

EXPLORING STUDENTS LEARNING AND TEACHING PREFERENCES FOR THE FUTURE

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What the tool does

As part of the CALF research project a survey questionnaire was developed, aiming to obtain information about students' preferences for the future learning and teaching. The questionnaire followed a MaxDiff survey research design. In combination with the other research instruments used by the CALF project (cognitive mapping and learning futures workshops) several key ideas about the future of learning and teaching were derived:

- Learning and teaching in the future will make use of institutional strong links with leading edge local and international employers. This will provide greater opportunities for learning on the job and work experience while studying.
- Increasing personalisation of the learning process and institutional support and guidance for the students' personal choice of learning technologies will be of increasing prominence.
- Increasing openness of learning resources, sharing of learning resources and networking across disciplinary boundaries.
- Students will actively follow and participate in research carried out by their institution and will build early portfolios of research experiences and skills.
- Provision of high quality learning environments, in terms of access to learning resources, on-campus student facilities and student accommodation.

The CALF project questionnaire was adapted to incorporate the research findings of the project. The adapted version is provided as a tool designed to gather information about students' preferences, expectations and experiences with teaching and learning. In particular, it examines students views on how they prefer to learn, their preferred learning environments and the use of technology for teaching and learning.

Why use this questionnaire

This questionnaire provides insight into possible gaps that may exist at institutions such as:

- The difference between the learning and teaching practices, characteristics and technologies that are expected and seen as important by today's students and those in current practice and use.
- Students' self-described learning preferences contrasted with institutional perceptions of those as articulated in existing learning and teaching strategies.

How to use the questionnaire

Here is a suggested strategy for administering the questionnaire.

Appoint a lead at the institution who will plan and oversee the administration of the questionnaire. This could be a member of staff, faculty or a student. It will be helpful if they have some experience in social science survey methods.

The questionnaire lead develops a project management plan with timelines, sampling design and a campus marketing strategy. The questionnaire can be distributed to students participating in learning futures workshops (see the relevant CALF resources from the CALF project website) or at various campus events – Student Fairs, employability fairs, etc. The CALF Project experience showed that ensuring the support and participation of course leaders and members of the sabbatical team of the Student Union increases significantly completion rates.

Background of the methodology – Maximum Difference Scaling

The questionnaire uses the maximum difference scaling method. The maximum difference scaling method was first proposed by Finn and Louviere (1992) who applied it to a discrete choice task where a respondent in their study had to choose both the best and worst option in a given set of options. Maximum difference scaling is a form of the well-established methodology of paired comparisons (Liem et al. 2004) where instead of only selecting the best option from a pair (binary choice) participants identify the best and the worst option from sets with more than two options. This approach offers a solution to one of the perennial problems in preference rating research – the difficulty that people usually have in articulating their preferences (Finn and Louviere, 1992). Presented with a long list of attributes of a particular object, product, idea, etc. on a scale of 1 (“completely unimportant”) to 10 (“extremely important”), participants tend to rate many or even most of the attributes as being of some degree of importance.

The maximum difference scaling method works on the assumption that the phenomenon of interest has a set of traits, positioned along an underlying subjective dimension where each trait's position along the dimension is determined by its perceived importance (Auger, Devinney and Louviere 2004). Participants are presented with questionnaires containing combinations of the traits of interest and asked to choose the most and the least important

trait from each combination. This design removes any bias from the rating scale since there is only one option to select a “most” or “least” important trait (Cohen and Markowitz, 2002). It produces individual ordinal rankings of the importance of the characteristics under study for each participant in the study and an interval ranking of the same characteristics, indicative of the preferences of the participants as a group (Louviere et al. 2000). The method enables participants to decide on the importance of different characteristics of a phenomenon by multiple comparisons and a number of studies indicate that participants find the task easy and quick to complete (Louviere et al. 2000). The analysis of the collected data is relatively simple, requiring the calculation of a ratio-level coefficient for each choice. The ratio-level coefficients can then be directly compared.

Analysis of the collected data

In order to analyse the data collected with the questionnaire, follow the steps below:

1. Create an Excel table. In the first column of the table put all the characteristics from the questionnaire – one characteristic per row. You can use the provided template accompanying the questionnaire.
2. For each characteristic count the number of times it has been selected as most important in all completed questionnaires and put the number in the second column of the Excel table.
3. For each characteristic count the number of times it has been selected as least important in all completed questionnaires and put the number in the second column of the Excel table.
4. Calculate a standard score for each characteristic using the following formula:

$$\text{Standard Score} = \frac{\text{Number of times rated most} - \text{Number of times rated least}}{\text{Number of questionnaires} \times 6}$$

A worked out example is as follows: if option 1 is rated “most important” 73 times and “least important” 14 times in a total of 20 questionnaires where option 1 appears 6 times in each questionnaire then:

$$\text{Standard Score} = \frac{73 - 14}{20 \times 6} = \frac{59}{120} = 0.491$$

A positive score indicates “important” options and negative scores indicate “unimportant” options.

5. Order the characteristics in a descending order, the ones with the highest standard score first. The higher the standard score the more important the characteristic according to the questionnaire data.