



Partners in Learning Customer Reference

Microsoft helps modernization of programming teaching in Serbia

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Brief data overview

Users: Elementary and high school teachers

Country: Serbia

User profile

Programming teaching in elementary and high schools in Serbia and its quality have for years largely depended on the initiative of individual teachers. Because of that approach, programming teaching was lagging behind the world trends.

Solution

Under the “Partners in Learning” program, Microsoft organized various courses and helped in making a huge step forward in streamlining programming teaching in Serbia during 2006/07 school year.

Educational challenge

All the initiatives for improvement of programming teaching in elementary and high schools in Serbia have for years depended mostly on individual teachers and their wish to bring innovation into largely outdated curricula. In a dynamic area such as programming, every technology delay directly affects the quality of teaching and knowledge acquired by students. Therefore, an urgent and quick action was required.

Under Partners in Learning program, aimed primarily for elementary and high schools, Microsoft helped in making a huge step forward in modernizing the programming teaching in Serbia during 2006/07 school year. 378 teachers from all over Serbia were trained for carrying out quality teaching in Visual Basic.NET programming language and 250 of them for teaching Visual C#.NET programming language.

Solution

„Our working experience tells us that students accept visual programming better, probably because they grew up with Windows environment, while they find that command line is *a bit boring*”, says Miroljub Seničić, electrical engineer and teacher in Electric and Traffic Technical School from Kraljevo, adding: „VB.NET and C# courses enabled a large number of our colleagues from Serbia to become familiar with .NET platform, learn something new and apply the new knowledge in daily teaching. Partners in Learning forum, where attendees exchanged experiences and ideas on problem solving, is especially interesting and useful. Before these Microsoft courses, apart from a couple of seminars, there were no modern trainings for teachers in the area of programming that also involved practical work. Owing to the experience and materials I was provided at the seminar organized under the Partners in Learning program, I incorporated C# programming language into programming teaching in K-12 classes.”

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In partnership with the Faculty of Electronics in Niš, Microsoft organized e-learning course in Visual Basic.NET programming language for teachers, where 378 teachers were trained. A Web site with materials for teachers and students was launched and it remained functional even after the course ended. Teachers were guided by a tutor and accessed the lectures and tests through Learning Management System, and the course lasted for 40 hours in total. Forums dedicated to this electronic course were used by teachers to discuss the issues of methodology in programming teaching and to solve professional problems related to programming. During the course, teachers also made a collection of tasks for students dedicated to VB.NET that can be used in the teaching process and that was uploaded to the Web site dedicated to the course. The collection is free of charge and available to teachers and students, which partly compensates for the lack of modern printed textbooks for programming teaching in Serbia.

„For me, it was an amazing experience – this way of working helped me organize myself extremely well. I see the ability to learn whenever I want and in accordance with other obligations, and still keep up with other course attendees as the basic advantage of the e-learning method. For me, participating in forums was a great encouragement for expanding and improving the acquired knowledge. The questions and discussions of my colleagues constantly inspired me to explore the various capabilities of an extremely powerful tool such as VB.NET. Now, when I am quite familiar with it, I can confidently say that it is a language in which you can realize everything you imagine and at the same time keep most of the habits you acquired during programming in other languages“, said Olivera Marković, teacher at Electro technical School „Mija Stanimirović“ from Niš.

„Faculty of Electronics in Niš is extremely proud of establishing good and productive cooperation with Microsoft during the past period. VB.NET training enabled the Faculty to establish and strengthen the contacts with high schools, which is important primarily because of the promotion of the Faculty regarding the enrollment of future students to graduate studies. Another important fact is that, by educating high school teachers, students also get better education so, eventually, the Faculty gets better students“, says PhD professor Dragan Antić, dean of Faculty of Electronics in Niš.

Through teacher training that Microsoft organized together with Computing high school of CET, and in accordance with the program under the auspices of Serbian Ministry of Education and Sports, approximately 250 teachers were trained during two-day courses on programming in C# language. The courses were organized in several cities in Serbia and were based on the textbook that is already regularly used in the Computing high school.

„Through the accredited program *New trends in teaching of programming* we have managed to introduce C# programming language and modern programming techniques to our colleagues. The course in which we train teachers in methods of programming teaching was based on the experiences we acquired during regular teaching process in our high school and by training talented elementary school students. I am glad that Microsoft recognized the importance of these actions and the new concept of programming teaching“, says the Computing high school principal, Branislav Đurđevac.

One of the C# training attendees is professor Željko Ležaja from Mathematical high school in Belgrade, who says: „We have been trying for years to convince children that they can do a lot of things in Pascal. Now you have convinced me that there is no point in convincing them – next year I am switching to C#. Teacher training and the accompanying textbook are really refreshing, the examples are well chosen, but I think that more new examples should be added. Because of them, it is possible to gradually introduce students to the secrets of programming.“

Thanks to intensive activities to modernize programming teaching, many participants of the national competition in programming for elementary school students requested the approval of C# as one of the programming languages in the competition, which was eventually approved. In the first year of program adoption, approximately one half of the students which participated in the competition created their applications in C#, and the students who programmed in this language were among the winners.

„The ability to quickly create visually attractive applications and easily translate the existing examples into new visual environment is what makes teachers to move from the classic methods of programming teaching to programming in Microsoft Visual Studio environment. This teaching method is accompanied by great motivation of students to acquire subject matter because the teaching is up-to-date and based on powerful .NET tools“, says Dušan Vučković, tutor of VB.NET electronic course held at Faculty of Electronics in Niš.