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Innovation in teaching and learning: Survey report



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Aqua-tnet Workpackage 5 & 8

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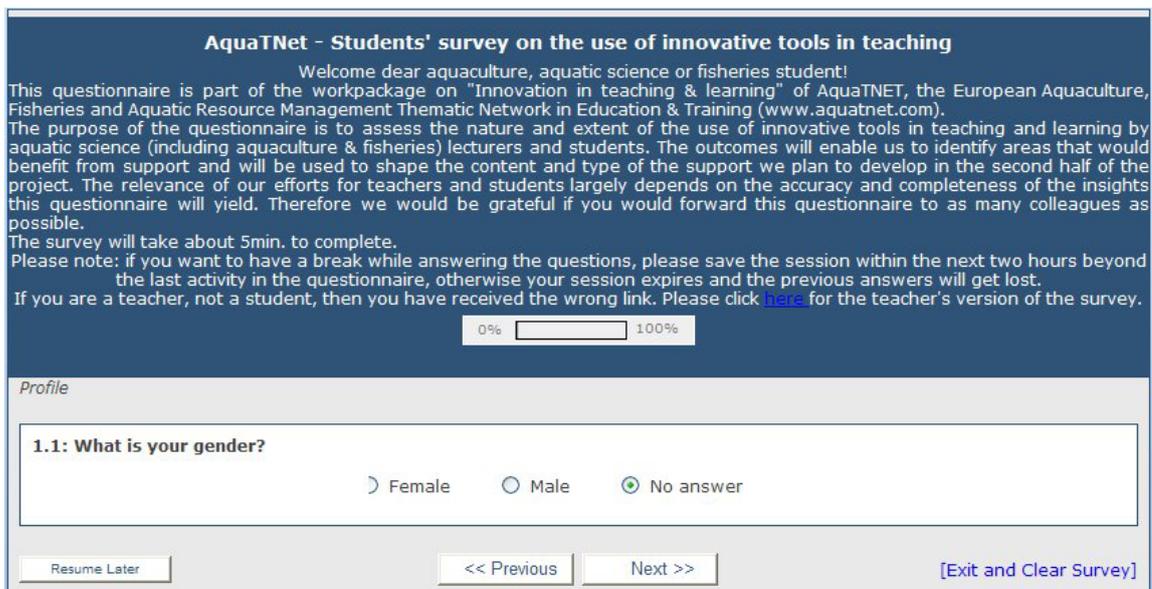
CONTENTS

Acknowledgements.....	2
Contents	3
INTRODUCTION	4
TEACHER SURVEY.....	5
Teacher Profile.....	5
Follow up question	8
Current teaching and assessment methods used	8
Trends, activity and interest in developing and implementing innovative approaches.....	12
Use of computer based learning tools.....	15
Summary - Teachers.....	16
STUDENT SURVEY	17
Profile	17
Current teaching and assessment methods used	20
Trends, activity and interest in developing and implementing innovative approaches.....	21
Summary - Students	23
OVERALL CONCLUSIONS.....	23

RESULTS OF TEACHER AND STUDENT SURVEY ON INNOVATION IN TEACHING & LEARNING

INTRODUCTION

This survey was carried out by the Aqua-tnet European Thematic Network in Aquaculture, Fisheries and Aquatic Resource Management (www.aquatnet.com), which is funded under the European Commission Lifelong Learning Programme (Erasmus Network). Separate surveys were used with teachers and students using the web-based survey tool “Limesurvey” between January and March 2010.



AquaTNet - Students' survey on the use of innovative tools in teaching

Welcome dear aquaculture, aquatic science or fisheries student!

This questionnaire is part of the workpackage on "Innovation in teaching & learning" of AquaTNET, the European Aquaculture, Fisheries and Aquatic Resource Management Thematic Network in Education & Training (www.aquatnet.com). The purpose of the questionnaire is to assess the nature and extent of the use of innovative tools in teaching and learning by aquatic science (including aquaculture & fisheries) lecturers and students. The outcomes will enable us to identify areas that would benefit from support and will be used to shape the content and type of the support we plan to develop in the second half of the project. The relevance of our efforts for teachers and students largely depends on the accuracy and completeness of the insights this questionnaire will yield. Therefore we would be grateful if you would forward this questionnaire to as many colleagues as possible.

The survey will take about 5min. to complete.

Please note: if you want to have a break while answering the questions, please save the session within the next two hours beyond the last activity in the questionnaire, otherwise your session expires and the previous answers will get lost.

If you are a teacher, not a student, then you have received the wrong link. Please click [here](#) for the teacher's version of the survey.

0% 100%

Profile

1.1: What is your gender?

Female Male No answer

Resume Later << Previous Next >> [Exit and Clear Survey]

The aim was to capture a snapshot of the status of teaching and learning in the area of European aquaculture, fisheries and aquatic resources management, particularly with respect to the use of Information and Communication Technologies (ICT) and other innovative tools

This report presents the key findings, considers trends and poses further questions for sector stakeholders to help in the development of future programmes and support.

The full results of the survey are provided as separate annexes (available on request if not attached to this summary report)

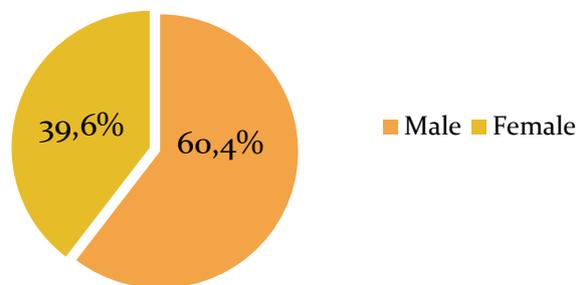
TEACHER SURVEY

There were 134 respondents to the teacher survey of which 73 were full responses from 31 different European institutions. The number of responses therefore varies for each of the questions shown below

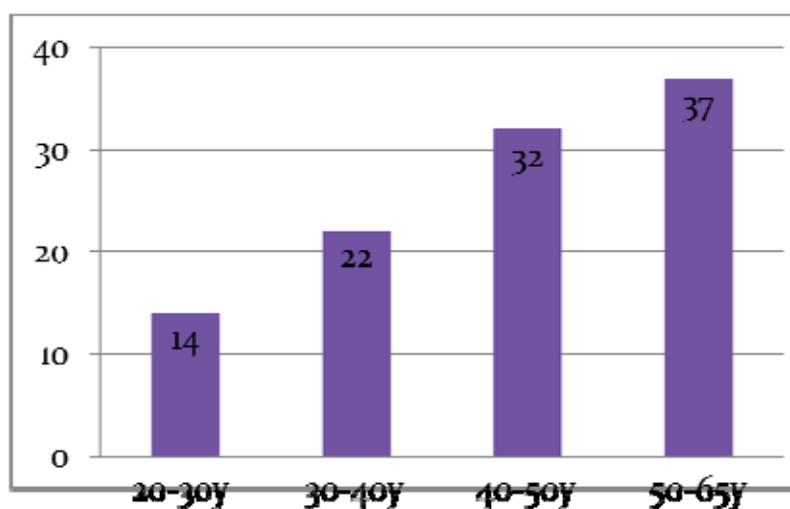


TEACHER PROFILE

Gender (from 72 respondents):

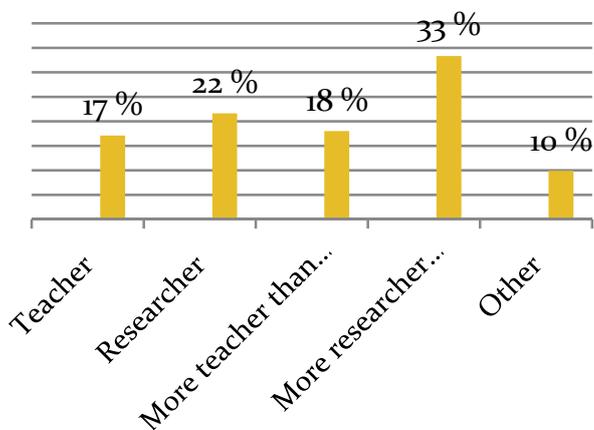


Age: the average age of the respondents was 44 years



(Number of respondents for each age class shown in the vertical bars)

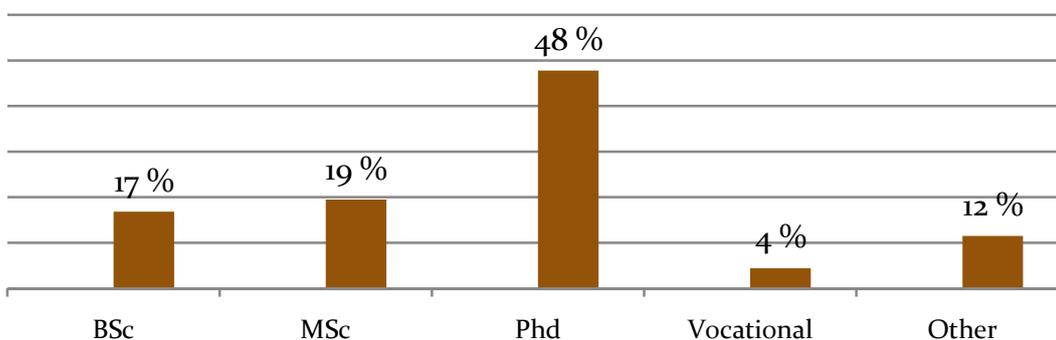
Q: What is your primary function?



Other:
50/50 teacher – researcher (4)
Administration (1)
Assistant professor (1)
Engineer (1)
Manager (1)
Student (3)

Most academic staff are involved in both teaching and research. The balance varies for individuals, often influenced by their own interests and preferences although institutional policies and success in obtaining research funding also play a role.

Academic level:



Other:	
Associate professor	Professor Doctor
DVSc	BSc to Doctoral level
Finishing Phd	Secondary education
Full professor	University professor
Spanish institute of oceanography	MSc ongoing

This question was intended to find the academic level of the courses being taught by the respondents to the survey. However, it is clear that some respondents understood the question to be asking their own level of education.

Time spend on teaching activities

Teaching	
Occasional	22,2%
At least one full course	38,3%
More than 3 courses	39,5%

- less than 30 hours or about 5 ECTS equivalents (= occasional)
- between 30 and 120 hours or about 5 and 20 ECTS equivalents (= at least 1 full course)
- more than 120 hours or about 20 ECTS eq (= more than 3 courses)

Q: How often do you use following computer/internet programs to support your teaching?

Top of list tools used most. Bottom of list tools used least

Ranked based on usage
Powerpoint
E-mail
Word
Learning Management System
Reading a weblog
Using a forum
FROM THIS POINT LOWER THAN AVERAGE
Listening to a podcast
Using a wiki
Mobile handheld devices
Sharing multimedia
Voice over IP
Games/simulations
Electronic portfolio
Social network sites

This ranked list shows the current dominance of PowerPoint as a teaching tool, but supported by other common software such as e-mail and word-processing. Learning management systems are now widely implemented so experience of their use is increasing, including associated forum or blog tools.

Tools below the red bar are more rarely used by teachers. These are mostly tools that have become available relatively recently, or which require teachers to gain skills in their use

FOLLOW UP QUESTION

This question was asked for the purpose of comparison with a previous survey carried out under aqua-tnet in 2006.

Q: How often do you use blended learning*

Never	Not often	Sometimes	Often	Frequently
13%	13%	34%	20%	20%

*Blended learning is the mix of traditional face-to-face teaching with online distance learning methods

Average score = 3,18 (on scale of 1 (never) to 5 (frequently))

This result (40% making regular use and a further 47% making some use) compares with only 35% making any use of blended learning in 2006.

CURRENT TEACHING AND ASSESSMENT METHODS USED

Q: The aim of my teaching is to...

Items	Score (mean)
Stimulate students thirst for knowledge	4,68
Coach students in their learning	4,68
Help students develop problem solving skills	4,64
Transfer my knowledge to the students	4,18
Prepare students for work in industry or wider society	4,15
Instruct students on what they should know	4,14
Train students to be good researchers	3,77
Produce graduates who will change the world	3,39
To enable students to pass exams and gain qualifications	3,35

Options and score:

1. Strongly disagree
2. Disagree
3. Neutral
4. Agree

Strongly agree

This ranking shows that the teachers participating in this survey hold traditional academic values in terms of wishing to stimulate students' thirst for knowledge and help them to develop capacities and skills in academic methods. The process of assessment and accreditation was not seen as the primary purpose of education by most respondents.

Q: Based on your overall teaching activities, how often do you use the following teaching methods

Activity	according to	
	Students	Teachers
Face 2 face learning	3,94	4,49
Labs	3,59	4,26
Private study	3,48	3,24
Online real-time lectures	2,11	2,15
Chat	2,05	1,89
Forum	2,21	1,74
Wiki	2,25	1,79
Contact industry online	2,67	3,34
Contact industry real-life	2,41	2,29

Options and score:

1. No use
2. Rare use
3. Less than average use
4. More than average use
5. Frequent use

This table combines results from both the teacher survey and the student survey (reported in next section) to compare their perceptions of how much use is made of different teaching methods. The highlighted cells show the higher of the two values.

The overall rankings by teachers and students are relatively consistent and show newer on-line tools such as chat, forums and wikis as being least used.

Q: Based on your overall teaching experience, what is the importance of the following activities for the students learning process?

Activity	Score (mean)
Labs	4,68
Face 2 face learning	4,18
Contact with industry online	3,97
Private study	3,52
Contact with industry real-life	3,25
Online real-time lectures	2,82
Wiki	2,51
Forum	2,32
Chat	2,17

Options and score:
1. Not important
2. Less than average
3. Average
4. More than average
5. Very important

Teachers perceptions of the importance (value) of different types of teaching are similar to the previous results for actual practice. Face-to-face learning, and particularly practical (usually lab) based learning is considered to be most important. Private study is also seen as important for developing knowledge and study skills

Contact with industry is also considered to be quite important, both via the Internet and face-to-face.

Q: Which of the following assessment methods do you use?

Method	Score (mean)
Classroom tests, exams and essay's	4,59
Classroom presentation assessed by teacher	4,06
Portfolio (handed in on paper)	2,87
Peer assesement in classroom	2,67
Online portfolio	2,19
Self assesement in classroom	2,01

Online tests (assessed by teacher)	1,80
Online tests (assessed by student)	1,75
Online products made by students	1,70
Peer assessment online	1,56
Self assessment online	1,55

Options and score:

1. No use
2. Rare use
3. Less than average use
4. More than average use
5. Frequent use

This question shows that assessment is still substantially based on traditional exams and written assignments, although student presentations to the class are also widely used and assessed. Little use is made of online assessment methods, or peer assessment etc.

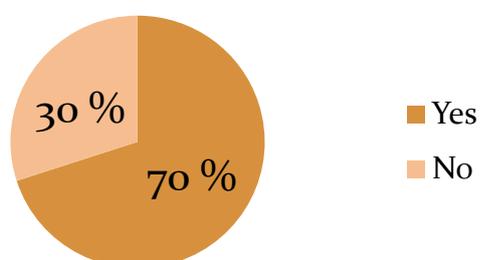
Q: If you ever had any training regarding the use of computer/internet based (learning) tools please specify the subject of this training

Answers	Answers
Learning management systems (11)	MS Office (9)
Seminar 'use of technology in teaching' (4)	Wiki
Flash	Blog
AquaNet meeting October 2009	Web based learning
Disemdum optima (=LMS)	Aquaculture laboratory procedures
AFI-WUR basic course (distance education)	

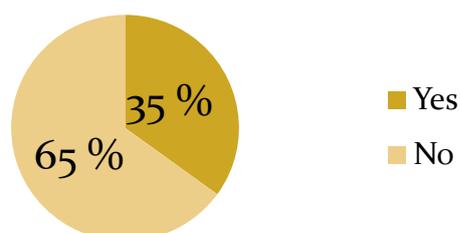
43 responses were received suggesting that over 50% of responding teachers had received some training, mostly relating to the Learning Management System of their institution and associated principles of e-learning. There is little evidence here of teachers being prepared for future increases in the use of video and audio content.

TRENDS, ACTIVITY AND INTEREST IN DEVELOPING AND IMPLEMENTING INNOVATIVE APPROACHES

Q: Did your teaching methods change over the last 3 years



Q: Did your teaching tools change over the last 3 years



Q: To what extend have the following teaching methods changed over the last 3 years ?

Method	Score (mean)
Private study	4,21
Contact with industry real-life	3,79
Labs	3,56
Online real-time lectures	3,56
Contact with industry online	3,49
Wiki	3,44
Forum	3,31
Chat	3,09
Face 2 face learning	2,83

Options and score:

1. Less use
2. Slightly less use
3. No change
4. Slightly more use
5. More use

The answers to the questions above show that teaching methods are changing, although the rate of adoption of new tools is somewhat slower.

The greatest change appears to be the use of more private study, which is perhaps linked with the increase in available materials via the Internet. Increased interaction with industry and more lab work is also notable. The key decrease is in traditional face-to-face lectures.

Q: How do you expect your teaching methods to change in the next five years ?

Method	Score (mean)
Contact with industry real-life	4,08
Contact with industry online	4,00
Online real-time lectures	3,73
Private study	3,70
Labs	3,67
Forum	3,36
Chat	3,30
Face 2 face learning	3,25
Wiki	3,11

Options and score:

1. Less use
2. Slightly less use
3. No change
4. Slightly more use
5. More use

Looking forward, teachers are looking for more contact with industry both face-to-face and online interactions. The increased use of real-time video streaming of lectures is also envisaged and more use of labs and private study. Interestingly, the use of more face-to-face learning (e.g. lectures and tutorials) is expected to increase by some, as well as the use of newer tools such as forums, chats and wikis.

Q: How do changes in teaching methods generally take place?

Items	Score (mean)
Own initiative	4,25
Good example from other colleagues being taken over	3,42
Student initiative	2,86
Collaborative effort of faculty	2,83
After teacher workshops/training	2,80
Superimposed by administration	2,18

Options and score:

1. Never
2. Not often
3. Sometimes
4. Often
5. Frequently

The responses to this question indicated that changes to teaching methods are very much driven by the interests and motivations of individual teachers, or peer-group example rather than from external pressure from students or college administration.

Q: Questions about constraints to the introduction of new teaching methods and tools

Items	Score (mean)
Appropriate infrastructure is present	3,72
Stimulated by superiors	2,89
Perceived need by students	3,75
I believe I have the skills to use new teaching tools	3,72
The use of computer/internet based teaching is appropriate in my courses	3,73
Introduction of new teaching tools will change my role as teacher	3,41

Overall, teachers were neutral or slightly in agreement with most of the statements suggested to them. These were phrased as positives towards the introduction of new tools and methods. The main negative response was to the statement that teachers are being stimulated by their superiors.

Options and score:

1. Strongly disagree
2. Disagree
3. Neutral
4. Agree
5. Strongly agree

USE OF COMPUTER BASED LEARNING TOOLS

The survey asked a number of questions to help WP5/8 to determine the best means of supporting Aqua-tnet members to learn new teaching tools and methods.

Q: Tools teachers wish to learn more about (in order of preference)

Tools (Ranked)
Learning Management Systems (LMS)
Games/simulations
Forum
Sharing multimedia
Powerpoint
Wiki
Podcast
Word
Weblog
Social Network Sites (SNS)
Voice over IP
E-mail

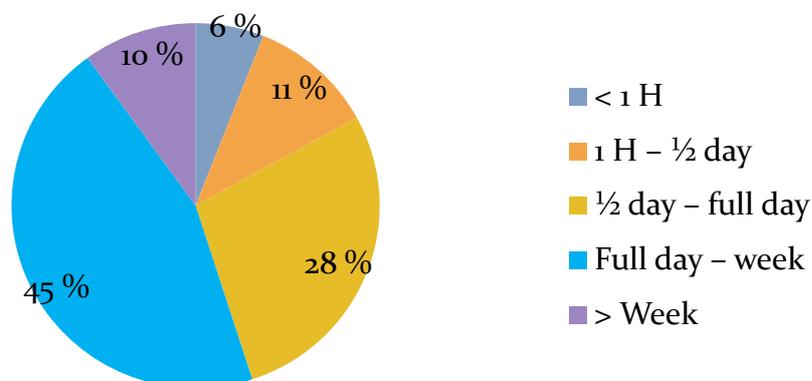
Teachers generally indicated interest in learning about new tools given time to do so. This list provides a ranked list of apparent priorities.

Q: By what means would you like to learn more?

The most popular means to learn more were:

- Workshops 70% said yes
- Web-based 68% said yes
- Helpdesk 65% said yes

Q: To learn more, how much time are you willing to invest?



A majority of the teachers were willing to spend at least one day to learn more, and most at least half a day.

SUMMARY - TEACHERS

- Age of respondents : 65% were + 40 years
- Function : 55% primarily researcher, 35% primarily teacher
- Formal training : 52% had some training in teaching methods or tools
- Usage of tools : tended to only use tools they already have experience with
- Using mostly traditional teaching methods gradually supplemented with new technologies
- Greater interest in change of teaching methods rather than simply using other tools
- Motivation for adopting new tools and methods comes from their own interests and the influence of peers

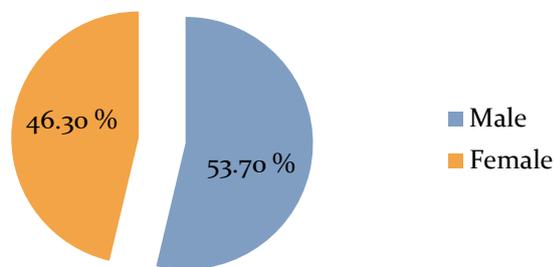
STUDENT SURVEY

There were 411 student respondents to the survey from over 40 European institutions of which 217 gave a complete response and 194 answered some of the questions. For that reason the number of respondents for each question listed below may vary somewhat.

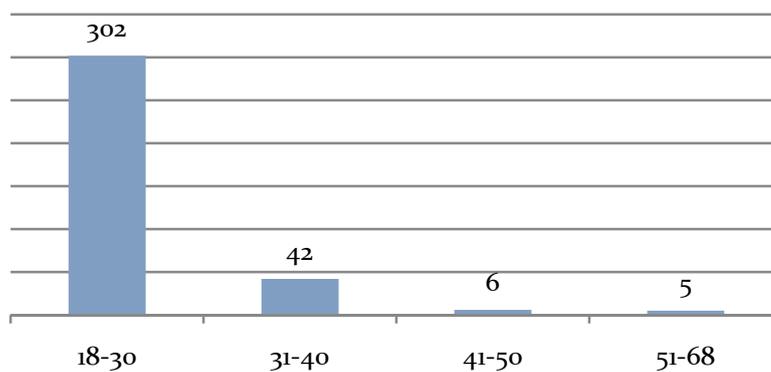


PROFILE

Gender:

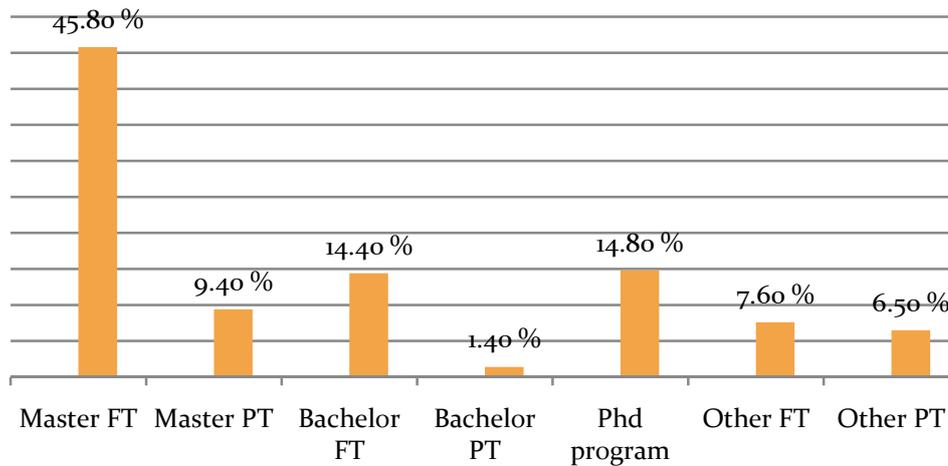


Age



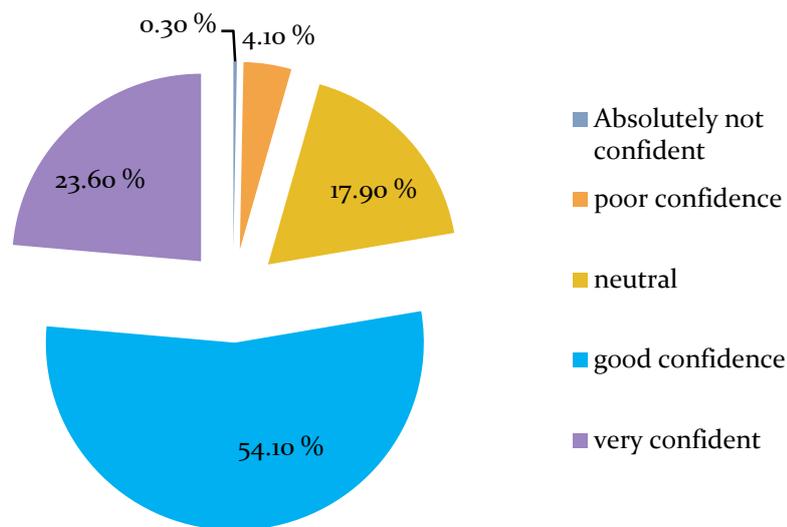
Average age was 24 years.

Q: What type of study program are you taking?



FT = full-time; PT = part-time

Q: How would you rate your confidence in your computer skills?



Over 75% were confident or very confident of their computer skills.

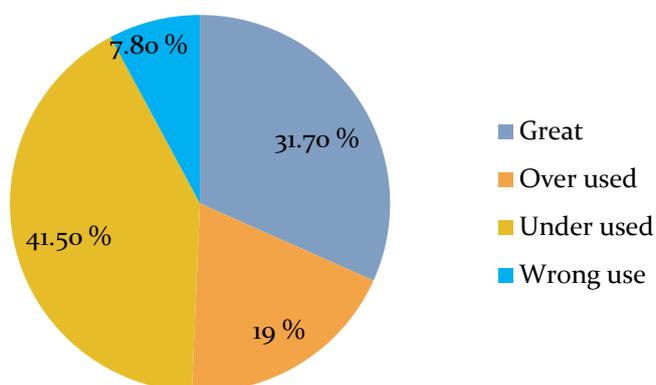
Q: Which computer/internet programs do you use on a regular basis to support your learning? (at home, at your college, and do you access it by mobile?)

At Home	At School	By mobile devices
E-mail	E-mail	E-mail
Word	Word	Word
Powerpoint	Powerpoint	Powerpoint
Wiki	Wiki	SNS
SNS	SNS	Listening to podcast
Voice over IP	Forum	Sharing multimedia
Listening to podcast	LMS	Wiki
Sharing multimedia	Reading a weblog	Voice over IP
Forum	Voice over IP	Forum
Reading a weblog	Listening to podcast	Reading a weblog
Games/simulations	Sharing multimedia	Electronic portfolio
LMS	Electronic portfolio	Games/simulations
Electronic portfolio	Games/simulations	LMS

Darker shaded cells indicate low usage of these tools. Little use is made of mobiles at the time of the survey whilst the widest variety of tools are accessed by computer from home.

CURRENT TEACHING AND ASSESSMENT METHODS USED

Q: What are your views about the current use of computer/internet-based teaching on your courses?



The majority of respondents felt that the use of information technology on their courses was either about right, or underused. However, nearly 27% felt it was either over used or wrongly used. Problems in this area were not specifically identified, but subsequent discussions with smaller groups of students suggest poor use of PowerPoint or referring to online materials as a substitute rather than supplement to personal teaching might be examples.

Q: How well is the computer/internet being used for:

Item	Score
To support administration	3,46
To support knowledge construction	3,38
To support skills development	3,14
To help understanding the course	3,19
To raise confidence	2,90
To stimulate social interaction	2,99

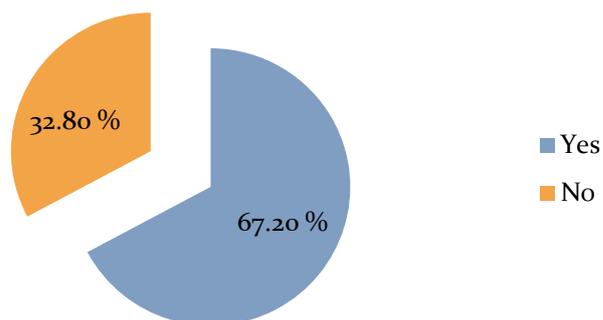
Options and score:

1. Not being used
2. Low use
3. Neutral use
4. High use
5. Fully being used

Students considered that information technology is being used reasonably well to support administration and knowledge construction and associated learning. It is being used rather less well to raise student confidence or stimulate social interaction.

TRENDS, ACTIVITY AND INTEREST IN DEVELOPING AND IMPLEMENTING INNOVATIVE APPROACHES

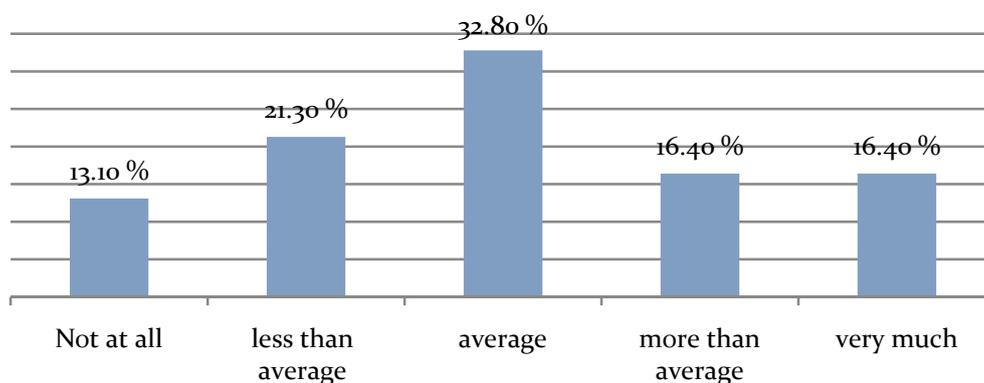
Q: Did you have any training on how to use the computer/internet based tools available at your institution?



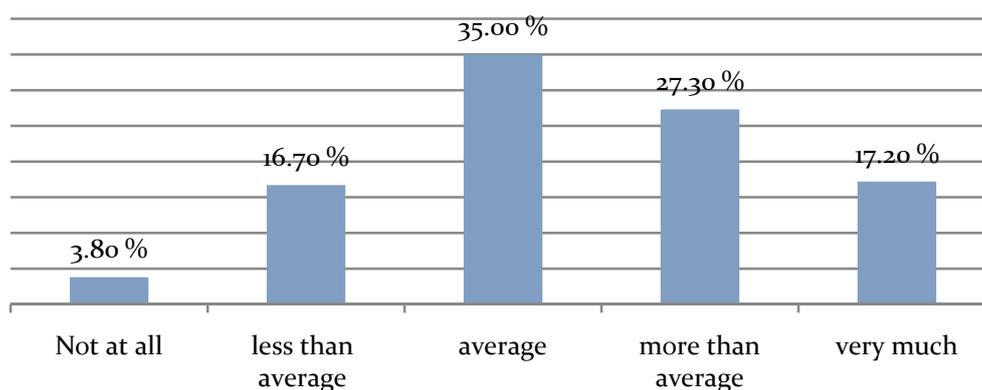
Q: Was that training sufficient?

Average score of 3,24 which means the training has been given an average score

Q: Is the institution well prepared to deliver courses using computer based tools?



Q: Are the teachers well prepared to deliver courses using computer based tools?



Overall the students gave a relatively balanced view on the adequacy of training and provision of information technology, with the mode on average.

Q: What teaching method do you find the most effective with respect to obtaining knowledge, learning skills, developing understanding of the subject and raising your self confidence?

Knowledge constr.	Skills development	Understanding	Raising confidence
Face 2 face learning	Labs	Labs	Labs
Labs	Face 2 face learning	Face 2 face learning	Face 2 face learning
Private study	Contact industry OL	Contact industry OL	Contact industry OL
Contact industry OL	Private study	Private study	Private study
Wiki	Contact industry RL	Contact industry RL	Contact industry RL
Contact industry RL	Wiki	Wiki	Wiki
Online RT lectures	Online RT lectures	Online RT lectures	Online RT lectures
Forum	Forum	Forum	Forum
Chat	Chat	Chat	Chat

This table shows teaching methods ranked for each of the key learning objectives. Cells with darker shading indicate lower than average scores (Students were asked to rank each method from 1 (not effective) to 10 (highly effective)).

The most effective methods are seen as labs (practical work) and face-to-face teaching, followed by engagement with industry online. Wikis appear to be considered a more useful tool than discussion forums and chat for most learning objectives.

SUMMARY - STUDENTS

- Majority are following master programs
- They have confidence in own skills!
- Using different tools in college and home contexts
- No use of mobile tools at present
- Not all tools are being used and it cannot be assumed that students know all the tools available
- Most students consider there to be an under use of new teaching tools
- Majority of students have received some training – which they consider to be average
- Teachers and institution are averagely prepared according to students

OVERALL CONCLUSIONS

1. University teaching is evolving slowly with high use of PowerPoint slides in lectures and increased use of learning management systems and e-mail to distribute materials to students and enhance communications
2. Some experimentation with more innovative technologies and approaches, but not mainstream
3. Students using more technology for social interactions than in formal learning, although it cannot be assumed that they are better able to use new technologies than tutors
4. Virtually no use at present of mobiles as a platform for learning or learning management
5. Opportunities for enhancing learning and improving efficiency through new tools is still under appreciated.
6. Teachers would appreciate further training in using new methods and where appropriate tools, and most are willing to spend at least a day for this.
7. Face-to-face teaching and opportunities for practical teaching (e.g. lab work) are preferred by most students, although there is appreciation of computer/internet based methods particularly where these add value.
8. Interactions with industry are rated highly by both students and teachers and often communication via the Internet is rated above face-to-face

These conclusions will guide the Aqua-tnet WP5/8 team in providing further services to the Aqua-tnet members.

Teacher Survey – Questionnaire

Teacher Survey – Responses

Student Survey – Questionnaire

Student Survey – Responses

Note that some versions of this report do not include the annexes. Please request a full copy from Aqua-tnet if required.