VOCATIONAL AQUALABS

EVALUATION OF THE PILOTED COURSES

1   Introduction

In this document, the Vocational Aqualabs project and in particular the piloted courses are evaluated. It concerns the following courses:

- Fundamentals of Experimental Design
- Entrepreneurship
- Data and Statistical Management
- Scientific writing
- Project management
- Research Funding Procurement
- Networking – key for a successful career

The overall aim of Vocational Aqualabs is *"to improve VET systems in the European Aquaculture sector to ensure researchers receive continual professional development training in generic skills which will a) result in increasing the quality, attractiveness and security of research career pathways b) increase the relevancy of researchers and their research to the sector c) improve knowledge transfer to industry for exploitation contributing to a sustainable sector in Europe."*

This overall aim, was translated in the following specific objectives:

- To carry out a needs analysis of the sector in order to identify and prioritise generic skill training needs for researchers

- Define the skill gaps identified using the WAVE project methodology (competences + learning outcomes)

- Improve existing training material or develop new material where required

- Design skill delivery using a modular approach allowing adoptability within existing systems resulting in a multiplier effect

- Pilot skill delivery, assess impact and benchmark pilot training against existing national/international credit procedures

The project has been broken down into clear tangible work packages with Work Package leaders and prescribed tasks assigned to partners in order to deliver on the overall aims and objectives of the project.

The project methodology can be summarised by the following:

- Identifying and analysing any existing training provision and identifying targeted user requirements (Needs Analysis) (Work Package 1)
- Selecting content to meet these requirements (Work Package 2)
- Design Skill Delivery using a modular approach (Work Package 3)
- Piloting skill delivery (Work Package 4)
- Project management (Work Package 5)
- Project promotion & dissemination (Work Package 6)

This evaluation focuses especially on work packages 1 to 4 and more particular on the quality of the course templates and the format, quality and contents of the courses and the materials used.

2   Evaluation of the course templates

The templates used for describing the courses and units in detail are in line with most recent development in European systems e.g. ECTS (European Credit Transfer & Accumulation System) and the European Credit System for Vocational Education and Training (ECVET).

The following entries have been completed for each course:
- Course Designer
- Course Title
- Course Description
- Course contents
- Entry Level
- EQF equivalent
- Period of reference
- Language(s) of instruction

In addition the following information is provided at the level of each unit:
- Name
- Purpose
- Recommended prior knowledge and skills
- Learning Outcomes
- Teaching and Learning methods
- Knowledge and/or Skills
- Evidence requirements
- Assessment method
- Number of credits of each unit related to the total of the course and/or duration

Less relevant items have been omitted (e.g. name of lecturer(s), year of study,) and some specific elements have been added (e.g. purpose) but overall the way in which the courses and units are described is in line with European standards and could even be referred to as a good practice, worth to be followed by other, comparable projects which want to offer qualitative and comprehensive yet convenient and accessible information on their (short-time) professional development courses or even regular offer of courses.

Obviously, the items (which ones, number of items, compliance with European standards,…) in themselves do not guarantee any quality. So we need to take a closer look on how these have been completed. In general, it is evident that this has been done in a qualitative way. Especial attention has been devoted to what is more and the core elements of such a course/unit description, viz. the description of the learning outcomes.

The description of the learning outcomes consists of the different elements necessary to offer the necessary information (necessary among other things for a fair judgement on the level of the courses and units, an indication of the relative weight of the unit, a good understanding of the content of the courses and units etc.):

- o An active verb form;
- o An indication of the type of learning outcome: knowledge, cognitive processes, skills, or other competences
- o The topic area of the learning outcome: this can be specific or general and refers to the subject matter, field of knowledge or a particular skill;
- o An indication of the standard that is intended / achieved by the learning outcome;
- o The scope and/or context of the learning outcome

Related to this, are the description of the Knowledge and/or Skills, Evidence requirements, Teaching and Learning methods and Assessment method. Also these have been thoroughly discussed leading to useful and informative entries. Some of the entries here overlap, either with one another or with the information provided in the Learning outcomes-section. This is inevitable because of their interrelatedness and even contributes to a better understanding of the overall picture.

3 Format, quality and contents of the courses and the materials used

To evaluate the format, quality and contents of the courses and the materials used all kinds of documents related to the courses and units have been scrutinized e.g. the study material provided, the teaching staff, the target groups / participants, the provider of the course/unit, participants' feedback and evaluation.

Below, all these items are evaluated in more detail.

3.1 The study material provided

All courses/units provided relevant study material, mainly in the form of a PowerPoint-presentation based on the same template (which certainly enhances the transparency and accessibility for participants). Although I am not qualified to judge on the content of these materials in details, their format, structure, different items discussed (including topics e.g. learning objectives) etc. certainly give a very professional impression. This rigour is enhanced by the list of references, which is added in many cases at the end of the presentations. The use of examples, illustrations, graphs etc. adds to the accessibility for participants.

3.2 Teaching staff

The educational and research background, the specific aquaculture-related experience, the affiliations etc. of the teaching staff involved in the course delivery are all indisputable of a high level. This of course adds to the quality of the courses.

3.3 The target groups / participants

The participants' lists of the different piloted courses reveal that the large majority of the participants for the courses/units are from:

- universities or other higher education institutions (by far the most represented group – with some participants at undergraduate, but mainly in graduate and PhD-level)
- (large) aquaculture research institutions
- (large) aquaculture companies

Such a high level and focused audience allows reaching a high quality level.

3.4   The provider of the course/unit

Not only were most participants from universities or other higher education institutions, also the majority of providers and lecturers involved in the piloted courses are to be situated in the higher education sector. Some of the trainers were also from AquaTT, the project coordinator and international foundation which provides project management and training services to support the sustainable development of Europe's aquatic resources.

Also here, one can conclude that such a high level and experienced lecture staff allows reaching a high quality level.

3.5   Participants' feedback and evaluation

Probably the main criterion for a pilot project to use for future developments are the evaluation and feedback received from participants.

All courses have been evaluated and participants have been asked to provide feedback, both in a structured (for 6 of the 7 courses) and/or in an open way (for all courses).

The structured evaluation was focused on a number of questions.

1. How would you rate the difficulty of the course content?
2. How would you rate the quality of the course content?
3. How would you rate the organisation of the course?
4. The lecturer's presentations skills were:
5. How strongly do you agree? "I found the course content informative"
6. How well did the course meet your expectations?
7. How well have your skills improved during the course?

For all these items, participants could give an appreciation on a five point-scale.
For example, for the first question the five options were:

1. Very Easy
2. Easy
3. Satisfactory
4. Difficult
5. Very Difficult

In total 97 participants completed this evaluation which was made numerical (the first option = 1; the second = 2 etc. with a maximum of five) to allow for a statistical analysis. An overview of these results can be found below. (a few items were not questioned for all courses)

Overview of evaluations by participants for the piloted Vocational Aqualabs courses

		Funding	Proj. Manag.	Exp. Design	Sc. Writing	Stat. Anal.	Networking	Enterpr.	Average
1)	How would you rate the difficulty of the course content?	3.0	2.9	2.85	1.9	2.5	2.6	3.0	**2,7**
2)	How would you rate the quality of the course content?	4.0	4.5	4.2	4.5	4.5	4.2	3.6	**4,2**
3)	How would you rate the organisation of the course?	4.4	4.4	3.9	4.5	4.25	4.4	3.1	**4,1**
4)	The lecturer's presentations skills were	4.4	4.6	n/a	4.4	4.75	4.5	3.9	**4,4**
5)	How strongly do you agree? "I found the course content informative"	4.5	4.6	4.3	4.3	4.5	4.5	4.0	**4,3**
6)	How well did the course meet your expectations?	3.8	4.4	4.0	n/a	n/a	4.1	3.9	**4,1**
7)	How well have your skills improved during the course?	3.8	4.2	3.6	n/a	n/a	4.0	4.1	**3,9**
	Average	**4.0**	**4.2**	**3.8**	**3.9**	**4.1**	**4.0**	**3.7**	**4.0**
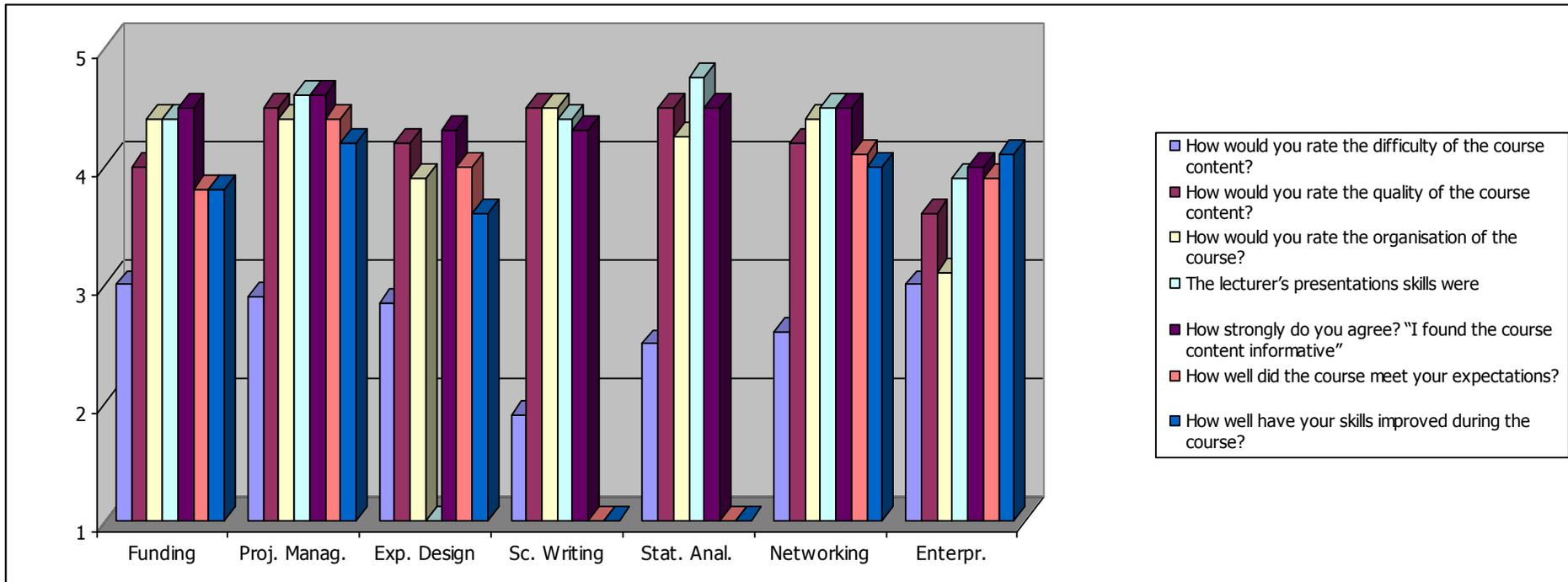
If we analyse these results, the following conclusions can be drawn:
- With an overall average score of 4.0 on a 5-point scale the appreciation is high.
- There is hardly any significant difference in the overall scores in between the different courses.
- Equally, there is hardly any significant difference in the scores for the different questions with one important exception, viz. the item "How would you rate the difficulty of the course content?" which scores 2.6 on average. This is significantly lower than the other items (without this item the overall average score would be 4.3 – which is in between high and very high). One can not deny that this item differs from the other items in that it does not focus on a purely qualitative element but on a subjective appreciation of the difficulty of the course. This score is hence in line with some conclusions drawn above where was stated that the courses address "*a high level and focused audience*".

Finally, another question that was addressed was "Would you recommend this course to a fellow student/colleague?". Most participants who completed this question (85%) say: "YES"; another 15% answer "MAYBE"; no participant answered "NO".

We could not come with a better conclusion ourselves: as such the piloted Vocational Aqualabs courses have proven to fulfil a need, a need which still exists for many others and could be alleviated through the continuation of the courses.

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