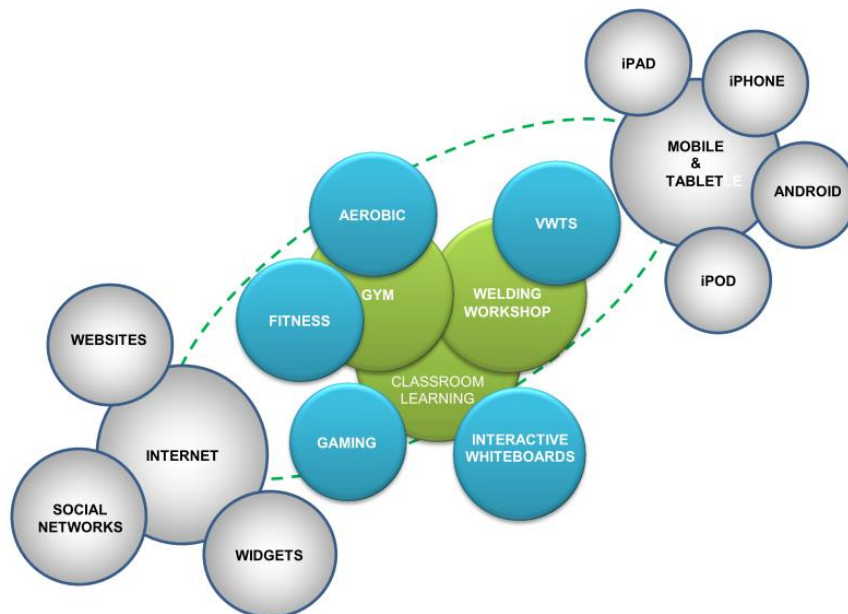


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Instructions for implementation of the pilot programme

Slavonski Brod – Porto Salvo – Oberhausen – Basel – Wels – Zagreb

1. Introduction:

Pilot programme InteractivWeld serves the purpose of establishing the feasibility of the S-K-S system and proving that the system has potential for successful implementation at the level of EWF members and wider.

For this reason, and by arrangement with all the partners, the execution period of the pilot programme was extended to one school year, i.e. from 8 September 2014 to 16 June 2015.

In such a way, assessment of the system and its feasibility will be more thorough and a reliable indication for the future.

Basic documents for making of the pilot programme are:

1. Syllabus for the profession welder, Croatian Ministry of Science and Education (hereinafter: the syllabus), and
2. IAB-089r4-10-Draft1-International-Welder-Guideline-June-2010.doc Doc. 104/08/05-2010/IAB WG#A3a
MINIMUM REQUIREMENTS FOR THE EDUCATION, TRAINING, EXAMINATION AND QUALIFICATION OF: INTERNATIONAL WELDER (IW) (hereinafter: IIW Guidelines)

The goal of the pilot programme is to implement the IIW Guidelines into the official syllabus for the profession welder.

2. Analysis

There are two ways to become a welder in the Republic of Croatia:

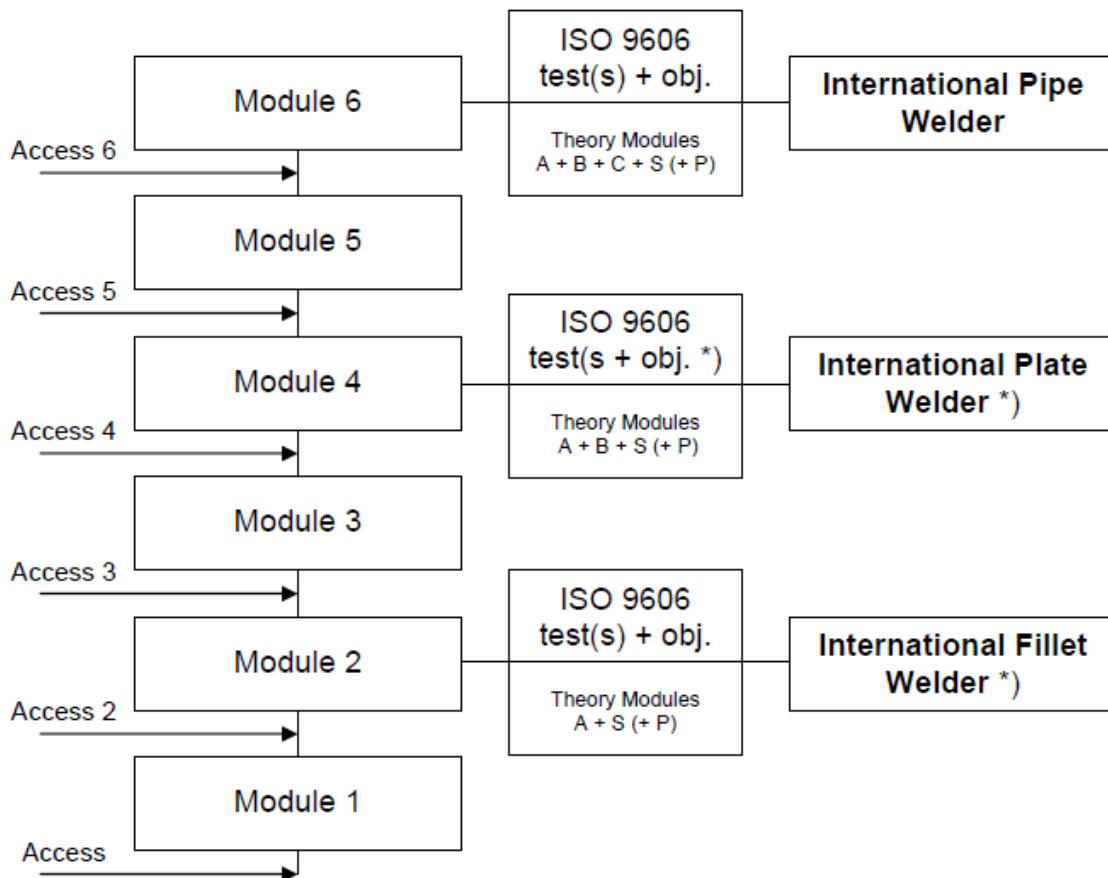
1. Professional/vocational training for the duration of one month to 3,5 months for professions MMA welder, MAG/MIG welder, TIG welder or gas welder.
2. Two-year vocational programme at a secondary school, where one obtains the title welder and during the education period goes through three welding procedures: MMA, MAG and TIG (or gas).

The programme under 2 will be taken into consideration here because from this programme one can also make conclusions about the other single training programmes.

On the other side are the harmonised IIW Guidelines.

Syllabus for profession welder with subjects and hours of class:

Subjects	1 st year (hrs)	2 nd year (hrs)	Total hrs
I General education			
Croatian language	85	70	155
Information technology	68	-	68
Physical education	51	42	93
Religion/Ethics	34	28	62
Total I:	238	140	378
II Vocational theoretical part			
Foreign language	34	28	62
Entrepreneurship	-	28	28
Mathematics (occupational)	68	28	96
Welding technology	102	84	186
Technical materials	34	28	62
Welding machines and devices	34	28	62
TIG welding or Gas welding		56	56
Total II	272	280	552
Total I + II	510	420	930
III Practical part			
Practical education	504	504	1008
Total I + II + III	1014	924	1938



IIW Guidelines were drawn up in the following manner:

According to the welder syllabus in Croatia, students (trainees) are educated and trained through a two-year programme for three welding procedures: MMA, MAG and TIG. MMA is covered in the 1st year, MAG and TIG in the 2nd.

First part of the analysis is directed towards vocational subjects and practical education.

Table 1. Syllabus (MMA+MAG+TIG):

Subjects	1 st year hrs	2 nd year hrs	Total hrs
Theoretical part:			
Welding technology	102	84	186
Welding machines and devices	34	28	62
Technical materials	34	28	62
TIG welding	-	56	56
Theory total:	170	196	366
Practical part:			
Practical education	504	504	1008
Practical part total:	504	504	1008
Grand total:	674	700	1374

Tablica 2. IIW: IAB-089r4-10-Draft1-International-Welder-Guideline-June-2010

	MMA		MAG		TIG		Total
Theoretical education							
Modul A (A1 to A9 - fillet weld)			20				20
Modul B (B1 to B9 - plate weld)			18				18
Modul C (C1 to C4 – pipe weld)			7				7
Modul S specific welding process	SA	5	SM	7	ST	5	17
Modul PSS stainless steel			8				8
Modul PAI aluminium			8				8
Total theoretical education		66		7		5	78
Practical Training and Tests							
Modul 1	E1	90	M1	90	T1	50	
Modul 2	E2	50	M2	90	T2	50	
Modul 3	E3	75	M3	75	T3	50	
Modul 4	E4	75	M4	75	T4	50	
Modul 5	E5	75	M5	75	T5	50	
Modul 6	E6	75	M6	50	T6	50	
Total practical training and tests		440		455		300	1195
Total		506		462		305	1273

Analysis of the possibility of synchronising the IIW Guidelines with the syllabus of the Industrial and Trade School shows that there is need for adjustment. Namely, the syllabus within the two years of education requires 1374 hours for both theoretical and practical part, which is more compared to the IIW Guidelines that require 1273 hours. Normally, the adjustment will cause certain redistribution within lesson units, so that in the long run there will be more practical and less theoretical work.

3. Pilot programme S – K – S – INTERACTIVWELD: 3.1. Pilot programme for students of IOS

Table 3. Pilot programme syllabus

Subjects	1 st year hrs	2 nd year hrs	Total hrs
I General education			
Croatian language	85	70	155
Information technology	68	-	68
Physical education	51	42	93
Religion/Ethics	34	28	62
Total I:	238	140	378
II Vocational theoretical part			
Foreign language	34	28	62
Entrepreneurship	-	28	28
Mathematics (occupational)	68	28	96
Welding	68+	12+	80
Occupational safety	16		16
Welding - extra hours	86+	184*	
Total II	272	280	552
Total I + II	510	420	930
III Practical part			
Practical education	440**	573**	1013
Practical education - extra hours	64		64
Total I + II + III	1014	993	2007

Legend:

- + lessons are executed 50% in a classical way, and 50% by we - learning method
- * lessons are executed on the VWTS
- ** lessons are executed 40% on the VWTS, 60% in a classical way

	Subjects completely harmonised with the IIW Guidelines
	Subjects harmonised with the S-K-S system
	Subjects according to the Croatian syllabus

3.2. Pilot programme for professionals

S-K-S Pilot programme for professionals is based on the tailor made principle, in other words, according to the company demands.

Theoretical part is executed 20% in a classical way, and 80% by we – learning method. Practical part is executed 100% on the VWTS.

3.3. We – learning

We-learning method for welders and some other professions will be tested in the pilot programme. At the end, we will assess the possibility of exploiting the social component of learning along with the usage of mobile technologies, discussion in small groups, coaching, educational interaction through practical communities, projects, assessment and learning comments.

4. Pilot programme time frame

4.1. Time plan for trainees – IOS

1st grade:

Pilot programme is going to be carried out from 8 September 2014 to 16 June 2015 (during the school year).

2nd grade:

Pilot programme is going to be carried out from 8 September 2014 to 20 May 2015.

4.2. Time frame for professionals

Pilot programme is going to be carried out from 1 October 2014 to 16 June 2015.

5. CONCLUSION

IIW Guidelines were completely incorporated into the pilot programme.

Croatian syllabus is much broader than the IIW Guidelines in regard to the general education subjects and vocational subjects such as: foreign language, occupational mathematics and entrepreneurship. Vocational subjects covering welding have greater number of hours/classes than anticipated in the IIW Guidelines (366 as opposed to 78). On the other hand, total practical classes are shorter by 187 hours.

In the pilot programme, the classes are balanced. The excess hours in the syllabus were redirected towards the extra hours in both theoretical and practical part.

Pilot programme for professionals will be created according to the needs of a specific company where it is carried out.

At the end of the pilot programme it will be necessary to evaluate the feasibility of the S-K-S system and the possibility of its wider implementation.