

*Fostering Growth in the Blue Economy by developing  
an action plan for innovative European aquaculture  
VET and harmonized qualifications*

## **D7.2 Quality assurance during the preparation phase consisting of engagement and dissemination activities**

## **D7.3 Quality assurance of surveys**

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# **WP 7 Quality Assurance**

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## Summary

This document has been produced to satisfy both D7.2 and D7.3 as one naturally leads to the other. D7.2 addresses the process of producing quality assured surveys and D7.3 is the quality assured surveys themselves. Therefore, the reporting has been combined within this single document.

The role of strategies, guidelines and protocols for project management and communication in support of risk management and mitigation, are described briefly in Chapter1. Where necessary Stakeholder-analysis was applied to provide the foundation to effective communication planning (as illustrated by Appendices 1 and 2), alongside the quality assurance of communication content.

The qualitative survey process supported at times by quantitative survey methods was central to Blue EDU research into VET supply (WP5) and VET demand (WP6). The process by which quality assured surveys were produced is described in chapters 2 and 3 and the Eval Response Technology deployed in Norway fully described in Appendix 3.

### **D7.3 Quality assured surveys**

The quality assurance processes described in chapters 2 and 3, culminated in quality assured surveys (quantitative and qualitative).

Appendices 4 and 5 provide the quality assured survey question sets, designed to support quantitative surveys within the WP5 and WP6 process and ultimately helped to inform the country level reports for WP5.

Appendices 6 and 7 provide quality assured structured interview questions and prompts that supported the structured interviews (qualitative survey process) that were held in many countries and formed and were essential to information gathering and the development of the partnerships understanding of aquaculture VET and industry needs in each BlueEDU country.

## Chapter 1: Project Management and Communications

The approach to the management and mitigation of risk through the establishment of sound project management practices and disciplines, and internal and external communications supported by QA processes, is more fully described in D7.1. Both provide the foundations to delivering WPs to the high standards required to realize the BlueEDU research ambition.

### 1.1 Project management

The protocols and disciplines central to the smooth running of the project were established during the preparatory WP2, including; the use of WP Gant charts to provide partners detailed direction and task deadlines, the establishment of issues logging and the recording of Action Minutes. This served to ensure and swift remediation and support, founded on the 'plan, do, check, act' (PDCA) cycle and ensured that partners were accountable for their actions.

### 1.2 Communications

The Preparatory WP2 established a communications strategy, defining who to communicate with, for what purpose and via which communication channels and methods. This included consideration of dissemination requirements as well as the communications central to the survey process. (See chapter 2 and 3).

The process was initiated through the application of stakeholder analysis in those countries where it was less obvious who the key stakeholders were, and how key stakeholders could be influenced. The stakeholder analysis was then used to inform the initial engagement, prior to the survey process (WP5&6).

Appendix 1: Stakeholder Analysis for Scotland

Appendix 2: Stakeholder Analysis for Southern Europe is stored in a separate excel file.

Communication content was devised for each of the defined target audiences that the web site and other forms of communication were to address. Readability scoring systems were applied to ensure plain English was being used and following several stages of refinement web content was posted (See BlueEDU web site) and re-purposed within other forms of communication.

Throughout the second year of the project it became clear that one to one communication with carefully selected individuals with a vested interest in workforce development was the most effective way to communicate and make progress. Supported by the intensive qualitative survey process, relationships were forged that led to the provision of comprehensive high-quality information to support the development of the WP5&6 reports.

## Chapter 2: Quantitative Surveys

The development of quantitative surveys commenced during the first 6 months of the project (WP2 – Preparations), and several discussions between partners were held via skype and video conferencing to determine the concepts and themes to be addressed within the initial attitudinal survey of industry leaders at the May 2017 FEAP event held in Venice. (See WP2) Subsequently, several stages of survey development ensued for WP5 (VET supply) and WP6 (VET demand), with the intention of developing question sets that could be shared by partners and maximized the number of questions common to each national survey, thereby aiding the analysis of returns. Ultimately, these surveys were presented on line within a section of the BlueEDU web site and designed to encourage engagement by all levels of staff in the fish producing companies.

### 2.1 Survey development process

During early survey discussions it was agreed that the Eval Rapid Response Survey tool would be ideal for synchronous survey activity during events, as it supported interaction and adaptation to the audience during engagement. This methodology was successfully applied at the FEAP assembly in May 2017 and useful feedback was gathered in response to the questions raised.

See Appendix 3: Eval technology and methodology.

The approach was complemented by on-line surveys that were presented using the Lime Survey system (See WP2 for details), leading to a comprehensive data analysis and presentation of results within WP2 reports.

The development of question sets for on line surveys for WP5&6 continued, thereafter.

### 2.2 WP 5 VET supply

A set of questions were quality assured by the partners for WP5 and successfully used at a meeting of aquaculture teachers in the evening at the annual Aquanor fish farming conference in Norway in August 2017. See Appendix 4: Quality assured question sets for WP5

This resulted in useful insights to the attitudes of Aquaculture VET teachers from 12 Upper Secondary Schools in Norway, and was complemented by a meeting and discussion, facilitated by the Lead Partner NTNU and a series of subsequent one to one meetings.

The WP5 questions were not used on line to gather quantitative data in any of the other 11 BlueEDU countries, as the partnership discovered that there were too few aquaculture providers and practitioners to support a meaningful quantitative analysis. It was decided to use the question sets to inform the development of qualitative survey approaches applying structured interview, in order to get as much useful insight as possible from the relatively small number of VET providers and practitioners available. (See chapter 2 Qualitative surveys).

### 2.3 WP6 VET Demand

With reference to the analysis of the returns from the survey of industry leader's attitudes and the FEAP May 2017 Assembly, draft question sets were developed for a range of target audiences within the aquaculture industry. It was agreed that question sets should be developed that were meaningful for respondents being asked to complete the survey, which included; senior managers, HR manager, site managers and husbandry operatives.

Question sets were devised that were appropriate to each occupational level and referred to VET using generic terms and concepts. After several discussions and face to face development meetings, the question sets were agreed and presented within the BlueEDU web site.

See Appendix 5: Quality Assured Question Sets for WP6.

On reflection, and following discussions with their stakeholders, the Norwegian partners devised a bespoke survey approach which relied on the Eval system. Many interactive 1-hour long meetings

were held and attended by site managers from the mid Norway coastal zone. This led to a data collection using questions that were more meaningful to the Norwegian industry and VET system context.

In Scotland and Ireland companies were incentivized to encourage their staff to complete the WP6 questions sets by offering them a bespoke data analysis for their company. Several companies in Scotland and Ireland were interested and keen to gain this insight. However, ultimately, they did not commit, and the partnership agreed that a much greater emphasis would be required in most countries on one to one engagement through a carefully designed and well delivered structured interview process. Therefore, except for Norway, the qualitative survey methodology became the main approach taken in the other countries for WP6 and WP5.

## Chapter 3: Qualitative Surveys

Qualitative survey methodology has provided most of the information and insights within the BlueEDU countries, except for Norway. The survey process heightened the interviewees level of project awareness and interest, leading to the development of relationships that became increasingly fruitful during the second year of the BlueEDU research.

### 3.1 Survey methodology

The structured and quality assured quantitative surveys referred to in Chapter 2 above, preceded the development of structured interviews. Therefore, most of the themes to be addressed and information needs were known and well-rehearsed by partners at this stage.

In Scotland and Ireland, it was found to be advantageous to complete the process within 2 or 3 stages, to avoid overwhelming the interviewee and to build their confidence and trust. This led to better relationships, deeper insights and higher quality information.

### 3.1 Quality Assurance

The 'one to one' interview approach was initially piloted by the Norwegian partners, building on their previous quantitative survey results from facilitated meetings supported by the Eval 'Rapid Response Technology'. A series of simple open interview prompts were prepared with reference to their previous returns and analysis.

There were a few underlying principles adopted to quality assure the results:

- a) A logical series of structured interviews questions and prompts were drafted to cover all the agreed themes and areas of investigation
- b) BlueEDU partners provided feedback on the draft question sets used in Scotland and Ireland, leading to several stages of revision and eventual approval of the draft interview script by the lead partner.
- c) The interviewees were selected with care from each agreeable company to ensure they were knowledgeable and had a vested interest in workforce development. The company HR manager was most often the ideal candidate.
- d) At times to unplanned lines of enquiry were followed, if tangential issues arose or points were made that were useful to the over-all study.
- e) Interviews were either audio recorded with consent or recorded by an assistant taking notes during the meetings.
- f) The draft record was sent to the interviewee for their approval before submission internally.
- g) None of the respondent's information returns entered the public-domain and no reference was made in the WP5&6 reports that could reveal information sources.

### 3.3 Quality Assured structured interviews

The sequence of the deployment of structured interviews was as follows.

Phase 1: Norway, followed by Scotland and Ireland

Phase 2: Iceland and Faroes

Phase 3: Finland, Spain, Greece, Croatia, Cyprus, Italy and France

A meeting was held in Copenhagen after phase 1 to discuss modifications to the questions and approach that may be needed in order to gather information effectively in the remaining countries. The different VET regimes, or in some cases the lack of a VET regime, and the different industry cultures in making these adaptations were all taken in to account.

A range of structured interview were developed, supported by the Norwegian and Scottish partners, leading to a qualitative survey process that was flexible enough to be effective in each of the remaining BlueEDU countries, pitched at the right level and in context.

The final structured interview questions and prompts are presented in the appendices below.

Appendix 6: Scotland structured interview questions

Appendix 7: Structured interview questions used in other countries

## Chapter 4: Conclusions from survey experience

### 4.1 Quantitative surveys

A mature supportive relationship and a strong interest in the BlueEDU research results at company level is required in order to successfully apply the online survey technique to gather quantitative data. This came close to being achieved in Scotland, once receptive companies and advocates were discovered, but unfortunately, they did not commit to the 'company bespoke' on-line survey concept early enough for it to be followed up within the project time frame.

Therefore, there has been a high reliance on qualitative survey techniques, through 'structured interviews' which were effective. In Scotland's case, an analysis of data gathered by a parallel national survey into future VET needs, (Industry Lead Group ILG2030 skills survey) was also informative and helped the WP5&6 analysis.

Norway used Eval Response Technology very successfully, to enable the results of the survey to be shared with the audience immediately, in order to:

- Encourage additional comments related to misunderstandings or reflections in the group.
- Initiate subsequent follow up discussions
- Let the group discuss between each other before they reply, to ensure that they understand the question before they vote.
- Create engagement by displaying results immediately.

This was an interactive process that combined the advantages of quantitative data analysis through the application of a survey question set devised to suit the Norwegian VET system, with the advantages of engagement, discussion and dialogue. The results of these surveys during the first year of the project yielded a lot of information and quantitative data that was formative revealed some of the main issues. (See 4.2 below)

### 4.2 Qualitative surveys

The approach to qualitative surveying was more open by Norway, with limited prompts, allowing the discussion to be more controlled by the respondent and relevant issues to be explored more intuitively. In order to make the discussion more natural and flowing, it was recorded and analysed later. The structured dialogue often involved a small group 2-3 people, whereby those leading a structured interview elaborated and try to progress beyond the responses and better understand **Period of assignment** within the organization's challenges. The output from these meetings has been the most informative and made a major contribution to Norway's WP5&6 reports.

For Scotland and Ireland, a question set, and prompts, were prepared to support structured interviews. A comprehensive 2 or 3 stage process was followed, encouraging useful digressions, with someone taking notes from the phone conversations. This yielded a lot of detailed information that was later confirmed through the approval of a documented record which was informative when developing the Scottish and Irish WP5&6 reports.

Ultimately, Question sets were heavily modified to suit the VET and industry context of each of the other countries surveyed, to ensure each question was meaningful to each stakeholder interviewed.

## Appendixes

### Appendix 1 Stakeholder analysis for Scotland

Stakeholder Analysis is the process of identifying the organisations and/or individuals

	Low influence	High influence
High importance	<b>Group A:</b> this group will require special initiatives to protect their interests <b><u>Meet their Needs</u></b>	<b>Group B:</b> a good working relationship must be created with this group <b><u>Key Partners</u></b>
Low importance	<b>Group D:</b> this group may have some limited involvement in evaluation but are relatively of low priority <b><u>Least Important</u></b>	<b>Group C:</b> this group may be a source of risk, and will need careful monitoring and management <b><u>Show Consideration</u></b>

#### Step 2 — Table 2: Stakeholder Analysis Matrix

After initial stakeholder mapping fill in the analysis matrix.

Step 3: With the help of meetings, phone calls or interviews, the matrix can be finalised to identify the Key Stakeholders who will help BlueEDU. The help they could provide could be defined, within a formal invitation from the lead partner to become an Associated Partner, making clear the type of assistance welcomed.

Important : Please keep in mind that Stakeholder Analysis Matrix should include all stakeholders, not only the Key.

## Step 1 - Table 1: Initial Stakeholder Mapping – Scotland

1. Please list all stakeholders	2. Please rate the importance and influence of the listed stakeholders				3. Group Allocation
Name of stakeholder	Importance		Influence		(Group according to Importance/Influence)
	high	low	high	low	
Industry lead Group (ILG) 2030 vision	X		X		<b>B (Key associated partner)</b>
Scottish Salmon Producers Organisation (SSPO)	X		X		<b>B</b>
Scottish Aquaculture Innovation Centre (SAIC)	X		X		<b>B</b>
Highlands and Islands Enterprise (HIE)	X		X		<b>B</b>
Skills Development Scotland (SDS)	X		X		<b>B</b>
Gaelforce Ltd (Technology Supply Company)	X		X		<b>B</b>
University of Stirling (IOA)	X		X		<b>B</b>
Aquaterra	X		X		<b>B</b>

LANTRA	X			X	A
LANTRA Awards	X			X	A
Marine Harvest		X	X		C
AKVA (Scotland)	X			X	A
Scottish Salmon Company	X			X	A
Scottish Seafarms	X			X	A
Dawn Fresh	X			X	A
Landcatch	X			X	A
Kames		x		x	D
MSD (Animal Health)	X			X	A
Fish VET Group	X			X	A

5 M Benchmark	X			X	A
Sea Fish	X			X	A
Aqualife (Vacine)	X			X	A
Europharma (Salmon tech)	X			X	A
Cooke Aqua	X			X	A
Greig (Seafood)		X		X	D
Wester Ross salmon		X		X	D
Loch Duart Salmon		X		X	D
Shetland Aquaculture	X			X	A
Fish Farmer Magazine	X		X		B
Fish Update.Com	X		X		B

European Aquaculture Society	X			X	A
UHI		X	X		C
Inverness College		X	X		C
North Atlantic Fisheries College		X	X		C
Polaris Learning	X			X	A
Skill Fish	X			X	A
SRUC		X		X	D
St Andrews University	X			X	A
LANTRA	X			X	A
SQA	X			X	A
SCQF		X		X	D

Work based learners (MA)	X			X	A
Murray Stark (Inverness Lecturer)	X			X	A
British Trout Association (BTA)		X		X	D
Fish Farm Expert		X		X	D
Scottish Rural College		X		X	D
EWOS (Fish Feed)		X		X	D
Biomar		X		X	D
Skretting		X		X	D

**Table 2: Stakeholder Analysis Matrix – Scotland**

STAKEHOLDER Name	Group (A-D)	CONTACT PERSON  Phone, Email, Website, Address	IMPACT  <i>How much does BlueEDU impact them? (Low, Medium, High)</i>	INFLUENCE  <i>How much influence do they have over BlueEDU? (Low, Medium, High)</i>	WHAT is IMPORTANT to the stakeholder?	HOW COULD THE stakeholder contribute to the project?	HOW could the stakeholder BLOCK the project?	STRATEGY for ENGAGING the stakeholder
<b>PUBLIC AGENCIES AND REPRESENTATIVE BODIES</b>								
<b>Industry lead Group (ILG) 2030 vision</b>	B	Stewart Graham (Chairman)  Tel: 01463 229400  Stewart.Graham@gaelforce.net  No Web site yet	High as the ILG have a skills as well as technical and regulatory remit.	High as they have a Skills Committee with a very similar remit to BlueEDU	The chairman wants to see a revamped VET aquaculture system (from 14-16 to in work) and a better VET/industry partnership	By exerting influence on all industry stakeholders (producers and supply company)  By giving consent for BlueEDU to access training needs survey data	By refusing to support BlueEDU (Seems unlikely based on initial conversation  Refusing access to reports leading to the need for more BlueEDU research	By working with the SDS and HIE initially to find compatibility and synergy between skills committee and BlueEDU  If Survey report requested from HIE is not forthcoming, an approach to ILG 2030 by IOA and PLI, following SAIC support

<b>Scottish Salmon Producers Organisation (SSPO)</b>	<b>B</b>	<p>Jamie Smith Tel: 01783587000 <a href="mailto:jsmith@scottishsalmon.co.uk">jsmith@scottishsalmon.co.uk</a> <a href="http://scottishsalmon.co.uk/">http://scottishsalmon.co.uk/</a></p>	<p>Low currently, as skills is a small part of their remit, and low priority for members. BlueEDU can help achieve their skills agenda objectives.</p>	<p>Medium as they are in regular contact with CEOs, but need to have a stronger believe in BlueEDU benefits</p>	<p>Satisfying their members demands as a 'members led organisation'</p>	<p>contacts with industry education enthusiasts useful and have been promised  SSPO surveys,  Assisting engagement,  Influencing NAFC</p>	<p>Apathy, negative messages linked to Brexit</p>	<p>Via industry members, FEAP and Scottish ILG, to increase BlueEDU interest</p>
<b>Scottish Aquaculture Innovation Centre (SAIC)</b>	<b>B</b>	<p>Corrine Critchlow Watten Tel: 01786 278322 <a href="mailto:coricw@scottishaquaculture.com">coricw@scottishaquaculture.com</a> <a href="http://scottishaquaculture.com/">http://scottishaquaculture.com/</a>  Corrines replacement will need to be contacted</p>	<p>Of lower importance than research, but they do have a skills remit. BlueEDU collaboration could benefit that part of their work, potentially, making collaboration of mutual benefit</p>	<p>Influence could be moderate, as they sit on relevant committees and have been seen as responsible for skills for over 2 years.</p>	<p>Serving industry perceived needs which are dominated by technical problems, not skills</p>	<p>Opening doors to stakeholders on committees, advocating BlueEDU aims influencing SSPO and ILG</p>	<p>Hard for them to block, but main interest is in HE</p>	<p>Through the ILG, HIE and SDS leading the Scottish skills needs analysis this spring (2017) – Postponed to Jan 2018</p>
<b>Highlands and Islands Enterprise (HIE)</b>	<b>B</b>	<p>David Reid Tel: 01309 696025</p>	<p>Medium impact potentially as it can add to their information of the</p>	<p>Significant influence as part of the duo leading ILG skills agenda</p>	<p>Completing a comprehensive review of skills needs and VET</p>	<p>Collaborating with WP 2 and 6 leading to more</p>	<p>Only likely if they thought BlueEDU</p>	<p>Meeting arranged to compare</p>

		<a href="mailto:david.reid@hient.co.uk">david.reid@hient.co.uk</a> <a href="http://www.hie.co.uk/">www.hie.co.uk/</a>	Scottish survey work being undertaken		supply / demand for Scotland	data at a lower cost	counter productive	BlueEDU agenda (esp WP2+6)  Interim report requested by PLI Nov 2017
<b>Skills Development Scotland (SDS)</b>	B	Gerry McBride <a href="mailto:Gerry.McBride@sds.co.uk">Gerry.McBride@sds.co.uk</a> <a href="http://learn.activedition.com/NewsandEvents/News/NewsArchive/Food_Drink_Academy.aspx">http://learn.activedition.com/NewsandEvents/News/NewsArchive/Food_Drink_Academy.aspx</a>	Medium impact potentially as it can add to their information of the Scottish survey work being undertaken  They do have an interest in international benchmarking	Significant influence as part of the duo leading ILG skills agenda	Completing a comprehensive review of skills needs and VET supply / demand for Scotland which SDS will use to inform Scottish VET strategy	Collaborating with WP 2 and 6 leading to more data at a lower cost	Only likely if they thought BlueEDU methods were counter productive	Meeting arranged to compare BlueEDU agenda (esp WP2+6)  Agreement to provide access and share was reached
<b>Shetland Aquaculture</b>	A	<b>Telephone:</b> +44(0)1595 695579  <a href="mailto:info@shetlandaquaculture.com">info@shetlandaquaculture.com</a>	Low impact	Some influence over their members	Could provide useful information on their members skills and VET needs	Advocating BlueEDU with their members	Cannot block	Influence them through David Sanderson SSPO to assist surveys for WP6 in Shetland
<b>SQA</b>	A	Anne Boyd	Low impact	No influence with industry, but may have some influence with VET Awarding Bodies due to their strong reputation	SQA have an interest in exporting their world class services to other EU countries	May advise and assist EQF levelling process and process of equivalencies	Cannot block	Influence via personal links between MH and Anne Boyd. (Also via Optimal)

<b>SCQF</b>	D	Anthony O'Reilly	Low impact	No influence	SCQF support the process of levelling and equivalencies and have an interest in RPL good practice.	Can advise regarding RPL approaches and processes for NQ levelling and equivalencies	Cannot block	Influence via personal links between MH and Anthony. (also via Optimal)
<b>European Aquaculture Society</b>	A		Low impact	Some links to industry and VET providers through member networks and the AQATNET legacy		Support to VET surveys in some countries via network influence	Will be supportive	Establish relationship through John Bostock
<b>LANTRA</b>	A	Kevin Patrick	Medium impact. LANTRA have a work plan to deliver with minimal resource. BlueEDU can assist their labour skills foresight	Low influence. Should be higher but they have not run the aquaculture group meeting for years.	Profile raising with industry and being seen as relevant to the labour market	Networks/ promotion that may help to open doors to fish farm surveys. Could assist EOS development.	Not easy for them to block as their reputation is mixed	Cultivate their support as an Associated Partner, but ensure they are on a well-defined remit. Seek their help with WP5
<b>Sea Fish</b>	A	Craig Burton & Training Manager	Low impact	Some influence within the public agencies, but not with the farms	Some potential long term impact on their uncertificated aquaculture VET and support to industry	Support with industry engagement and BlueEDU promotion to industry	Will support, would not block	Inform them of BlueEDU through personal contact and invite their comment, ideas / assistance with WP5
<b>British Trout Association (BTA)</b>	D	Doug McCloud	Low impact	Some influence with farm members	McCloud had previous involvement in	Can encourage trout sector	Cannot block	Influence via IOA, supported by MH personal contact

					NOS. May be interested in BlueEDU aims	engagement by cage farms		and via key members, eg. Dawnfresh and Kames
<b>INDUSTRY – FISH PRODUCER COMPANIES</b>								
<b>Work based learners (MA)</b>	A	Could be represented by company HR managers	Potentially high impact due to increased access to VET/qualifications and higher quality provision	Limited influence, unless industry surveys give them a voice, and then their influence could be high.	Learners have an interest in getting qualified and able to do their job safely and competently	Can inform learner surveys to influence future VET design	Cannot block	Influence via HR managers in producer companies and E Mail/social media campaign
<b>Marine Harvest</b>	C	Gideon Pringle Steve Bracken Veronica Ferguson (HR)	Low impact, as they are self-sufficient. However, BlueEDU could lead to collaborative development of formal in company VET in partnership with Norway. They are currently upgrading their training system unassisted	High influence as the leading company with a CEO on the SAIC BOM	NQ status for in company training, learning resources, robust assessment strategy. Synergy though linkage to HM Norway	Other companies may follow their lead if they engaged	Could encourage apathy through negative talk at high level committees	Cultivate support of CEO through ILG and SAIC BOM influence. Need SAIC support. Meet new HR manager  Seek assistance from X Barony Students  Seek assistance of Pam Ernstberger (knows HR Manager)

<b>Scottish Seafarms</b>	<b>C</b>	Jim Gallagher (CEO)	Limited impact short term, as they are self sufficient in their staff development.	High influence as the CEO is joint chair of the ILG (2030) and influential with the SAIC.	The CEO may enjoy the notoriety of leading Scottish workforce development. In addition, through BlueEDU they could join Salmar Norway in developing better aligned in company training	A VG HR Manager could advise in many aspects of industry engagement and survey work	CEO could block as joint chair of ILG	Meet HR Manager to cultivate support. Gain CEO support through Stewart Graham joint chair of ILG  IOA SMcK to seek influence and contacts via Rob Reilly X Barony and SSF employee
<b>Scottish Salmon Company</b>	<b>A</b>	Lisa Connel (HR)  Zane Pretorius	Some potential impact. They have conducted an in company functional analysis to underpin their staff development programme.	Limited influence on other companies or stakeholders	Could impact on SSC in company staff development, which is well developed. They may wish to showcase their system and SOPs mapping (supporting WP4	They could be a huge assistance to the EOS development for cage farming. May also test out surveys	Not able to block	Cultivate support through personal contact with HR team. Request involvement with cage farming EOS  Zane Pretorius Lewis Manager may assist
<b>Dawn Fresh</b>	<b>A</b>	<a href="mailto:stewart.hawthorn@dawnfresh.co.uk">stewart.hawthorn@dawnfresh.co.uk</a>  07736 273 198	Low potential impact	Main Scottish trout producer that includes marine cage farms. Little influence, other than own employees.	Could influence their cage farming standards	They could assist the EOS from a trout perspective	Not able to block	Inform them of BlueEDU and invite comment  Seek influence through R Reilly

				May have some BTA influence				Ask about Polaris influence/contacts
<b>Landcatch</b>	A	Dave Danson	Low potential impact	Breeder and smolt supplier with a salmon farming customer base and network.	No likely impact	Could help open doors to salmon cage farms	Not able to block	Seek assistance through Dave Danson (X Barony student)
<b>Cooke Aqua</b>	A	Email: <a href="mailto:enquiries@cookeaqu.com">enquiries@cookeaqu.com</a>  +44 (0) 1698 534630	May impact their WBT. They may not have a well-structured in company non-formal VET	Little influence except over their own staff	Could have some impact on their approach to staff development	Assistance with farm surveys, undertaken by their staff.	Cannot block	Influence them though Polaris Learning who have a longstanding relationship
<b>Greig (Seafood)</b>	D	<a href="http://www.griegseafood.no/en/">http://www.griegseafood.no/en/</a>  Tel: 01595 741800	Limited impact	Little influence except over their own staff	Could have some impact on their approach to staff development	Assistance with WP6 surveys and support for collaboration, due to farms in Norway and Shetland	Cannot block	Send BlueEDU description, follow up call and ask for their assistance
<b>Wester Ross salmon</b>	D		Low impact	Little influence except over their own staff	Could have some impact on their approach to staff development	Assistance with farm surveys, undertaken by their staff.	Cannot block	Send BlueEDU description, follow up call and ask for their assistance

<b>Loch Duart Salmon</b>	D		Low impact	Little influence except over their own staff	Could have some impact on their approach to staff development	Assistance with farm surveys, undertaken by their staff.	Cannot block	Send BlueEDU description, follow up call and ask for their assistance
<b>Kames</b>	D	Stewart Cannon Jamie (X Barony)	Low impact	Little influence except over their own staff		Assistance with farm surveys, undertaken by their staff.	Cannot block	Send BlueEDU description, follow up call and ask for their assistance.  Contact Jamie, X Barony Student
<b>INDUSTRY – TECHNOLOGY AND EQUIPMENTSUPPLY COMPANIES</b>								
<b>AKVA (Scotland)</b>	A	Derek Smith	Could have some impact on their informal VET provided at cost to companies.	Some influence with their producer company customers	BlueEDU could lead to EOS recognition for their training / accreditation long term	They could contribute to the development of EOS in cage farming  Will they join the Skills foresight committee?	Will be supportive  Not able to block	Feedback on BlueEDU Aims  Formally request involvement on Skills Committee.
<b>Gaelforce Ltd</b> (Technology Supply Company)	B	Stewart Graham (CEO) Tel: 01463 229400	Impact unknown and needs to be established	High influence as the CEO is chair of the ILG	Rationalising and improving the Scottish VET system for	Through the influence of the CEO on other supply	The CEO would have the authority to	Cultivate CEO through personal one to one communication

		Stewart.Graham @gaelforce.net  http://www.gaelfor cmarine.co.uk/			aquaculture is important to the CEO  They <b>may</b> deliver uncertificated VET	company's encouraging them to engage	stop collaboratio n with BlueEDU	and relationship building. <b>Both IOA &amp;PLI, but IOA may have more influence with ILG</b>
--	--	--	--	--	--	--	--	--

**INDUSTRY – CONSUMABLES SUPPLY COMPANIES (FEED AND HEALTH PRODUCTS/SERVICES)**

<b>EWOS (Fish Feed)</b>	D		Low impact	Some influence over customers	Have an interest in training farmers (informally) on feeding fish, so as they get the benefit of high cost diets.	Contribution to EOS regarding feeding and nutrition. Open doors to farm surveys	Cannot block	Influence by e mailing BlueEDU description followed by phone call to engage them. <b>IOA (Steve) has contacts and links to MSc</b>
<b>Biomar</b>	D		Low impact	Some influence over customers	Have an interest in training farmers (informally) on feeding fish, so as they get the benefit of high cost diets.	Contribution to EOS regarding feeding and nutrition. Open doors to farm surveys	Cannot block	Influence by e mailing BlueEDU description followed by phone call to engage them. <b>As above</b>
<b>Skretting</b>	D		Low impact	Some influence over customers	Have an interest in training farmers (informally) on feeding fish, so as they get the	Contribution to EOS regarding feeding and nutrition. Open doors to farm surveys	Cannot block	Influence by e mailing BlueEDU description followed by phone call to

					benefit of high cost diets.			engage them. As above
<b>Aqualife (Vacine)</b>	A		Low impact	Some influence with customers	Potential long term impact on their uncertificated aquaculture training and support to industry	They can advise regarding the EOS in their specific techniques/technology	Cannot block	Inform them of BlueEDU and invite their comment, ideas / assistance
<b>Europharma (Salmon tech)</b>	A		Low impact	Some influence with customers	Potential long term impact on their uncertificated aquaculture training and support to industry	They can advise regarding the EOS in their specific techniques/technology	Cannot block	Inform them of BlueEDU and invite their comment, ideas / assistance
<b>MSD (Animal Health)</b>	A		Low impact	Some influence with customers	Potential long term impact on their uncertificated aquaculture training and support to industry	They can advise regarding the EOS in their specific techniques/technology	Cannot block	Inform them of BlueEDU and invite their comment, ideas / assistance
<b>Fish VET Group</b>	A	MH to follow up through St Andrews link	Low potential impact	Some influence in the health management field, regarding practices and standards	Unknown but probably limited	Could advise regarding health and husbandry standards in relation to EOS	Not able to block	Request their support to the work of the EOS committee

**AQUACULTURE VET PROVIDERS**

<b>Polaris Learning</b>	A	Gordon Gibb	Medium impact longer term as they are seeking to develop their work based delivery system	Strong influence in the trout sector and some salmon contacts	Keen to join collaborative VET development groups for the industry greater good	Assistance with opening some doors to industry. Contributions to VET innovation approaches via Optimal SP	Very supportive and collaborative. e. very positive example	Engagement ongoing via the related SP (Optimal) piloting RPL approaches.
<b>Skill Fish</b>	A	Brendan Gara	Medium impact longer term as they are innovative regarding industry work based delivery systems and partnership building	Some influence in specific salmon companies including SSC and Land-catch	Has a tentative interest and is reflecting on the issues and opportunities	Can contribute a lot to the discussion on EOS, partnership delivery and innovative work based VET	Cannot block	Use personal relationship to discuss issues and find areas of common interest leading to support with BlueEDU and Optimal
<b>SRUC</b>	D	Alison Murray	Low impact as very little VET involvement for 4 years	No influence as aquaculture VET team left several years ago	Some SRU staff have an interest in re-establishing flexible HN provision	SRUC have influence as a stakeholder with the funding council	Cannot block	Keep them informed to use any political influence that they may still have
<b>UHI</b>	C	Sue Engstrand	Low impact (Short term)	Influence over Inverness + North Atlantic Fisheries College and possibly HIE	Demonstrating industry support for a revitalised Scottish aquaculture VET which includes	Influence/instruct their colleges to complete surveys and get involved with	Could block VET college engagement As opposed to	Establish a relationship with the UHI senior Curriculum decision makers and explain

					funded full time provision.	VET development	encouraging it	BlueEDU to them.
<b>Inverness College</b>	<b>C</b>	Elizabeth Barron-Marjerik	Low impact short term, bit potentially high impact long term if they were to engage.	Some influence through long established industry contacts.	Funding support for re-establishing full time aquaculture VET on the mainland as a result of robust survey work	Support with VET provider surveys and	Could not block, but a key VET provider to enrol	Influence via UHI senior staff, Depute and Principal to counter negative middle manager.
<b>North Atlantic Fisheries College</b>	<b>C</b>		Low impact short term, bit potentially high impact long term if they were to engage.	Strong influence in Shetland through established industry contacts.	Funding support for re-establishing full time aquaculture VET as a result of robust survey work and opportunity for collaborative VET development phase longer term.	Assistance with opening doors to industry. Contributions to VET innovation approaches	Could not block, but an good VET provider to enrol	Influence via UHI senior staff and Dave Sanderson SSPO, and NAFC leaders to try and engage aquaculture VET team
<b>University of Stirling (IOA)</b>	<b>B</b>	John Bostock Tel:01786466575 <a href="mailto:j.c.bostock@stir.ac.uk">j.c.bostock@stir.ac.uk</a> <a href="http://www.aqua.stir.ac.uk/">http://www.aqua.stir.ac.uk/</a>	BlueEDU can help to inform the role of the IOA with regard to the potential development of VET and VET pathways to Degree level	Medium as very well connected to some industry and networks	VET Pathways to feed graduate programmes	Through their network influence within Scottish Funding Council and industry links	As a core partner, they cannot.	Work with John Bostock the core partner representative to establish links to UoS Influencers

<b>LANTRA Awards</b>	A	Kevin Patrick	Low impact on LANTRAs training provision.	Low influence	The long term opportunity for accreditation of short courses, may be attractive	Assistance with aquaculture short course inventory	Not easy for them to block	Involve them in the VET supply analysis
<b>St Andrews University</b>	A	Neil Hazon	Some potential long term impact as EOS would help on line learning development	Limited impact as an HE provider.	Could assist them in aligning their on line provision to the EOS for cage farming making it more explicitly vocational	They may have access to on line learners and farms that can assist survey work	Will support, would not block	Develop support for BlueEDU through personal contact and invite their comment, ideas/assistance
<b>Murray Stark (Inverness Lecturer)</b>	A	Murray Stark	Medium impact on practices and collaboration as a VET practitioner	Significant influence with industry as a respected lecturer	Has a personal interest in the development of aquaculture VET	Has a lot of long established links to industry and can open doors	Supportive, despite his employer Inverness Col	Influence via MH personal contact and involvement in optimal
<b>MEDIA COMPANIES</b>								
<b>5 M Benchmark</b>	A	Jim Muirhead	Low impact, but could assist their partnership with St Andrews	Some influence as the organiser of UK Aquaculture conference and provider of St Andrews learning platform (Moodle based)	Could assist their partnership with St Andrews	Training item on conference agenda and promotion of BlueEDU via media channels	Will support not block	Request their support for Blue EDU and discuss how to promote it through their Media channels

<b>Fish Farmer Magazine</b>	B	Jenny Hijil	Low impact	Some influence over industry as the longest established journal	Provides them free articles for their magazine and contributes towards industry support.	Informing industry of BlueEDU initiative.	Will be supportive	Maintain positive relationship / seek advice regarding BlueEDU PR.
<b>Fish Update.Com</b>	B	Jenny Hijil	Low impact	Some influence over industry	contributes towards industry on line support	Web link to BlueEDU web site Advice regarding Social Media Strategy	Will be supportive	Maintain positive relationship
<b>Fish Farm Expert</b>	D	S	Low impact	Some influence with readership	Has a role to disseminate valuable opportunities to industry	Can encourage engagement through the publication of articles	Cannot block	Influence by phone contact seeking advice on publication opportunities
<b>Norwegian creators of on line learning</b>		<a href="http://www.fishfarmingexpert.com/news/short-films-offer-easy-way-to-teach-fish-farming/">read:http://www.fishfarmingexpert.com/news/short-films-offer-easy-way-to-teach-fish-farming/</a>	NA			Could be included in supply analysis		

## Appendix 2 – Stakeholder analysis for the Mediterranean

The BlueEDU Mediterranean stakeholder analysis is available in an excel file at the project web-site at Stimuli,

## Appendix 3 EVAL – Quick evaluation system

### **Summary**

The EVAL system aims to provide the teachers and the students with a set of services that enable them to:

- Provide instant evaluation in industry oriented short, intense 2-3 days VET professionals courses,
- Extend learning outcome evaluation models by using modern, easy to use, cheap mobile response technology, to include assessment for learning in competence-based systems.
- The underlying technology for the services is based in part on the ONE2ACT PeLe technology.

The system was developed using an iterative prototyping process. The design process has included the main system stakeholders: teachers and VET students. The very context of use dictates that a special emphasis must be placed on the human computer interaction aspects. The educational activity must be supported in a transparent and usable way.

### **What is EVAL?**

Eval is a voting system for many questions that turns students' own computers and handheld devices such as smartphones or tablets into immediate response tools. The students answer evaluation questionnaires set by the teacher, who gets an immediate overview of the students' opinion of the topic covered. The results are immediately displayed on a screen or board. This and can be used as a springboard for letting students immediately get an ownership to the course, since each student active contribution may immediately affect the learning methods. Eval helps the teacher to solve misunderstandings and focus their resources towards removing misconceptions experienced during the training session. Interact with all the students, including those who are usually too modest or non-responsive to speak up.

### **Why use EVAL in vocational education and training?**

- Do you have students who do not participate in class?
- Do the students really understand the goal with your course?
- How do you give feedback to students that solve misunderstandings and remove misconceptions?

### **Advantages**

- A flexible tool for the teacher

- Student commitment
- Immediate response
- Works via WiFi
- Is compatible with modern mobile devices
- No logistics
- Enables the teacher to ask spontaneous evaluation questions
- Activates the modest students
- Easy installation
- Low cost in use
- Can be used in courses, presentations, workshops, and seminars

## **How is EVAL working ?**

The system is based on a client-server architecture and the communication between the components is over the HTTP protocol. The main components of the system (figure below) are: a server application, a Notification service, a student client application and a teacher control application. The responsibilities of each component are defined as follows:

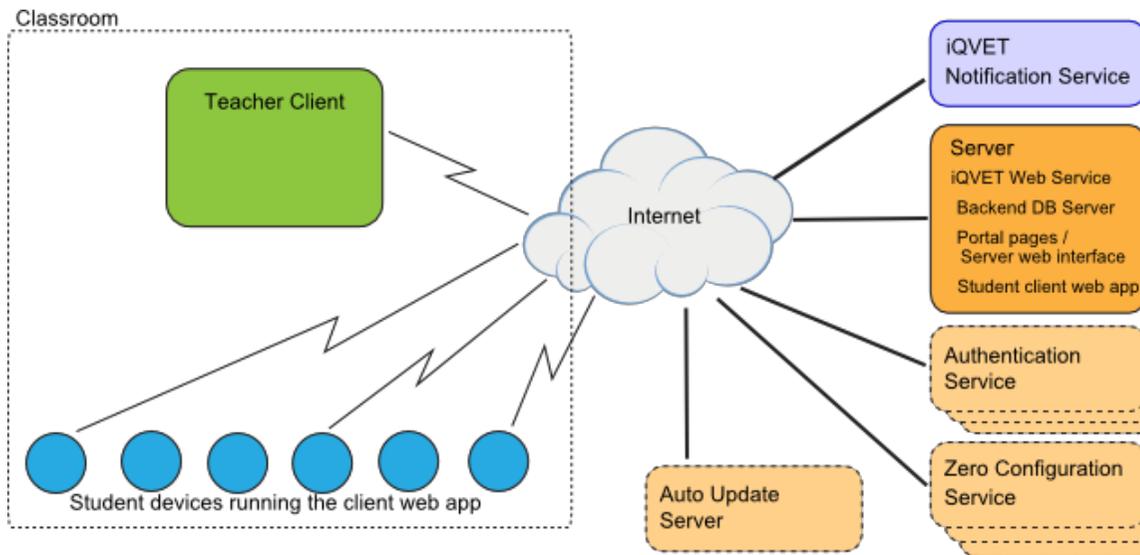
The server component includes the Eval webservice, the back end database (that in our case is collocated with the webservice, but by no means restricted to be collocated) and portal pages. The server also hosts the students' web app. The web service manages the central data model and keeps the entire system in a consistent state at all times. It provides an interface to remotely modify and read the productive resources following the "Representational State Transfer" (REST) principles. The web service is the main communication node and its data represents the "truth", if synchronization issues occur.

The Eval Notification service is aiming to allow the teacher to notify via short text messages the desired participants to join and answer a specific evaluation.

The teacher software is responsible for modeling the workflow for a given use-case. This is achieved by modifying the data inside the web service according to the required work-flow. The teacher role is granted write access to various parameters which allow for shaping a custom work-flow.

The student software usually reacts to the actions of the teacher. Again, the user interface has to implement the workflow for the respective use-case. A central aspect of the student client is the ability of being remotely controlled. According to the state of the data maintained in the web service, the student client may entirely block input or provide restricted read/write access to a set of resources.

Apart from the main basic components the system includes few other components that aim at improving of the user experience and facilitating the system maintenance:



*Eval System overview*

- The authentication service allows integration with other authentication methods and also allows the scenario when one user is accessing several servers.
- The autoupdate service allows the teacher client to update over the internet. When a new build is available it is published on the autoupdate location. The teacher clients will check that location periodically and will notify the user to update.
- The zero configuration service allows the teacher client to automatically retrieve the required information to connect to a certain server.

The Eval system is a web service in combination with use-case specific clients. During lectures, the system is controlled by the teacher and the student clients react according to the situation, thus generating an interactive environment with immediate feedback between teacher and students.

The ability of reacting to the teacher's actions poses certain challenges in the implementation, as the HTTP protocol does not specify a reliable back-channel for browsers yet. Possible approaches to address this issue are polling, long-polling or web sockets where each of which undeniably has specific drawbacks.

In this interactive environment, both the teacher's as well as the student's tools are designed to be streamlined. The amount of available options is kept small and the important functionality for the targeted workflow can be reached with a minimum amount of interactions. A quick interaction with the service is necessary because of the time pressure created in the interactive environment. Neither teacher nor students should get distracted or overwhelmed by special functionality. Any delay in usage of the tool directly causes the other users to wait for the intended change.

Outside the lecture, other clients (e.g. a dynamic web page) are available to work on the resources that have been collected inside the classroom. These tools can offer a rather complex user interface as the time pressure of a live system does not apply here. Typically, the teacher may create new or modify the existing content. Further, both teachers and students have read access to the collected data. Naturally, the teacher is allowed to see all data related to his/her lectures. Students usually only have access to unlocked data, further filtered for personal content. The data of other students remains entirely invisible.

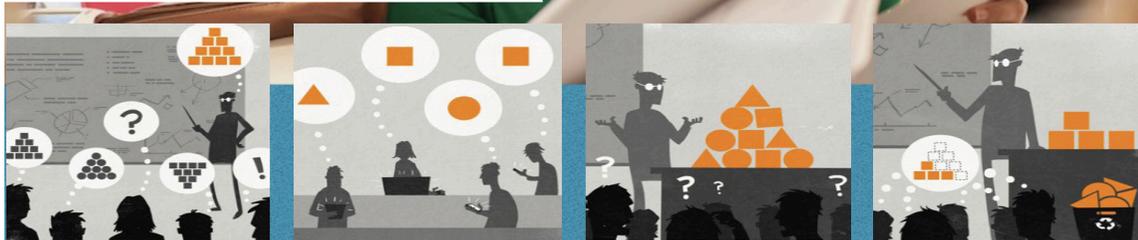
### **Applying the EVAL Quick Evaluation System in the BlueEDU project**

EVAL has been designed to collect data fast and in real time during courses or events where the end-users may only invest a limited time.



# EVAL

## Quick Evaluation System



### Innovative Assessment System for Evaluation of Trainers and Quality VET Professional Programs



### Evaluate in 1-2-3

[www.blueedu.no](http://www.blueedu.no)

**NTNU**  
 Norwegian University of  
 Science and Technology

An Erasmus+ Sector Skills Alliance  
 LOT 1 project. Project number 575235-EPP-1-2016-1-  
 NO-EPPKA2-SSA-N. Agreement number 2016-3452 .



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In order to apply EVAL to gather data in the BlueEDU project, the instructor must do the following:

1. Prepare the question set that should be used with appropriate alternatives on multiple choice questions
2. Upload the question set into EVAL with the various alternatives
3. Test that the question sets are working on a mobile phone, a tablet and a PC. Check that it is possible to apply it on both the data- and the phone network.
4. Measure how long time it take for you to reply to a full survey.
5. Find 1-2 additional persons and ask them to help testing the survey. They you get feedback on the quality of the question set as well as how long time it take to complete the survey.
6. Train your self such that you know how to present the results to the audience, if there is some time available immediately after the data has been gathered.
7. Try to allocate from 30 to 60 min for gathering of data when attending an event.
8. Check that participants will have access to the service at the meeting venue and how many devices that may be connected in parallel. Ask if there is a time limit where inactive devices will be thrown out of the network.
9. Start by presenting the project shortly and what we want to achieve. Then start EVAL.
10. Let the responders get enough time during the time slot to reply to the questions. If there is a group of people replying, encourage them to discuss how they should interpret the questions. This helps ensuring that gathered data are of high quality.
11. If there is some time left towards the end of the data gathering session, present some of the data to the audience.
12. Complete the session by mentioning where and when the audience may get access to the results.

Notice that EVAL may be applied before an event starts, but also after an event. It is the instructor that at the end closes the evaluation.

## **Eval quick start user guide**

### **Eval in a nutshell**

Eval is a tool for quickly running evaluations with several question types (multiple choice, likert and freetext questions). Eval lets you run evaluations of activities that have already been completed (e.g. after a course), or activities ahead of time. For example: you can use Eval to measure pre-knowledge ahead of a course, which will allow you to adapt the course to the abilities and expectations of the course participants. Your evaluations can be answered using any kind of mobile device – such as mobile phones, tablets, laptops etc.

### **Set up your account and log in**

- a) Register your account at [www.one2act.no](http://www.one2act.no)
- b) Using the sign up form on the webpage will normally grant you teacher rights. If you register as a student and want to be granted teacher privileges then contact us on [support@one2act.no](mailto:support@one2act.no) to obtain them (this is needed to create and run evaluations).
- c) Install the Adobe AIR software from <http://get.adobe.com/air>. Adobe AIR is a supporting framework which needs to be installed before Eval can be installed
- d) Download and install the latest teacher application from [www.one2act.no](http://www.one2act.no)

### **What do students need to use Eval?**

Students use a web browser to answer evaluations, and all types of mobile devices such as smart phone, tablet, laptop or the like can be used.



### **The student login page**

Students enter the following address into a web browser

<http://app.one2act.no>

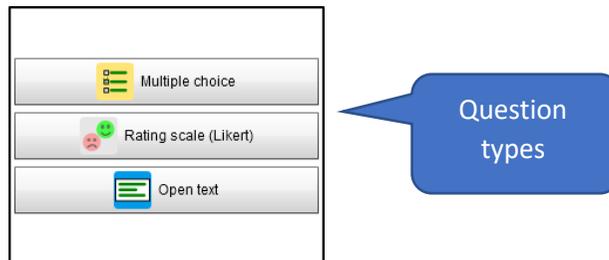
On this website they can create a user (if your system will not be used anonymously), and log in to answer evaluations.

### Set up your evaluation

- a) Click the  icon on the desktop to start Eval
- b) Log in using your user name and password
- c) Select **New Evaluation from scratch** option to create a new evaluation
- d) Follow the step by step wizard to select necessary options and defaults
- e) Customize the evaluation by adding questions and alternatives or by adding the text to questions
- f) Upload the evaluation to the server, which will generate a session code that allows students to join the session. Start the evaluation.

### Collect and respond to feedback

- a. Instruct the participants of your evaluation to access the following web page: [app.one2act.no](http://app.one2act.no)
- b. Ask them join the session using the code you generated or their usernames if you require it
- c. In the evaluation tab you can see their responses in almost real time
- d. After you have stopped the evaluation phase, you can run follow-up questions using the built-in SRS like feature.



## EVAL usermanual

### Registration

To get access to the service you need to register a user account. Registration is a 2-step process:

1. Register your account at [www.one2act.no](http://www.one2act.no)
2. Contact us on [support@one2act.no](mailto:support@one2act.no) to obtain teacher privileges for your account (this is needed to create and run evaluations).

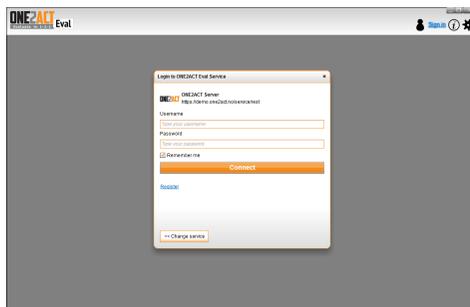
### Downloading and installing Eval

In order to create and run evaluations, you need to install the Eval software on your computer. This is done by following this procedure:

1. Check that the computer you're going to install the software on meets the technical requirements specified on page 28.
2. Install the Adobe AIR software from <http://get.adobe.com/air>. Adobe AIR is a supporting framework which needs to be installed before Eval can be installed
3. Download the latest stable teacher application from [www.one2act.no](http://www.one2act.no)

### Setting up an evaluation in Eval

1. Double-click the desktop icon  or  (or in the Start menu) to start the teacher client.
2. Log in with your username and password:



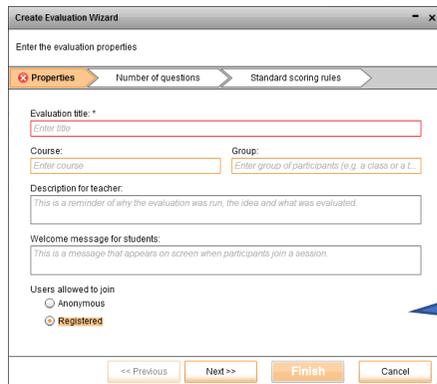
3. After logging in, you will get a list of evaluations you have run earlier (if any):

Course	Title	Group	State	Description
TALM1012	Tidlig evaluering i matematikk 1		▶ running [ evaluation ]	
	Kurs i biologi		▶ running [ evaluation ]	
	Evaluering i forbindelse med Eval-demo		■ finished	
	Evaluering i forbindelse med Eval-demo		▲ uploaded	
	Evaluering i forbindelse med Eval-demo		▶ running [ evaluation ]	
	test		▶ running [ evaluation ]	
	Evaluering av praksiselever		▶ running [ evaluation ]	
	Evalueringsspørsmål Salmar		▶ running [ evaluation ]	

4. You can now creating the multiple choice evaluation by pressing the button  And then choose **New evaluation from scratch**:

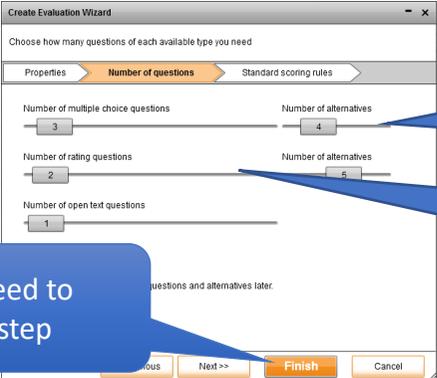


5. You will now be guided through a 4-step wizard where you set up the evaluation:
- Enter basic information about the evaluation, such as title, grade ("group") etc. You can also specify whether the evaluation can be answered by anonymous users, or whether students must be logged in to answer an evaluation.

A screenshot of a 'Create Evaluation Wizard' dialog box. The title bar says 'Create Evaluation Wizard'. The main area is titled 'Enter the evaluation properties'. There are three steps: 'Properties' (selected), 'Number of questions', and 'Standard scoring rules'. The 'Properties' step contains several fields: 'Evaluation title: \*' with a red border and 'Enter title' placeholder; 'Course:' with 'Enter course' placeholder; 'Group:' with 'Enter group of participants (e.g. a class or a L...)' placeholder; 'Description for teacher:' with 'This is a reminder of why the evaluation was run, the idea and what was evaluated.' placeholder; and 'Welcome message for students:' with 'This is a message that appears on screen when participants join a session.' placeholder. At the bottom, there are radio buttons for 'Users allowed to join': 'Anonymous' and 'Registered' (which is selected). Navigation buttons at the bottom are '<< Previous', 'Next >>', 'Finish', and 'Cancel'.

Allow anonymous users?

- Enter the number of questions on the evaluation, and a default number of options for each question (you can change all this afterwards):

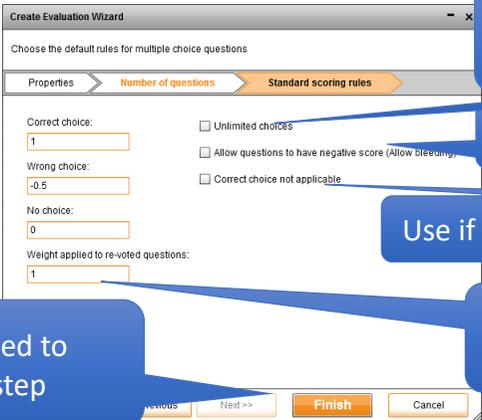


If you want to ask factual question, i.e. questions with right or wrong answers, use the multiple choice type

Rating questions: «on a scale from totally agree to totally disagree, to what extent you agree with this statement?»

Proceed to next step

- c. Next you enter scoring rules, i.e. the number of points for correct/incorrect/no answer. These are only applicable if you're asking factual questions. You can also specify whether the evaluation allows negative total score ("bleeding") and whether students should get credit for participating in revoting sessions after the evaluation is completed.



«Unlimited choices»: students can select as many options as they like

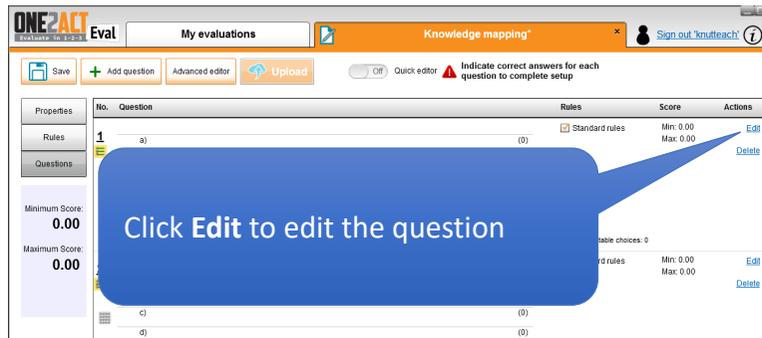
«Bleeding»: if set, negative evaluation scores are

Use if you're asking non-factual multiple choice questions

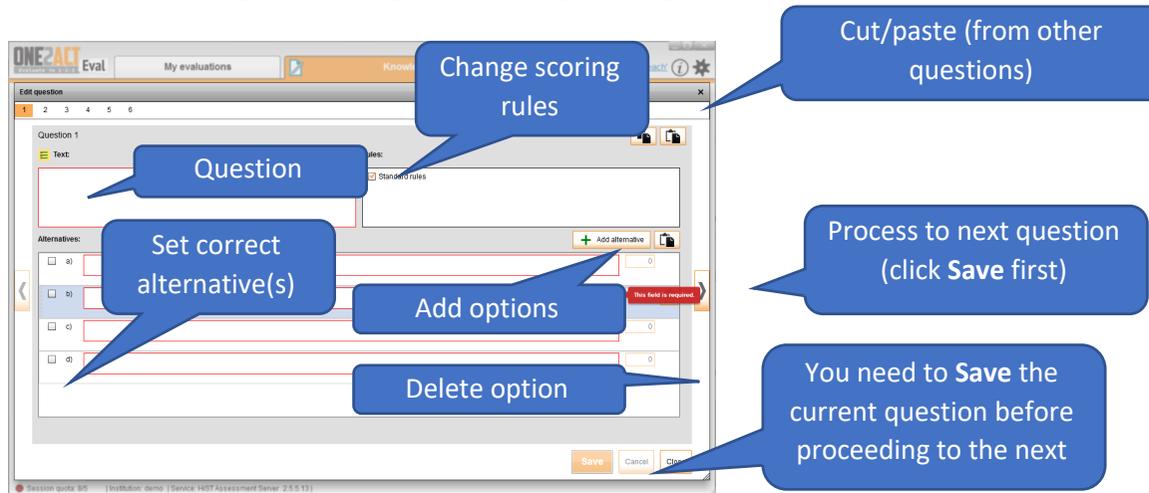
Points awarded to students for correctly answering revotes of a evaluation question

Proceed to next step

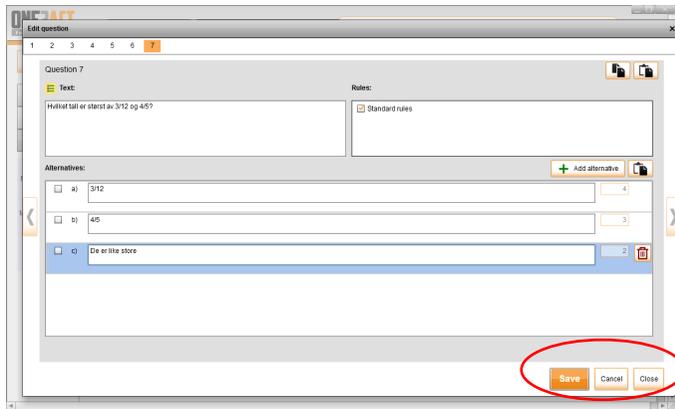
- d. In the last step, you can add questions and options, as well as specify which options are correct.



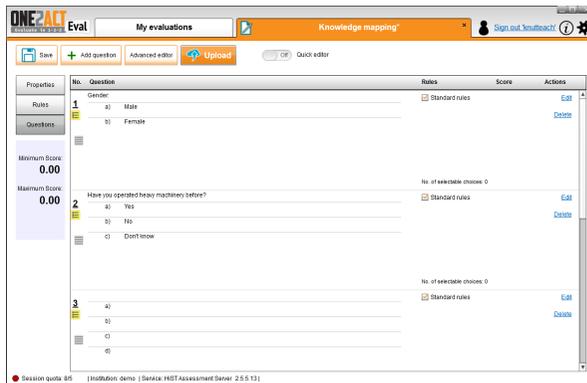
- e. Here you enter the question text and the text for each option, and select which options are correct (if applicable). The image below shows the option for a question of type multiple choice:



- f. Once you have filled in the last question and clicked , you can click  to close the editor.

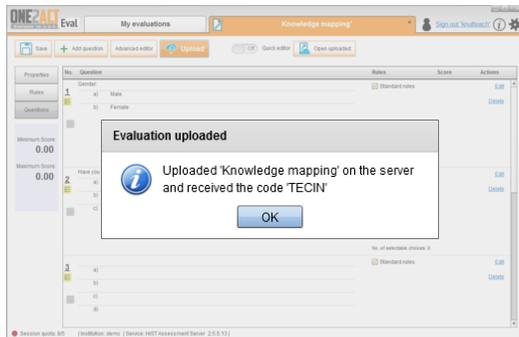


g. You will then get a list of questions like indicated in the image below:

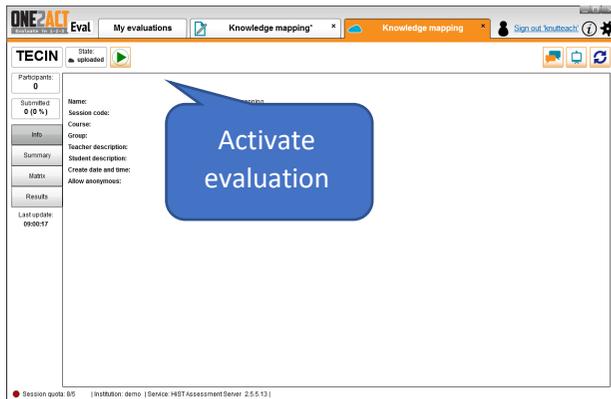


h. It is prudent to save the setup as a file on your hard drive, which you do with button .

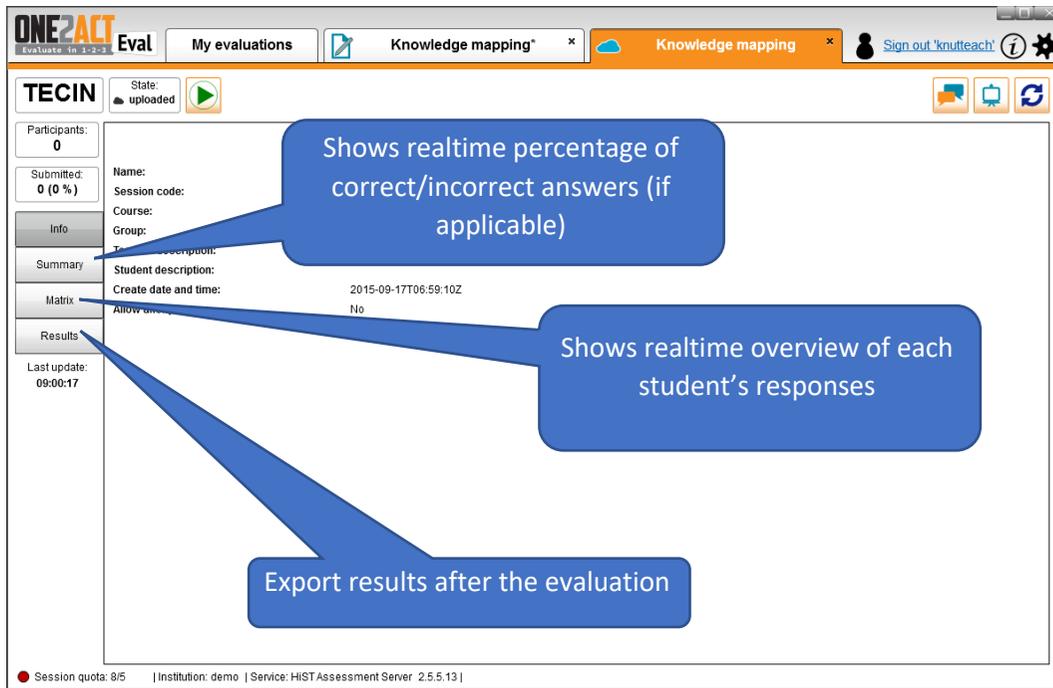
6. Click the button  once you have made all of the desired adjustments. The system will acknowledge your upload with a message indicating that a session code has been generated:



7. By default the evaluation only uploaded to the system; it is not activated yet. If you wish to activate it immediately, you can press the button  in the top toolbar – this will bring up the control panel for the selected evaluation:



8. From here you can activate the evaluation, so that students can answer it. This is done with button . Once the evaluation is activated, the interface will look like the image below:

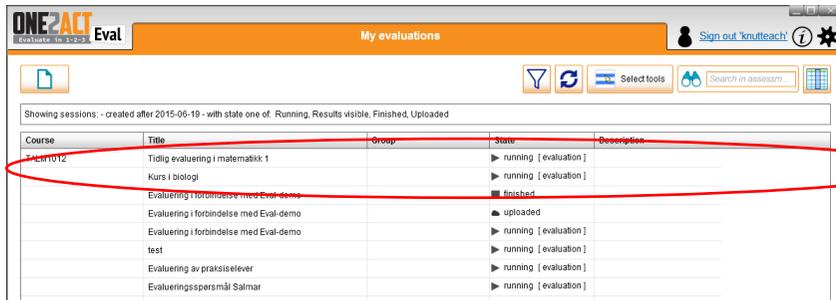


## Running Eval evaluations

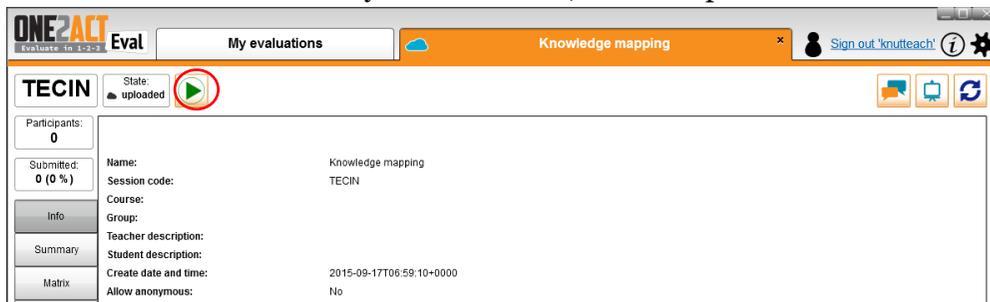
In this section we describe how Eval can be used before, during and after a course or a training session.

### Initiate and monitor the evaluation

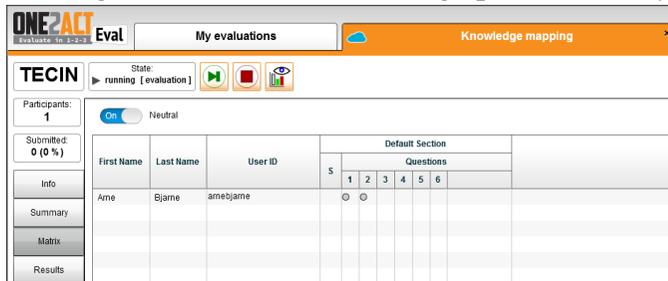
1. If you have already started/activated the evaluation, you only need to give the session code to students to enable them to log in and start answering the evaluation. Depending on whether or not students are present physically, the session code can be given to them during the training session, or, if students are not present physically, posted on a website or by email.
2. If you have not started the evaluation yet, log in to Eval and find your evaluation in the list below:



3. Double-click the evaluation you want to run, and then press  to start the evaluation.



4. Clicking the button  will bring up a continuously updated list of logged-in students:



5. As students begin to answer the evaluation with their mobile devices, this will be indicated on the screen:

First Name	Last Name	User ID	Default Section							
			S	Questions						
				1	2	3	4	5	6	7
Arne	Bjarne	arnebjarne		○	○	○				

Dots indicate question that have been answered

6. You can press the button  On  Neutral to see whether a particular student has answered the various questions correctly (if applicable):

First Name	Last Name	User ID	Default Section							
			S	Questions						
				1	2	3	4	5	6	7
Arne	Bjarne	arnebjarne		●	●	●	●			

Green dot = correct  
Red dot = incorrect

7. Click the button  to get see the total percentage of correct/incorrect answers on the evaluation questions. If you're doing knowledge mapping in preparation for a course, you can rapidly identify problem areas that that you can address during the course:

8.

Green = correct  
Red = incorrect  
Grey = unanswered  
Purple = open text

9. Clicking one of the graphs, which are updated in real time, brings up a histogram of the distribution of responses to each question:



## Ending the evaluation

10. To end the evaluation, press the button  in the top toolbar, as indicated below. Once the evaluation has ended, students will no longer be able to answer the evaluation.

Select	No	Results
	1	100%
	2	100%
	3	100%
	4	100%
	5	100%
	6	100%

11. If there is a need to reopen the evaluation (eg. if some students did not manage to submit due to technical problems), you can reopen the evaluation with  and then finish the evaluation with .

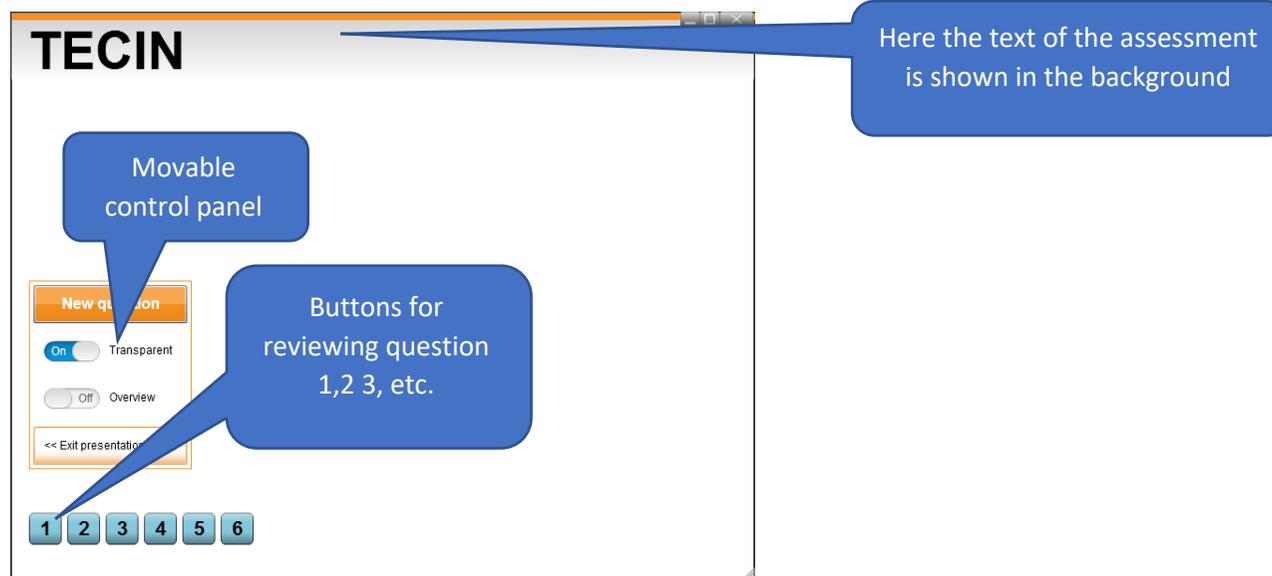
## Reviewing and addressing responses

If you have asked factual questions ahead of a training session which highlight problem areas or knowledge gaps, you can use Eval to systematically address those issues during the training. The same goes for any type of knowledge mapping or measuring of attitudes or opinions at any stage of a course: Eval can be used to review the responses together with the students – e.g. in order to clarify misunderstandings (perhaps the students did not understand your question) or to follow up any input given to you by the students.

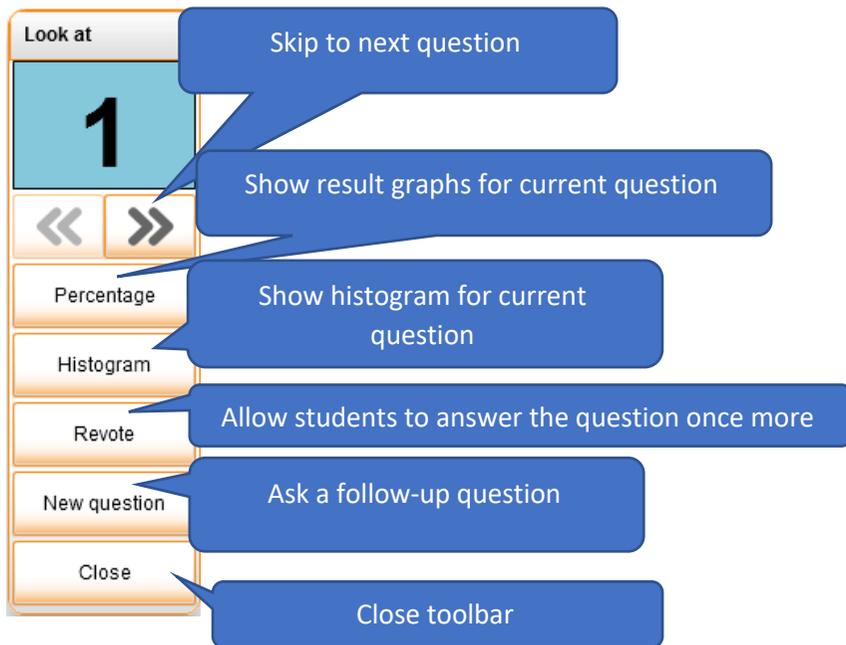
If you're going to review the questions away from the students, then everything is ready for you once you've stopped the test – you can see the result graphs and read any text responses from the **Summary button**.

The following section assumes that you've completed an Eval evaluation, and you're going to review it with the students present.

12. Eval has a so-called **presentation mode** which is useful for the review phase. This hides most of the interface and makes the Eval window transparent. You switch to presentation mode with button . The interface will appear as shown below:



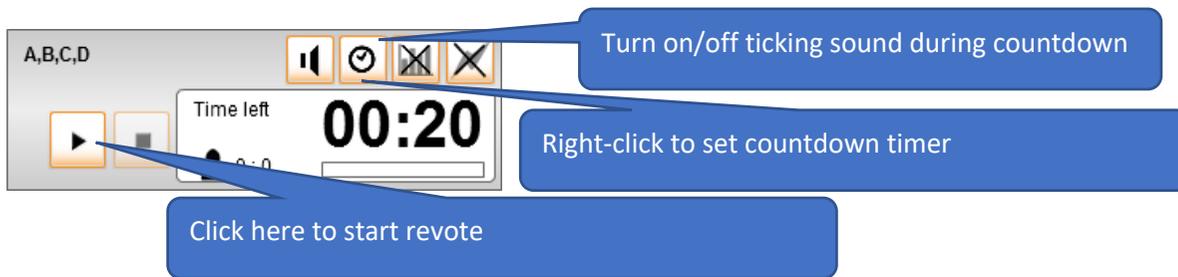
13. Click the button  (or the number for whichever question you wish to address), which brings up the floating toolbar below:



### Letting students answer a question again (revoting)

If the evaluation detected knowledge gaps, or other issues which should be addressed (e.g. students misunderstanding a question, and therefore inadvertently giving misleading answers), students can be allowed to answer questions again in a revoting session.

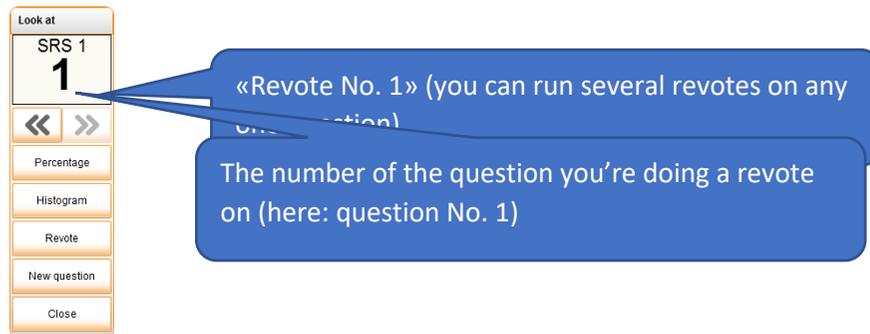
To start a revote on the current question, press the button  in toolbar for the current question. It will then bring up the control panel shown below:



When the countdown is over and the voting is finished, there will be a button in the toolbar below the main menu:



By clicking the button which just appeared, you get a toolbar similar to the one for the original question:



To run another revote on the same question, press the **Revote** button again.

You can also ask follow-up questions with the **New question** button – this allows you to ask a new multiple-choice question (note: it is not possible to ask rating-type questions or open text questions from this control panel).

## Publishing results to students

If you want to make the evaluation results available to the students (e.g. if you asked factual questions with right/wrong answers), you do that by first clicking  to leave presentation mode, and then click  in the top toolbar:

**TECIN** State:  running [ srs ]  

Participants: 1

Submitted: 0 (0 %)

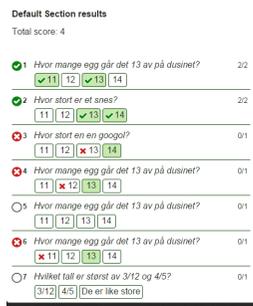
Name: Knowledge mapping  
Session code: TECIN  
Course:  
Group:

Teacher description:  
Student description:  
Create date and time: 2015-09-17T06:59:10+0000  
Allow anonymous: No

Results

Last update: 09:24:38

When students log in from their mobile devices with the session code used for the evaluation, the evaluation results will be presented to them as shown in the image below:



## Sorting and exporting data

### Sorting and searching in previous evaluations

In the tab **My evaluations**, which is shown by default on login, you will find the tools to search and organize evaluations that you have run (or prepared, yet to be run). Below is a brief explanation of the various tools (some of which will not appear until you have clicked on and highlighted a particular evaluation):

ONE2ACT Eval | My evaluations | Knowledge mapping | Sign out 'knutteach'

Tools: Open, Clone, Finish evaluation, Publish results to student, Delete evaluation, Filter, Select tools, Search in assessm..., Select columns to be shown in main view

Code	Course	Title	Group	State	Description
TECIN		Knowledge mapping			
DEPOI	TAL	Tidligere vurdering i matematikk 1			

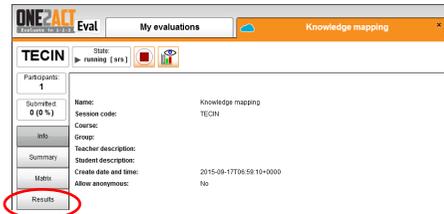
Showing sessions: - created after 2015-06-19 - with state on: f. Running, Results

Callout boxes:

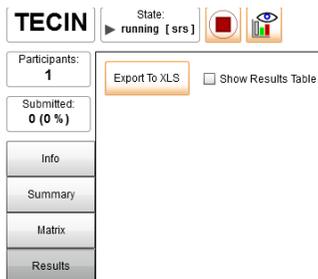
- «Clone» - creates an identical copy of the evaluation, with a new session code
- Finish evaluation
- Publish results to student
- «Archive» - change status to «archived»
- «Filter» - only show evaluation fulfilling some criteria
- Tool to select several evaluations
- Search for words, subjects etc.
- Select columns to be shown in main view

## Exporting data

The results of an evaluation can be exported to a spreadsheet. This is done by double-clicking on an evaluation to get the toolbar shown in the image below:



To export all data from an evaluation, use button , which brings up this menu:



Push the button  to export evaluation data to an Excel spreadsheet.

### **Asynchronously running evaluations**

In some cases the evaluations need to be run for a group of people that will not be working on them in the same time and place. The trainer can create an evaluation and upload it to the server and start it. Afterwards he can send to the participants an email with the address for the student client, the session code and other instructions.

When creating such evaluations it is important to add the text for the questions and the alternatives as the participants need to have all the required information on the device so that they can answer.

The students can answer partially the evaluation and then continue it from where they left it by logging in to the same session.

The teacher can connect to the evaluation as many times as she needs to see the progress of the participants. When the time to end arrives the teacher needs to connect to the evaluation and hit the **STOP** button.

### **Leaving the evaluation running**

Unless you explicitly end the test using the **STOP** button, the evaluation will be open indefinitely. This means that you can set up an evaluation that will be left open for some time – e.g. running a post-course evaluation which is kept open for one week after a course.

Note that exiting the Eval client does NOT stop the evaluation – you have to manually end it.

### **Reconnecting to an open evaluation**

You can reconnect to an evaluation that you left open after you've logged in to Eval:

### **Tips and tricks**

#### **Text on mobile**

When adding text to the questions, keep in mind that the users might respond with a rather small screen. Keep text short and to the point.

#### **Verifying**

It is a good idea to verify your tests before actually running them in order to spot potential problems. For this bit it is always handy to use the **Save** and **Load** evaluation features.

## Errors

There are a lot of reasons that might cause errors. If you get lots of errors it might be that your network connection is down. Always check if you can access the internet and the server (try loading [www.one2act.no](http://www.one2act.no) ). Sometimes it might help to just restart the teacher client and try again. If you send an error report make sure you send all the possible details in the comments.

## Reporting problems

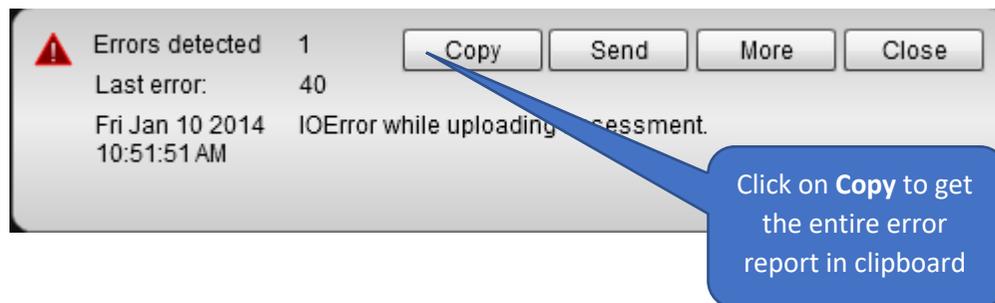
When errors and exceptions are occurring a notification usually appears in the top right corner of the screen.

One can expand the notification by clicking **More** to get more details. Usually the information there is very technical and intended to be sent to the developers.

Click **Copy** to get the error report into the clipboard. This is useful when there are a lot of errors and the report is really large. This is the recommended way to get the error reports. Afterwards just paste this in an email message and send it according to the instructions

When clicking **Send** the application will attempt to open the email client with the error report already prepared and you just need to add your comments and send the message. This operation is not guaranteed to always open the email client (it depends on the email client you have and the size of the report). When this fails, use **Copy** to get the error report.

The error report includes information about where to send it.



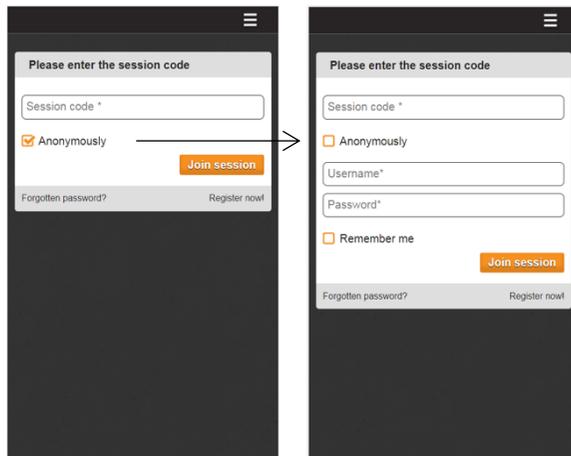
**Important:** You should always add comments to your bug reports. Describe the best you can the context in which the errors occurred. The most important information is how one can replicate the problem.

### The student client

The student client, which the students use to answer your evaluation, is entirely web-based. This means that it will run on any mobile device with a relatively standard web browser and internet access.

### Registering and logging in

1. The students answer your evaluation by accessing the following web page: [app.one2act.no](http://app.one2act.no) They will then get a web page like the one below:



2. If you enabled anonymous login for your evaluation, the students can access your evaluation by typing just the session code

3. If only registered users can participate, and they haven't already created an account, they need to do so by clicking **Register now**, and fill the form shown in the figure below.

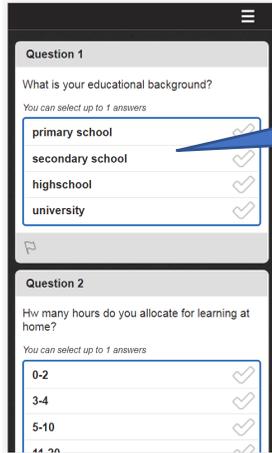


The screenshot shows the registration page for ONE 2ACT. At the top left is the logo with 'ONE' in orange and '2ACT' in black. To the right of the logo is the text 'Registration' and 'Peer Learning Assessment System'. Below this is the heading 'Student Registration'. The form contains several input fields: 'Username \*', 'Password \*', 'First Name', 'Last Name', 'Email \*', and 'Institution \*' (which is a dropdown menu). A red 'Register' button is located at the bottom left of the form area.

4. Once the students have registered, they will be taken back to the login page where they log in using their chosen credentials.
5. Once logged in, the students will get the waiting screen until the questions are available:

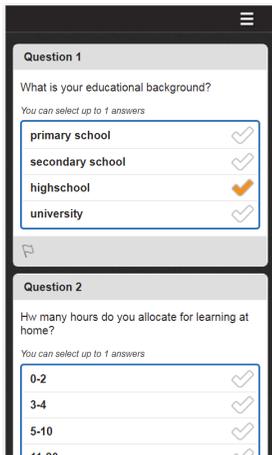


6. After starting the session, the students can then answer the evaluation, starting directly on question 1:

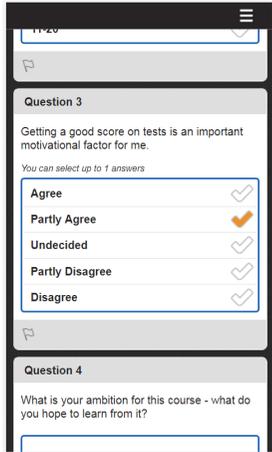


Here both the question and the alternatives have text written into them

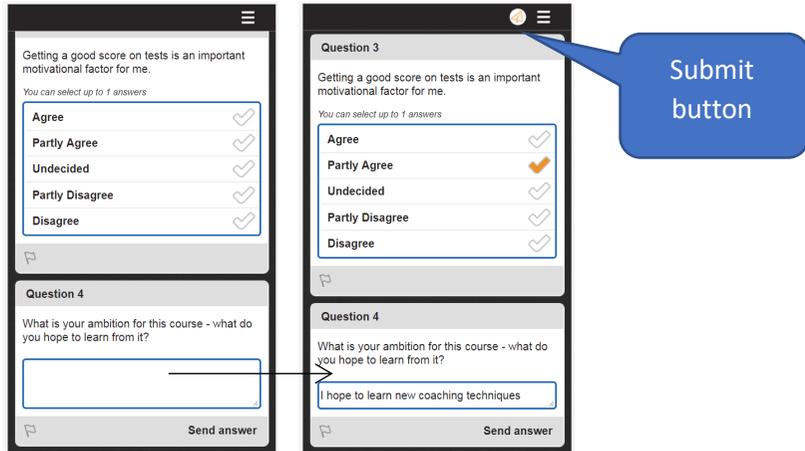
7. As a visual indication that a question has been answered, an orange checkmark appears, and the frame stays blue, as shown below. If an error occurs the framewith turn red



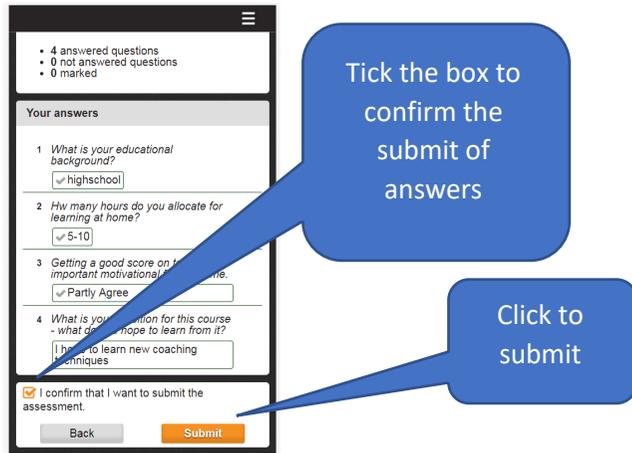
- 8. To go to the next question, students can scroll down to the next question.
- 9. The figure below shows what a likert question looks like for the students:



- 10. The figure below shows an open text question being answered.



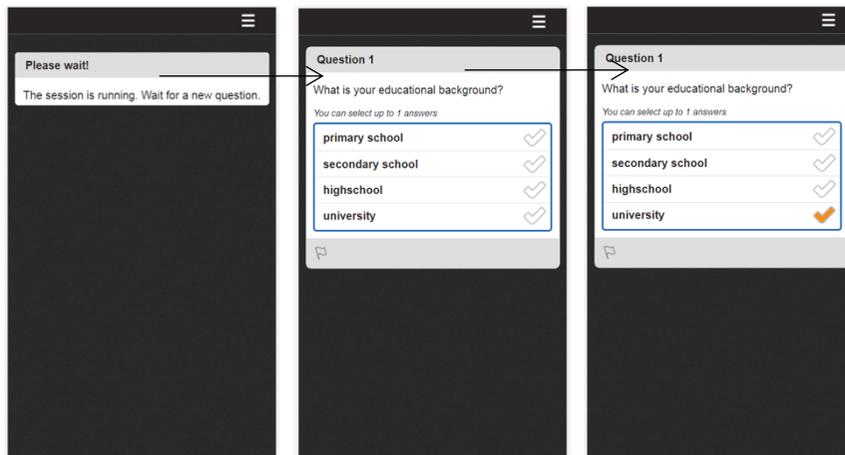
11. Once all the questions have been answered, a submit button will appear at the top of the screen
12. To start the submit process, in which the student finalizes the evaluation, they either click on the submit button or use the app menu option. They will then be asked to confirm their answers, as shown in the figure below.



13. As a confirmation of a successful submit, the students will be taken to this page:



14. If the teacher will choose a re-vote the question will appear on the student screen (for example if a question was misunderstood by many students during the evaluation).



## Technical Specifications / System Requirements

### Internet access

Both the computer running teacher interface, as well as students' mobile devices must have internet access

- Wireless internet (Wi-Fi)
- Wireless Broadband (3G / 4G)
- Wired internet (ethernet)

There is **no requirement that** all devices are connected to Internet in the same way - you may well have some devices connected via Wi-Fi; some via 3G / 4G etc.

#### *System for wireless internet (Wi-Fi)*

If WiFi is used, the wireless network must meet the following minimum requirements:

- IEEE 802.11 a, b, g or n
- The wireless access points must be able to handle a sufficient number of concurrent devices - such as a minimum: the number of concurrent students to use Eval. One must take into account that one and the same student gladly have two mobile devices that use wireless internet (eg. Mobile phone and laptop).
- Download and upload bandwidth of the institution must be at least 5 kbit / s per student

#### *System requirements for wireless broadband (3G / 4G)*

Students can be connected via 3G / 4G. However, a condition that the coverage is sufficient that a transmission rate of 5 kbit / s per student can be maintained.

#### *System requirements for the wired LAN (Ethernet)*

If students use computers connected wired internet, there is no specific system except that the bandwidth per student is at least 5 kbit / s.

## System requirements for computer running teacher interface

- Note: Administrator rights are required to install a teacher interface.If you do not have such rights, one must consult local IT services.
- Supported operating system: Windows<sup>®</sup> XP (with SP3), Windows Vista<sup>®</sup> (with SP2), Windows<sup>®</sup> 7 (with SP1), Windows<sup>®</sup> 8
- Processor: Intel<sup>®</sup> Core<sup>®</sup> 2 Duo E6700@2.6 GHz or higher, AMD AthlonT64 X2 6000+ @ 3.0 GHz or better
- RAM: 2 GB Windows<sup>®</sup> XP / 4GB Windows Vista<sup>®</sup>, Windows<sup>®</sup> 7, Windows<sup>®</sup> 8
- Disk Space: 5MB
- Sound card and speakers
- Mouse or other control device
- Internet access (wired or wireless)

## System requirements for students' voting devices



- Supported operating systems: Windows XP / Vista / 7/8, Mac OS X 10.6 or later, iOS 6 or higher, Android 4.1.5 or newer
- Internet access through either wireless (Wi-Fi), wireless broadband (3G / 4G) or wired Internet
- Browser such as Internet Explorer 7 or later; Chrome; Firefox; Safari

Appendix 4 – Question sets for WP 5

WP 2 and/or 5 Questions for VET providers

Areas of questioning	Purpose of the question	Question	Elective responses	Target
<b>Attitudinal Questions to probe whether the industry leaders share the assumptions underlying BlueEDU</b>				
Biography		1. In which country is the education and training provider you work for based	12 BlueEDU countries Other	All
Biography		2. What type of education and training provider do you work for	Public Private Other	All
Biography		3. What role to you have in your organisation?	Leader HO Dept VET practitioner	All
Recruitment and retention	Establishing whether there are issues associated with recruitment and retention	4. Does your organisation have difficulty recruiting teachers with sufficient fish farming experience?	Constantly Frequently Sometimes Rarely Never	Heads of tertiary education institutes and departments
		5. Does your organisation have difficulty retaining experienced fish farming teachers?	Constantly Frequently Sometimes Rarely Never	Heads of tertiary education institutes and departments
Inventory of provision	Establishing delivery modes deployed by the organisation	6. Does your organisation provide the following types of aquaculture education and training?	Yes, today we do Not any longer No, we never have	Heads of tertiary education

		<p>(a) Full Time attendance based courses of a 6 months or more in duration, leading to a National Qualification</p> <p>(b) Programme made up of courses of between 3 to 20 days total attendance</p> <p>(c) Short courses of 1 -2 days in duration, designed to enable staff to comply with current legislation</p> <p>(d) Short courses of 1 -2 days in duration that are not driven by legal compliance</p> <p>(e) Work based training programmes in partnership with industry (6 months or more)</p> <p>(f) Distance learning courses that require no college attendance</p> <p>(g) Flexible blended programmes, composed of a range of the delivery modes above</p> <p>Please describe the components of the blend  .....  .....</p> <p>Other.....</p>		<p>institutes and departments</p>
--	--	---	--	-----------------------------------

VET design	Establishing the basis of VET design and revision processes deployed	<p>7. What informs the design and development of your aquaculture courses:</p> <p>(a) Full Time attendance based courses of a 6 months or more in duration, leading to a National Qualification</p> <p>(b) Programme made up of courses of between 3 to 20 days total attendance</p> <p>(c) Short courses of 1 -2 days in duration, designed to enable staff to comply with current legislation</p> <p>(d) Short courses of 1 -2 days in duration that are not driven by legal compliance</p> <p>(e) Work based training programmes in partnership with industry (6 months or more)</p> <p>(f) Distance learning courses that require no college attendance</p> <p>(g) Flexible blended programmes, composed of a range of the delivery modes</p>	<p>(a) The final examination requirement</p> <p>(b) Local industry advice regarding knowledge and skills required</p> <p>(c) National Occupational Standards</p> <p>(d) Your staff's knowledge of the industry</p> <p>(e) Other factors</p>	Heads of tertiary education institutes and departments
VET regulation		<p>8. Do your courses have to comply with any external regulations, or are they under your own control?</p>	<p>Externally regulated</p> <p>Under our own control</p>	Heads of tertiary education

		<p>(a) Full Time attendance based courses of a 6 months or more in duration, leading to a National Qualification</p> <p>(b) Programme made up of courses of between 3 to 20 days total attendance</p> <p>(c) Short courses of 1 -2 days in duration, designed to enable staff to comply with current legislation</p> <p>(d) Short courses of 1 -2 days in duration that are not driven by legal compliance</p> <p>(e) Work based training programmes in partnership with industry (6 months or more)</p> <p>(f) Distance learning courses that require no college attendance</p> <p>(g) Flexible blended programmes, composed of a range of the delivery modes</p>		institutes and departments
Industry linkage	Testing the breadth, depth and maturity of any industry partnerships	<p>9. What type of relationships does your organisation have with your fish farming industry?</p> <p>(a) Informal relationships</p> <p>(b) College/School industry advisory committees</p> <p>(c) Regional level industry committees</p> <p>(d) National level industry committees</p>	<p>Most important</p> <p>Important</p> <p>Useful occasionally</p> <p>No relationship of this kind</p>	<p>Heads of tertiary education institutes and departments</p>

		(e) Formal company partnerships with specific companies		
Industry linkage	This question is put to all respondents to Q 4 above, except any that have No relationship in any category 4 (a-d)	10. Does your aquaculture industry contribute to:  (a) Course design (knowledge & skills required) (b) Providing facilities for training (c) Work placements (d) Course delivery to college based learners (e) Course delivery to work based learners (f) Assessment process (g) Quality Assurance (h) Staff development (i) Other	Regularly  Occasionally  Never	Heads of tertiary education institutes and departments
Staff and learning resource development		11. Do you/your staff have difficulty in keeping up to date with advances in aquaculture technology, regarding:  (a) Their own knowledge and skills (b) Their learning and assessment resources	Considerable difficulty Some difficulty Very little difficulty No difficulty	Heads of tertiary education institutes and departments
VET innovation		12. Do you/your staff deploy ICT and learning technologies within your delivery of:  (a) Full Time attendance based courses of a 6 months or more in duration, leading to a National Qualification  (b) Programme made up of courses of between 3 to 20 days total attendance	Often Sometime Rarely Never	Heads of tertiary education institutes and departments

		<p>(c) Short courses of 1 -2 days in duration, designed to enable staff to comply with current legislation</p> <p>(d) Short courses of 1 -2 days in duration that are not driven by legal compliance</p> <p>(e) Work based training programmes in partnership with industry (6 months or more)</p> <p>(f) Distance learning courses that require no college attendance</p> <p>(g) Flexible blended programmes, composed of a range of the delivery modes</p>		
VET development	Attitude to continuous improvement and innovation evaluated.	13 Would an increase in the application of ICT & learning technologies improve your education and training delivery?	Yes No	Heads of tertiary education institutes and departments
VET development priorities	Open question to allow them to express their priority areas of curriculum development	<p>14. What are your curriculum development priorities over the next 3 years for your aquaculture education and training provision?</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p> <p>.....</p>		Heads of tertiary education institutes and departments

Collaboration	Existing collaborative groupings identified	15. Are you collaborating with other aquaculture education and training providers:	Yes No	Heads of tertiary education institutes and departments
		<p>If yes</p> <p>16. Are you collaborating with others, to:</p> <p>a) share the work load  b) share innovative ideas  c) access new markets for the curriculum  d) Others</p>	Yes No	
Collaborative development	Appetite for collaboration assessed by this question	<p>If no</p> <p>17. Would you see benefit in collaboration if suitable partners could be found?</p>	Yes No Possibly	Heads of tertiary education institutes and departments

## Appendix 5 – Question sets for WP 6

### Question sets for Industry

Areas of questioning	Purpose of the question	Question	Elective responses	Target
<b>National and company level questions</b>				
		<p>1. The fish farming education and training available nationally is suitable for:</p> <p>(a) Young people completing Secondary School                      (b) Those employed on a fish farm who need to become qualified                      (c) Those wanting to change career to fish farming</p>	Strongly disagree Disagree Partially agree Agree Strongly agree Don't know	HRM
		<p>2. Most Companies prefer their staff to complete a Nationally Recognised Qualification in Fish Farming (i.e. a qualification regulated by a National Awarding body). This is true for:</p> <p>(a) Farm husbandry personnel                      (b) Farm site managers</p>	Strongly disagree Disagree Partially agree Agree Strongly agree Don't know	CEO S/MM HRM
	Respondents who answer disagree/strongly disagree to Q 2 are offered this question	<p>3. Most Companies prefer to rely on their own in-company training, as opposed to regulated Nationally Recognised Qualifications.</p>	Strongly disagree Disagree Partially agree Agree Strongly agree Don't know	CEO S/MM HRM

		<p>4. The level of computer operation skills required by fish farmers will increase significantly over the next 10 years. This is true for:</p> <p>(a) Farm husbandry personnel</p> <p>(b) Farm site managers</p>	<p>Strongly disagree</p> <p>Disagree</p> <p>Partially agree</p> <p>Agree</p> <p>Strongly agree</p> <p>Don't know</p>	<p>CEO</p> <p>S/MM</p> <p>HRM</p>
		<p>5. The skills fish farmers require to operate modern equipment and technology can only be gained through specialist training</p>	<p>Strongly disagree</p> <p>Disagree</p> <p>Partially agree</p> <p>Agree</p> <p>Strongly agree</p> <p>Don't know</p>	<p>S/MM</p>
	<p>For those answering partially agree, agree and strongly agree to Q 5</p>	<p>6. Which equipment and technology used on your farm(s) requires operators that have undergone specialist training?</p> <p>Please state up to 5 examples below:</p> <p>.....</p> <p>.....</p> <p>Specialist training in the operation of the following equipment and technology is of great importance to our company's farm personnel and site managers?</p>	<p>Strongly disagree</p> <p>Disagree</p> <p>Partially agree</p> <p>Agree</p> <p>Strongly agree</p>	<p>S/MM</p> <p>HRM</p> <p>Sup</p>

		(a) Work boat operation (b) Feed control systems (c) Cage maintenance (d) Net cleaning (e) Fish stock monitoring (f) Disease treatment equipment (g) Other..... ..... .....		
Adequacy of occupational standards applicable to your aquaculture sector	To determine the existence (or lack of) aquaculture 'standard setting processes' and their influence on education and training provision	7. Do you have <b>clear</b> definitions of the knowledge and skills required by farm personnel and site managers at:  (a) Company level (b) National level for the sector	Yes No	S/MM HRM Sup
	Respondents who answer No to Q 7 (a) are offered this question	8. It would be beneficial to have up to date definitions of the knowledge and skills required by husbandry operatives (farm personnel) and site managers for my company, if these were developed?	Strongly disagree Disagree Partially agree Agree Strongly agree Don't know	S/MM HRM Sup
	Respondents who answer No to Q 7 (b) are offered this question	9. It would be beneficial for our industry to have National level definitions of the knowledge and skills required by staff to inform aquaculture VET development	Strongly disagree Disagree Partially agree Agree Strongly agree Don't know	S/MM HRM Sup

	Respondents who answer Yes to Q 7 (b) are offered this question	10. Our National definitions of knowledge and skills are used to inform the development of National Qualifications in Aquaculture	Strongly disagree Disagree Partially agree Agree Strongly agree Don't know	S/MM HRM Sup
<b>VET demand</b>				
(knowledge) in demand taking account of technological advances – grade the importance of given subject/topics  AND  Operative Skills taking account of new equipment and technology– Green, ICT, husbandry, technical/maintenance	To gauge company leaders' perceptions of their staff knowledge and skills gaps  Check the list with industry members	11. Indicate What competences do your farm husbandry personnel which areas of knowledge and skills your farm personnel most need to improve  (a) Fish feeding (b) Fish Health management (c) Fish transportation (d) Fish farm equipment and maintenance (e) Digital technologies (f) Boat operations (g) Aquatic environment and monitoring (h) Fish harvesting (i) Fish processing (j) Other..... .....	Select the five most important in priority order (1-5)	S/MM HRM Sup
	To determine the 'perceived' management skills gaps of the site managers  Check the list with industry members	12. Indicate which management skills, if any, that your site managers most need to improve  (a) No improvements needed (b) Management of fish health and welfare (c) Operation of computerised aquaculture management systems (d) Fish production and harvest planning (e) Management of feeding regimes	Select up to five most important in priority order (1-5)	CEO S/MM HRM

		<ul style="list-style-type: none"> <li>(f) Managing aquaculture facility installation and maintenance</li> <li>(g) Health and safety management</li> <li>(h) Preparing for Quality Assurance and compliance audits</li> <li>(i) Staff management and team leading</li> <li>(j) Budgeting and financial management</li> <li>(k) Other</li> </ul> <p>Note This list can be discussed and refined to suit all countries</p>		
<p>Delivery modes in demand – college attendance based, work based, DL, on line delivery, RPL, etc . (Note : link to VET quality definition)</p>	<p>To determine industries’ receptiveness to different VET delivery modes and learning technologies</p>	<p>13. Which types of Fish Farming education and training are currently available to your staff?</p> <ul style="list-style-type: none"> <li>(a) Pre-entry full time education and training leading to a National Qualification</li> <li>(b) In company staff development programmes (non-certificated)</li> <li>(c) Comprehensive work based training from an external provider leading to a National Qualification</li> <li>(d) External attendance based short courses in fish farming</li> <li>(e) Distance Learning (Paper based)</li> <li>(f) Distance Learning (On line and computer based)</li> <li>(g) Other (Please describe)</li> </ul> <p>.....</p>	<p>Select those available</p>	<p>S/MM HRM Sup</p>
	<p>Check the list with VET providers</p>	<p>14. Innovative and flexible work based learning can be designed to include a ‘blend’ of delivery</p>	<p>Very effective Effective</p>	<p>S/MM HRM Sup</p>

		<p>modes. How effective do you think the following would be as part of a blended programme:</p> <p>(a) External practical skills based short courses (1-2 days) in a group with other farm staff</p> <p>(b) One to one practical on farm instruction from the supervisor</p> <p>(c) Attendance based theoretical courses delivered in a facility with other learners (3 – 20 days)</p> <p>(d) Farm based assessment of the practical skills gained</p> <p>(e) Individual self-study through distance learning, supported by a college tutor</p> <p>(f) Distance learning incorporating social interaction with peers via social media</p> <p>(g) In company mentoring by an experienced member of staff</p> <p>(h) Other..... .....</p>	<p>Limited effectiveness Ineffective</p>	
<p>Changes in the knowledge and skills required by 2030 – (Note : Indicate changing emphasis on same knowledge and skills list as used above)</p>	<p>To gauge industry perceptions regarding the impact of technological advance on the future knowledge and skills required by the workforce</p>	<p>15. Which knowledge and skills competences will become more important to your company during the next 5-10 years</p> <p>(a) Health and Safety</p> <p>(b) Fish feeding</p> <p>(c) Fish Health management</p> <p>(d) Fish transportation</p> <p>(e) Fish farm equipment and maintenance</p> <p>(f) Digital technologies</p> <p>(g) Boat operations</p> <p>(h) Aquatic environment and monitoring</p>	<p>Becoming more important</p> <p>Will have the same level of importance</p> <p>Will become less important</p>	<p>S/MM HRM Sup</p>

		(i) Fish harvesting (j) Fish processing (k) Other  If other, please enter a brief description here..... .....		
<b>VET supply</b>		16. Does your company rely on any providers of fish farming education and training?  (a) Local to your farm(s) (b) In your region (c) Nationally	Yes No	S/MM HRM
Quality of VET Employer partnerships in VET delivery		17. Do you have and long-standing partnerships with any fish farming education and training providers?  (a) Local to your farm(s) (b) In your region (c) Nationally	Yes No	S/MM HRM
	For those answering Yes to 16 (a)	18. The education and training provided by local providers is: (a) Easy to access (b) Flexible (c) Technically up to date (d) High quality teaching (e) Good value for money	Strongly disagree Disagree Partially agree Agree Strongly agree Don't know	S/MM HRM

	For those answering Yes to 16 (b)	19. The education and training provided by regional providers is: (a) Easy to access (b) Flexible (c) Technically up to date (d) High quality teaching (e) Good value for money	Strongly disagree Disagree Partially agree Agree Strongly agree Don't know	S/MM HRM
	For those answering Yes to 16 (c)	20. The education and training provided nationally is: (a) Easy to access (b) Flexible (c) Technically up to date (d) High quality teaching (e) Good value for money	Strongly disagree Disagree Partially agree Agree Strongly agree Don't know	S/MM HRM
	For those answering No to 16	21. Does your company rely on their own in-company training, as opposed to external education and training providers?	Yes No	S/MM HRM
	For those answering Yes to 21	22. Is this because: (a) Staff cannot be released from their farm duties to attend courses (b) The education and training available is not technically up to date (c) The education and training available does not reflect your own operating procedures (d) You can train and assess your staff more effectively within the company (e) It is more cost effective to deliver your own in company training (f) Other..... .....	Very significant Significant Not significant	S/MM HRM

	For those answering No to 21	23. What form of education and training does your company rely on to support its staff development?  ..... .....		S/MM HRM
<b>Learner</b>				
Learner's ICT skills and confidence	To determine the perceived digital skills gap in relation to role requirements and learning.	24. Most Husbandry operatives (farm personnel) in our company have sufficient the ICT skills needed to:  (a) Undertake those tasks requiring ICT that are integral to their role (b) Undertake computer based learning if asked to	Strongly disagree Disagree Partially agree Agree Strongly agree Don't know	S/MM HRM
		25. Most Site mangers in our company have sufficient the ICT skills needed to:  (a) Undertake those tasks requiring ICT that are integral to their role (b) Undertake computer-based learning if needed asked to	Strongly disagree Disagree Partially agree Agree Strongly agree Don't know	S/MM HRM
Learners attitude to learning and		26. How receptive do you believe most your staff would be to the following types of education and training if they were available: forms of learning and skill development:	Very receptive Receptive Not very receptive	S/MM HRM Sup

preferred learning style		<ul style="list-style-type: none"> <li>(a) Formal college-based aquaculture courses (1-4 weeks duration)</li> <li>(b) Informal farm-based instruction</li> <li>(c) Paper-based distance learning</li> <li>(d) Computer based on-line learning</li> <li>(e) Formal work-based training</li> <li>(f) Attendance based short courses (1-2 days)</li> </ul>	Unreceptive	Op
	To determine what companies aim to achieve from their investment in staff development	<p>27. Please rate the importance of the following staff development objectives to your company.</p> <p>To ensure:</p> <ul style="list-style-type: none"> <li>(a) staff are legally compliant</li> <li>(b) staff operate safely</li> <li>(c) our company maximises fish health and welfare</li> <li>(d) efficient fish production</li> <li>(e) environmental safeguarding</li> <li>(f) aquaculture digital technologies are optimised</li> <li>(g) staff comply with company Standard Operating Procedures</li> <li>(h) Other</li> </ul> <p>Please specify.....  .....  .....</p>	Very important Important Relevant Not relevant	S/MM HRM Sup

<p>Learners priorities - knowledge and skills development in relation to current role and their progression (Use table of options and grading system)</p>	<p>A routing question so as each respondent gets the correct subsequent questions. This answering 'Other' are out of scope and therefore do not get any following questions.</p>	<p>28. What is your occupational role?</p>	<p>Husbandry operative Site manager Other</p>	<p>Sup Op</p>
	<p>For those answering Husbandry operative to 28</p>	<p>29. How important is it for you to further develop your knowledge and skills in the following:</p> <ul style="list-style-type: none"> <li>(a) Health and Safety</li> <li>(b) Fish feeding</li> <li>(c) Fish Health management</li> <li>(d) Fish transportation</li> <li>(e) Fish farm equipment</li> <li>(f) Digital technologies</li> <li>(g) Boat operations</li> <li>(h) Aquatic environment and monitoring</li> <li>(i) Fish harvesting</li> <li>(j) Fish processing</li> <li>(i) Other</li> </ul> <p>Please specify..... ..... .....</p>	<p>Very important Important Relevant Not relevant</p>	<p>Op</p>
	<p>For those answering Site Manager to 28</p>	<p>30. How important is it for you to develop your knowledge and skills in the following subjects.</p>		<p>Sup</p>

	<p>Note: The options provided precisely reflect those offered in Question 12</p>	<ul style="list-style-type: none"> <li>(a) Operation of ICT and digital aquaculture management systems</li> <li>(b) Fish production planning</li> <li>(c) Management of fish production and feeding regimes</li> <li>(d) Aquaculture facility installation and development</li> <li>(e) Health and safety management</li> <li>(f) Sales and marketing</li> <li>(g) Staff management and team leading</li> <li>(h) Budgeting and financial management</li> <li>(j) Other</li> </ul> <p>Please specify.....  .....  .....</p>		
	<p>To all answering husbandry operative or site manager to Q 28</p>	<p>31. How receptive <b>are you</b> to the following forms of learning and skill development.</p> <ul style="list-style-type: none"> <li>(a) College based aquaculture courses (1-4 weeks)</li> <li>(b) Farm based instruction</li> <li>(c) Informal learning from peers</li> <li>(d) Distance learning through paper based resources</li> <li>(e) On line learning and computer based learning</li> <li>(a) Farm based practical skills assessment and feedback</li> <li>(b) Technical short courses (1-2 days)</li> </ul>	<p>Very receptive  Receptive  Not very receptive  Unreceptive</p>	<p>Sup  Op</p>

## Appendix 6 – Structured interview questions

### **Structured interview VET supply**

*The BlueEDU Sector Skills Alliance was established in November 2016 to gather information on the current and future demand for skills, education and training within the cage farming sector of the European aquaculture industry.*

*The research targets cage farming husbandry operatives and site managers in 12 BlueEDU countries (6 in the north and 6 in the south). The results will be correlated to an analysis of the supply of education and training, and the final analysis will be used to inform proposals to improve access by all learners to appropriate aquaculture education, training and qualifications.*

*Please note, **all data submitted will be anonymous** within all the BlueEDU project reports and data presentations*

### **A Factual data (Pre-interview)**

#### **1. VET provider details**

- (i) VET provider name, address and contact details
- (ii) Interviewees name, job role and position in the organisation
- (iii) Aquaculture VET provided (currently and previously) with recent recruitment numbers and the year when any qualifications divested, were last offered
- (iv) VET provider structure, i.e. the premises and facilities available to support aquaculture VET delivery

#### **2. Education and training practitioners employed**

*What is your organisation's aquaculture VET development and delivery capacity within the following staff categories?*

- (i) Lecturers / teachers (number)
- (ii) Instructors/work-based assessors (number)
- (iii) Others (number)... *Specify roles*

#### **3. Recruitment of VET practitioners**

- (i) Is it difficult for your organisation to recruit staff with suitable qualifications and experience?

- (ii) What qualifications and experience do your teachers/lecturers need to have?
- (iii) What qualifications and experience do your instructors need to have?

#### 4. Aquaculture qualifications delivered

<i>Qualification</i>	<i>Current (Nos recruits)</i>	<i>Previous last offered</i>	<i>Recruitment trends and when qualifications were divested</i>
<i>Modern Apprenticeship (MA) in Aquaculture Levels 2,3 and 4)</i>			
<i>Scottish Vocational Qualifications (SVQ) in Aquaculture (Levels 2&amp;3)</i>			
<i>National Certificate (NC) in Aquaculture</i>			
<i>Higher National Certificate HNC) in Fish Production Management</i>			
<i>Higher National Diploma (HND) in Fish Farm and Fisheries Management</i>			
<i>National Progression Awards (NPA) (SCQF 5) in Fish Husbandry</i>			
<i>National Progression Awards (NPA) SCQF 4 in Aquaculture (for schools)</i>			
<i>Professional Development Awards (PDAs)</i>			
<i>Uncertificated short courses</i>			

Other			
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## B) Interview

*A series of open questions and some more detailed prompts, complemented by limited quantitative data collection*

### 1. Informal warm up questions (at the start of the interview)

- (i) How long have you worked for your current employer?
- (ii) Are you still actively involved in aquaculture curriculum development and/or delivery  
If Yes
- (iii) What aquaculture related subjects do you teach?
- (iv) What other subjects do you teach, if any?
- (v) How long have you had working in education and training

### 2. Recruitment policy

- (i) What is your organisations recruitment policy for lecturers/teachers, and what experience and qualifications do they look for, ideally?
- (ii) Approximately what % of new appointees satisfy the ideal entry requirements?
- (iii) For which roles, if any, does your organisation have difficulty in recruiting suitably qualified staff?

### 3. Staff development policy

#### Husbandry

- (i) What is your staff development policy for husbandry operatives on your cage farms? *In other words, how do you make sure they have the knowledge, skills, competences and attitudes you require of them.*
- (ii) Off the 'cuff', what training do husbandry staff receive at induction, and beyond, and who provides each component? *(We can follow up details later if you wish by email)*

(iii)What account is taken of the recruit’s prior knowledge and skills, and does this influence their induction and subsequent training programme?

**Site managers**

(iv)How do you select and develop your Site Managers?

(v) What is your staff development policy for Site Managers on your cage farms? *In other words, how do you make sure they have the knowledge, skills, competences and attitudes that you require of them.*

(vi)‘Off the cuff’, what training do site managers receive at induction, and beyond, and who provides each component? *We can follow up details up later if you wish by email*

**5. Awareness of aquaculture qualifications**

(i) Which Scottish NRQs in aquaculture that are available now, or have been available in the past, are you aware of?

**Prompt**

*How familiar are you with each of the following Scottish (SQA) qualifications?*

<i>Qualification</i>	<i>Ans</i>	<i>Comments on level of familiarity</i>
<i>Modern Apprenticeship (MA) in Aquaculture Levels 2,3 and 4)</i>		
<i>Scottish Vocational Qualifications (SVQ) in Aquaculture (Levels 2&amp;3)</i>		
<i>National Certificate (NC) in Aquaculture</i>		
<i>Higher National Certificate HNC) in Fish Production Management</i>		
<i>Higher National Diploma (HND) in Fish Farm and Fisheries Management</i>		

<i>National Progression Awards (NPA) (SCQF 5) in Fish Husbandry</i>		
<i>National Progression Awards (NPA) SCQF 4 in Aquaculture (for schools)</i>		
<i>Professional Development Awards (PDAs)</i>		

(ii) Which Vocational Education and Training (VET) providers are you aware of in Scotland?

In your opinion, how suitable are the NRQs that you are familiar with for:

- a) School leavers entering the company
- b) Recently employed staff lacking prior knowledge and skills
- c) Experienced staff who have some knowledge and skills, but lack a National Qualification

(iii) Do you encourage your staff to complete an appropriate National Qualification in Aquaculture, or do you rely more on your own in-company training?

## 6. Occupational Standards

(i) Do you have occupational profiles for cage farm husbandry operative and site manager defined at company level (i.e. company definitions of the knowledge, skills and competences required for each occupation)?

**If yes...** How do these relate to your Standard Operating Procedures (SOPS)?

**If no....** Do you think occupational profiles would be useful to your company if developed?

(ii) Are you aware of the Scottish National Occupational Standards (NOS) in aquaculture?

(a) **If yes** to (ii), are you familiar with the content of the standards?

(b) **If yes** to (ii a), do you think the standard is up to date and provides a useful framework for devising education, training and assessment?

(c) **If no** to (ii) .... *Describe what the NOS are, then ask.....Do you think it is a good idea in principle for the industry to have a current aquaculture NOS to inform qualifications development?*

(iii) Is your in-company staff development and training designed with reference to your company SOPs?

**If yes....** *Has this been effective in driving staff compliance and consistency*

**If no....** *are there any other factors influencing the content of your company staff development and training programs? If so, what are they?*

## **7. Delivery of education and training**

(i) What are the most influential cost components for your company to consider when designing company staff development and training programs their staff? *(For example, is it the cost of instruction, bought in trainers, the time cost of face to face Vs other methods of training and development?)*

### **NRQS**

(ii) How many of your staff, husbandry operatives and site managers, are provided the opportunity to complete a NRQ, whilst employed by your company?

(iii) How many of your staff, husbandry operatives and site managers, complete a NRQ, whilst employed by your company.

(iv) What support does your company provide them to help them complete a NRQ? *(Such as; work time allocation for study, in company mentor, support of an external training provider or tutor, supporting the NRQ assessment process, regular feedback on their skills development)*

### **In Company Training**

(v) What is your in-company training scheme composed of, in broad terms, and through what process has it been developed? *(What were the main drivers that have shaped it, company SOPs, NOS QA Legislation CoGP?)*

(vi) How is your in-company scheme delivered?

(vii) Do you ever assess your staff after they have received training delivered by the company?  
If yes, what methods of assessment do you use, (internal or external)?

How is the assessment process standardised and quality assured, to ensure that all assessors are operating to a common standard?

- (viii) What specialist equipment, technology or methods do you deploy that require staff (husbandry operatives and site managers) to undertake targeted operator training?
- (ix) Which of these specialist training courses are delivered in company as opposed to by external providers?
- (x) Which of this specialist operator training is assessed, leading to certification that your staff must satisfy?

If staff are assessed, can their results affect their payment grades or progression within the company?

- (xi) As a company, what competences do think that your husbandry operatives most need to improve?

*Use these prompts if needed:*

- (a) Health and Safety*
- (b) Fish feeding*
- (c) Fish Health management*
- (d) Fish transportation*
- (e) Fish farm equipment and maintenance*
- (f) Digital technologies*
- (g) Boat operations*
- (h) Aquatic environment and monitoring*
- (i) Fish harvesting*
- (j) Fish processing*

- (vi) As a company, what competences do your site managers most need to improve?

*Use these prompts if needed:*

- (a) Management of fish health and welfare*
- (b) Operation of computerised aquaculture management systems*
- (c) Fish production and harvest planning*
- (d) Management of feeding regimes*
- (e) Managing aquaculture facility installation and maintenance*
- (f) Health and safety management*

- (g) *Preparing for Quality Assurance and compliance*
- (h) *Staff management and team leading*
- (i) *Budgeting and financial management*

- (vii) Do you know much about your staff's preferred learning styles and what methods of teaching and learning they would best respond to?

*Prompt: For example: informal instruction; supervisor feedback on work performance, formal 'on-site' skills training by a provider, directed-study, supported by paper based resources, on line learning with digital resources and tutor support.*

- (viii) Are you aware if any of your staff have learning difficulties, such as dyslexia?

If yes,

- (ix) What % would you say have this or some other significant learning difficulty?
- (x) how does this impact on their training and development, learning preferences and work performance?

## **8. Future national education and training strategy**

- (i) Have any of your staff undertaken a work-based MA in the last 5 years?

If yes

- (ii) How many of them were under and over 25 years old?
- (iii) Does the lack of SDS funding for over 25-year olds reduce the number of mature learners you would put through the MA?
- (iv) Did the MA program fully meet their and your needs?

If yes

- (v) Was the program customised (through the selection of optional units) to precisely match the learners' current role, or was it expanded beyond the minimum requirement to prepare them for a future role change?

If no

- (vi) what would you like to see changed and/or improved?

*The work based Modern Apprenticeship in Aquaculture is the only NRQ available in Scotland currently.*

(vii) From your company's perspective, is this a satisfactory situation?

If no or unsure

(viii) what changes to the national aquaculture VET strategy and supply would you like to see implemented over the next 5 years?

*Prompt: Would this include, new NRQs, or the revitalisation of old NRQs, distance learning (paper based or on-line), short courses (certificated and/or non-certificated)*

Lead prompt to set the scene for following questions

*Well-designed 'blended programs' are often favoured in some sectors over conventional attendance-based education and training, reducing the total reliance on face to face delivery. There-fore a mix of effective approaches are utilised within well designed programs:*

(ix) Which of these approaches would be the most effective for your husbandry operatives and site managers and should be part of the blend or 'mix'.

(x)

*Tick of those that could work based on verbal feedback*

<b>Learning approaches</b>	Husbandry Operative	Site Manager
<i>One to one mentoring</i>		
<i>Peer discussion (supported by communication technologies)</i>		
<i>Paper based distance learning</i>		
<i>Computer-based, or on-line learning</i>		

<i>Learning delivered via hand held devices (phones and tablets)</i>		
<i>Short courses on technical subjects</i>		
<i>E portfolio- based evidence gathering to demonstrate practical competence</i>		

## **Structured interview VET demand**

*The BlueEDU Sector Skills Alliance was established in November 2016 to gather information on the current and future demand for skills, education and training within the cage farming sector of the European aquaculture industry.*

*The research targets cage farming husbandry operatives and site managers in 12 BlueEDU countries (6 in the north and 6 in the south). The results will be correlated to an analysis of the supply of education and training, and the final analysis will be used to inform proposals to improve access by all learners to appropriate aquaculture education, training and qualifications.*

*Please note, **all data submitted will be anonymous** within all the BlueEDU project reports and data presentations*

### **A Factual and quantitative data (Pre-interview)**

#### **9. Farm details**

- (v) Company name, address and contact details of Head Office
- (vi) Farm name, address and contact details
- (vii) Interviewee name and position in the company
- (viii) Species farmed and the annual output
- (ix) Company structure, i.e. the number of on-growing sites, hatcheries and fish processing facilities

#### **10. Staff employed by the company**

- (iv) Husbandry operatives (numbers and % of total staff)
- (v) Site managers (numbers and % of total staff)
- (vi) Regional level production managers (numbers and % of total staff)
- (vii) Other roles (numbers and % of total staff)

#### **11. Qualifications held by staff**

- (iv) What % of your husbandry staff hold a Nationally Recognised Qualification (NRQ) appropriate to their role?  
Please state which NRQs you recognise as 'appropriate'

- (v) What % of your Site Managers staff hold an NRQ appropriate to their role?

Please state which NRQs you recognise

## **B) Interview**

*A series of open questions and some more detailed prompts, complemented by limited quantitative data collection*

### **1. Informal warm up questions (at the start of the interview)**

(vi) How long have you worked for the company?

(vii) What length of time have you had in the aquaculture industry, and what roles have you undertaken?

(viii) The company produces X tonnes of Y per year, I see.... Who buys your fish?

(ix) Do their QA standards (such as accreditation schemes) have any direct or indirect influence on your staff development policies?

*(We'll come back to that point in more detail later if we may please)*

### **2. Recruitment policy**

(iv) Are most of your husbandry and site manager recruits recruited locally or from out with the locality of your farms?

(v) What is your company recruitment policy for husbandry operatives and site managers, and what qualifications do you look for ideally?

(vi) Approximately what % of your recruits meet your ideal entry requirements?

(vii) For which roles, if any, do you have difficulty recruiting suitably qualified staff?

### **4. Staff development policy**

#### **Husbandry**

(vii) How do you develop your husbandry operatives on your cage farm(s)? *In other words, how do you make sure they have the knowledge, skills, competences and attitudes you require of them.*

(viii) Do husbandry staff receive any formal training at induction (immediately following appointment), and beyond, and who provides each component? *(We can follow up details later if you wish by email)*

If yes

(ix) Do you consider the recruit's prior knowledge and skills, when planning their induction and subsequent training programme?

**Site managers**

(iv) In comparison to fish husbandry operatives, how do you select and develop your farm site managers?

**12. Awareness of aquaculture qualifications**

(i) Which NRQs in aquaculture that are available now, or have been available to you in the past, are you aware of?

**Prompt**

*How familiar are you with each of the following National qualifications available in your country/region?*

<i>Qualification</i>	<i>Ans</i>	<i>Comments on level of familiarity</i>

*Note: The interviewer will need to have a good awareness of the aquaculture VET system in the country, before they ask this question above*

(ii) Which Vocational Education and Training (VET) providers are you aware of in your country

*Note: As above, this needs to be well researched, prior to the interview.*

In your opinion, how suitable are any of the NRQs that you are familiar with for:

- d) School leavers entering the company
- e) Recently employed staff lacking prior knowledge and skills

- f) Experienced staff who have some knowledge and skills, but lack an NRQ
  - (iii) Do you encourage your staff to complete an appropriate National Qualification in Aquaculture, or do you rely on training staff yourselves?

*Inform interviewee this will be discussed further later when we consider Education and training in more detail (Section 6)*

### **13. Occupational Standards**

- (i) Do you have a company definition of the knowledge, skills and competences you require of your fish husbandry staff and site managers?
  - If yes...* How do these relate to your Standard Operating Procedures (SOPS)?
  - If no...* Do you think such definitions would be useful to your company if developed?
- (ii) Has the industry developed National Occupational Standards (NOS) that are applicable to your fish husbandry staff and site-managers?
  - (a) *If yes* to (ii), are you familiar with the content of the standards?
  - (b) *If yes* to (ii a), do you think the standard is up to date and provides a useful framework for devising education, training and assessment?
  - (c) *If no* to (ii) .... *Describe what the NOS are, then ask.....*Do you think it is a good idea in principle for the industry to have a current aquaculture NOS to inform qualifications development?
- (iii) Is your in-company staff development and training designed with reference to your company SOPs?
  - If yes....* Has this been effective in driving staff compliance and consistency
  - If no....* are there any other factors influencing the content of your company staff development and training programs? If so, what are they?

## 14. Delivery of education and training

- (i) What are the most influential cost components for your company to consider when designing company staff development and training programs their staff? *(For example, is it the cost of instruction, bought in trainers, the time cost of face to face Vs other methods of training and development?)*

### NRQS

- (ii) How many of your staff, husbandry operatives and site managers, are provided the opportunity to complete a NRQ, whilst employed by your company?
- (iii) How many of your staff, husbandry operatives and site managers, complete a NRQ, whilst employed by your company.
- (iv) What support does your company provide them to help them complete a NRQ? *(Such as; work time allocation for study, in company mentor, support of an external training provider or tutor, supporting the NRQ assessment process, regular feedback on their skills development)*

### In Company Training

- (v) What is your in-company training scheme composed of, in broad terms, and through what process has it been developed? *(What were the main drivers that have shaped it, company SOPs, NOS QA Legislation CoGP?)*
- (vi) How is your in-company scheme delivered currently?

### Lead prompt to set the scene for following questions

*Well-designed 'blended programs' are often favoured in some sectors over conventional attendance-based education and training, reducing the total reliance on face to face delivery. There-fore a mix of effective approaches are utilised within well designed programs:*

- (i) Which of these approaches do you think would be the most effective for your husbandry operatives and site managers

*Tick of those that could work based on verbal feedback*

Learning approaches	Husbandry Operative	Site Manager
<i>One to one mentoring</i>		
<i>Peer discussion (supported by communication technologies)</i>		

<i>Paper based distance learning</i>		
<i>Computer-based, or on-line learning</i>		
<i>Learning delivered via hand held devices (phones and tablets)</i>		
<i>Short courses on technical subjects</i>		
<i>E portfolio- based evidence gathering to demonstrate practical competence</i>		

- (ii) Do you ever assess your staff after they have received training delivered by the company?  
If yes, what methods of assessment do you use, (internal or external) and how frequently do you assess?  
How is the assessment process standardised and quality assured, to ensure that all assessors are operating to a common standard?
- (iii) What specialist equipment, technology or methods do you deploy that require staff (husbandry operatives and site managers) to undertake targeted operator training?
- (iv) Which of these specialist training courses are delivered in company as opposed to by external providers?
- (v) Which of this specialist operator training is assessed, leading to certification that your staff must satisfy?

If staff are assessed, can their results affect their payment grades or progression within the company?

- (vi) As a company, what competences do think that your husbandry operatives most need to improve?

**Prompts if needed:**

- (a) *Health and Safety*
- (b) *Fish feeding*
- (c) *Fish Health management*

- (d) *Fish transportation*
- (e) *Fish farm equipment and maintenance*
- (f) *Digital technologies (including data management and analysis)*
- (g) *Boat operations*
- (h) *Aquatic environment and monitoring*
- (i) *Fish harvesting*
- (j) *Fish processing*

(vi) *As a company, what competences do your site managers most need to improve?*

**Prompts if needed:**

- (j) *Management of fish health and welfare*
- (k) *Operation of computerised aquaculture management systems*
- (l) *Fish production and harvest planning*
- (m) *Management of feeding regimes*
- (n) *Managing aquaculture facility installation and maintenance*
- (o) *Health and safety management*
- (p) *Preparing for Quality Assurance and compliance*
- (q) *Staff management and team leading (including communications)*
- (r) *Budgeting and financial management*

(xi) *Do you know much about your staff's preferred learning styles and what methods of teaching and learning they would best respond to?*

**Prompt:** *For example: informal instruction; supervisor feedback on work performance, formal 'on-site' skills training by a provider, direct--study, supported by paper based resources, on line learning with digital resources and tutor support.*

(xii) *Are you aware if any of your staff have learning difficulties, such as dyslexia?*

*If yes,*

- (xiii) *What % would you say have this or some other significant learning difficulty?*
- (xiv) *how does this impact on their training and development, learning preferences and work performance?*

## 15. Future national education and training strategy

- (i) Have any of your staff undertaken an NRQ in the last 5 years?

If yes

- (ii) Are there any barriers out with your control to the completion of an NRQ by your staff?
- (iii) Did the NRQ program fully meet their and your needs?

If yes

- (iv) Can the NRQ be customised to match the learners' current role, or is it a fixed programme?

If no

- (v) What would you like to see changed and/or improved?
- (vi) what changes to the national aquaculture VET strategy and supply would you like to see implemented over the next 5 years?

**Prompt:** *Would this include, new NRQs, or the revitalisation of old NRQs, distance learning (paper based or on-line), short courses (certificated and/or non-certificated)*

**Thank you very much**

**Finally, is there anything you'd like to ask me or add?**

## **Structured interview VET demand SME**

*The BlueEDU Sector Skills Alliance was established in November 2016 to gather information on the current and future demand for skills, education and training within the cage farming sector of the European aquaculture industry.*

*The research targets cage farming husbandry operatives and site managers in 12 BlueEDU countries (6 in the north and 6 in the south). The results will be correlated to an analysis of the supply of education and training, and the final analysis will be used to inform proposals to improve access by all learners to appropriate aquaculture education, training and qualifications.*

*Please note, **all data submitted will be anonymous** within all the BlueEDU project reports and data presentations*

## **A Factual and quantitative data (Pre-interview)**

### **16. Farm details**

- (x) Company name, address and contact details of Head Office
- (xi) Farm name, address and contact details
- (xii) Interviewee name and position in the company
- (xiii) Species farmed and the annual output
- (xiv) Company structure, i.e. the number of on-growing sites, hatcheries and fish processing facilities

### **17. Staff employed by the company**

- (viii) Husbandry operatives (numbers and % of total staff)
- (ix) Site managers (numbers and % of total staff)
- (x) Regional level production managers (numbers and % of total staff)
- (xi) Other roles (numbers and % of total staff)

### **18. Qualifications held by staff**

- (vi) What % of your husbandry staff hold a Nationally Recognised Qualification (NRQ) appropriate to their role?  
Please state which NRQs you recognise as 'appropriate'

(vii) What % of your Site Managers staff hold an NRQ appropriate to their role?

Please state which NRQs you recognise

*Note: The answers to 3 above will often reveal a void, however, confirmation is still required and cannot be assumed, even if there is no aquaculture VET nationally, as 'imported staff may hold NRQs. Fish Veterinary and Fish Feeds are key knowledge providers for Southern European aquaculture companies. Degree level qualifications for key roles may be referred to.*

## **B) Interview**

*A series of open questions and some more detailed prompts, complemented by limited quantitative data collection*

### **1. Informal warm up questions (at the start of the interview)**

(x) How long have you worked for the company?

(xi) How long have you been in the aquaculture industry, and what roles have you undertaken?

(xii) The company produces X tonnes of Y per year, I see (from pre-interview) ....

Who buys your fish?

(xiii) Do fish production QA standards (such as accreditation schemes) have any influence on your staff development policies? (*We'll come back to that point later if we may please*)

### **2. Recruitment policy**

(viii) Are most of your husbandry and site manager recruits recruited locally or from out with the locality of your farms?

(ix) For which roles, if any, do your new recruits need to hold an NRQ?

(x) For which roles, if any, do you have difficulty recruiting suitably qualified staff?

### **5. Staff development policy**

#### **Husbandry**

(x) What is your staff development policy for husbandry operatives on your cage farms? In other words, how do you make sure they have the knowledge, skills, competences and attitudes you require of them.

(xi) Do you offer formal induction immediately following appointment?

*If yes*

Please describe any of the training is included...

(xii) What account is taken of your recruit's existing level of knowledge and skills, and does this influence their subsequent training programme?

### Site managers

(iv) In comparison to fish husbandry operatives above, how do you select and develop your farm site managers?

## 19. Awareness of aquaculture qualifications

(i) Which NRQs in aquaculture that are available now, or have been available in the past within your country, are you aware of?

### Prompt

*How familiar are you with each of the following National qualifications available in your country/region?*

<i>Qualification</i>	<i>Ans</i>	<i>Comments on level of familiarity</i>
<i>Add</i>		
<i>Add</i>		
<i>Add</i>		

*Note: The interviewer will need to have a good awareness of the aquaculture VET system in the country, before they can ask and prompt this question above, However, in many cases it will not be asked as we will know there is no formal aquaculture VET available*

(ii) Which Aquaculture Vocational Education and Training (VET) providers are you aware of in your country.

*Note: As above, only ask if you know that aquaculture VET does exist...*

In your opinion, how suitable are the NRQs that you are familiar with for:

- g) School leavers entering the company?
- h) Recently employed staff lacking prior knowledge and skills?
- i) Experienced staff who have some knowledge and skills, but lack an NRQ?

- (iii) Do you encourage your staff to complete an appropriate NRQ in Aquaculture, or do you rely on your own in company training schemes?

*Inform interviewee this will be discussed further later when we consider Education and training in more detail (Section 6)*

- (iv) Has your company ever benefitted from European funded projects that have offered training?

If yes,

- (v) Please rate the effectiveness of each offer

*Note: There have been dozens of European projects offering training as a project component within Southern Europe. Although to us, this approach to aquaculture VET may seem inadequate, fragmented and unsustainable, we still need to explore the attitudes of SMEs and others. There may be some real and/or 'perceived benefits'. As some of these development programmes have included on line delivery, SME response may help us to evaluate their receptiveness to future VET innovation as well as gauge issues and barriers. This question may also be relevant to some bigger companies in the South.*

## **20. Occupational Standards**

*Note: Although in many cases definitions of standards will not exist, we cannot assume this, and the question still needs to be asked.....*

- (i) Do you have a company definition of the knowledge, skills and competences you require of your fish husbandry staff and site managers?

If yes... How do these relate to your farm's Standard Operating Procedures (SOPS)?

If no.... Do you think such definitions would be useful to your company if developed?

If yes

- (ii) Is your in-company staff development and training designed with reference to your company SOPs?

If yes.... Has this been effective in driving staff compliance and consistency

If no.... are there any other factors influencing the content of your company staff development and training programs? If so, what are they?

*Note: This final question relates to the B1.4 above, and the answers should closely correlate....*

## **21. Delivery of education and training**

- (i) Is the cost of training an influential factor when deciding how to develop your staff's knowledge and skills?

If yes, What are the most significant and influential cost items?

### **NRQS**

- (ii) How many of your staff, husbandry operatives and site managers, complete an NRQ, whilst employed by your company?

If any do.....

What support are they provided? *(Such as; work time allocation for study, in company mentor, an external trainer/tutor, feedback on skills development)*

### **In Company Training**

- (iii) How is your in-company staff development programme delivered currently?

*Lead prompt to set the scene for following questions Note, this question is only asked of those who are more familiar with formal training approaches... If their approach is entirely based on informal demonstration..... perhaps no need to go there! This is up to the interviewer to judge.*

- (iv) Which of these approaches do you think **could be** the most effective for your husbandry operatives and site managers if they were available in the future.

Tick of those that could work based on verbal feedback

Learning approaches	Husbandry Operative	Site Manager
<i>One to one mentoring</i>		
<i>Peer discussion (supported by communication technologies)</i>		
<i>Paper based distance learning</i>		
<i>Computer-based, or on-line learning</i>		
<i>Learning delivered via hand held devices (phones and tablets)</i>		
<i>Short courses on technical subjects</i>		
<i>E portfolio- based evidence gathering to demonstrate practical competence</i>		

*The following questions are also dependent on progress to date and the level of sophistication of the staff development process.... A lighter touch may be needed. They may not be appropriate in many cases and can be left out...*

- (v) What specialist aquaculture equipment, technology or methods do you use that require staff (husbandry operatives and site managers) to undertake targeted operator training?
- (vi) Which of these specialist training courses are delivered in company as opposed to by external providers?
- (vii) Which of this specialist operator training is assessed, leading to certification that your staff must satisfy?

If staff are assessed, can their results affect their payment grades or progression within the company?

- (viii) As a company, what competences do think that your husbandry operatives most need to improve?

**Prompts if needed:**

- (a) *Health and Safety*
- (b) *Fish feeding*
- (c) *Fish Health management*
- (d) *Fish transportation*
- (e) *Fish farm equipment and maintenance*
- (f) *Digital technologies (including data management and analysis)*
- (g) *Boat operations*
- (h) *Aquatic environment and monitoring*
- (i) *Fish harvesting*
- (j) *Fish processing*

(vi) *As a company, what competences do your site managers most need to improve?*

**Prompts if needed:**

- (s) *Management of fish health and welfare*
- (t) *Operation of computerised aquaculture management systems*
- (u) *Fish production and harvest planning*
- (v) *Management of feeding regimes*
- (w) *Managing aquaculture facility installation and maintenance*
- (x) *Health and safety management*
- (y) *Preparing for Quality Assurance and compliance*
- (z) *Staff management and team leading (including communications)*
- (aa) *Budgeting and financial management*

## **22. Future national education and training strategy**

*The following question needs to be customised based what has been discovered above...It is the most important 'open question' of all, in many cases as it provides those who have no Aquaculture VET available to 'dream big'! It is useful to know what their aspirations are, however unrealistic they may be in the short term.*

- (i) What changes to the national aquaculture VET strategy and supply would you like to see implemented over the next 5 years that would most benefit your business?

**Prompt:** *Would this could include, new NRQs, or the revitalisation of old NRQs, or improvements to delivery modes to widen access...etc*

**Thank you very much- Finally, is there anything you'd like to ask me or to add?**