DEVELOPING EXPERIENCES OF CURRICULUM FOR HEALTHCARE PROFESSIONALS AND SCHOOL-SYSTEM VOCATIONAL STUDENTS

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The article offers an inside view in the process of curriculum development in the field of healthcare: its requirements, method and the co-ordination of the work of those 8 organizations and 50 people who participated in it. The method can be an example to show how a multipurpose (thus per unit cost relatively cheap) curriculum can be elaborated where the development could only be based on a wide-range co-operation of the participants: the general instructions were given by the employer and the school, the content was defined by the specialist, the training and the method of vocational examination were organized by specialist teachers and andragogists, the accreditation and qualification were managed by adult training specialists, and the visual work developments and digitalization were carried out by the media developer and the IT-specialist.

Keywords: blended learning, practice oriented, accreditation, media support, medical training, digitalization, Scorm 1.2

Regional Integrated Vocational Training Centre of Eger (RIVTC of Eger Non-profit Ltd.) was founded in 2005 by a syndicate of three, out of which the leader is the Local Government of Eger. One of the most important tasks of RIVTC of Eger is to co-ordinate the vocational training in the six vocational partner schools of the town, moreover, to develop and secure the conditions of vocational training so that students shall appear in labour market with competencies that completely enable them to answer the actual requirements of the employers.

Since 2005 RIVTC has assigned more than 2 billion HUF to support these developments that can be used by about 4000 students and 500 teachers at partner schools in every year.

In 2008 the RIVTC became an accredited adult training institute of Eger; since that time we have managed to gain the ability of organizing trainings up to 150 vocational qualifications in 19 occupational fields. Besides, RIVTC received the right to organize vocational examinations in 51 vocational qualifications, and prepared 50 accredited adult training programmes.

In 2010 RIVTC of Eger applied for curriculum development in healthcare within the framework of a grant supported by the European Union. In this national grant two organizations received assignment for developing tasks: in the field of medical specialists' training the winner was Semmelweis University Faculty of Medicine, and in the field of healthcare professionals' training the RIVCT of Eger was awarded. Probably, one reason for this could be that our organization has always concerned it to be extremely important to purchase up-to-date teaching tools and develop digital or e-learning curricula that answer the requirements of our age. Therefore RIVTC had already prepared and possessed even before the project up to 600 lessons of digital curricula (based on PPT, SDT and Scorm 1.2) elaborated in accordance with the modular system and content requirements of vocational training.

Writing the grant – arranging the curriculum

Writing the grant itself meant the first, preparing step of curriculum development, since only those content elements could appear in the grant which had already been considered as an actual phase of development (such as occupational fields, target group, goals and objectives, participants, method, content, number of lessons, formal requirements, length, budget, etc.).

Selecting theme and participants

The grant programme clearly defined the relevant occupational field of curriculum development (it was TÁMOP-6.2.2/B/09/1 'Training programmes for healthcare professionals, trainings in shortage areas, competency development'). Based on its experiences, as written in the abstract, RIVTC of Eger (Egri TISZK KKN Kft.) seemed to be suitable to carry out the complete process of curriculum development. Moreover, one of its partner schools (Kossuth Zsuzsanna Secondary, Vocational and Boarding School) has been responsible for healthcare vocational trainings on county level, thus a strong and mutual relationship came to life and existed between the school, the hospital of Eger (Markhot Ferenc Hospital Non-profit Ltd.) and RIVTC of Eger even before the grant. Former co-operative activities between these organizations included finding practical training places for students, and maintaining healthcare vocational and adult trainings.

Having consulted with the experts of the school and hospital it turned out that although there has been a steady shortage in healthcare professionals on national level, the most urgent would have been the competency development, since it could improve the knowledge and competence of professional staff relating to first aid, first supply and emergency care.

Besides, developing the curriculum can also be an opportunity to strengthen and guarantee the existing professional skills and knowledge of the hospital's staff. However, the market of additional help materials to these tasks had been quite improper: hardly could be found such material, which would have possessed appropriate methodology responding to students' needs and habits; even more, it was hard to find such a material that – regarding to their (usually) disadvantageous social status – students could have afforded themselves.

The staffs of experts from the three organizations meant a guarantee with their experiences in the field of curriculum development for the success of this project.

Features of the selected topics

All three themes construct an independent, but consecutive part of healthcare. Regarding the characteristics of different curriculum parts, it seemed to be advisable to make three courses, each of them with 40 lessons, so that the starting (input) level of each course should be equal to the resulting (output) level of the former course. At least a half of the lessons had to be practical with additional helping material for students as well.

Features of the target group

Being the project leader of curriculum development, RIVTC of Eger had carried out a survey among students and relevant staff of the hospital in order to inspect the learning habits and other features of the target group. Assuming its results, following properties can be deduced:

In usual, vocational school-system students coming from mainly disadvantageous social background have great lack of accomplishment and basic education. Although they represent a young generation being between the ages of 18 and 22, they possess only basic level of IT-knowledge – but at least 80 % of them have a computer and 67% have an Internet access. These young people spend different time on preparing for lessons, but do not like to learn from book-based materials any more. Instead of this, they prefer interactive learning material instead of traditional curriculum, and know advanced distance learning method. More interestingly, they consider themselves to be able for self-learning in theoretical subjects. They like practical lessons, but have unfortunately poor practical competencies in the selected topics.

In contrast to this, adult training students prefer traditional way of learning (mainly reading) and like to learn from book-based materials – this could be the reason why they expect frontal teaching and need lecturer's handout. Since 60% of them are over 40 years, most of them have forgotten how to learn, but in usual they spend occasionally one hour on preparing for lessons. Although they participate on follow-on trainings in every 5th year (however, it is relevant only for healthcare professionals and not for those without special qualifications), they usually turn to their old routines in carrying out practical activities. They have poor theoretical competencies in the selected topics and do not know advanced distance learning method. Similarly to vocational school-system students, they possess only basic level of IT-knowledge – eventually 46 % of them have a computer and 25 % have an Internet access. What makes their learning circumstances even worse is that in general they travel 1,5 hour daily to work and back home, and their defencelessness at their workplace also influences and endangers their learning results.

It can well be stated from both groups that their motivation of learning is changing, but usually they prefer to participate in blended learning trainings in the selected topics. Since many of them have learning disabilities and 'dys' problems, have changing oral and written sense of phrasing, they have weak learning abilities and need learning support. Coming from mainly disadvantageous learning circumstances (work, family, social background) they consider the length and costs of the course.

Aims of the healthcare curriculum development

Short-term aim. Elaborating a qualified, modulee based 3x40 hours digital curriculum and accredited programme, which can be efficiently used both in VET and adult training on national level. It reflects unified approaches, gives up-to-date theoretical knowledge, and renews practical skills.

Long-term aim. Contribute to renew the methodical and professional content of medical training; supporting LLL process in healthcare branch. Healthcare workers shall earn infallible competences and practical knowledge in the fields of first aid and medical attendance which provide that nurses gain the ability to find and carry out the appropriate intervention, respectively to give efficient support for doctors in the emergency cases. As a result, patients' life chances improve, and their trust in nurses and indirectly in healthcare becomes better.

Choosing the method for curriculum development

The leader team of curriculum development has chosen the Systematic Curriculum and Instructional Development method, because this is a competence based and an achievement based training.

This method builds upon the students' motivation, activity and individual learning. Since competencies and aims are clearly defined, requirements and expectations are well-known, the learning results are unambiguous. With this method every student has an opportunity to acquire certain competencies.

In case of blended learning, the curriculum itself provides help to independent learning. The curriculum differs from traditional school notes in many aspects; for instance, beside the detailed description of its content, it contains the aims, the exam requirements, the suggested learning activities and interactive self-assessment questions as well.

Providing environmental, infrastructural and personal conditions for learning

The county hospital, the RIVTC of Eger and the vocational school have completely provided all the conditions needed for the successful fulfilment of curriculum development and of the courses.

Regarding the personal conditions, the hospital has provided a curriculum author, a special healthcare lector, an abstract writer, a special media developer and trainers. The VET school has provided a programme author, a students' guide writer, a teachers' guide writer, an accreditation and special healthcare qualification material writer, media developers and test participants. In addition to this, exterior organisations and persons have provided a curriculum development expert, an adult training accreditation expert, a special healthcare qualification expert, a language lector and a media digitalisation expert. Finally, the RIVTC of Eger has provided a

project manager, a special curriculum developing leader and a financial manager.

A curriculum didactic frame has been prepared to the general curriculum structure. It contained the following format. The first part is always an introduction to the subject module. It contains the learning objectives (relating to the given module only), the content of the module (listing the 40 lessons), a brief summary of the course, the competencies and requirements and the learning advices and information.

From the second till the 41st parts it contains the learning objectives (defining the aim of the given lesson), a brief summary of the content based on the lesson titles, a description of the curriculum (400-1200 characters, ~ 6 screenshots), 6 pictures and captions, 1 animation and its title, 1 sound file and its title, 1 motion picture with sound and with its title, references, summary, self-revising questions and practice tests.

The 42nd part contains a brief summary of the complete module's learning objectives, a brief summary of the module's content, supplements, bibliography, references, list of works consulted, list of media elements, a glossary, a dictionary of key words, module tests (included in course organizers' material only), practice tests, a test exam and a final exam (included in course organizers' material only).

Although the developers and staff members have already had experiences on the field of curriculum development, RIVTC of Eger organized a two days' knowledge-updating training for them apart from the monitoring and developing-oriented group meetings in every month. The goals and objectives of the knowledge-updating training were basically the thorough and appropriate use of the common IT-interface, and the clarification of developing requirements.

The project management has settled not only the formal and content requirements of the curriculum. It elaborated the profile of competencies and the training plan, defined the requirements of media elements (pictures, videos, animations, audios), defined the form and requirements of teachers' and students' guides, and managed the lectoring (language, professional, curriculum developing) and digitalisation methods.

Requirements of media elements

The curriculum contains 3 modules with 40 lessons in each of them. Each lesson contains 6 pictures, 1 video file, 1 audio file and 1 animation, 1 general introduction and abstract containing 1 picture and 3 module introduction and abstract containing 1 picture as well.

All in all, the complete curriculum contains 720 screenshots, 728 pictures, 120 video files, 120 audio files, 120 animations, 420-page students' guide, 740-page teachers' guide, 84-page FAT quality material, 108-page healthcare quality material.

Modules and their target audiences

The 1st module's topic is *First aid*. It is for employees working without healthcare qualification in medical institutes, for employees with elementary level health care qualification, for employees working in non-healthcare status in medical institutes, for employees working outside healthcare section and for students learning in the healthcare VET.

The 2nd module's topic is *1st medical attendance in the hospital*. It is suitable for employees working with medium level healthcare qualification (nursing, academic specialisation nursing, allergology, infant and child nursing, diabetology, healthcare practice leading, healthcare management, healthcare VET, endoscopy, physiotherapy, health employing, surgery service, nephrology, oncology, orthopaedics, medical laboratory and diagnostics, psychiatric academic specialisation nursing, pulmanology, rehabilitation, X-ray, maternity ward, orthopaedics, medical rehabilitation), and for students learning in healthcare VET as well.

The 3rd module's title is *Emergency healthcare*. It is for employees working with special (medium or higher) healthcare qualification (anaesthesiology, intensive academic specialization nursing, intensive, academic specialization nursing of children, emergency supply/nursing).

Developing curriculum

The curriculum development needed the coordinated work of about 50 people from 10 organizations. Although they were separated from each other with their work in time and space, they had to follow the work schedule since steps of development had a definite order. Therefore RIVTC of Eger has elaborated a common developing IT-interface for developers and experts to upload and download materials. On this special IT-interface every developer and expert has been given a special own symbol. The defined order of these symbols had a protocol, and the system provided monitoring possibilities for developers and experts as well, since it showed uploading times of files and symbols.

Having finished the professional parts of modules, introductions and summaries of the complete curriculum have been prepared as well.

Parallel working steps of developing a lesson

The process of curriculum development starts with the writer's work who uploads the Word file of a certain lesson on the common IT-interface, indicating those parts where he considers a media support to be important. After that, the media developing team plans the media support of the lesson; writes the script of the video, animation and audio file. Having prepared (partly adopted) all the media support of the lesson, it will be uploaded to the given lesson on the IT-interface. Next, the developer of students' guide prepares students' support and self-revising questions to the lessons, and uploads it on the common IT-interface.

Then the developer of teachers' guide prepares teachers' support and uploads it on the common IT-interface. Finally, at the end of the module he prepares the module exam and uploads it. The following step is the first supervision when the health professional adviser revises the texts and corrects it in case it is needed. If it is necessary, he makes the developers modify the Word or media files until he gives his approval. The second supervision is when the stylistic professional adviser revises the texts and corrects it in case it is needed. If it is necessary, he makes the developers modify the Word or media files until he gives his approval. After this the curriculum developing expert checks the structure of the lesson, the quality of media support. If it is necessary, he makes the developers modify the Word or media files until he gives his approval. Then the health professional advisor gives his final approval to the lesson's material, and the editor makes up and edits the lesson's material for printing. Finally, the digitizing team starts to digitize the lessons' material according to the standards of Scorm 1.2.

Testing the curriculum

Having prepared a complete digitized module (with both students' and teachers' guidance) of the curriculum, the step of pre testing followed in Kossuth Zsuzsanna Secondary, Vocational and Boarding School. The main objective of pre testing was to try out the curriculum in vocational class courses and in the context in which the curriculum will be used. Here both students and teachers could gain experience about the curriculum and they had the opportunity the suggest modifications of certain parts. At the end of the course students took exams as well.

Accreditation and healthcare qualification of the curriculum

Parallel to the pre testing, the petitions for FAT adult training accreditation and for ETI healthcare qualification have been prepared. Since both of them needed to answer different formal and content requirements, different teams prepared them. Additionally, experts were also asked to pre-qualify these petitions.

Multiplying the curriculum

Having received the qualification, the multiplication of the edited, printed and of the off-line DVD curriculum has started. Both the students' guidance (400 pages) and the teachers' guidance (740 pages) have been prepared in 1000-1000 copies, supplied with multimedia DVDs that could be used off-line, too. The colour-printed dissemination material including 6 volumes appeared in two copies of de luxe binding.

Summary

Resulting from the coordinated, continuously monitored and guided work of the developing team, the accomplished curriculum can be well used both in school-system education and adult trainings, enabling the use of blended learning. After the entry test, each participant can follow his own way of learning according to his existing competencies. The support system of the curriculum can serve both frontal and partly distance learning methods. Independently from students' learning habits, the curriculum is suitable to be used as students' support online (RIVTC Learning Manager System) supported by learning guidance, tutor or without it. However, it can also be used offline (as a DVD) supported by learning guidance or without. The printed parts of the curriculum can be used in individual learning. It can also be used in school-system VET – participating on compulsory theory-based contact lessons held by teachers and trainers. Finally, it can be used in all forms of trainings – participating on compulsory practice-based contact lessons held by trainers.