

## **Result of survey on teaching and training methodology**

The purpose of this survey was to gather background information about teachers and teaching methodology within the field of pork production and consumption in order to develop educational material that will enhance the transfer of knowledge from the Q-PorkChains project.

The survey was conducted during April and May 2007. It was sent electronically to people involved in the project and to the personal contacts of the project group. Two reminders were sent out and 100 responses were collected. The response rate was 40 % (100 responses of approximately 250 possible). Names of the responders were collected in order to make it possible to analyse each unique response and also to make personal contacts.

### **Profile of respondents**

Responses were collected from people based in 21 countries representing most of the important pig producing countries (figure 1). However, two of the countries participating in the project were not represented; China and Brazil. One responder was involved in teaching activities in 5 different countries: Sweden, Denmark, Norway, Turkey and Poland.

More than 2/3 of the responders had a position in higher education institutions (figure 2). About 10 % were employed in private training companies and 10 % in research institutions. Some responders have indicated that they were employed in umbrella associations, nutrition companies and governmental authorities.

About 70 % of the responders were employed in big organisations and the rest in small and medium sized organisations which correspond well to the figures above (figure 3). Some of the people employed at the university indicated the size of their department and not of their university.

The survey covered all levels of education and the distribution was balanced between undergraduate students, graduate students, PhD students and continuing education (figure 4). Fifteen responders indicated that they teach other target groups like farmers, meat industry employees, animal handlers and food inspectors. Many responders teach more than one target group.

The responders covered all the listed subject areas (figure 5). Lecturers in pig production and pig welfare were to some extent overrepresented. Some responders indicated that they taught other subjects like pig behaviour, animal ethics, statistics, stunning and swine medicine.

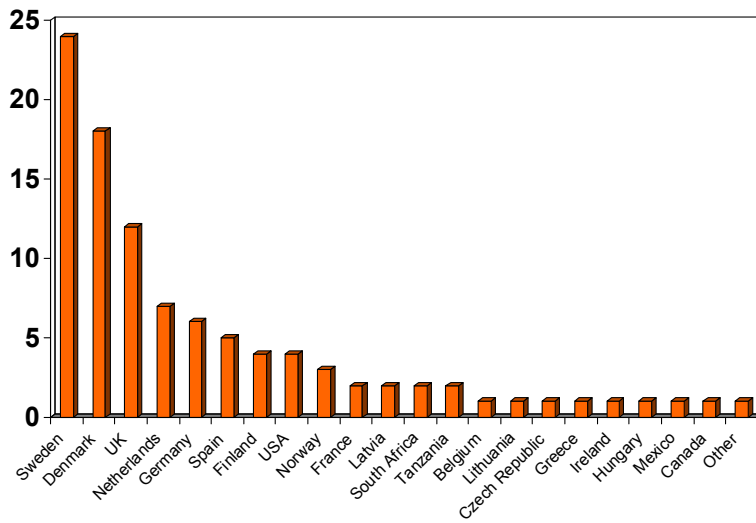


Figure 1. Number of responders based in different countries.

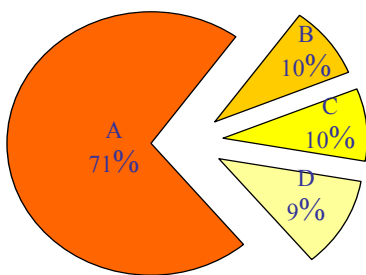


Figure 2. Proportion of responders based in different organisations.

A) Higher Education, B) Private Training company, C) Research institution, D) Other.

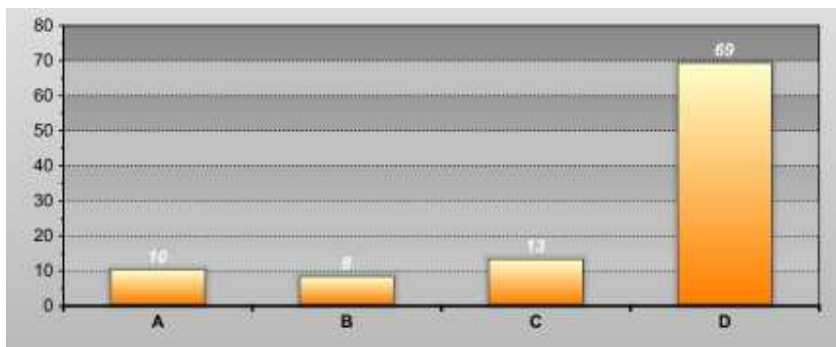


Figure 3. Proportion of responders based in organisations with different size (number of people employed). A) < 10, B) Between 10 and 49, C) Between 50 and 250, D) > 250.

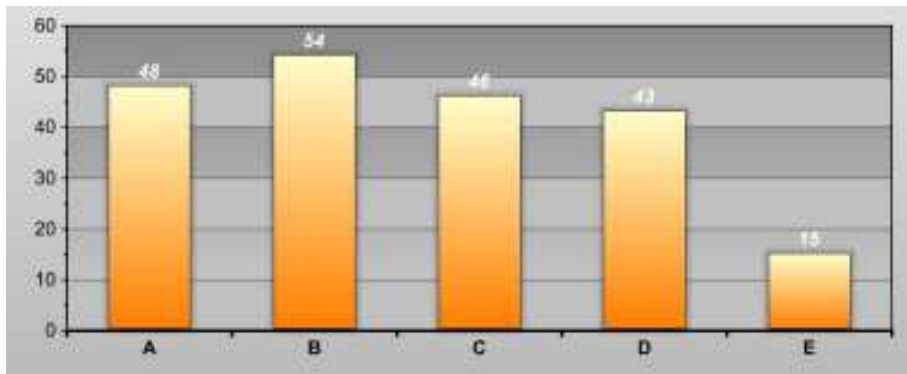


Figure 4. Number of responders teaching different target group.  
 A) Undergraduate students, B) Graduate students, C) PhD students,  
 D) Continuing education, E) Other.

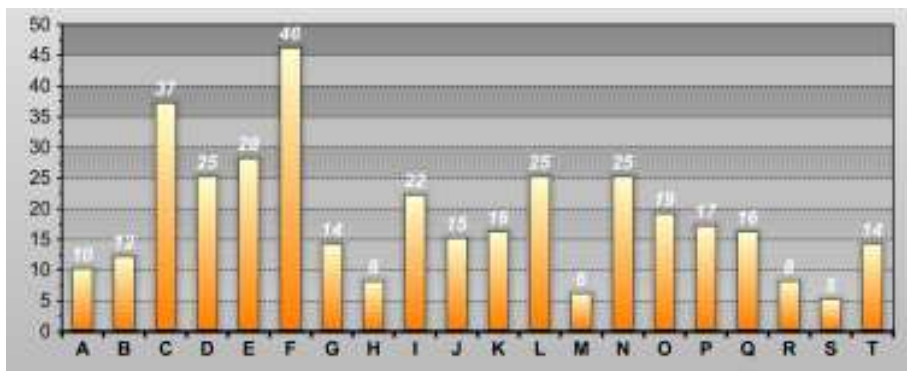


Figure 5. Number of responders teaching different subject areas.

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| A) Consumer behaviour                              | K) Microbiology                              |
| B) Market research in relation to meat             | L) Food safety                               |
| C) Pig production                                  | M) Food bio security                         |
| D) Sustainable pig production                      | N) Quality management                        |
| E) Animal hygiene in relation to pig production    | O) HACCP / ISO systems                       |
| F) Pig welfare                                     | P) Disease control programmes                |
| G) Pig genetics                                    | Q) Nutritional science                       |
| H) Molecular biology in relation to muscle biology | R) Logistics                                 |
| I) Meat science                                    | S) Life cycle assessment in relation to meat |
| J) Meat processing                                 | T) Other                                     |

## Use of e-learning and problem-based learning

The results of the survey gave an overview of the present use of e-learning and problem-based learning in teaching and training.

From figure 6 it can be concluded that e-learning in most organisations only was used to a small extent (38 responders), thus five people answered that e-learning was used to a large extent, 26 “moderately” and 21 responders answered that they “not at all use e-learning”. A big majority (76 of the responder’s) answer that they believe in an increase in the use of e-learning over the next 5 years (figure 7), 20 answered “extremely likely”, 56 “likely”, whereas only 8 people answered “unlikely” or extremely unlikely”.

Problem based learning was heavily used in all organisations and only 3 % did not use PBL (figure 8). It should be emphasized that the responders might define PBL differently. The use of PBL is very likely to increase according to most of the responders; only 10 believed that the use of PBL would not increase within their organisations (figure 9). Nineteen of the responders did not know anything about the future use of PBL.

The result of the survey showed that almost all lecturers used power-point presentations in their face-to-face teaching (figure 10). Video-clips were used by 62 of the responders. Apart from that only few people used digital learning resources in their teaching. Five responders indicated that they used interactive CD-ROM, Moodle interactive and specialised software.

In distance teaching again PowerPoint presentations were dominating (figure 11). Video clips, on-line lecture notes and on-line evaluation were also used, whereas few lecturers used “more advanced” digital learning resources. Some lecturers did not teach on distance (18 people specifically indicated that under “other”).

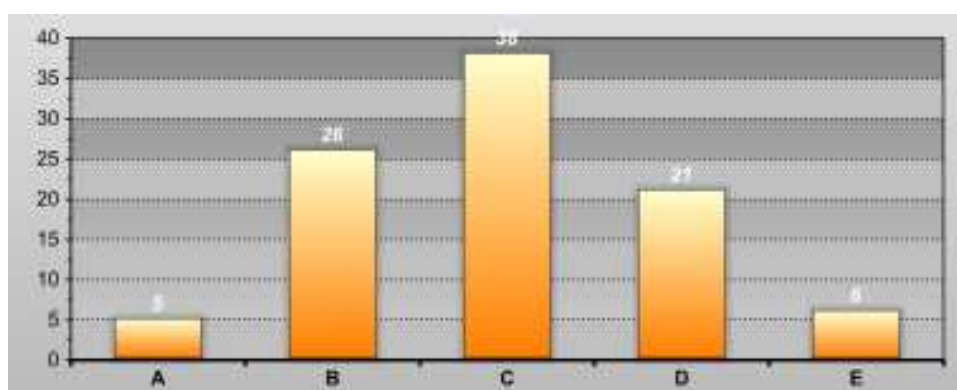


Figure 6. Responders present use of e-learning. A) To a large extent, B) Moderately C) A little, D) Not at all, E) I don't know.

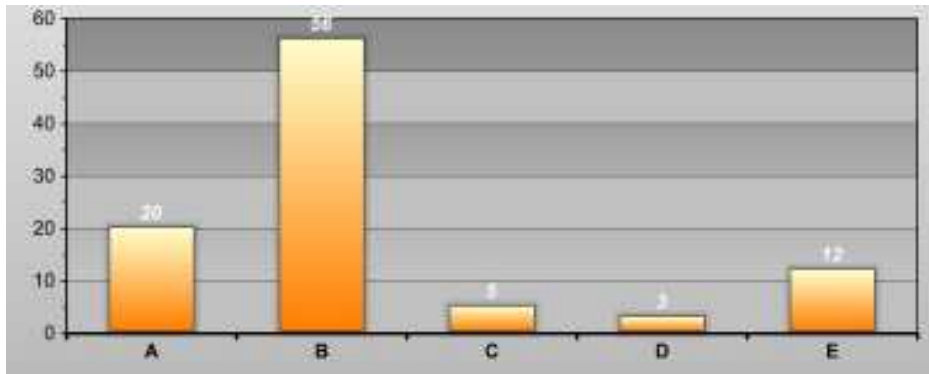


Figure 7. Responders expected use of e-learning over the next five years. A) Extremely likely, B) Likely, C) Unlikely, D) Extremely unlikely, E) I don't know.

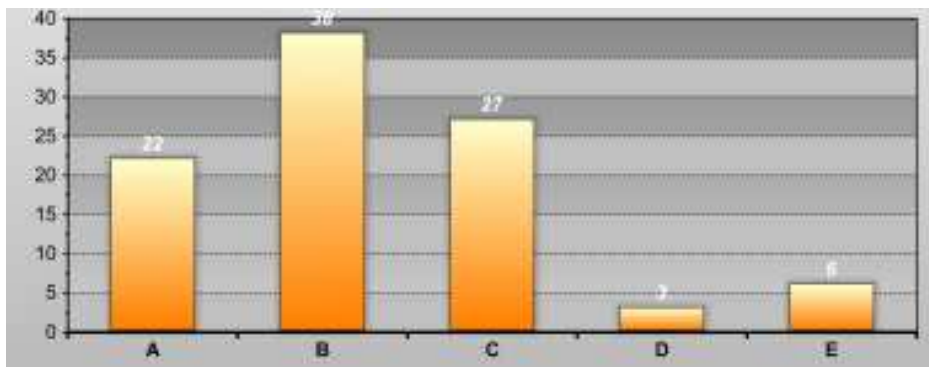


Figure 8. Responders present use of problem based learning. A) A large extent, B) Moderately, C) A little, D) Not at all, E) I don't know.

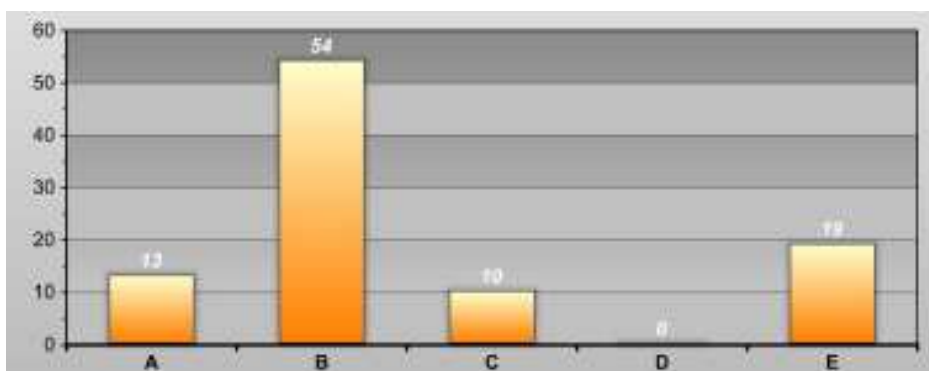


Figure 9. Responders expected use of problem based learning over the next five years. A) Extremely likely, B) Likely, C) Unlikely, D) Extremely unlikely, E) I don't know.

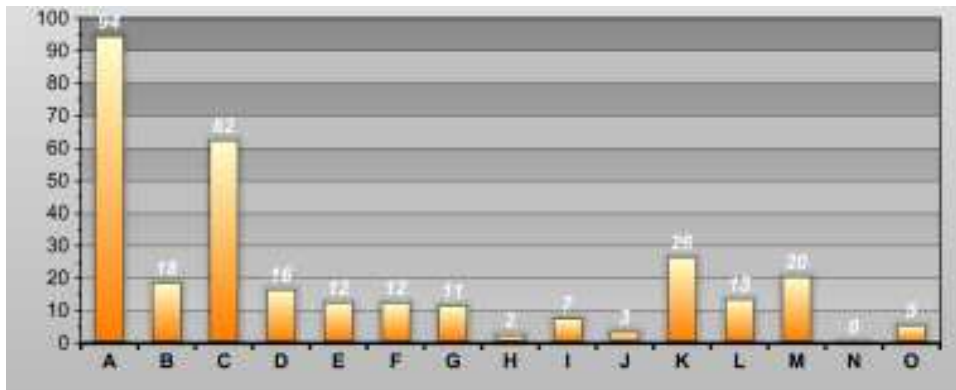


Figure 10. Responders present use of electronic learning resources in **face-to-face teaching**.

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|-----------------------------|--|
| A) PowerPoint presentations | I) Webcasting lectures                     |
| B) Multislide presentation  | J) Hand-held response devices              |
| C) Video clips              | K) On-line lecture notes                   |
| D) Sound files              | L) On-line assessment                      |
| E) Simulations              | M) On-line evaluation                      |
| F) Animations               | N) I do not use digital learning resources |
| G) Role play                | O) Other                                   |
| H) Podcasting, MP3          |  |

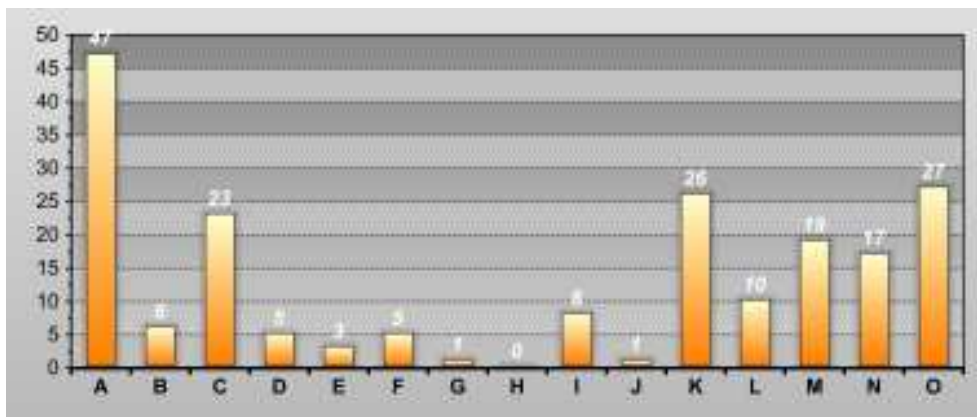


Figure 11. Responders present use of electronic learning resources in **distance teaching**.

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|-----------------------------|--|
| A) PowerPoint presentations | I) Webcasting lectures                     |
| B) Multislide presentation  | J) Hand-held response devices              |
| C) Video clips              | K) On-line lecture notes                   |
| D) Sound files              | L) On-line assessment                      |
| E) Simulations              | M) On-line evaluation                      |
| F) Animations               | N) I do not use digital learning resources |
| G) Role play                | O) Other                                   |
| H) Podcasting, MP3          |  |

## **Interest in participating in a teaching and training network**

Few responders found that e-learning contributed to collaboration between organisations (figure 12). About 10 % answered “to a large extent”, 23 % “moderately”, 26 % “a little” and 20 % “not at all”. This could be due to the fact that few responders are involved in collaboration on the development of e-learning or shared electronic learning resources.

The responders were asked if they would be willing to share their existing electronic learning resources (figure 13). Many responders (24 %) claimed that they did not have anything to share. Almost half of the remaining responders were positive to share their learning resources (22 responders without a royalty fee and 12 responders with a royalty fee). Only 11 responders (12 %) answered “no”, whereas 27 % of the responders answered that they did not know if they were willing to share their learning resources.

The question on how likely the responders will integrate learning resources developed within this project is of course theoretic in this phase of the project (figure 14). Correspondingly 24 % of the responders answer that they didn't know. About 30 % answered “strongly”, 33 % “moderately” and 12 “weakly” to the question. About 2 % answered that they did not want to integrate resources developed within Q-PorkChains in their own teaching.

In figure 15 the people who answered strongly on the above question were asked if they wanted assessment or guidance for course assessment included with course material. A majority (89 %) answered that they would like to see course assessment or guidance for course assessment included with course material, whereas only 9 % wanted to develop those themselves and 3 % did not want assessment included.

The interest in evaluating pilot versions of electronic learning resources developed within the project was high (figure 16). About 30 % answered “yes, very much”, 30 % “from time to time” and 21 % “only occasionally”. Only 5 % of the responders answered that they were not at all interested and 14 % did not know.

The interest in receiving on-line training in the use of electronic learning resources was high (figure 17). Only 7 % have no interest and 11 % did not know.

The interest in receiving on-line training in problem based learning was also high (figure 18), although the proportion of people that were very interested was not as high as for training in the use of electronic learning resources (30% and 35% respectively). Only 10 % have no interest and 9 % did not know.

Almost all responders were interested in taking part in a virtual community on teaching and training (figure 19). About 36 % claimed that they were “very interested”, 23 % “moderately interested” and 21 % “slightly interested”. Only 6 responders answered that they had no interest and 14 % did not know.

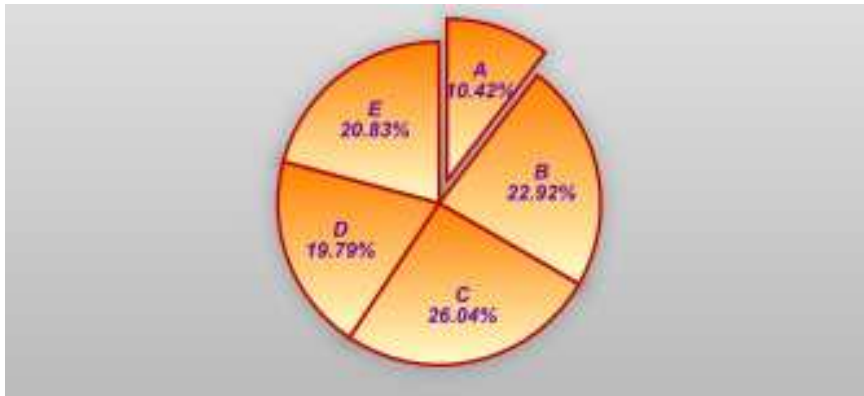


Figure 12. Proportion of responders who think that e-learning has contributed to collaboration between organisations. A) To a large extent, B) Moderately, C) A little, D) Not at all, E) I don't know

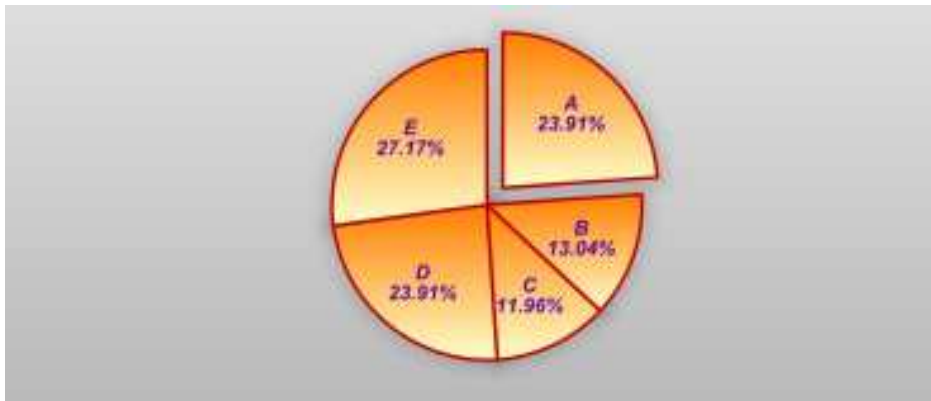


Figure 13. The responder's willingness to share existing electronic learning resources. A) Yes, without a royalty fee, B) Yes, with a royalty fee, C) No (11 responses), D) I do not have anything to share, E) I don't know.

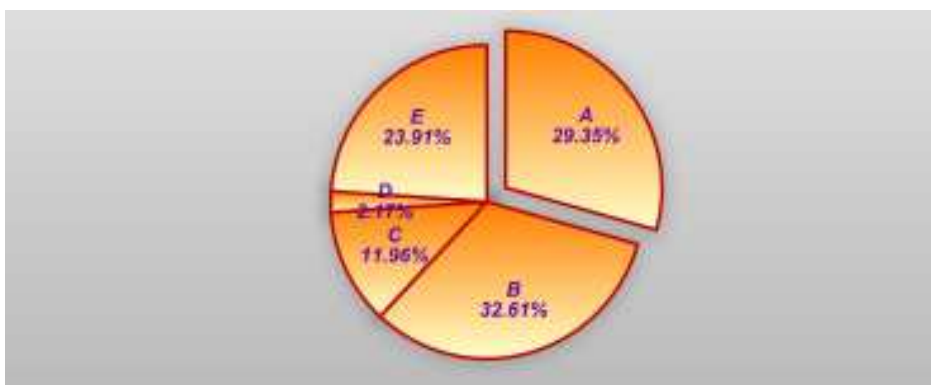


Figure 14. Likelihood to integrate resources developed within Q-PorkChains in own teaching. A) Strongly, B) Moderately, C) Weakly, D) Not at all, E) I don't know.

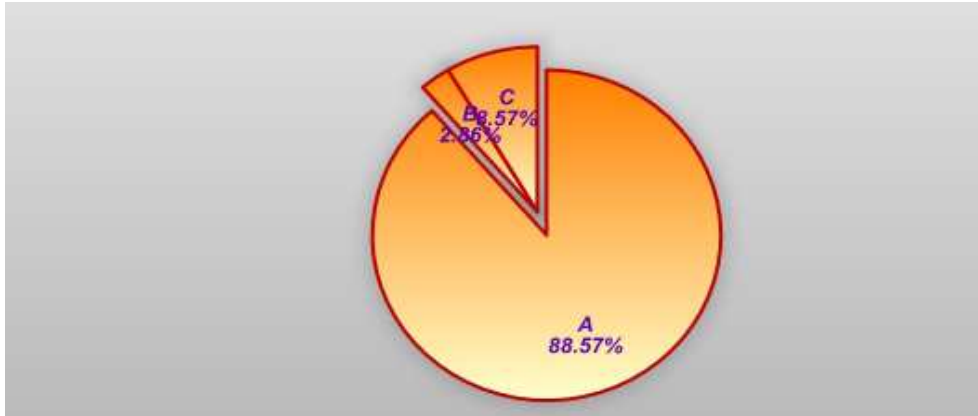


Figure 15. Proportion of responders who want to see course assessment or guidance for course assessment included in the course material. A) Yes, B) No, C) We will develop our own assessment.

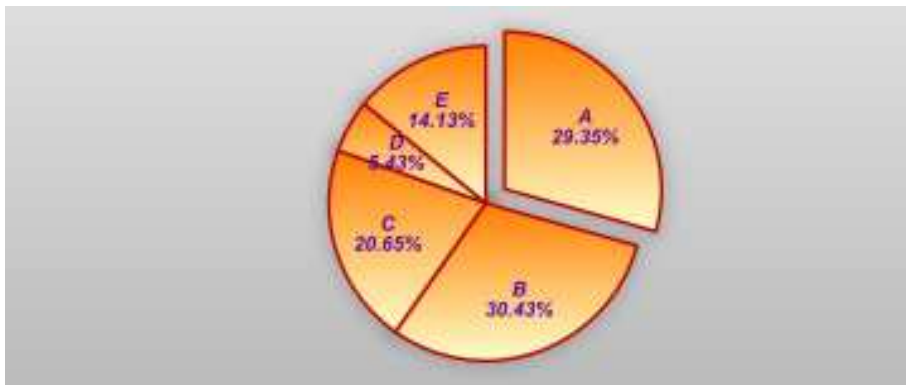


Figure 16. Proportion of responders who want to participate in evaluation pilot versions of electronic learning resources. A) Yes, very much, B) From time to time, C) Only occasionally, D) Not at all, E) I don't know.

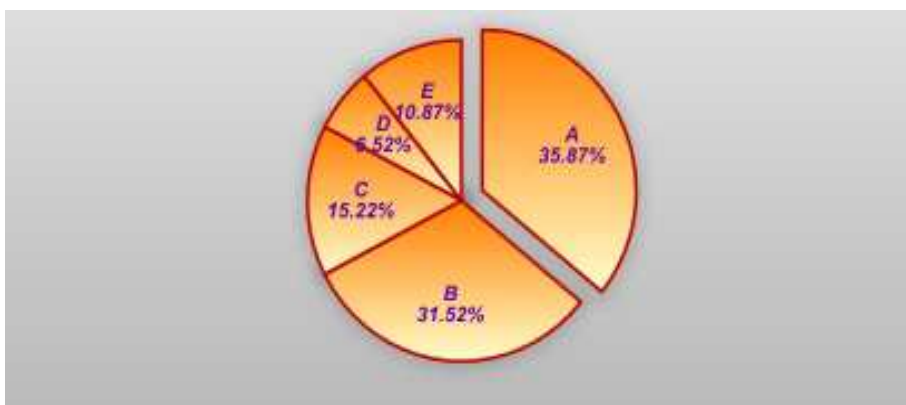


Figure 17. Proportion of responders who want to receive on-line training in the use of electronic resources. A) Yes, very interested, B) Moderately interested, C) Slightly interested, D) No interest, E) I don't know.

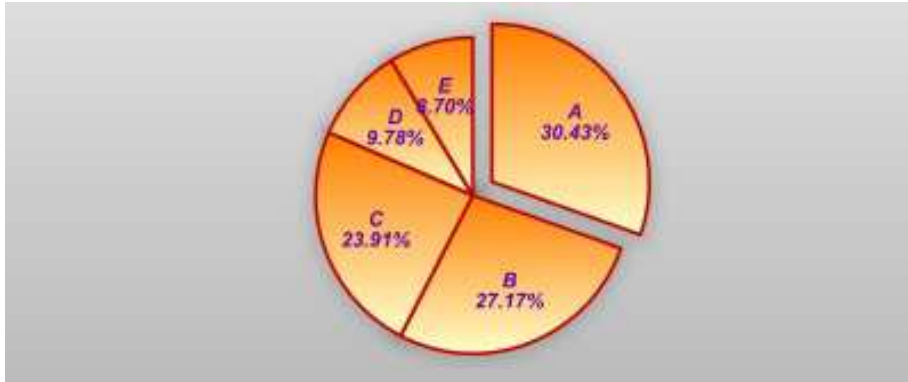


Figure 18. Proportion of responders who want to receive on-line training in problem-based learning A) Yes, very interested, B) Moderately interested, C) Slightly interested, D) No interest, E) I don't know.

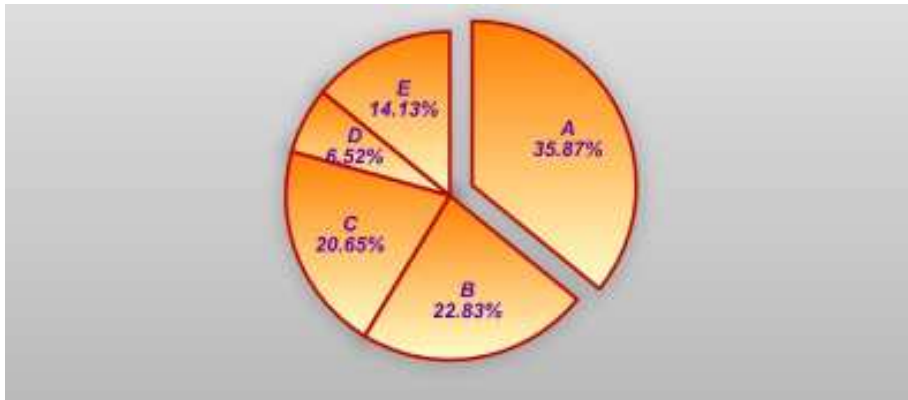


Figure 19. Proportion of responders who want to take part in a virtual community. A) Yes, very interested, B) Moderately interested, C) Slightly interested, D) No interest, E) I don't know.

## Conclusion

The survey included teachers and trainers from most of the countries involved in the project and more than 2/3 of the responders had a position in higher education institutions.

The survey covered all levels of education and the distribution was balanced between undergraduate students, graduate students, PhD students and continuing education. The responders covered all the listed subject areas and are in this way a perfect "channel" to deliver knowledge from all the modules in the project.

The result of the survey indicated state of the art in teaching methodology. It can be concluded that the use of e-learning is limited whereas the use of problem-based learning is common. Furthermore it seems like few electronic learning resources are available in the specific subject areas apart from PowerPoint presentations which are the major electronic learning resource in both face-to-face teaching and distance teaching.

The survey indicated that people involved in teaching and training expect that e-learning and problem-based learning will increase in the coming five years.

It can be concluded that there seems to be an excessive need for new digital learning resources and that teachers and trainers are interested in integrating new learning resources developed within the project in their teaching activities. They also want to take part in piloting new developed learning resources and on-line training activities in the use of electronic learning resources and problem-based learning. Furthermore the survey indicated that assessment or guidance to assessment should be included in the electronic learning resources.

The survey indicates that collaboration on the development of shared electronic learning resources is limited. The development of good learning resources is demanding and it has been suggested that electronic learning resources more frequently should be developed in collaboration between organisations. A thematic network like Q-PorkChains could be such a framework.

Many responders were positive to share their existing electronic learning resources. Learning resources are often considered key intellectual property in a competitive higher education world. However, more and more institutions and individuals are sharing their digital learning resources over the Internet. The result of the survey opens up for the possibility to share learning resources between lecturers in topics related to pig production, processing and consumption within a network or community. Related questions need to be analysed like keeping different topics as separate communities, accessibility, set up of repositories, search ability etc.

Finally there seems to be a great interest in being part of a virtual community within the subject areas.