



Assessment / comparison of IT skills

Assessment / comparison of IT skills¹⁾ between ages, sex, living environment and / or institutions / countries through the use of questionnaire²⁾ data collection.

Basic questionnaire design methodology

- 1. All questions must be translated to respondents own language and be self-explanatory to all. (This eliminates the need for interpretation, assistance or guidance to respondents (which might impact the integrity and objectivity of the research !) during their data input on the questionnaire). One might enclose a written word / term dictionary to follow the questionnaire, because of the multitude of terms used in IT. But it is mandatory that all are given the same interpretation references; independent of own language**
- 2. No "dead end" question line which may cause respondents not to complete the full questionnaire as required for their use; or to respond to two or more contradictory "question lines". (Example: A respondent don't have, nor intend to use, a PC, but continue to answer questions about "own" PC use)**
- 3. All "non-specific" questions must include "add on questions" to verify that the respondent fully understand the primary question. (A faulty combination voids the response. Example: A respondent indicates use of word processing 20 hours per week, but then states that this is done through the use of "Firefox" word processing software)**
- 4. Range questions must include all relevant ranges or "types" and preferably also field where it's possible to enter valid input the questionnaire designers have not covered**

Tabulation of responses

It would be completely worthless just to list up how many have given each response on a particular question.

If one aims to present a representative "IT Skill factor" per selected group, which may be comparative, it will be mandatory to include the use of a "weighted list" ranking the importance factor of each question and/or the alternative responses.

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Example 1:

Question 2 is given an "importance factor" = 10

The answers:

A - "Zero hours".....	is given weight	0
B - "Less than 20 hours"	- - " - -	2
C - "Between 21 - 50 hours"	- - " - -	5
D - "Between 51 - 100 hours".....	- - " - -	10
E - "Between 101 - 200 hours"....	- - " - -	20
F - "More than 200 hours"	- - " - -	40

A mark on A = $10 * 0$ gives 0 points

- - " - - D = $10 * 10$ gives 100 points

- - " - - F = $10 * 40$ gives 400 points

Example 2:

Question 4 is given an "importance factor" = 10

The weight is given by "normalizing" the response figure to "hours per week":

Response in "hours per day" is multiplied by 7

Response in "hours per week" is given as such

Response in "hours per month" is divided by 4

Decimal numbers are kept with 2 decimals and summed into overall total (IT Skills factor); and then rounded to whole numbers to represent final IT Skill factor score for the respondent.

The scoring for each question should be kept rather simple. The importance factor may be set to a figure between 1 - 10. The individual answer weight may be set to 0 - 100 (0 for "No" or blank answers).

Questions which are only to collect "no skill information", example first page data questions, question 5 etc. are not given any rating (Skill factor points). They collect factual information which may be tabulated but not included in the skill factor.

"Directional questions (only to guide the respondent through the questionnaire) are not weighted...

The sub questions in a question with multiple questions are identified by letters as in example 8 on the form.

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These are just some examples as to how the result should be tabulated but the "arranging body" for the overall body has to be in agreement as to which score algorithms shall be used before the survey starts.

The final rating rules should be kept secret inside the "arranging body" conducting this data collection/research.

Test run(s)

The draft questionnaire, including use of the rating/calculation method; should be thoroughly tested on a representative group of respondents before a full scale data collection effort is initiated. Particularly if the aim is to do research across countries and/or language groups.

This in order to identify and eliminate any issues which may lead to breach of objectivity in the overall final acceptance of filled questionnaires; and tabulation of total IT Skill factor scores for groups.

Note 1) Definition of "Skills"

- 1. Skill is the knowledge or ability that enables you to do something well**
- 2. A skill is a type of work or craft which requires special training and knowledge**

Source: BBC English Dictionary

This points to an acquired ability "to do something well or perform a work or craft" based on special training or knowledge.

In our case through the use of Information Technology (IT).

We are therefore not assessing theoretical knowledge, ownership or location of IT equipment, software or connection time to the Internet; - but the ability use these resources and ones competences to perform tasks, work or craft well.

Note 2) The questionnaire built as an example is submitted together with these guidelines. This development and analysis was conducted as an input to our Czech Republic partner in the Grundtvig Learning Partnership Project "seniors in the knowledge society" (2011-1-ES1-GRU06-35105).