i> during the PAofST meeting in Torun. ▪ Organising the Pilot workshop session for teachers on: <i>“ICT methods used for the environmental education”</i> during the PAofST meeting in Torun. ▪ Being a chairman of the MPTL 12 conference session. ▪ Giving a plenary lecture on: <i>“Multimedia versus MBL methods and tools in science education”</i> during the MPTL 12 Seminar in Wroclaw. ▪ Taking a part in the discussion at the Seminar of the Socrates Comenius project IT for US in Warsaw. ▪ Preparing the second edition of textbook consisting the description of the selected MBL experiments. ▪ Designing and creating the EU ISE conference project web page in Torun, http://www.fizyka.umk.pl/~pdf/EU_ISE ▪ Management of the above web page. ▪ Preparing of the Torun EU ISE conference programme and purchase of planned conference materials. ▪ Organisation and the arrangements of the Torun EU ISE conference (25-28.10.2007). ▪ Power Point presentations on activities of PEL group during the Torun conference.
<p>11-12.2007</p> <p>12-15.11.2007 16.11-10.12.2007</p> <p>21-24.11.2007</p> <p>24-25.11.2007</p> <p>26-27.11.2007</p> <p>6-13.12.2007</p> <p>15-16.12.2007</p> <p>14-19.12.2007</p>	<ul style="list-style-type: none"> ▪ Writing the report from the Torun conference. ▪ Paper on: <i>“When, for what and how ICT should be used in physics teaching”</i> for GIREP’ 2007 Proceedings preparation. ▪ Organisation and execution of the Torun Mini-lab network of science teachers’ meeting (24.11.2007). ▪ Discussion on the tools for evaluation of the teacher training programme. ▪ Writing the minutes from the PEL meeting of 24.11.2007 in Polish and translating into English. ▪ Preparing the programme and writing educational materials for the Regional Workshops for science teachers and their students – the members of science interest groups from schools and placing them at web page. ▪ Conducting of the Microcomputer Based Laboratory training for teachers and students. ▪ Studies of market offers and ordering the interactive whiteboard.

2008

<p>01-02.2008</p> <p>7-11.01.2008 14-18.01.2008</p> <p>23-25.01.2008</p> <p>7-31.01.2008 4-09.02.2008</p> <p>13-15.02.2008</p> <p>19.02.2008</p> <p>22-26.02.2008</p>	<ul style="list-style-type: none"> ▪ Collaborating with teachers within the National network. ▪ Delivering the material for the web page of MPTL 12: <i>"Multimedia versus MBL methods and tools in science education"</i>. ▪ Modernisation the EU ISE conference project web page in Torun, http://www.fizyka.umk.pl/~pdf/EU_ISE ▪ Management of the above web page. ▪ Consulting the teachers from the National network on ICT use at school lessons. ▪ Exercising the MBL experiments for students planned for the presentation on behalf of 535 Anniversary of the Nicolaus Copernicus birthday. ▪ Presenting MBL experiments to about 1000 school students on behalf of 535 Anniversary of the Nicolaus Copernicus birthday. ▪ Editing the series of papers on the use of hardware and software in modern teaching of astronomy at schools (The Polish Journal "Science Teaching" Vol. 25 No. 1, 2008)
<p>03-04.2008</p> <p>3-7.03.2008</p> <p>10-20.03.2008 26-28.03.2008 1-4.04.2008</p> <p>8.04.2008</p> <p>12-26.04.2008</p> <p>14-18.04.2008</p> <p>24.04.2008</p> <p>23-25.04.2008</p>	<ul style="list-style-type: none"> ▪ Preparing ICT in science education courses for teachers sponsored by European Social Found (programme and materials). ▪ Running the above courses for 3 groups (50 teachers). ▪ Collaboration with teachers from National network. ▪ Elaborating Power Point presentation for the future science teachers in Usti (near Laba, Czech Republic) within Socrates Erasmus Project on "Towards Fascinating Physics and Chemistry" (TFPC). ▪ Giving the lecture with presentation "Computer aided science experiments" at the above Seminar for about 60 students from different European countries. ▪ Running the workshops for Postgraduate Studies for Teachers of Physics and Astronomy on ICT in Physics Laboratory (weekends) ▪ Acknowledgement with various functions of just bought interactive whiteboard, learning the use and proposing the first application in physics teaching. ▪ The use of ICT to demonstrate the acoustic phenomena during the VIII Toruń Festival of Science and Art. ▪ Collecting the experiments and ICT resources for the interactive exhibition at Regional Museum in Toruń on "Fiat Lux, from Witelo to optical tomography".

<p>05-06.2008</p> <p>5.05-15.09.2008</p> <p>9.05-31.05.2008</p> <p>12-16.05.2008</p> <p>27-29.05.2008 3-13.06.2008</p> <p>17-21.06.2008</p> <p>24.06.2008</p> <p>26-29.06.2008</p>	<ul style="list-style-type: none"> ▪ Supervising the activity of teachers and students at the above exhibition (especially explaining the experiments aided by ICT). ▪ Running the workshops for Postgraduate Studies for Teachers of Physics and Astronomy on ICT in Physics Laboratory (weekends) ▪ Writing the paper to the Polish Journal "Science Teaching" (Vol. 26 No 2, 2008) on Socrates Erasmus TFPC course. ▪ Updating the project's web page. ▪ Writing the chapter on Examples of good practice in ICT used in Science Education in Poland for the common book "Effective use of ICT in Science Education". ▪ Organisation and execution of the Torun Mini-lab network of science teachers' meeting (21.06.2008). ▪ Writing the minutes from the PEL meeting of 21.06.2008 in Polish and translating into English. ▪ Planning the programme of the General Meeting of Polish Association of Science Teachers in Toruń on "Science subjects and ICT". Sending the first Conference announcement of Toruń Meeting.
<p>07-08.2008</p> <p>7-12.07.2008</p> <p>14-18.07.2008</p> <p>27-29.07.2008 4 - 20.08.2008</p> <p>21-22.08.2008</p> <p>26-29.08.2008</p>	<ul style="list-style-type: none"> ▪ The next organisational work devoted to the Conference on "Science subjects and ICT" (invitation of lectures and supervisors of workshops, preparing the facilities and ordering the accommodation for participants, establishing the Conference web page for registration at http://psnpp.org.pl ▪ Elaboration the schedule of the above Conference on 13-14 September 2008 in Toruń. ▪ Sending the second announcement to the PAofST members ▪ Preparing the final form and correcting the text of the book on "Examples of ICT use in science education", 140 pages (for Polish teachers). ▪ Editing the above book, disseminating among science teachers and updating the EU ISE Project's web page. ▪ Preparing and editing the book of presentation abstracts concerned with the Toruń Conference "Science subjects and ICT".
<p>09.2008</p> <p>9-14.09.2008</p> <p>11-14.09.2008</p> <p>16-17.09.2008</p> <p>18-22.09.2008</p> <p>23-26.09.2008</p> <p>24-27.09.2008 25-30.09.2008</p> <p>25-30.09.2008</p>	<ul style="list-style-type: none"> ▪ Organisational and technical activities related to the above Conference. ▪ Preparing PowerPoint presentation and providing the conference lecture (Dr. J. Turło – plenary lecture – "How ICT can enhance science teaching?") and 5 others, 10 workshops and posters for about 150 science teachers. ▪ Sending out the book "Effective use of ICT in Science Education", edited by Bob Kibble, School of Education, University of Edinburgh, 2008 for the members of National network. ▪ Writing the article "How ICT can enhance science teaching?" (Jak technologia informacyjna może wzbogacić nauczanie przedmiotów przyrodniczych?) to the Polish Journal "Science Teaching". ▪ Editing the 2008/ Vol.3/ 26 Number of "Science Teaching" aimed at the dissemination of the Torun Conference of PAofST results to the whole science teachers community in Poland. ▪ Preparing administration and finalisation of the project. ▪ Correcting and updating the EU-ISE Project's Web page http://www.fizyka.umk.pl/~pdf/EU_ISE ▪ Writing the reports from our activities (outcomes) and expenditures.

2.2. Evaluation of the work undertaken

Internal Semi-evaluation aimed at checking if activities which have been done where in the agreement with the first, second and third phases of workplan.

Part 3. Concrete outcomes

I. Documents:

1. The first phase of Work plan (1.10.2005-1.08.2006).
2. Socrates Compendium 2001-2005 Comenius Action 2.1 – Training of School Educational Staff (Kompendium Europejskich Projektów Współpracy Comenius 2.1).
3. The questionnaire: *“Making the use of ICT in science teaching”* in Polish.
4. The paper on: *“Educational Computer Aided Science Laboratory”* published in Polish Journal *“Science Education”* Vol. 15, pp. 40-48.
5. The paper on: *“Monitoring of germination and fermentation processes by the use of ICT”*, published in Polish Journal *“Science Education”* Vol. 16, pp. 15-17.
6. The documentation of two science lessons: physics – *“Mass and Weight”*, biology – *“Photosynthesis”*.
7. The internal WWW page concerned with Torun Partner activities: *“Torun ICT Mini-lab”* (www.fizyka.umk.pl/phys/ZAKLADY/PDF/minilab2.html).
8. The first version of textbook on *“Examples of the use of ICT in science education”*, Ed. PEL, Torun 2006, 127 pages.
9. The dynamic Web Page with the questionnaire investigation results in English and in Polish (www.fizyka.umk.pl/test/en.php) and elaboration and description of the obtained data.
10. The abstract of paper *“Multimedia applications discussed by network of science teachers”* (the International Conference MPTL 11 in Szeged, 19-23.09.2006).
11. A short description in English of the workshop session, which was taken place at the PAofST in Warsaw.
12. Five notes – short minutes (reports) from the meetings of Torun science group of teachers.
13. The Internal Progress Report.
14. The Local Working Plan of *the Second and Third phases* of the Project placed at the www page (http://www.fizyka.umk.pl/~pdf/EU_ISE).
15. The ppt presentations on the 13th Meeting of Polish Association of Science Teachers (PAofST) in Warsaw (**9-10.09.2006**) and at the International Conference MPTL 11 in Szeged (**19-23.09.2006**) on these activities are placed at our web page.
16. The purchases plan based on teacher requirements for 2007.
17. Programme of 15 h of lectures with demonstrations on ICT in Physics education and 30 h of MBL experiments run by the Physics Education Group members for Postgraduate Course on Physics Teaching as the second subject.
18. Ppt presentation of lecture on: *“The use of ICT in radioactivity teaching”* during international Socrates Erasmus seminar for future 52 science teachers placed at the web page <http://www.fizyka.umk.pl/~scimath>.
19. Abstract of the GIREP’2007 Conference presentation on: *“For what, when and how ICT should be used in physics teaching?”*, GIREP – EPEC Conference, 26-31 August 2007, Opatija, p. 134.
20. Paper by Piotr Felski on: *“How to use digital camera in science education”* published in *Polish Journal “Science Teaching”* Vol. 22, No 1 p. 41 and No 2, p. 45.
21. Designing and writing instruction for two new MBL science experiments: *Whether “field hopper” respire? and “Whether water will keep us healthy”*.
22. Designing and description the modelling application: *“Mars - the planet of mystery”*.
23. Abstract of the paper on: *“Multimedia versus MBL methods and tools in science education”* for presentation at MPTL 12 Seminar in Wroclaw, Book of Abstracts, p. 10.
24. Poster on: *“For what, when and how ICT should be used in physics teaching?”* at GIREP Conference on 27-31.08.2007, Opatija, Conference Programme.
25. Being a chairman of the MPTL 12 conference session and giving a plenary lecture on: *“Multimedia versus MBL methods and tools in science education”* during the MPTL 12 Seminar in Wroclaw – ppt presentation placed at our web page.
27. The second edition of textbook on *“Examples of ICT use in science education”*, consisting the description of the selected MBL experiments (in Polish – 140 pages) – at our www.
28. The web page devoted to Torun EU ISE conference programme.
29. Ppt presentation on activities of PEL group during the Torun conference (at our www).

30. Paper on: "When, for what and how ICT should be used in physics teaching" published in GIREP' 2007 Proceedings, Opatija.
31. Programme and educational materials for the Regional Workshops for science teachers and their students – the members of science interest groups from schools (placed at web page).
32. Programme of the Microcomputer Based Laboratory training courses for teachers and students – teachers to be.
33. The plan of the MBL experiments for student presentations on behalf of 535 Anniversary of the Nicolaus Copernicus birthday.
34. Papers of teachers on the use of hardware and software in modern teaching of astronomy at schools (The Polish Journal "Science Teaching" Vol. 25 No. 1, 2008).
35. Power Point presentation for the future science teachers in Usti (near Laba, Czech Republic) within Socrates Erasmus Project on "Towards Fascinating Physics and Chemistry" (TFPC CD-R).
36. ICT simulation software (Optics and Brownian motion) for the interactive exhibition at Regional Museum in Toruń on "Fiat Lux, from Witelo to optical tomography".
37. Paper in the Polish Journal "Science Teaching" (Vol. 26 No 2, 2008) on Socrates Erasmus TFPC course.
38. Chapter on "Examples of good practice in ICT used in Science Education in Poland" for the common book *Effective use of ICT in Science Education*, University of Edinburgh, 2008, p. 66.
39. Minutes from the Torun Mini-lab network of science teachers' on: 10.11.2006, 03.02.2007, 30.03.2007, 13.07.2007, 24.11.2007, 21.06.2008 (6, all together 11)
40. Elaboration the schedule of the Polish Association of Science Teachers Conference on "Science subjects and ICT" at 13-14 September 2008 in Toruń (placed at <http://psnpp.org.pl>).
41. PowerPoint presentation and conference lecture (Dr. J. Turło – plenary lecture – "How ICT can enhance science teaching?") and 5 others, 10 workshops and posters for about 150 science teacher (at our web page).
42. Article "How ICT can enhance science teaching?" (Jak technologia informacyjna może wzbogacić nauczanie przedmiotów przyrodniczych?) in the Polish Journal "Science Teaching", Vol. 28, 2008.
43. Editing of the 2008/Vol.3/ 26 Number of "Science Teaching" aimed at the dissemination of the Torun Conference of PAofST results on ICT in science education to the whole science teachers community in Poland.
44. Final reports of the project EU-ISE.
45. Corrected and updated the EU-ISE Project's Web page.

II. Other Products:

1. Digital video films presenting two science lessons: physics – "Mass and Weight", biology – "Photosynthesis".
2. Power Point presentations.
3. The teacher guide "How to use ICT to enhance curricula of physics at gymnasium level" written by Stanislaw Niedbalski.
4. Computer software "GM" for the investigation of ionising radiation by Kamil Wysocki.