Training programme for geography teachers

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TRAINING PROGRAMME FOR GEOGRAPHY TEACHERS

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This paper contains a description of a Geography teacher-training program for in-service education. The program is a variant for incorporating the methodology of the Minerva- project "Innovative Didactics via Web-based Learning" (further abbreviated as IDWBL) so that the Geography teachers at work can be adequately prepared for integrating ICT in geography education at secondary schools via web-based education. The theme may seem at first glance as a variation of a known subject… But for the Geography Teachers in the Bulgarian Secondary School the web-based education for developing Geography Culture is an innovation.

Using ICT and web as priority activity in education is planned at different levels. At a global level – two strategic UNESCO documents trace the ICT using in education (2002): the Curriculum for ICT in education and the Program for teachers' professional development. OAt a regional level - in the European Community such kind of document is the e Learning Action Plan designing tomorrow's education (2003). At a national level the document is the National strategy for introducing ICT in Bulgarian Schools (2000). In the context of the normatively fixed directions "a continuous search is ongoing for models which are relevant, practical, sustainable and transferable" (2007, 1), for developing and applying education IC Technologies. Such is the methodology of the Minerva-project "Innovative Didactics via Web-based Learning" (further abbreviated as IDWBL). Some of its characteristics are:

- ICT and also the web can be used in various didactical approaches, varying from the more traditional, teacher-centered to more constructivist, student-centered.
- The didactical approach may be described by referring to the so-called "stages of ICT use" of Itzkan (1994, 2) – substitution, transition, transformation.
- Another approach applied in IDWBL is a "learning by doing" approach: teachers, and subsequently, students learned and developed their competence by working on assignments.

As a member of the Bulgarian team in the project and from the position of the two roles: author of web-assignments and teacher-educator, I tried to apply the IDWBL methodology in a Training Program for Geography Teachers In-service education. The decision for such training program was made taking into account some facts that approve the statement: "**For the Geography Teachers in the Bulgarian Secondary School the web-based education for developing Geography Culture is an innovation.**" These facts are connected with the answers of the question:

- **What is the environment the Geography teachers in Bulgaria work in?**

On one hand - the problem with ICT using is that there are NO normative documents for ICT use in Geography education – neither the National Educational Requirements for education content in Geography and Economy (2000), nor the Programs. On the other hand – the positive possibilities are connected with the relatively high percent teachers – 20 – 50% - who use ICT relatively frequently - every month. And these facts are in the context of Geography teacher's low digital competence – from 20 to 80% of the answered are not trained and do not feel competent to teach geography with ICT.

One of the ways for introducing this innovation among the pointed out community is through a **Training Program for Teacher's Professional Competence** in integrating the web in Geography Education development.

The **general goal of the training program** is to develop teachers' competence in:
- choosing assignments from Web Assignment Database (WAD);
- modifying assignments according to the Geography program requirements;
- developing assignments;
- planning geography lessons that incorporate integrating the Web in the subject matter.

The **Training** was chosen as **a proper organization form with two main activities**:
1) decision making for using the innovation through discussing the strengths of IDWBL after the example of web-assignments for Geography education;
2) simulation of situations for realizing the innovation in the Geography education as follows: choosing proper web-assignments from WAD; develop one's own web-assignments; organize web-based lessons.

The first step was "preparing some resources for geography education", i.e. designing web-assignments. Such were:
- Bulgarian economy competitive power (2006, ID# 93)
- The objects in Bulgaria from the UNESCO Convene for World Culture Heritage (2006, ID# 94)
- The problem with the Global Climate Changes (2006, ID# 95)
- The National Park Pirin (2006, ID# 96)
- Sustainable competitive power tourist products working out in the National Parks Rila and Central Balkan pilot regions
- Regions of Planning (part I, part II, part III).

All these eight web-assignments integrate the IDWBL characteristics mentioned above:

- They concern actual geography problems.
- They are provided with reliable sources of information – sites of UNESCO, sites of Ministries in Bulgaria, sites of national organizations and so on.
- They consist of interactive techniques models for team work, for business and for role playing, for visualizing geography situation of object, routes, etc.
- The construction and evaluation of own product is technologically provided.

The training program was carried out in 2006 with nine groups - 57 geography teachers at Secondary School - in Sofia, Kjustendil, Vidin, Haskovo.

The activities from the programme and the received results are presented below:

- During ***the presentation of the IDWBL methodology*** between 25 и 30 % from the teachers show ***interest and readiness to apply it through*** **web-assignments.**
- ***In the context of the evaluation of the opportunities for using web-assignments*** in Geography education:
  - ○ ***Teachers analyze the web-assignment's structure*** *in comparison with the well-known components of the traditional lesson,* detect the lesson's macrostructure and microstructure components in the web-task's components through different situations (the thematically motivation is projected in the introduction; the content and technological motivation are projected in the task; the new teaching content is designed in the process, the sources of information, the time, the products and the evaluation criteria) and make the conclusion that the web-task's structure to a great extent coincide with the lesson's structure. The teachers who are familiar and experienced in using innovations in the lesson accept to use the web-quests.
  - ○ ***Teachers summarize the strengths*** *of the web-assignments comparing them with the traditional lesson:*
    - ▪ The web-assignment has a format – different from the one, the themes in the geography textbooks are constructed, and in some aspects – different from the lesson's format.
    - ▪ As a herald of the educational technology the web-quest is in fact the whole model of this technology.

    These are two of the reasons for the geography teacher to accept the web-quests as necessary and possible resource for education. *As exceptionally useful (because of their lack in the popular textbooks) could be defined: the formulated tasks and the necessary time for their realization, the criteria for the products evaluation.*

    Some of the recommendations concern the necessity of editing the tasks and extend the time for accomplishments.
  - ○ ***Teachers summarize the failures and faults*** *which the web-quests create in comparison with the traditional lesson:*

- ▪ *Concerning the degree of preparation to use ICT in education* – comparatively great part of the geography teaches (60-70% and more for the junior high school) do not determine himself/herself as prepared – *they are not trained and have not their own experience – to use ICT, in particular –to take advantage of the web in education, although about* 80-90% of them have initial /basic/ computer literacy to use programmes like Word. This fact explains why 75-80% from the teachers who have decided to use and prepare themselves to use web-quests in education are from the high-school – 9. – 12. Grade.

  - ▪ *Concerning the form of education – almost all teachers make reservations* for the possibility to use web-quests in the *compulsory education* because of the 1,5 hour syllabus weekly. This explains the comparatively small number of teachers who can in fact teach this way – these are the teachers with profile or compulsory-eligible education that means from 3 to 5 hours a week.

  - ▪ *Concerning the place of realizing the web-tasks* – taking into account the fact that some of the tasks in the web-quest could be realized in the Internet, the geography teacher could choose one of the opportunities – to assign the tasks *for homework* and to eliminate the possibility for interaction (including to work in team), or to provide the computer classroom.

  - ▪ *Concerning the necessary coordination of the geography and ICT teachers – this new situation is accepted as "it is worth the trouble" just about from* 10-15 % of geography teachers who are not obliged yet in the normative documents (National Educational Requirements and the syllabus) to use ICT in geography education.

- • **In the context of the decision making to use web-quests in geography education**:
  - o *Most of the teachers prefer to use constructed web-assignments, being ready to edit them.* The edition is in two variants:
    - ▪ *Web-assignments made for the high secondary school are transformed for the junior high school.* An example is the web-quest *"National park Pirin",* which was transformed for 7th Grade students from the geography teachers from Dimitrovgrad.
    - ▪ *The tasks' content is changed.* For example in web-quests where a geography investigation is planned, instead of the Southwest region for planning the teachers make new web-quest for the Southeast region for planning, proposing different web-sites and tasks.
  - o Comparatively *few (four) teachers (6%) design their own web-assignments.* This is made in two variants as well.

▪ Three teachers created their own web-assignments (Ganina Zdravkova, Gergana Ivanova, Maria Encheva (2006) and after their evaluation uploaded in WAD.

▪ One of the teachers – N. Popova - used her experience from an activity geography lesson with information from the web to present it in a web- assignment format (2006, 14 - 19).

CONCLUSIONS AND RECOMMENDATIONS

Experiences in using web-assignments with students have exactly the colleagues who made their own web-quests – G. Zdravkova, M. Encheva, G. Ivanova. Sustainable effect still could not be registered because of the single or the double use.

The experience from web-assignments designing and from the training programme with geography teachers shows that there is no need of methodology changing. What is real is the search for variants in applying it according to the teacher's digital and didactic competence, the hardware infrastructure in the school, the possibilities at local level to integrate web-based education in the geography and economy education.

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